



**MPOG Cardiac Anesthesia Subcommittee Meeting**  
**June 24, 2024**

# Agenda

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

# Introductions

- **ASPIRE Quality Team**

- **Allison Janda, MD** – MPOG Cardiac Anesthesia Subcommittee Lead
- **Michael Mathis, MD** – MPOG Director of Research
- **Kate Buehler, MS, RN** – Clinical Program Manager

- Cardiac Anesthesiology Representatives joining us from around the US!

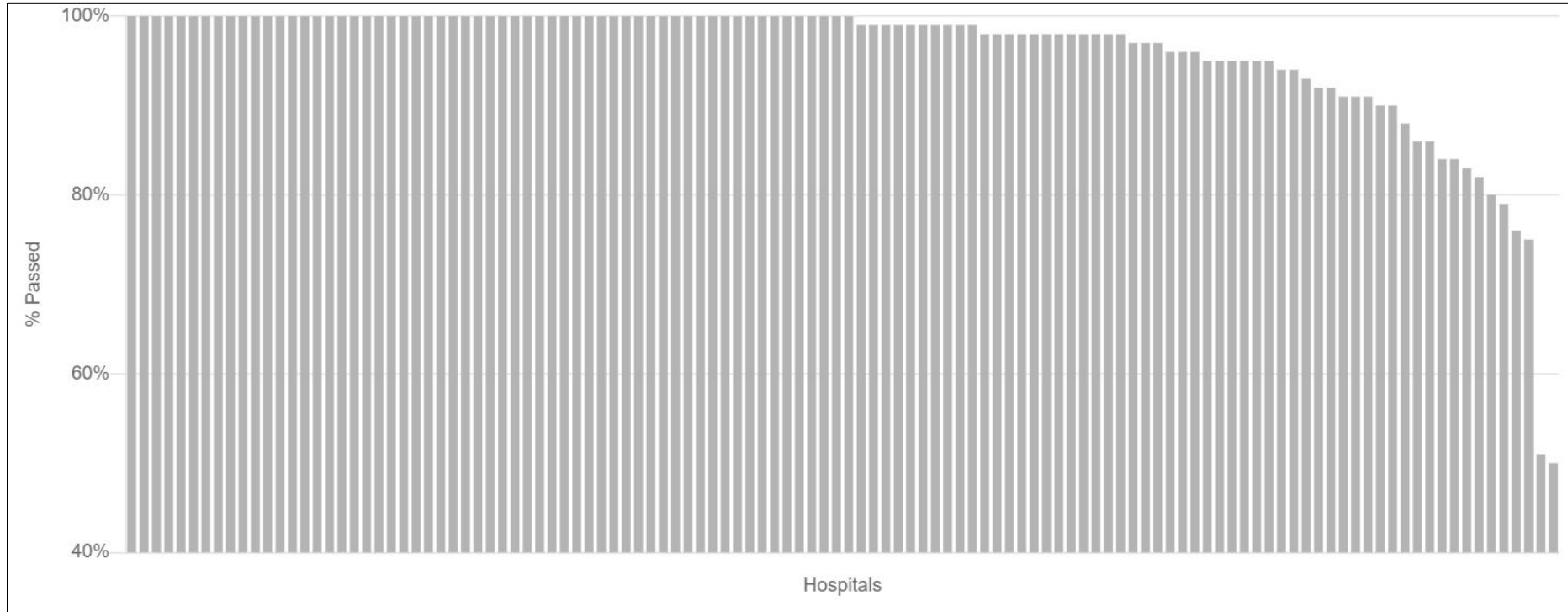
# FLUID-01-C Measure Review

Measure Reviewer: Allison Janda, MD

# FLUID-01-C: Minimizing Colloid Use in Cardiac Surgery

- **Definition:** Percentage of cardiac cases in which colloids were not administered intraoperatively
- **Rationale:** Lack of consistent evidence to suggest improved survival with the use of colloids as compared to crystalloids in the surgical population. Because colloids are more expensive than crystalloids, it is recommended that anesthesia providers avoid the use of colloids in most instances.

