



Cardiac Anesthesia Subcommittee Minutes

June 24, 2024

2:00pm – 3:00pm EST

Zoom

Abernathy, Jake (Johns Hopkins)	Korenke, Mark (Michigan)
Addo, Henrietta (MPOG)	Lopacki, Kayla (Trinity Health)
Atwood, Tammy (Henry Ford)	Malenfant, Tiffany (MPOG)
Barrios, Nicole (MPOG)	Mathis, Mike (MPOG)
Bartoszko, Justyna (Toronto)	Nieter, Don (Michigan)
Benitez Lopez, Julio (MyMichigan)	Nugele, Judy, Trinity Health)
Buehler, Kate (MPOG)	Owens, Wendy (MyMichigan)
Coffman, Traci (Trinity)	Pennington, Bethany (WUSTL)
Coleman, Robert (MPOG)	Schonberger, Robert (Yale)
Dubovoy, Anna (Michigan)	Shaygan, Lida (UT Southwestern)
Finch, Kim (Henry Ford)	Smiatacz, Frances Guida (MPOG)
Gebhardt, Brian (UMass)	Venkataramani, Ran (UCSF)
Grewal, Ashanpreet (Maryland)	Wade, Meridith (MPOG)
Heiter, Jerri (Trinity)	Welle, Erin (Michigan)
Janda, Allison (MPOG)	Wilkens, Eric (Temple)
Keetai, Miklos (Vanderbilt)	Zittleman, Andrew (MPOG)

Meeting Start: 1401

1. Agenda

- a. Welcome & announcements
- b. FLUD-01-C Measure Review
- c. Transfusion Measure Cardiac Exclusion Discussion ([TRAN-01/TRAN-02](#))
- d. Discussion of antibiotic selection measure specification updates ([ABX-04](#))
- e. Acute Kidney Injury in Open Cardiac Surgery: [Measure](#) Proposal
- f. Summary and next steps

2. Introductions

- a. ASPIRE Quality Team
 - i. Allison Janda, MD – MPOG Cardiac Anesthesia Subcommittee Lead
 - ii. Michael Mathis, MD – MPOG Director of Research
 - iii. Kate Buehler, MS, RN – Clinical Program Manager
- b. Cardiac Anesthesiology Representatives joining us from around the US!

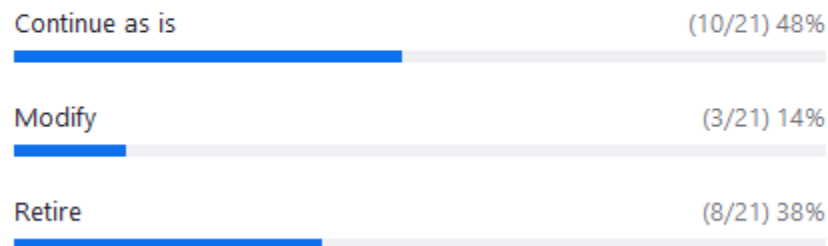
3. [FLUID-01-C Measure Review](#) – Minimizing Colloid Use in Cardiac Surgery

- a. Allison Janda, MD – Measure Reviewer
- b. Definition: percentage of cardiac cases in which colloids were not administered intraoperatively
- c. Rationale: Lack of consistent evidence to suggest improved survival with the use of colloids compared to crystalloids in the surgical population. Because colloids are more expensive than colloids, it is recommended that anesthesia providers avoid the use of colloids in most instances.
- d. **Discussion:**
 - i. *Allison Janda (MPOG Cardiac Subcommittee Chair):* Nice synthesis of the literature with recommendations from the Chinese Society of Cardiac Surgery – added to review here. However, no evidence to support colloid use over crystalloid use, especially in the context of cost. Recommend retiring this measure.
 - ii. *Justyna Bartoszko (UHN):* Thank you for the great review! There were also the 2024 Chest Guidelines directly commenting: In adult patients undergoing cardiovascular surgery, intravenous albumin is not suggested for priming the cardiovascular bypass circuit or volume replacement (Conditional Recommendation, Moderate Certainty of Evidence of Effect).
<https://journal.chestnet.org/action/showPdf?pii=S0012-3692%2824%2900285-X>
 - iii. *Tammy Atwood (Henry Ford Jackson):* Do you know if pump prime components and/or perfusion fluids used were captured in this measure?

