MPOG Cardiac Anesthesia Subcommittee Meeting
December 8, 2023

Agenda

- Welcome & announcements
- Discussion of proposed antibiotic timing, redosing, selection measures
- Unblinded Performance Review Session: Glycemic Management Measures
  - GLU-06: Hyperglycemia Avoidance
  - GLU-07: Hypoglycemia Avoidance
  - GLU-08: Hyperglycemia Treatment
- 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!

Antibiotic Measures

ABX-02 Antibiotic Timing for Open Cardiac Procedures

- **Description:**
  - Percentage of adult patients undergoing open cardiac surgery with antibiotic administration initiated within the appropriate time frame before surgical incision.
- **Timing:**
  - 120 minutes prior to Surgery Start Time through Surgery Start Time
- **Attribution:**
  - All anesthesia providers signed in at the time of Surgery Start Time

*For cases without a documented surgical incision time or procedure start time, the case will be flagged for review.

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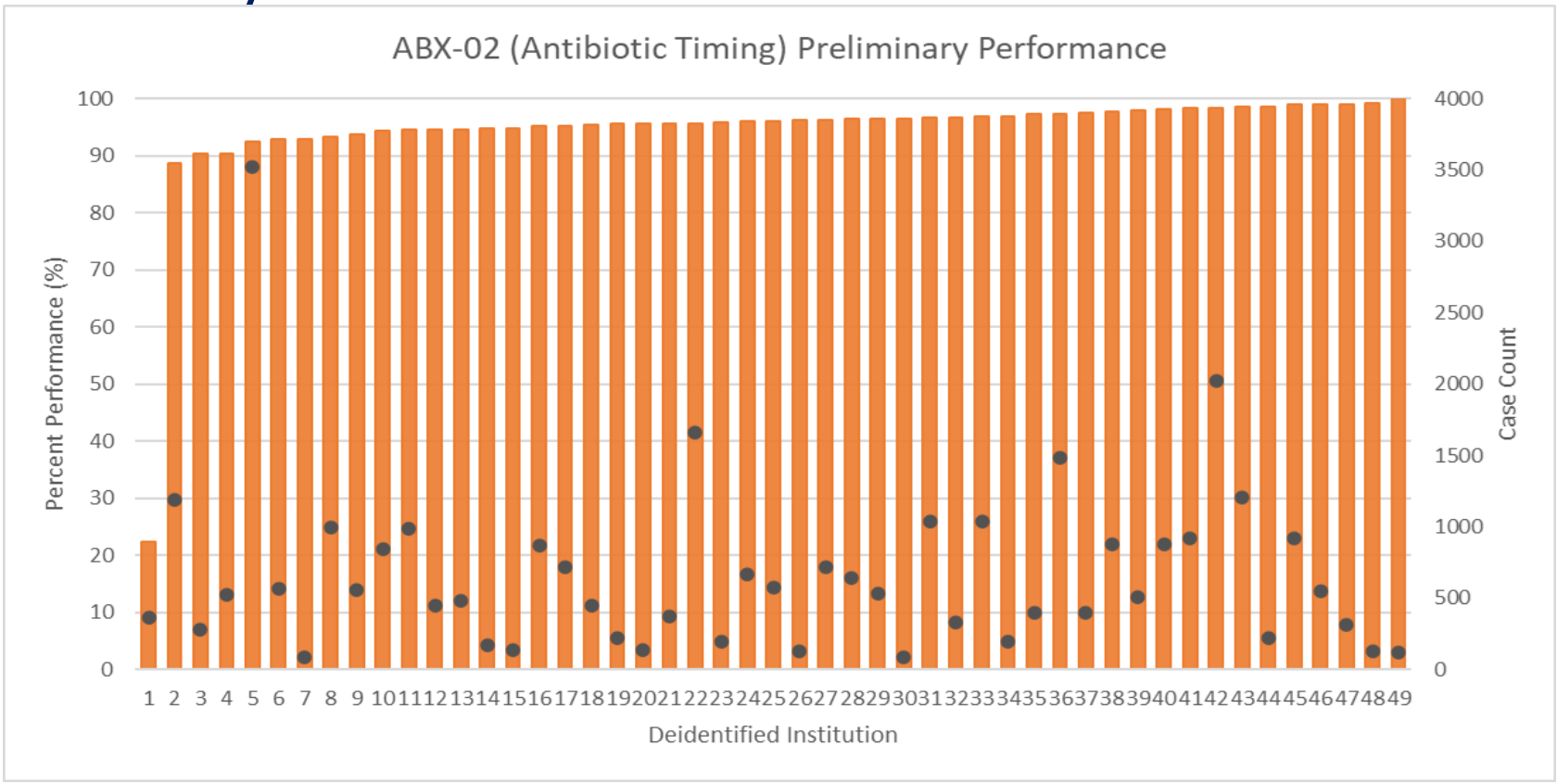
ABX-02 Antibiotic Timing Considerations