# FLUID-01-C Performance



# FLUID-01-C

1 vote per site

Continue as is / modify / retire

Need > 50% to retire measure

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









# Measure Review Process

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

## Measure Reviewers

MPOG Measure Reviewers are clinical and quality improvement experts that critique our QI Measures. They review the best available evidence and current standards of care to ensure that our measures stay relevant.

Please [select this link](#) for additional detail on our measure review process.

 <p><b>Sharon Abramovitz MD</b> Associate Professor of Anesthesiology Weill Cornell</p> <p>GA-01-OB – General Anesthesia During Cesarean Deliveries GA-02-OB – General Anesthesia after Neuraxial in Cesarean Deliveries</p>	 <p><b>Michael Andrewes, MD</b> Program Director, Adult Cardiothoracic Anesthesiology Fellowship Massachusetts General Hospital</p> <p>CARD 02 – Myocardial Infarction CARD 03 – Myocardial Infarction, High Risk Patients</p>	 <p><b>Dan Biggs, MD</b> Associate Professor of Anesthesiology University of Oklahoma</p> <p>BP-04-OB – SBP &lt; 90 in Cesarean Deliveries</p>
 <p><b>Alex Bouwhuis, MD</b> Anesthesiologist Holland Hospital</p> <p>TOC 01 – Intraoperative Transfer of Care</p>	 <p><b>Mike Burns, MD</b> Clinical Assistant Professor of Anesthesiology University of Michigan</p> <p>OME – Opioid Equivalency</p>	 <p><b>Sunny Chiao, MD</b> Assistant Professor of Anesthesiology University of Virginia</p> <p>TEMP 01 – Thermoregulation Vigilance – Active Warming</p>



# 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

Thank you in advance for ensuring MPOG Cardiac-specific measures remain relevant & consistent with published recommendations!

Contact Allison with any questions: [ajanda@med.umich.edu](mailto:ajanda@med.umich.edu)

# Transfusion Measure Discussion

# Background

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

# TRAN-01: Transfusion Management Vigilance

TRAN-01: Percentage of adult patients receiving a blood transfusion with documented hemoglobin or hematocrit value prior to administration.

- Exclusions:
  - Age <18 years
  - ASA 5 & 6
  - Postpartum hemorrhage cases
  - Massive blood loss with EBL  $\geq$  2000mL and/or 4 or more units of blood transfused
  - Labor Epidurals
  - Burn Cases
  - Cardiac Cases
- Success: Documentation of hemoglobin or hematocrit within 90 minutes prior to transfusion\*

\*See spec for exceptions.

## TRAN-02: Overtransfusion

TRAN-02: Percentage of adult patients with a post transfusion hemoglobin or hematocrit value greater than or equal to 10 g/dL or 30%.

- Exclusions:
  - Age < 18 years
  - ASA 5 & 6
  - Postpartum hemorrhage cases
  - Massive blood loss with EBL  $\geq$  2000mL and/or 4 or more units of blood transfused
  - Labor epidurals
  - Burn cases
  - Cardiac cases
- 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

## Discussion

- Maintain exclusion of cardiac cases for TRAN-01 and TRAN-02?
- Create new patient blood management measures for the open cardiac population?
- Include specific cardiac procedures in TRAN-01/TRAN-02 measures but continue to exclude open cardiac procedures?

# TRAN-01

1 vote per site

Vote:

- a) Continue measure as is
- b) Modify to include cardiac cases (some or all)
- c) Create new cardiac specific PBM measure

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



# TRAN-02

1 vote per site

Vote:

- a) Continue measure as is
- b) Modify to include cardiac cases (some or all)
- c) Create new cardiac specific PBM measure for overtransfusion

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





# Antibiotic Selection Measure

# ABX-04 Antibiotic Selection for Open Cardiac Procedures

- **Description:**

- Percentage of adult patients undergoing open cardiac surgery with an appropriate antibiotic administered for surgical site infection prophylaxis.

