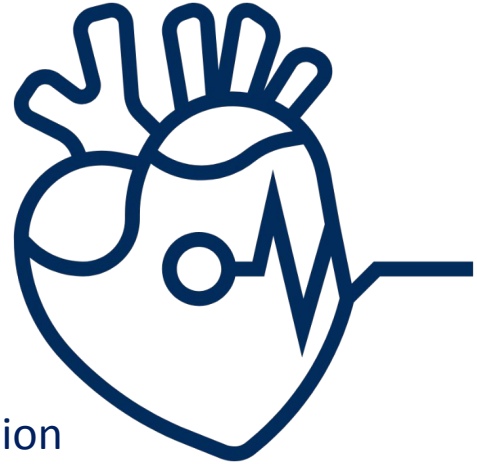
MPOG Cardiac Anesthesia Subcommittee Meeting
June 4, 2021

Agenda



- Welcome & quick summary of progress
- Cardiac dashboard tour
- Review general quality committee suggestions for TRAN-01
- Cardiac procedure type phenotype review and discussion
- Hypothermia avoidance (TEMP-06) specification draft discussion
- Next steps
- Subcommittee membership and future meeting schedule

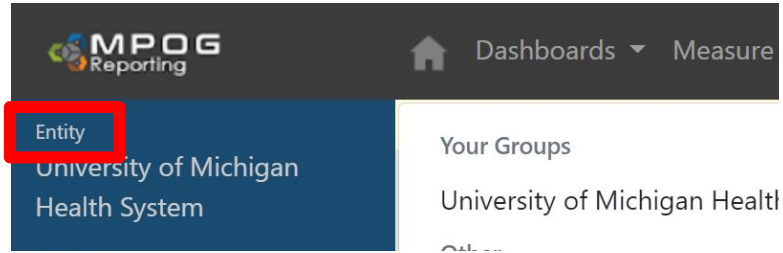
Introductions

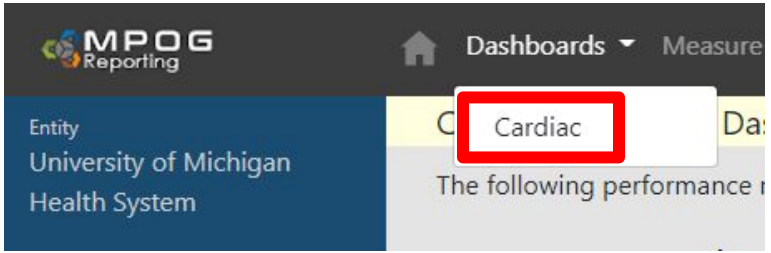
- **ASPIRE Quality Team**
  - **Allison Janda, MD** – MPOG Cardiac Anesthesia Subcommittee Lead
  - **Nirav Shah, MD** – MPOG Director of Quality
  - **Michael Mathis, MD** – MPOG Director of Research
  - **Kate Buehler, MSN** – Clinical Program Manager

- Cardiac Anesthesiology Representatives joining us from around the US!