- **Inclusions:**
  - All patients, 18 years of age or older, who undergo open cardiac surgical procedures (as determined by Procedure Type: Cardiac phenotype:value = 1) under general anesthesia with duration of anesthesia lasting ≥ 120 minutes
- **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-02 Antibiotic Timing - Included Antibiotics

Antibiotic	Appropriate Start Time	Antibiotic	Appropriate Start Time
Azithromycin	Within 90 minutes before incision	Ceftriaxone	Within 60 minutes before incision
Cefamandole	Within 60 minutes before incision	Cefuroxime	Within 60 minutes before incision
Cefazolin	Within 60 minutes before incision	Ciprofloxacin	Within 90 minutes before incision
Cefepime	Within 60 minutes before incision	Daptomycin	Within 120 minutes before incision
Cefotaxime	Within 60 minutes before incision	Gentamicin	Within 90 minutes before incision
Cefotetan	Within 60 minutes before incision	Levofloxacin	Within 90 minutes before incision
Cefoxitin	Within 60 minutes before incision	Vancomycin	Within 120 minutes before incision
Ceftazidime	Within 60 minutes before incision	Ceftriaxone	Within 60 minutes before incision
Ceftizoxime	Within 60 minutes before incision	Cefuroxime	Within 60 minutes before incision

Preliminary Performance: ABX-02



ABX-02 Antibiotic Timing Questions

- Exclude lung transplants?
- Vote to move forward with measure despite not a lot of variation?

ABX-03 Antibiotic Redosing for Open Cardiac Procedures

- **Description:**
  - Percentage of adult patients undergoing an open cardiac procedure with an antibiotic redose initiated within four hours after initial antibiotic administration **(cephalosporins only)**.
    - Success if re-dosed within 180-240 minutes after each cephalosporin administration. (For longer cases, a second re-dose within 180-240 minutes after initial re-dose is required unless there is ≤ 240 minutes between a cephalosporin dose and anesthesia end.)
- **Attribution:**
  - Provider(s) signed in at the time of each re-dose (If not given: 240 minutes after initial cephalosporin dose, and/or if not given: 240 minutes after the first re-dose)