1. *Allison Janda (MPOG Cardiac Subcommittee Chair)*: For some sites, it was captured and for others it wasn't – just depends on documentation and mapping.
 - iv. *Don Nieter (MSTCVS)*: We recently queried the PERForm registry and hetastarch – type colloids are no longer being used by registry participants.
 - v. *Jake Abernathy (Johns Hopkins)*: Does it cost MPOG anything to maintain? If not, then perhaps continuing the measure, that is already built, all information is good information and is worth keeping around.
 - vi. *Anna Dubovoy (Michigan Medicine)*: I think it is nice to clean up and retire this measure.
 - vii. *Eric Wilkens (Temple)*: In favor of retiring.
 - viii. *Ashan Grewal (UMaryland)*: We used a similar measure department wide but have since retired it because of >95% compliance. Vote to continue.
 - ix. *Rob Schonberger (Yale)*: Would agree with Dr. Abernathy to continue this measure to help identify any providers who may be outliers in their performance.
- e. Vote – 1 vote per site
- i. Continue as is/ modify/ retire
 - ii. Need > 50% to retire measure
 - iii. Coordinating Center will review all votes after meeting to ensure no duplication

1. FLUID-01-C: Minimizing Colloid Use in Cardiac Surgery (Single Choice)

21/21 (100%) answered



- f. **Next Steps:** FLUID-01-C: Continue as is (with updates to literature review and rationale emphasizing that this is an informational measure).

4. Measure Review Process

- a. Review literature for given measure topic and provide review using [MPOG Measure Review Template](#)
- b. Present review of literature and recommendations at Cardiac Subcommittee meetings
- c. Reviewers' names will be added to measure specifications as well as [MPOG Measure Reviewer website](#)

5. Upcoming Cardiac-Focused Measure Reviews

Measure	Review Date	Reviewers
TEMP-06-C: Hypothermia Avoidance	February 2025	Mariya Geube, Cleveland Clinic
TEMP-07-C: Hyperthermia Avoidance	February 2025	Ashan Grewal, UMaryland
GLU-06: Hyperglycemia Management	June 2026	Josh Billings, Vanderbilt
GLU-07: Hypoglycemia Management	June 2026	Rob Schonberger, Yale
GLU-08: Hyperglycemia Treatment	June 2026	Josh Billings, Vanderbilt

- a. Thank you in advance for ensuring MPOG Cardiac-specific measures remain relevant & consistent with published recommendations
- b. Contact Allison with any questions: ajanda@med.umich.edu

6. Transfusion Measure Discussion

- a. Background
- b. Transfusion measures were due for review in May 2024
- c. Measure reviews performed by assigned Quality Champions & Coordinating Center and presented to Quality Committee
 - i. Jacek Cywinski, MD (Cleveland Clinic) Transfusion Management Vigilance measure review: [TRAN-01](#)
 - ii. Linda Liu, MD (UCSF) Overtransfusion measure review: [TRAN-02](#)
- d. Quality Committee requested Cardiac Subcommittee review transfusion measure exclusion of cardiac cases and determine if:
 - i. Only open cardiac cases should be excluded rather than all cardiac cases or,
 - ii. Would separate measure(s) for patient blood management in the cardiac population be appropriate?