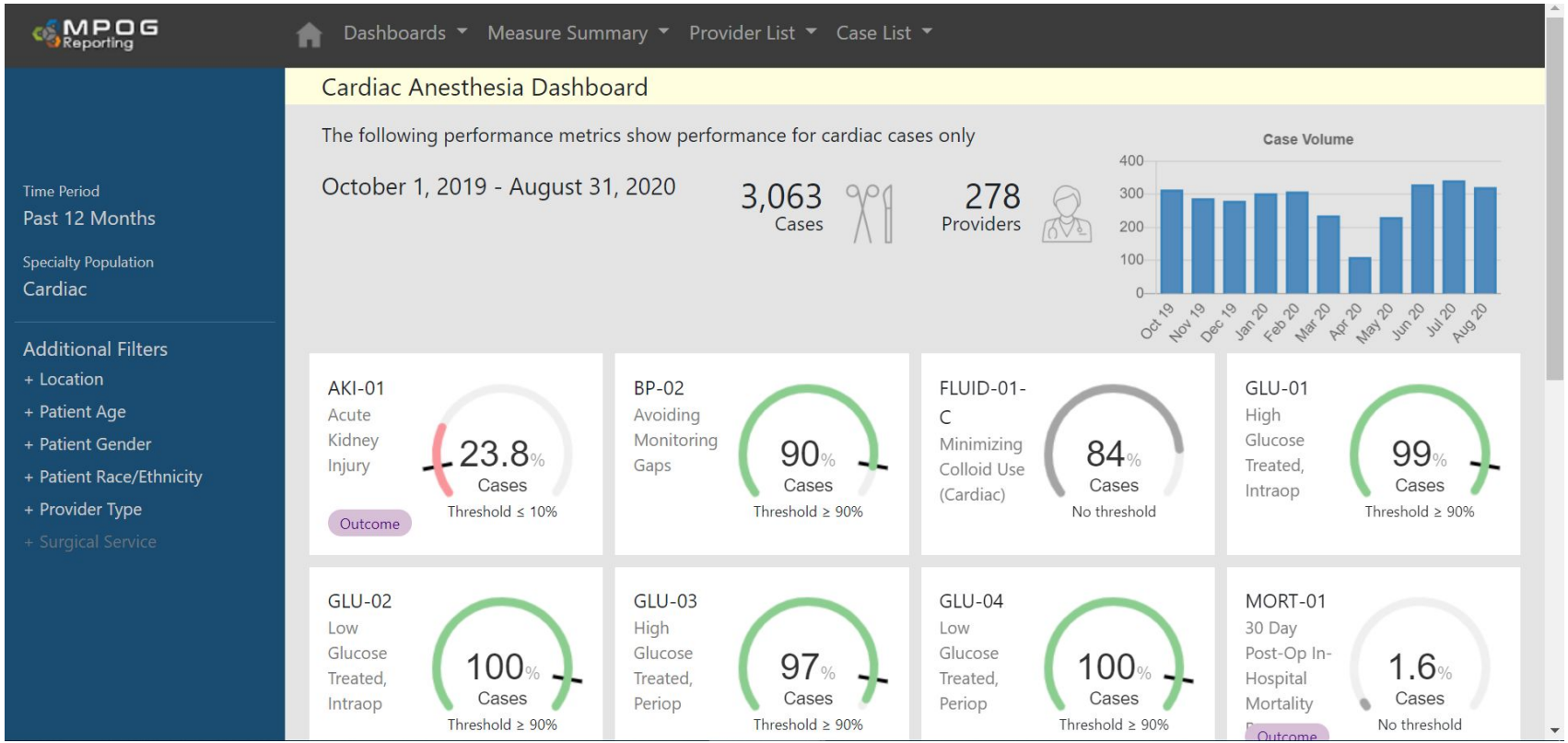
Cardiac Dashboard on MPOG QI Reporting Tool

- Cardiac Dashboard - Please reach out with any feedback!
- Steps to access Cardiac Departmental Dashboard
  - The default view when logging in from Provider Feedback Emails is your own performance for site-selected measures
  - Change ‘Entity’ in upper left corner to your institution
  - Choose ‘Dashboards’, then ‘Cardiac’ from banner along the top





Cardiac-Specific Reporting Dashboard



TRAN-01 Quality Committee Recommendations

- **TRAN-01:**
  - % of cases with a blood transfusion that have a hemoglobin or hematocrit value documented prior to transfusion
- **General Quality Committee Recommendation:**
  - Change to exclude all cardiac cases
- **Reasoning:**
  - EBL not accurately documented for CPB cases
  - Variable location of documentation of POC labs and blood products by perfusion
  - Need for emergent transfusion is more frequent in cardiac cases (i.e. no time to check a hemoglobin or hematocrit)

Cardiac Procedure Type Phenotype

- **New Categories:**
  - Open Cardiac
  - Transcatheter/Endovascular
  - EP/Cardiac catheterization
  - Other Cardiac
  - No/Non-cardiac
  - Missing/unknown/unable to determine

- **Data Elements Utilized:**
  - Surgical CPTs (if present)
  - Anesthesia CPTs
  - Procedural Service IDs
  - Cardiopulmonary bypass documentation phenotypes and concepts
  - Procedure text phrases

Cardiac Procedure Type Phenotype

- **Schema:**
  - Sequentially bins cases based on utilized fields if present
- **Current Status:**
  - Undergoing validation
- **Questions for group:**
  - Sternal debridements
    - Neither cardiac nor non-cardiac
  - ECMO cases
    - Other cardiac