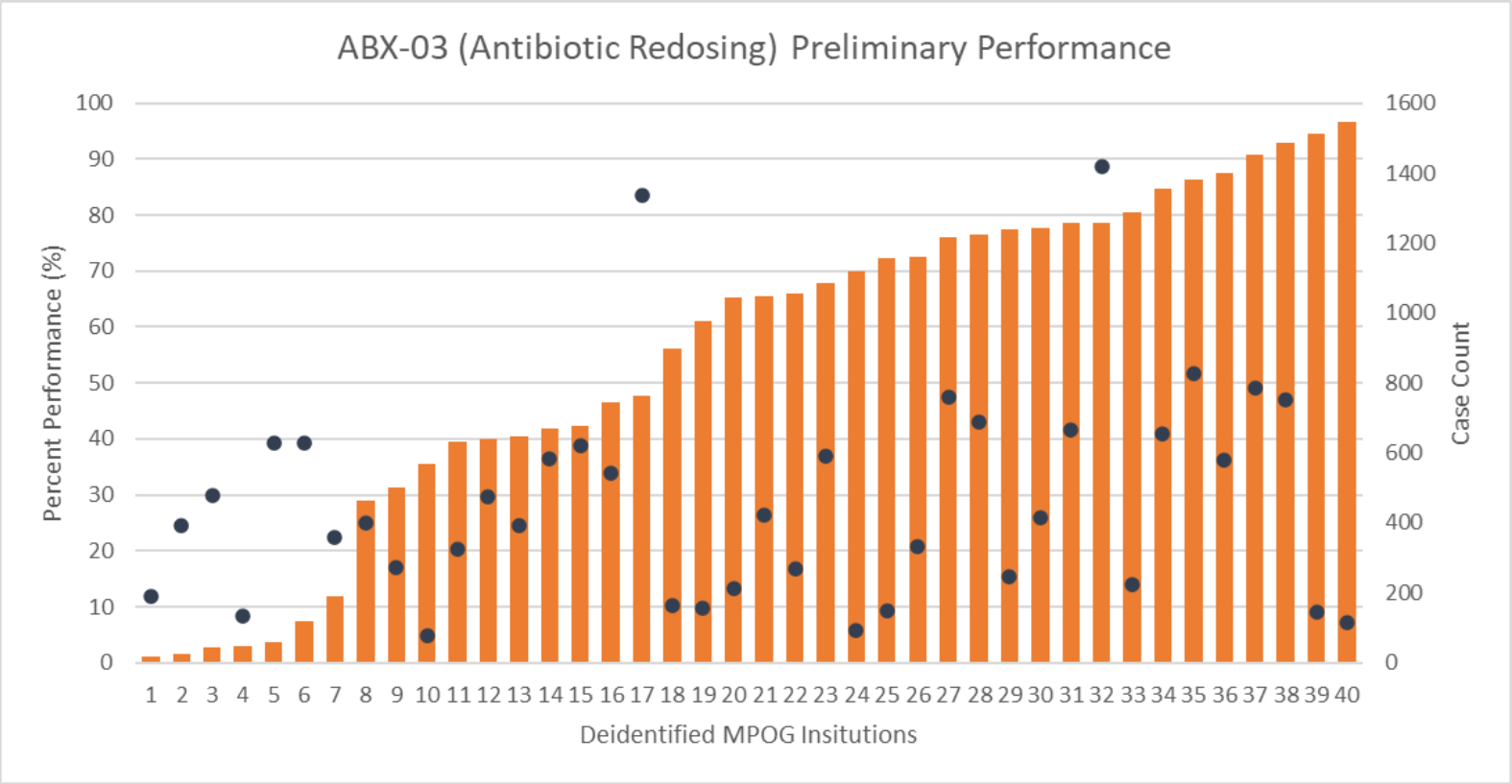
ABX-03 Antibiotic Redosing Considerations

- **Inclusions:**
  - Adult patients undergoing open cardiac surgical procedures
  - Patients receiving initial antibiotic prophylaxis with a cephalosporin
- **Exclusions:**
  - ASA 6 or Organ Procurement (CPT: 01990)
  - Cases with age <18
  - Cases where Anesthesia End time occurs before redose is due (4 hours after cephalosporin dose)
  - Cases without a cephalosporin for initial dose of antibiotic prophylaxis
  - Non-cardiac, Transcatheter/Endovascular, EP/Cath, and Other Cardiac cases (determined by the Procedure Type: Cardiac value codes: 0, 2, 3, and 4)
  - 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-03 Antibiotic Redosing Considerations

- **Cases will be assigned one of the following result reasons:**
  - Passed - Re-dose(s) administered on time
  - Flagged - Non-standard antibiotic selection
  - Flagged - Incision/procedure start time documented: No
  - Flagged - Antibiotic re-dose too late
  - Flagged - Antibiotic re-dose too early
  - Excluded - Scheduled antibiotics/documented infection
  - Excluded - No initial cephalosporin dose
  - Excluded - Re-dose not required
  - Excluded - ASA 6
  - Excluded - Non-Cardiac
  - Excluded - Age<18

Preliminary Performance: ABX-03



ABX-03 Antibiotic Redosing Questions

- Do we need a separate measure for other antibiotic redosing? (gets tricky with renal dysfunction)
- Exclude lung transplants?
- How do we want to handle long-running infusions?
- Vote to proceed?

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 (or Daptomycin) + Cephalosporin
  - Vancomycin (or Daptomycin) + Aminoglycoside
  - Cephalosporin Only
- **Cases will be assigned one of the following result reasons:**
  - Passed - Appropriate Antibiotics Administered
  - Flagged - Non-standard antibiotic selection
  - Flagged - Prophylactic 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/documented infection

ABX-04 Antibiotic Selection Questions

- **Is the list of acceptable antibiotics complete?**
  - Vancomycin (or Daptomycin) + Cephalosporin
  - Vancomycin (or Daptomycin) + Aminoglycoside
  - Cephalosporin Only
  - *Add macrolides (azithromycin) and fluroquinolones (levofloxacin)? Do other sites have those in their guidelines?*
- **Vote to proceed?**

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:**
  - 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
  - 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-05 Composite Antibiotic Compliance Questions

- **Is the attribution at the departmental level acceptable?**
- **Vote to proceed?**