e. TRAN-01: Transfusion Management Vigilance

- i. Description: Percentage of adult patients receiving blood transfusion with documented hemoglobin or hematocrit value prior to administration.
- ii. Exclusions:
 1. Age < 18 years
 2. ASA 5 & 6
 3. Postpartum hemorrhage cases
 4. Massive blood loss with EBL \geq 200 mL and/or 4 or more units of blood transfused
 5. Labor epidurals
 6. Burn cases
 7. Cardiac cases
- iii. Success: Documentation of hemoglobin or hematocrit within 90 minutes prior to transfusion

f. TRAN-02: Overtransfusion

- i. Description: Percentage of adult patients with a post transfusion hemoglobin or hematocrit value greater than or equal to 10 g/dL or 30%.
- iv. Exclusions:
 - 1. Age < 18 years
 - 2. ASA 5 & 6
 - 3. Postpartum hemorrhage cases
 - 4. Massive blood loss with EBL \geq 200 mL and/or 4 or more units of blood transfused
 - 5. Labor epidurals
 - 6. Burn cases
 - 7. Cardiac cases
- v. Success: Hematocrit value documented as \leq 30% and/or hemoglobin as \leq 10 g/dL or, No hematocrit or hemoglobin checked within 18 hours of Anesthesia
End

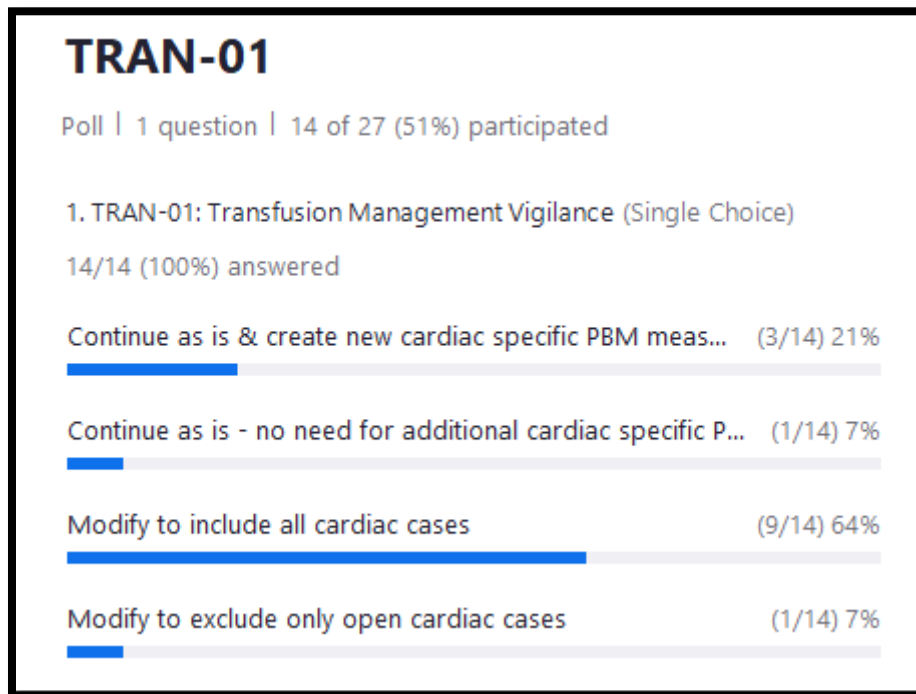
g. Discussion

- vi. **Maintain exclusion of cardiac cases for TRAN-01 and TRAN-02?**
- vii. **Create new patient blood management measures for the open cardiac population?**
- viii. **Include specific cardiac procedures in TRAN-01/TRAN-02 measures but continue to exclude open cardiac procedures?**
- ix. *Anna Dubovoy (Michigan Medicine)*: Definitely think this measure applies to cardiac cases and would include them.
- x. *Lida Shaygan (UT Southwestern)*: Disagree – hard measure to control with open cardiac cases. Would not include open cardiac cases. There are other non-cardiac cases, like non-open cardiac cases like endovascular arch cases where surgeons what hgb of \geq 10.
- xi. *Erin Welle (Michigan Medicine)*: I worry that some surgeons have very specific transfusion parameters, if I'm understanding TRAN-02 correctly
- xii. *Allison Janda (MPOG Cardiac Subcommittee Chair)*: Can exclude open cardiac only, endovascular cases only, other cardiac cases or any combination thereof. What does the group think about that?
- xiii. *Mike Mathis (Michigan Medicine)*: I tend to agree with Anna in the spirit of taking these measures seriously but not personally. Should not aim for 100% adherence to any of these measures if considering clinical nuance. I think it's okay to flag cardiac cases for TRAN-02. May need to consider autologous vs homologous units.
 - 1. *Kate Buehler (MPOG Clinical Program Manager)*: Would you agree with including cardiac cases for TRAN-01 too?
 - 2. *Mike Mathis (Michigan Medicine)*: Yes, as long as the same exclusions apply for massive transfusion, then yes. Think it is appropriate to include cardiac cases for TRAN-01.