Post-bypass Hypothermia Avoidance

- **Current** TEMP-03 Measure:
  - % of patients, with procedures >60 minutes under GA/neuraxial, with at least one body temperature ≥ 36^{o}C
  - Excludes cardiac surgeries
- **New** TEMP-06 Measure:
  - % of patients, ≥ 18 years age, who undergo open cardiac surgical procedures under general anesthesia of >120 minutes for whom last non-artifact body temperature prior to anesthesia end was ≥ 35.5^{o}C

Hypothermia Avoidance -Measure Details

- **Timing:**
  - Last non-artifact temperature documented, if more than one, preferentially use core temperature
  - Look back period of 15 minutes
    - Use core temperature measure if present in the anesthesia record within 15 minutes of the last documented non-artifact body temperature
- **Core or Near Core Temperature Monitoring Includes:**
  - Pulmonary Artery Temperature
  - Distal Esophageal Temperature
  - Nasopharyngeal Temperature
  - Tympanic Membrane Temperature
  - Bladder Temperature
  - Rectal Temperature
  - Axillary Temperature (arm must be at patient side)
  - Oral Temperature
  - Zero-Flux Thermometer Temperature

Hypothermia Avoidance Measure Details

- **Artifact algorithm:**
  - Less than 32.0°C (89.6F)
  - Greater than 40.0°C (104.0F)
  - Any minute-to-minute jumps >0.5°C equivalent
  - Example: 0.125°C /15s, 0.25°C / 30s, 1°C / 2mins

- **Attribution:**
  - Any provider signed in for ≥40 minutes from bypass end until anesthesia end (or the provider signed in for the greatest number of minutes during this period, if this period is <40 minutes) per staff role.
  - If bypass was not used, the window would be expanded to any provider signed in for ≥40 minutes for the entire case

Hypothermia Avoidance Measure Details

- **Inclusions:**
  - All patients, 18 years of age or older, who undergo open cardiac surgical procedures (as determined by Procedure Type: Cardiac phenotype) under GA of ≥120 minutes

- **Exclusions:**
  - Organ harvest (CPT: 01990)
  - Non-cardiac cases as defined as those cases not meeting criteria for the cardiac case type phenotype
  - Within the general cardiac case type phenotype, exclude: Transcatheter/Endovascular and EP/Cath groups
  - Invalid cases where Measure End results prior to Measure Start
  - Cases with age <18

Hypothermia Avoidance Measure Details

- **Potential exclusions to discuss:**
  - Cases with an intraoperative note mapped to intentional hypothermia (MPOG concept: 50037)
  - Circulatory arrest cases
  - Emergency cases (MPOG concepts: 70142 or 515)
  - “Other Cardiac” bin
  - “Transcatheter/Endovascular” bin