Unblinded Data Review:
Glycemic Management Measures

Reminders:

Per the terms and conditions outlined during the registration process:

- A culture of openness and trust are critical to the development of such a collaborative effort to improve quality; and **a commitment for confidentiality is required to further the goals of ASPIRE.**

- The following examples are to be considered privileged and confidential information and should be discussed only within the confines of the Cardiac Subcommittee Meeting.
  - Any and all patient information.
  - Any and all patient identifiers/information which are considered privileged and protected health information as defined by current HIPAA laws.
  - Any specific MPOG QI registry case information.
  - Any information discussed regarding a specific site outcome.
  - Any reference to a specific MPOG site result or analysis.
  - All anesthesiology data presented including but not limited to outcome reports.
  - **Taking screenshots, pictures or videos of data slides is prohibited.**

Site Participation

- All sites that perform >75 open cardiac procedures annually are presented on the slides to follow
- This is a closed meeting: registration required to receive the Zoom link.
- Only those sites who have a participant on the cardiac subcommittee are unblinded
- Cardiac Anesthesia Champions were notified that unblinded data would be shared and were given the opportunity to opt out
- No sites emailed us to express a desire to be excluded from this review

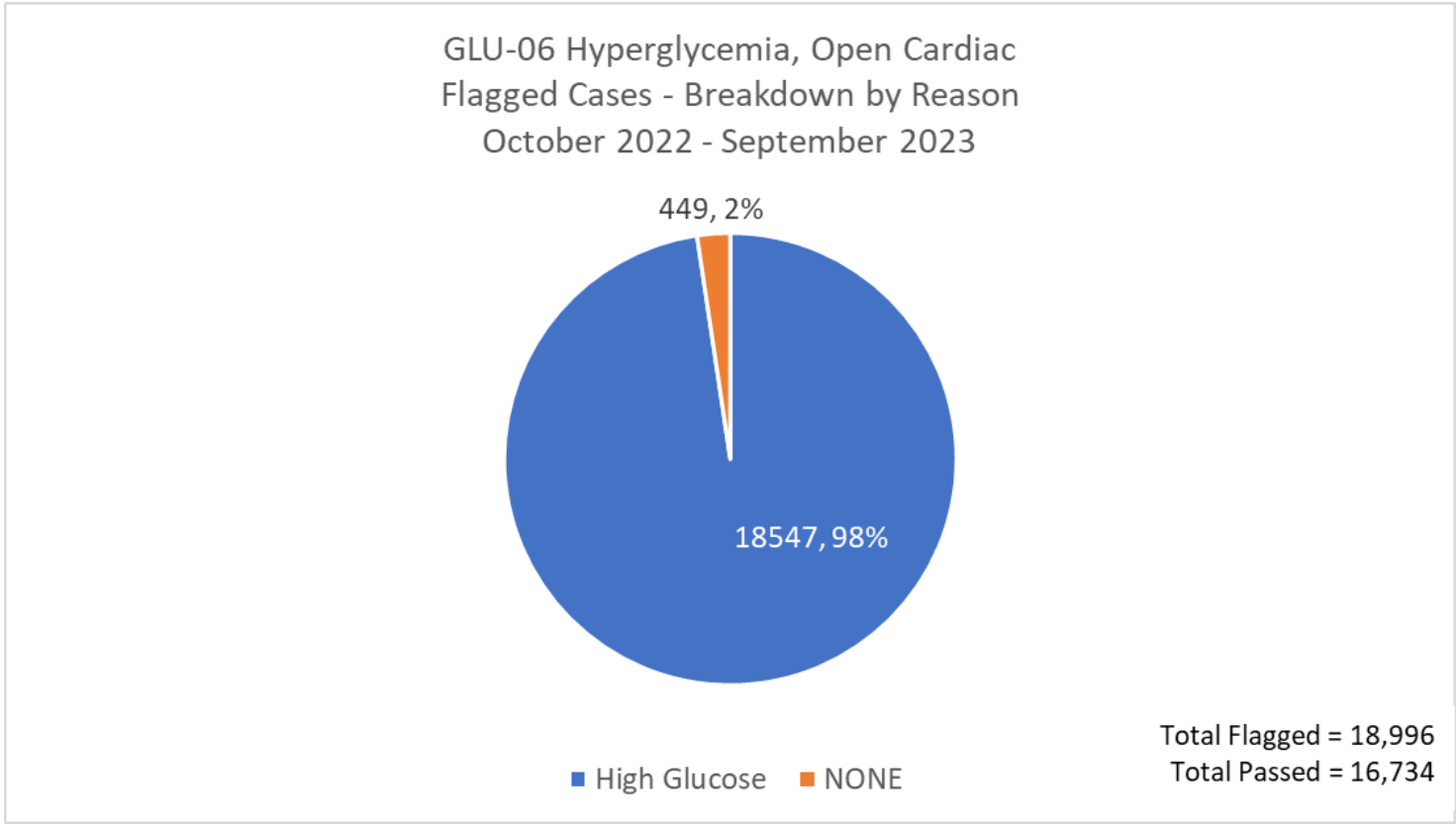
Hyperglycemia avoidance measure (GLU-06)