- xiv. *Ashan Grewal (UMaryland)*: Can MPOG data differentiate between PRBC vs autologous blood vs. cell saver vs. pump blood transfusion?
 - 1. *Allison Janda (MPOG Cardiac Subcommittee Chair)*: Yes, as long as sites have the variables broken out by these different types of transfusions and have mapped them to the given MPOG corresponding concepts.
 - 2. *Don Nieter (MSTCVS)*: This data is all recorded in PERForm also fyi.
- xv. *Ashan Grewal (UMaryland)*: For TRAN-01 is blood transfusion only referring to PRBCs?
 - 1. *Allison Janda (MPOG Cardiac Subcommittee Chair)*: Yes
- xvi. *Mike Mathis (Michigan Medicine)*: I think we will inevitably be able to improve this measure with cardiac-specific details eventually, but to do that we have to at least get the TRAN measures on the runway for cardiac cases.

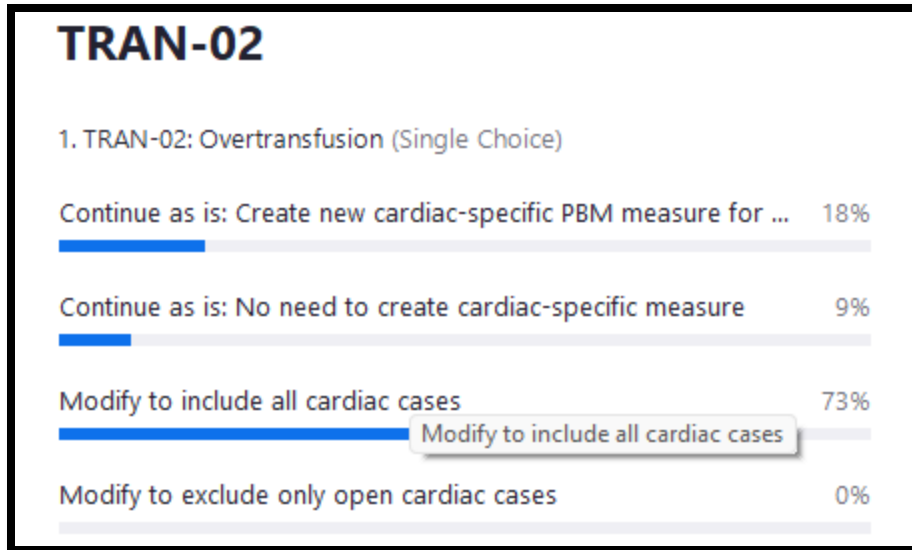
h. TRAN-01 – Vote: 1 vote per site

- i. Continue measure as is
- ii. Modify to include cardiac cases (some or all)
- iii. Create new cardiac specific PBM measure
- iv. Coordinating center will review all votes after meeting to ensure no duplication



i. TRAN-02 – Vote: 1 vote per site

- i. Continue measure as is
- ii. Modify to include cardiac cases (some or all)
- iii. Create new cardiac specific PBM measure for overtransfusion
- iv. Coordinating center will review all votes after meeting to ensure no duplication



j. Next steps: Modify TRAN-01 and TRAN-02 to include cardiac cases (we will present performance at our next meeting to reassess).