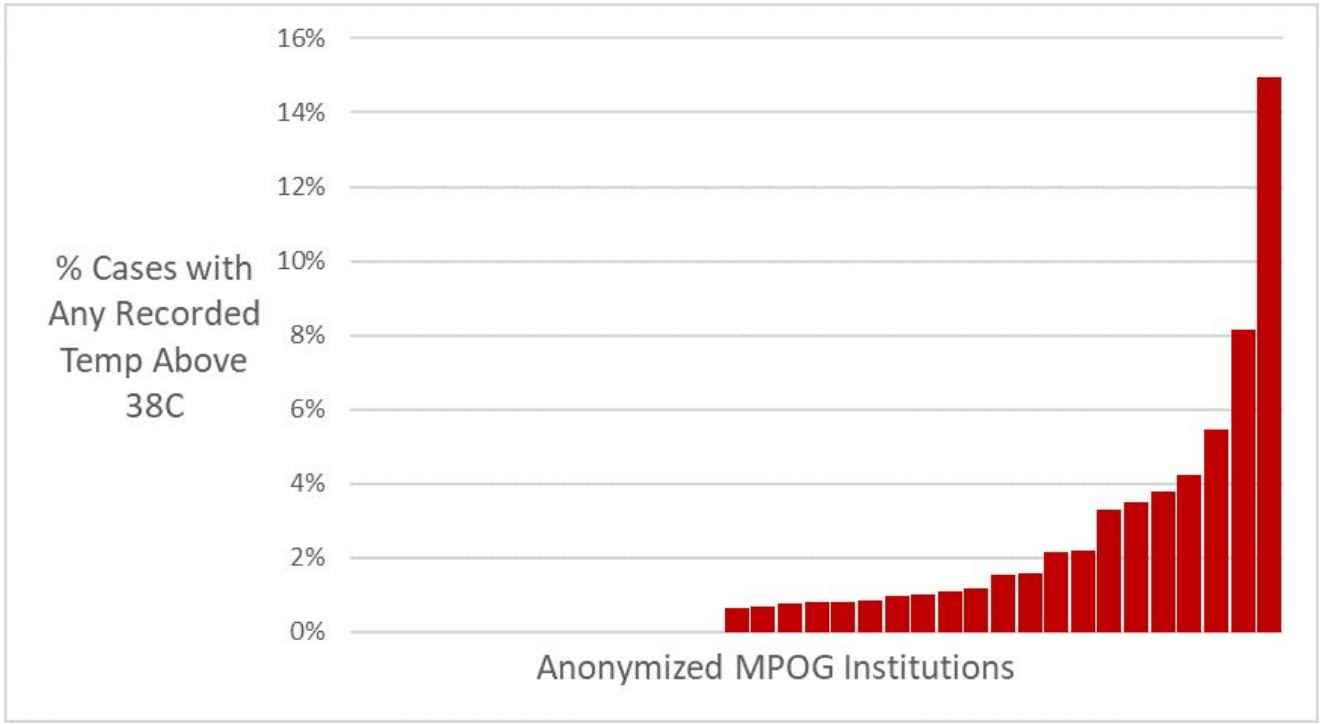
Hypothermia Avoidance – Next Steps

- Incorporate your feedback in V2 of the measure specification
- Incorporate suggestions into the Cardiac Procedure Type Phenotype
- Apply the measure specification to past cases and test functionality
- Update group with any updates or snags during validation
- Circulate the revised measure specification for approval
- Synergize efforts with SCA Quality & Safety Committee / CPI Subcommittees

Goals

- Build 1 cardiac-specific measure in 2021
  - Post-bypass **hypo**thermia avoidance
- Build 1 additional cardiac-specific measures in late 2021
  - On-bypass **hyper**thermia avoidance?
  - Glucose management?
  - Antibiotic timing?
  - Send out another survey?
- Opportunities for STS-merged outcome reports requires institutions to integrate with STS

Prelim MPOG data: Hyperthermia avoidance >38°C



Hyperthermia Avoidance – Literature Review

- 2020 Updates from the Adult Cardiac Anesthesiology Section of STS [1]
  - Avoidance of temp >37 while on bypass
- Guidelines for perioperative care in cardiac surgery: enhanced recovery after surgery recommendations [2]
  - Avoid >37C for arterial outlet blood temperature while on bypass
- STS Practice Guidelines for temperature management while on bypass [3]
  - Avoid >37C for arterial outlet blood temperature while on bypass

1. Del Rio JM, Abernathy JJ 3rd, Taylor MA, Habib RH, Fernandez FG, Bollen BA, Lauer RE, Nussmeier NA, Glance LG, Petty JV 3rd, Mackensen GB, Vener DF, Kertai MD: The Adult Cardiac Anesthesiology Section of STS Adult Cardiac Surgery Database: 2020 Update on Quality and Outcomes. Anesth Analg 2020 doi:10.1213/ANE.0000000000005093
2. Engelman DT, Ben Ali W, Williams JB, Perrault LP, Reddy VS, Arora RC, Roselli EE, Khoynezhad A, Gerdisch M, Levy JH, Lobdell K, Fletcher N, Kirsch M, Nelson G, Engelman RM, Gregory AJ, Boyle EM: Guidelines for Perioperative Care in Cardiac Surgery: Enhanced Recovery After Surgery Society Recommendations. JAMA Surg 2019 doi:10.1001/jamasurg.2019.1153
3. Engelman R, Baker RA, Likosky DS, Grigore A, Dickinson TA, Shore-Lesserson L, Hammon JW: The Society of Thoracic Surgeons, The Society of Cardiovascular Anesthesiologists, and The American Society of ExtraCorporeal Technology: Clinical Practice Guidelines for Cardiopulmonary Bypass--Temperature Management During Cardiopulmonary Bypass. J Cardiothorac Vasc Anesth 2015; 29:1104–13