- GLU-06 is released and is available on your dashboards!

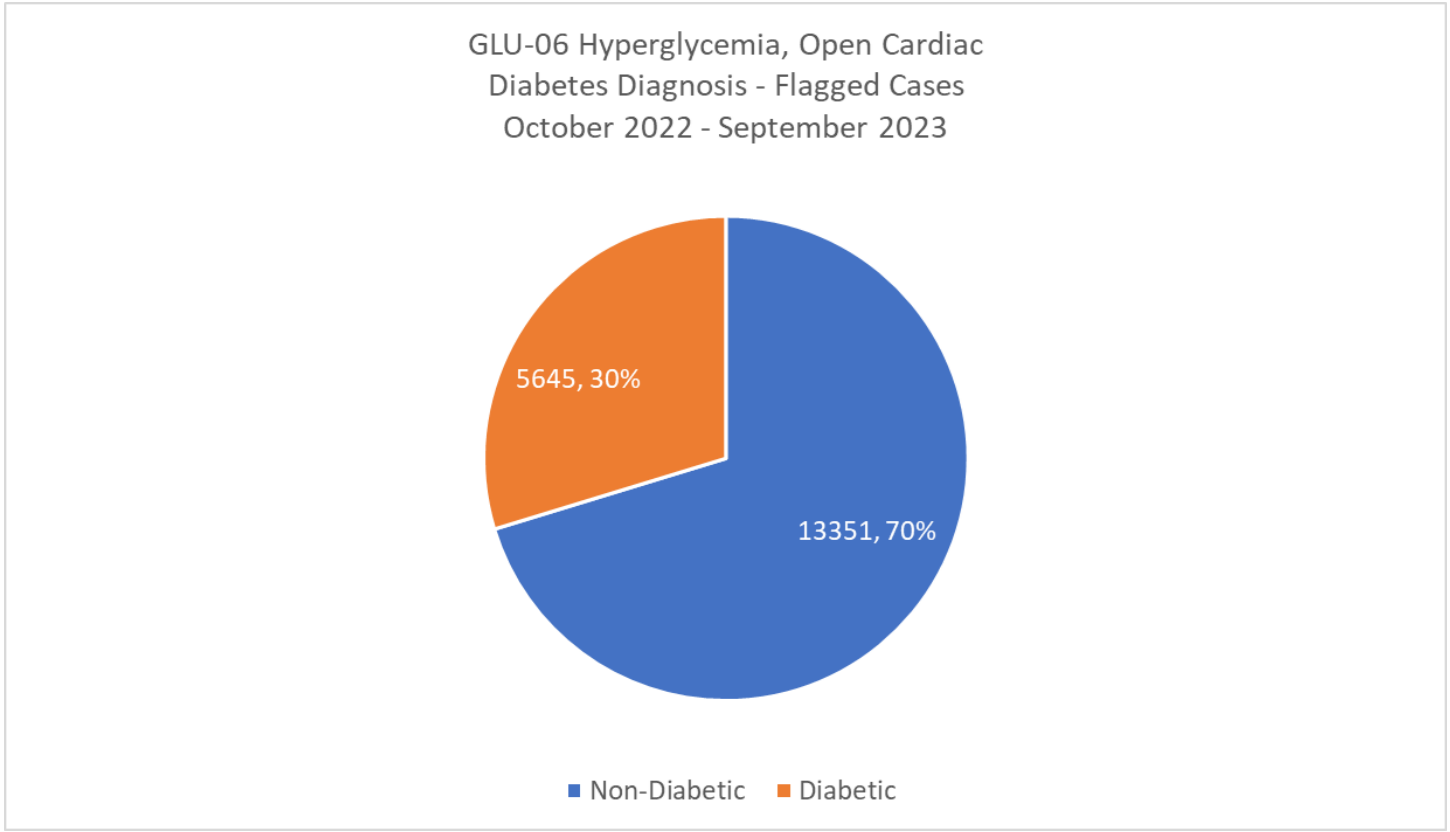
- **GLU-06 Success:**
  - Percentage of patients, ≥18 years age, who undergo open cardiac surgical procedures under general anesthesia of 120 minutes case duration or longer for whom any blood glucose measure did not exceed 180 mg/dL (and not rechecked within 30-minutes and found to be </=180 mg/dL) was documented.
    - Note: open cardiac cases without ANY glucose values documented are flagged

Unblinded data removed from slide deck posted to the website.