7. Antibiotic Selection Measure

a. ABX-04: Antibiotic Selection for Open Cardiac Procedures

- i. Description: Percentage of adult patients undergoing open cardiac surgery with an appropriate antibiotic administered for surgical site infection prophylaxis
- i. Timing: 120 minutes prior to Anesthesia Start through Anesthesia End
- ii. Attribution: All anesthesia providers signed in at the time of Anesthesia Start Time
- iii. Inclusions: Adult patients undergoing open cardiac surgical procedures
- iv. Acceptable Antibiotics:
 1. Vancomycin + Cephalosporin
 2. Vancomycin + Aminoglycoside
 3. Cephalosporin Only
- v. Exclusions:
 1. ASA 5 & 6 or Organ Procurement (CPT:01990)
 2. Non-cardiac cases as defined as those cases not meeting criteria for the [cardiac case type phenotype](#)
 3. Within the general cardiac case type phenotype, exclude: Transcatheter/Endovascular, EP/Cath groups and Other Cardiac
 4. Cases with age < 18
 5. Patients already on scheduled antibiotics or had a documented infection prior to surgery, as specified by "Patient on Scheduled Antibiotics/Documented Infection" (value:2) of the [ABX Notes Phenotype](#)
- vi. Cases will be assigned one of the following result reasons:
 1. Passed – Appropriate antibiotics administered

2. Flagged – Non-standard antibiotic selection
 3. Flagged – Prophylactic antibiotic not administered (Not documented in MAR)
 4. Flagged – Antibiotic not ordered/indicated per surgeon
 5. Flagged – Incision/procedure start time not documented: No
 6. Flagged – Not administered for medical reasons
 7. Excluded – Scheduled antibiotics/documentated infection
- vii. Is this list of acceptable antibiotics complete?
1. Vancomycin + Cephalosporin
 2. Vancomycin + Aminoglycoside
 3. Cephalosporin only
- viii. Add additional PCN allergy considerations?
1. Vancomycin + Clindamycin
 2. Vancomycin + Fluoroquinolone
 3. Vancomycin + Aztreonam
- ix. Reference: Bardia publication: <https://pubmed.ncbi.nlm.nih.gov/37075942/>
- x. Prelim performance is very high 95-100% across all participating MPOG sites
- ii. Discussion:**
1. *Jake Abernathy (Johns Hopkins)*: is there usefulness in not grouping these antibiotics together? Instead of you get a 'pass' if you give any one of these combinations, would it be better to outline the specific combinations?
 2. *Kate Buehler (MPOG Clinical Program Manager)*: Can't support this with our standard measure build on the QI Reporting Tool (dashboard) currently but can bring this information back at an upcoming (Sept) unblinded review session. Each bar would be labeled with the site as well as the most common antibiotic combination as a stacked bar chart.
- b. ABX-05: Composite Antibiotic Compliance for Open Cardiac'
- i. Description: Percentage of adult patients undergoing open cardiac surgery with appropriate antibiotic selection, timing, and re-dosing administered for surgical site infection prophylaxis
 - ii. Timing: 120 minutes prior to Anesthesia Start Time through Anesthesia End Time
 - iii. Attribution: Departmental Only – Case level attribution, viewable on dashboard at the case level, not provided to individual clinicians
 - iv. Success: Case is passed for all open cardiac antibiotic measures (timing, re-dosing, selection)
 - v. Inclusions: Adult patients undergoing open cardiac surgical procedures
 - vi. Exclusions:
 1. ASA 5 & 6 or Organ Procurement (CPT:01990)