- **Timing:**

- 120 minutes prior to Anesthesia Start through Anesthesia End

- **Attribution:**

- All anesthesia providers signed in at the time of Anesthesia Start Time

# ABX-04 Antibiotic Selection Considerations

- **Inclusions:**

- Adult patients undergoing open cardiac surgical procedures

- **Exclusions:**

- ASA 6 or Organ Procurement (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, EP/Cath groups and Other Cardiac
- Cases with age <18
- 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](#)

# ABX-04 Antibiotic Selection Considerations

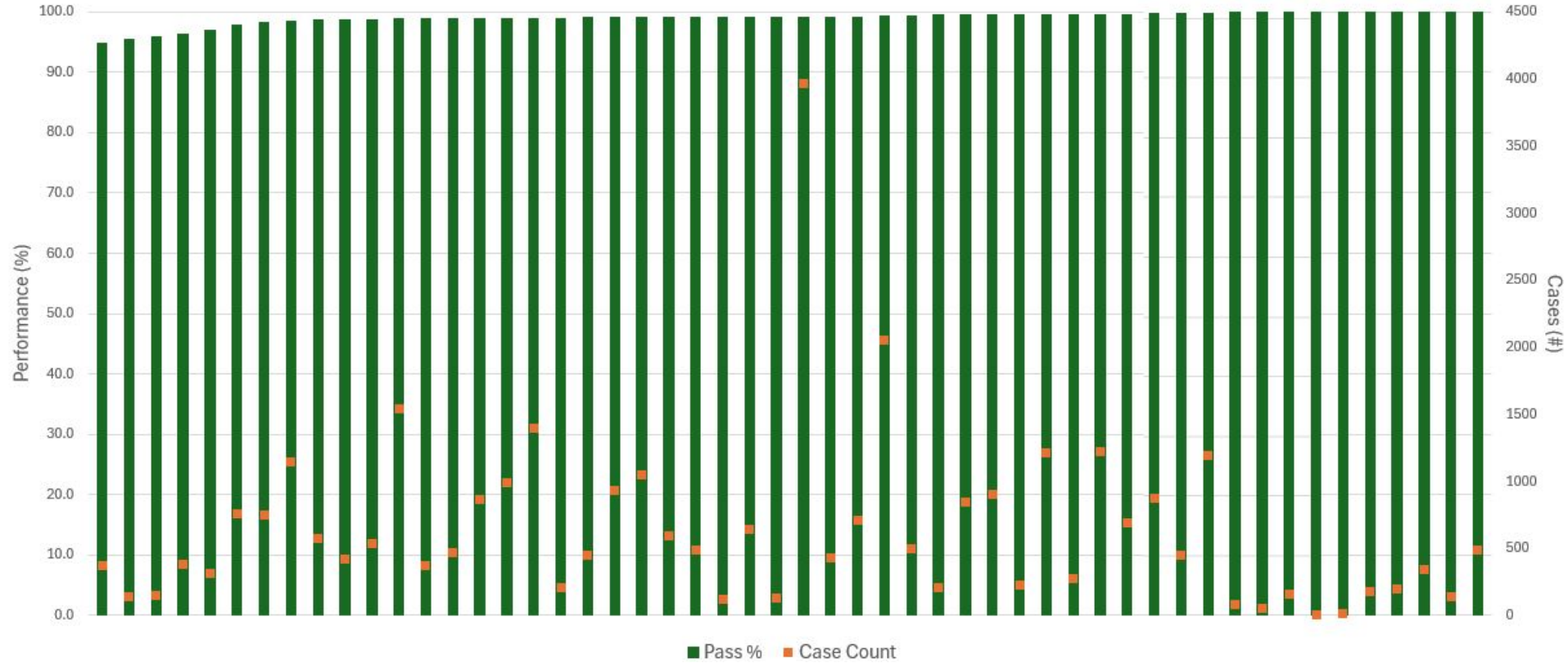
- **Acceptable antibiotics:**
  - Vancomycin + Cephalosporin
  - Vancomycin + Aminoglycoside
  - Cephalosporin Only
- **Cases will be assigned one of the following result reasons:**
  - Passed - Appropriate Antibiotics Administered
  - Flagged - Non-standard antibiotic selection
  - Flagged - Prophylactic not antibiotic administered (Not documented in MAR)
  - Flagged - Antibiotic not ordered/indicated per surgeon
  - Flagged - Incision/procedure start time documented: No
  - Flagged - Not administered for medical reasons
  - Excluded - Scheduled antibiotics/documenting infection