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Hyperthermia Avoidance – Literature Review

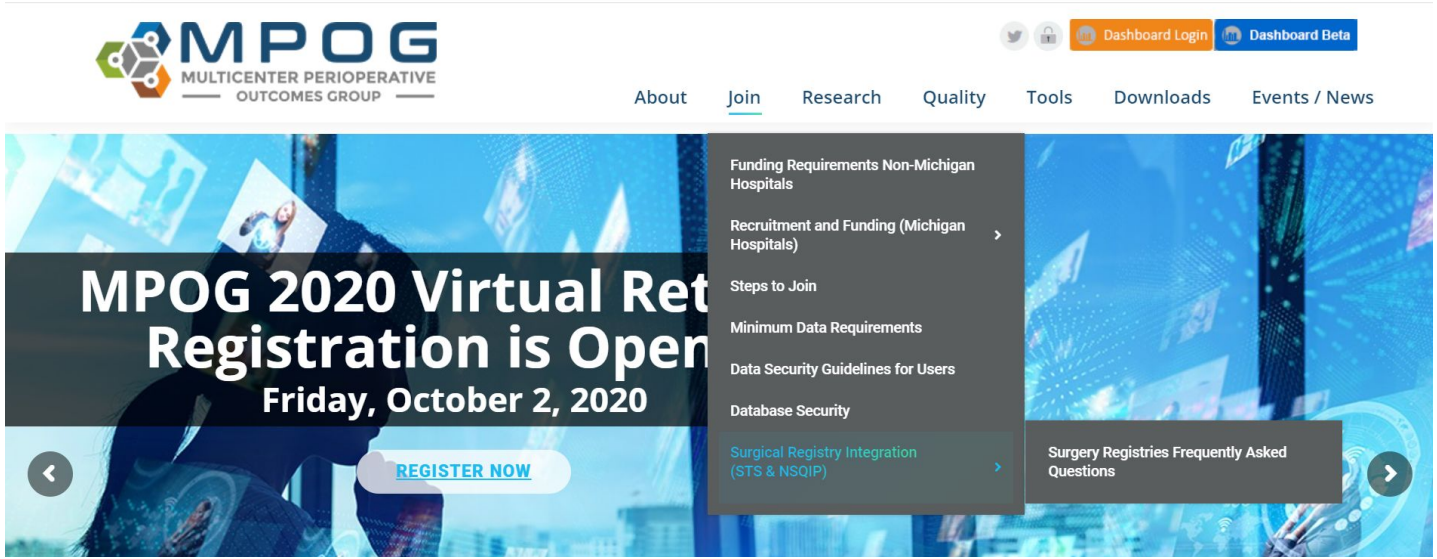
- ERAS cardiac recommendations [4]
  - Avoid >37.9C while on bypass
- Current cardiac **hyper**thermia avoidance Anesthesia Quality Institute measure [5]
  - AQI65, for cerebral hyperthermia avoidance defines hyperthermia as ≥37C while on bypass

4. Gregory AJ, Grant MC, Manning MW, Cheung AT, Ender J, Sander M, Zarbock A, Stoppe C, Meineri M, Grocott HP, Ghadimi K, Gutsche JT, Patel PA, Denault A, Shaw A, Fletcher N, Levy JH: Enhanced Recovery After Cardiac Surgery (ERAS Cardiac) Recommendations: An Important First Step-But There Is Much Work to Be Done. J Cardiothorac Vasc Anesth 2020; 34:39–47

5. https://www.aqihq.org/files/MIPS/2020/2020%20QCDR%20Measure%20Book.pdf

Interested in STS-MPOG integrations?

- Consult the Surgical Registry page and the FAQ
  - Surgical Registry page: https://mpog.org/surgicalregistries/
  - Surgical Registry FAQ: https://mpog.org/surgicalregistriesfaq/



Cardiac Anesthesia Subcommittee Membership

- Open to all anesthesiologists or those interested in improving cardiothoracic measures
  - Do not have to practice at an active MPOG institution

- Proposed 2021 – 2022 Meeting Schedule
  - Summer 2021 Meeting: August, 2021
  - Fall 2021 Meeting: October/November, 2021
  - Winter, 2022 Meeting: January/February, 2022

- Thank you for using the forum for discussion between meetings!

THANK YOU!

Allison Janda, MD

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