2. Non-cardiac cases as defined as those cases not meeting criteria for the [cardiac case type phenotype](#)
 3. Within the general cardiac case type phenotype, exclude:
Transcatheter/Endovascular, EP/Cath groups and Other Cardiac
 4. Cases with age < 18
 5. Patients already on scheduled antibiotics or had a documented infection prior to surgery, as specified by “Patient on Scheduled Antibiotics/Documented Infection” (value:2) of the [ABX Notes Phenotype](#)
- vii. Preliminary Results: Variation in performance across MPOG sites
- viii. Discussion:
1. *Allison Janda (MPOG Cardiac Subcommittee Chair)*: In the same way we could show the antibiotic combinations as part of the unblinded review session in September, could also show bar chart with flagged measures as the breakdown for ABX-05-C.
- ix. **Next Steps:**
1. Move forward with ABX-05-C composite measure.
 2. Share unblinded data for antibiotic measures at next cardiac subcommittee meeting in September.

8. Acute Kidney Injury – Open Cardiac Surgery Measure Proposal

- a. AKI-02-C: Acute Kidney Injury in patients undergoing Open Cardiac Surgery
- i. Description: Percentage of patients undergoing an open cardiac procedure with a baseline creatinine increase of more than 1.5 times within 7 postoperative days or baseline creatinine level increases by ≥ 0.3 mg/dL within 48 hours postoperatively
 - ii. Inclusion: Adult patients undergoing open cardiac surgical procedures (determined by Procedure Type: Cardiac value code:1)
 - iii. Success:
 1. The creatinine level does not go above 1.5x the baseline level within 7 days post-op
 2. The creatinine level does not increase ≥ 0.3 mg/dL obtained within 48 hours after Anesthesia End
 - iv. Exclusions:
 1. ASA 6 (including CPT:01990)
 2. Cases where a baseline creatinine is not available within 60 days preoperatively
 3. Cases where a creatinine lab is not available within 7 postoperative days.
 4. Patients with more than one case in a 7-day period. The first case will be excluded if a postop creatinine is not documented for that first case. For

example, a patient that has surgery twice in a 7-day period, the first surgery is excluded if a creatinine is not drawn in between cases

5. Patients with pre-existing renal (stage 4 or 5) failure based upon BSA-Indexed EGFR < 30 mL/min/1.73m² determined by Preop EGFR (most recent) or MPOG Complication - Acute Kidney Injury value code -2.
 6. Open cardiac procedures performed in conjunction with procedures affecting the kidney, bladder, or ureter (specific anesthesia and surgical CPT codes).
- v. Provider Attribution:
1. Does the group want to move forward with provider attribution for this measure or publish initially as 'departmental only' measure with no attribution assigned?
 - a. *Jake Abernathy (Johns Hopkins)*: Yes, assign provider attribution.
 - b. *Allison Janda (MPOG Cardiac Subcommittee Chair)*: Any other thoughts? (None – moving forward with provider attribution)
 2. *Kate Buehler (MPOG Clinical Program Manager)*: Does provider signed in for the longest duration make sense for provider attribution? This is the logic applied for AKI-01.
 - c. Subcommittee agrees to this logic.

vi. Discussion:

1. *Jake Abernathy (Johns Hopkins)*: How does this differ from filtering AKI-01 on the cardiac dashboard?
2. *Allison Janda (MPOG Cardiac Subcommittee Chair)*: That will simply filter to all cardiac cases, not specifically open cardiac cases.
3. *Jake Abernathy (Johns Hopkins)*: And how does this measure differ from the STS AKI measure?
4. *Allison Janda (MPOG Cardiac Subcommittee Chair)*: The STS measure examines renal failure, not AKI specifically.

vii. Next Steps:

1. Move forward with building AKI-02-C measure including provider attribution.
2. Allow measure to be available for provider feedback emails.

9. Cardiac Anesthesia Subcommittee Membership

- a. Open to all anesthesiologists or those interested in improving cardiothoracic measures
 - o Do not have to practice at an active MPOG institution
- b. Proposed 2024 Meeting Schedule
 - o September 2024
 - o December 2024
- c. Thank you for using the forum for discussion between meetings

Meeting adjourned: 1505