# ABX-04 Antibiotic Selection Questions

- **Is the list of acceptable antibiotics complete?**
  - Vancomycin + Cephalosporin
  - Vancomycin + Aminoglycoside
  - Cephalosporin Only
  
- **Add additional PCN allergy considerations?**
  - Vancomycin + Clindamycin
  - Vancomycin + Fluoroquinolone
  - Vancomycin + Aztreonam

# ABX-04 Preliminary Performance

Antibiotic Selection in Open Cardiac Surgery (ABX-04-C)  
June 2023 - May 2024



# ABX-05 Composite Antibiotic Compliance for Open Cardiac

- **Description:**

- Percentage of adult patients undergoing open cardiac surgery with appropriate antibiotic selection, timing, and re-dosing administered for surgical site infection prophylaxis.

- **Timing:**

- 120 minutes prior to Anesthesia Start Time through Anesthesia End Time

- **Attribution:** Departmental Only

- Case level attribution, viewable on the dashboard at the case level, not provided to individual clinicians

- **Success:**

- Case is passed for all open cardiac antibiotic measures (timing, re-dosing, selection)

# ABX-05 Composite Antibiotic Compliance Considerations

- **Inclusions:**

- Adult patients undergoing open cardiac surgical procedures

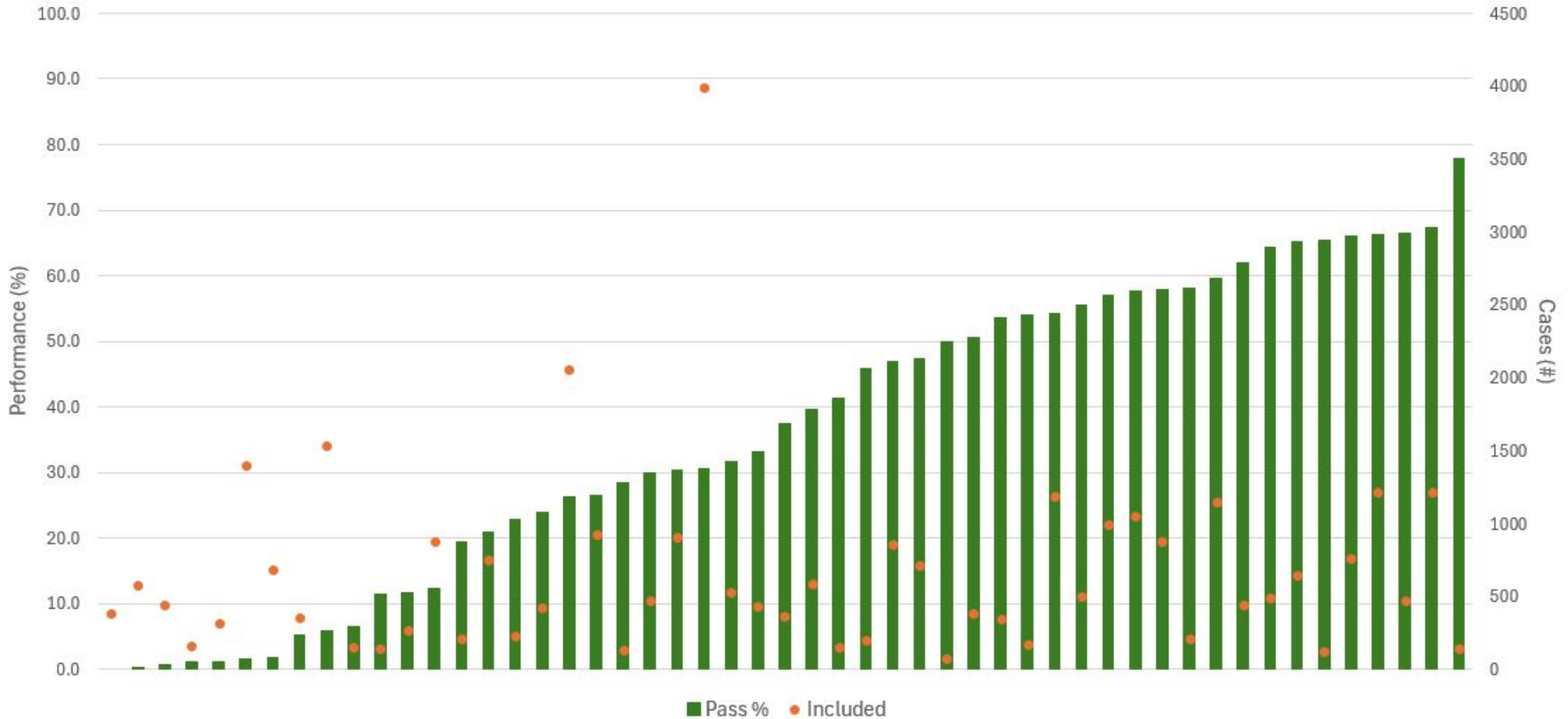
- **Exclusions:**

- ASA 6 or Organ Procurement (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, EP/Cath groups and Other Cardiac
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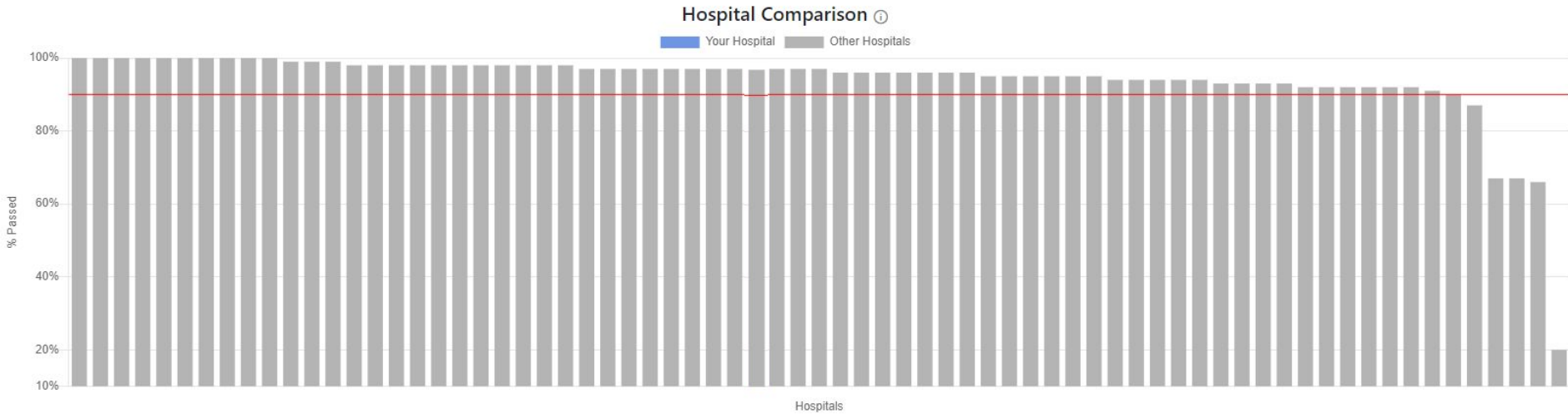


# ABX-05-C Preliminary Performance

Antibiotic Compliance in Cardiac Surgery (ABX-05-C)  
June 2023 - May 2024



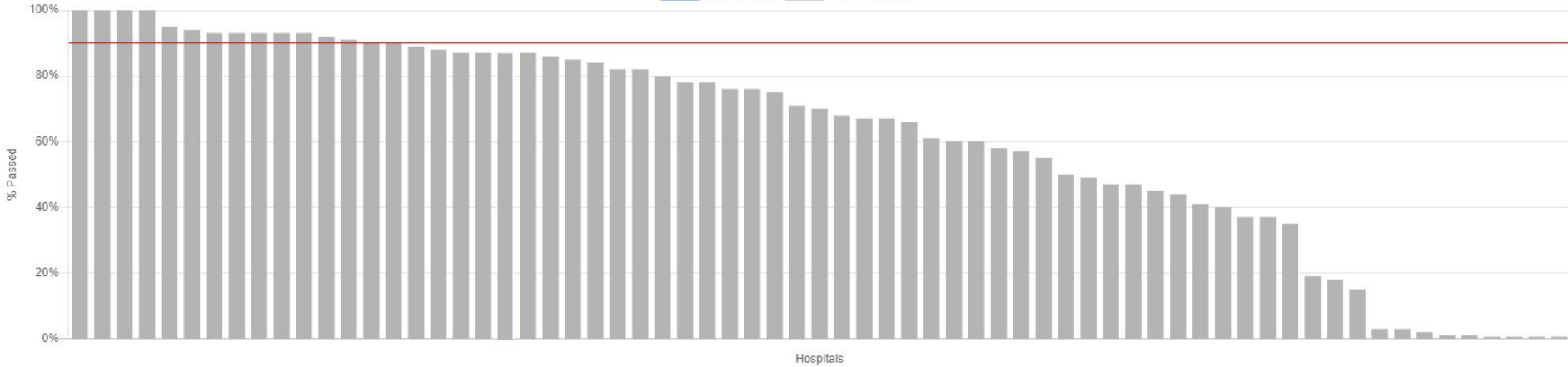
# ABX-02-C Dashboard Performance (antibiotic timing)



# ABX-03-C Dashboard Performance (antibiotic redosing)

Hospital Comparison

Your Hospital Other Hospitals



# **Acute Kidney Injury - Open Cardiac Surgery Measure Proposal**

## AKI-02-C: Acute Kidney Injury in patients undergoing Open Cardiac Surgery

**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 the baseline creatinine level increases by  $\geq 0.3$  mg/dL within 48 hours postoperatively.

**Inclusion:** Adult patients undergoing open cardiac surgical procedures (determined by Procedure Type: Cardiac value code: 1)

### **Success:**

1. The creatinine level does not go above 1.5x the baseline creatinine within 7 days post-op
2. The creatinine level does not increase by  $\geq 0.3$  mg/dL obtained within 48 hours after anesthesia end.

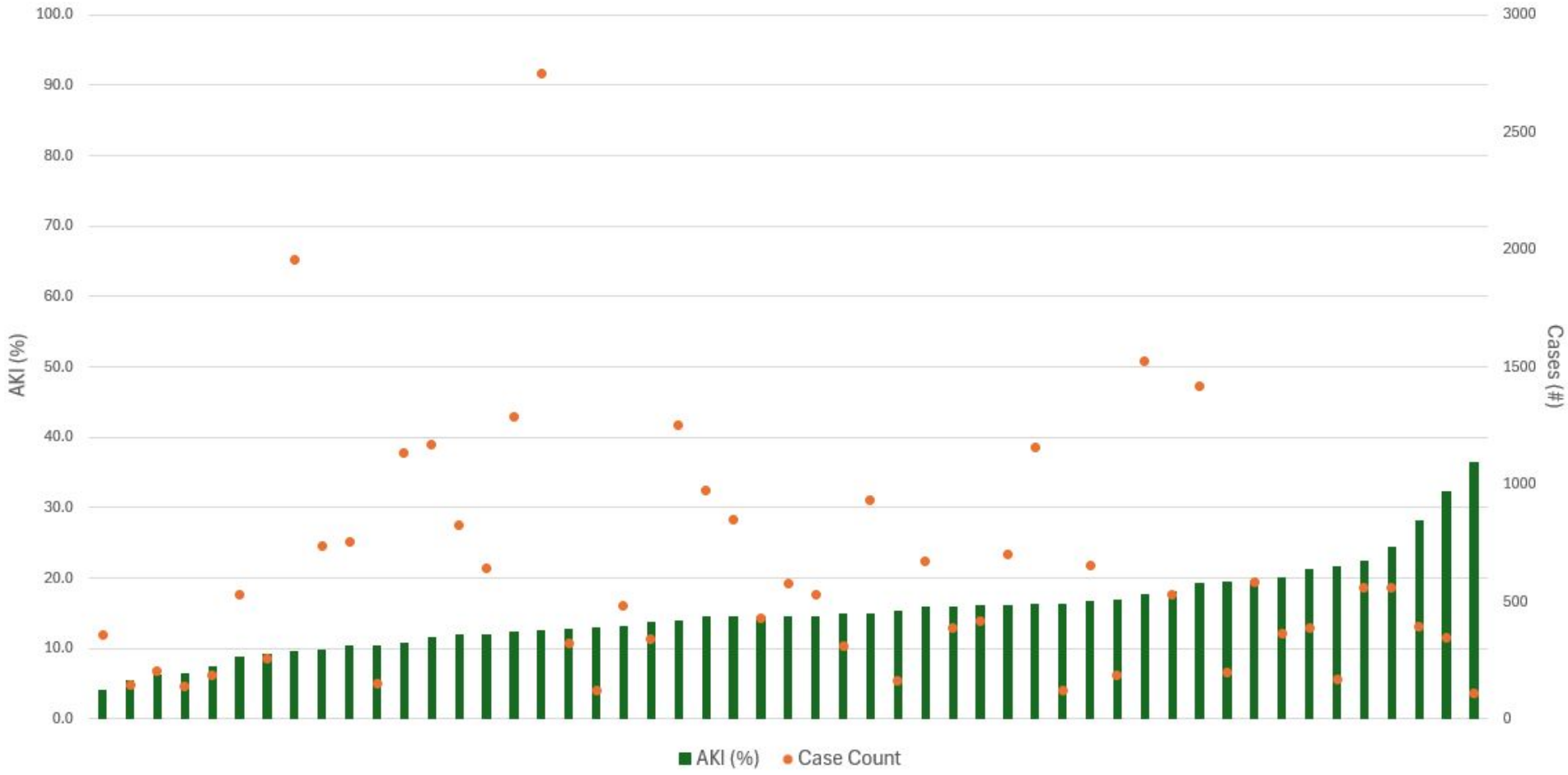
# AKI-02-C: Acute Kidney Injury in patients undergoing Open Cardiac Surgery

## Exclusions:

- ASA 6 (including CPT:01990)
- Cases where a baseline creatinine is not available within 60 days preoperatively
- Cases where a creatinine lab is not available within 7 postoperative days.
- 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
- Patients with pre-existing renal (stage 4 or 5) failure based upon BSA-Indexed EGFR  $< 30 \text{ mL/min/1.73m}^2$  determined by Preop EGFR (most recent) or MPOG Complication - Acute Kidney Injury value code -2.
- Open cardiac procedures performed in conjunction with procedures affecting the kidney, bladder, or ureter (specific anesthesia and surgical CPT codes).

# Acute Kidney Injury in Open Cardiac Surgery

Prelim Data: June 2023 - May 2024



# 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 2024 Meeting Schedule
  - September 2024
  - December 2024
- Thank you for using the forum for discussion between meetings



# Thank you!

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