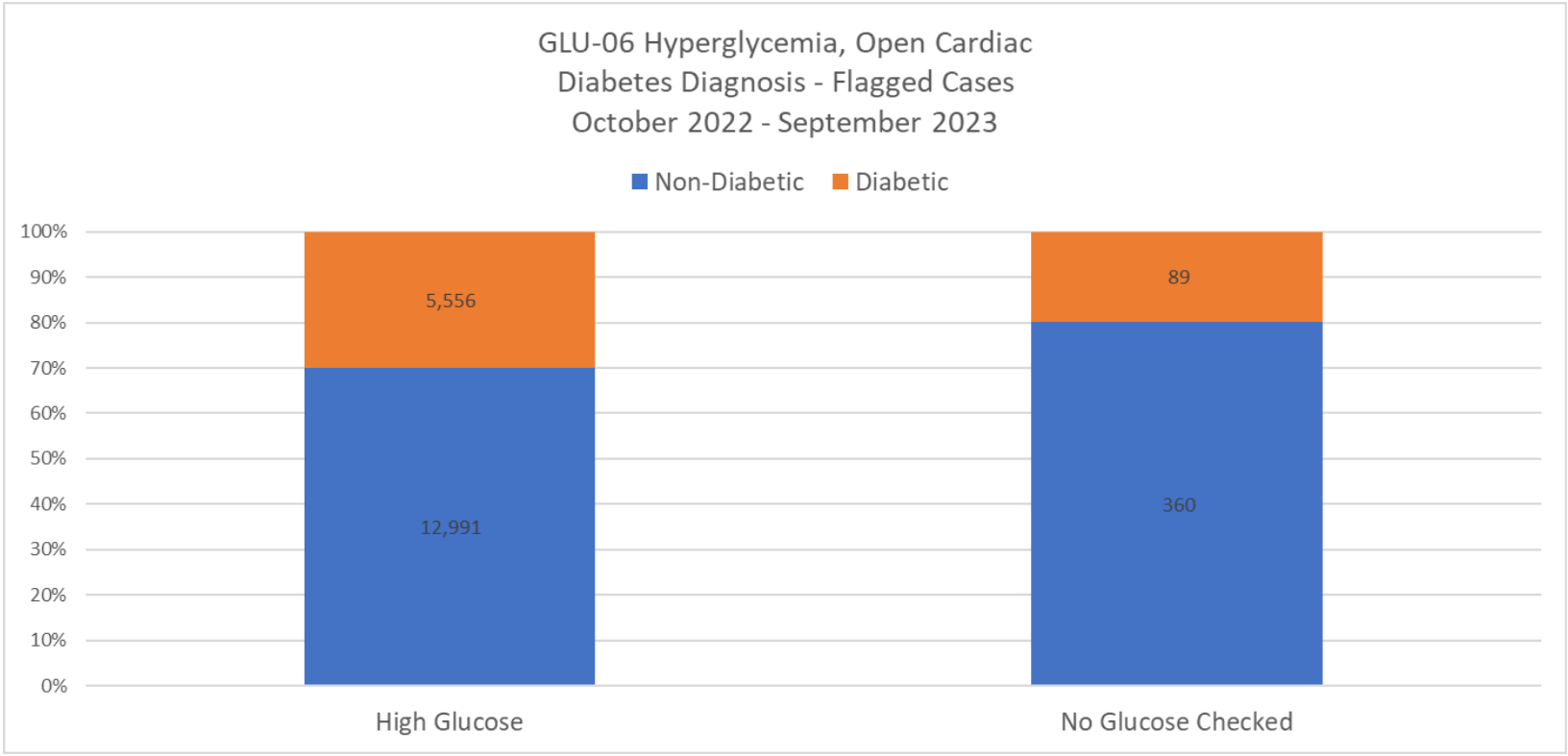
Flagged Cases: Breakdown by Reason



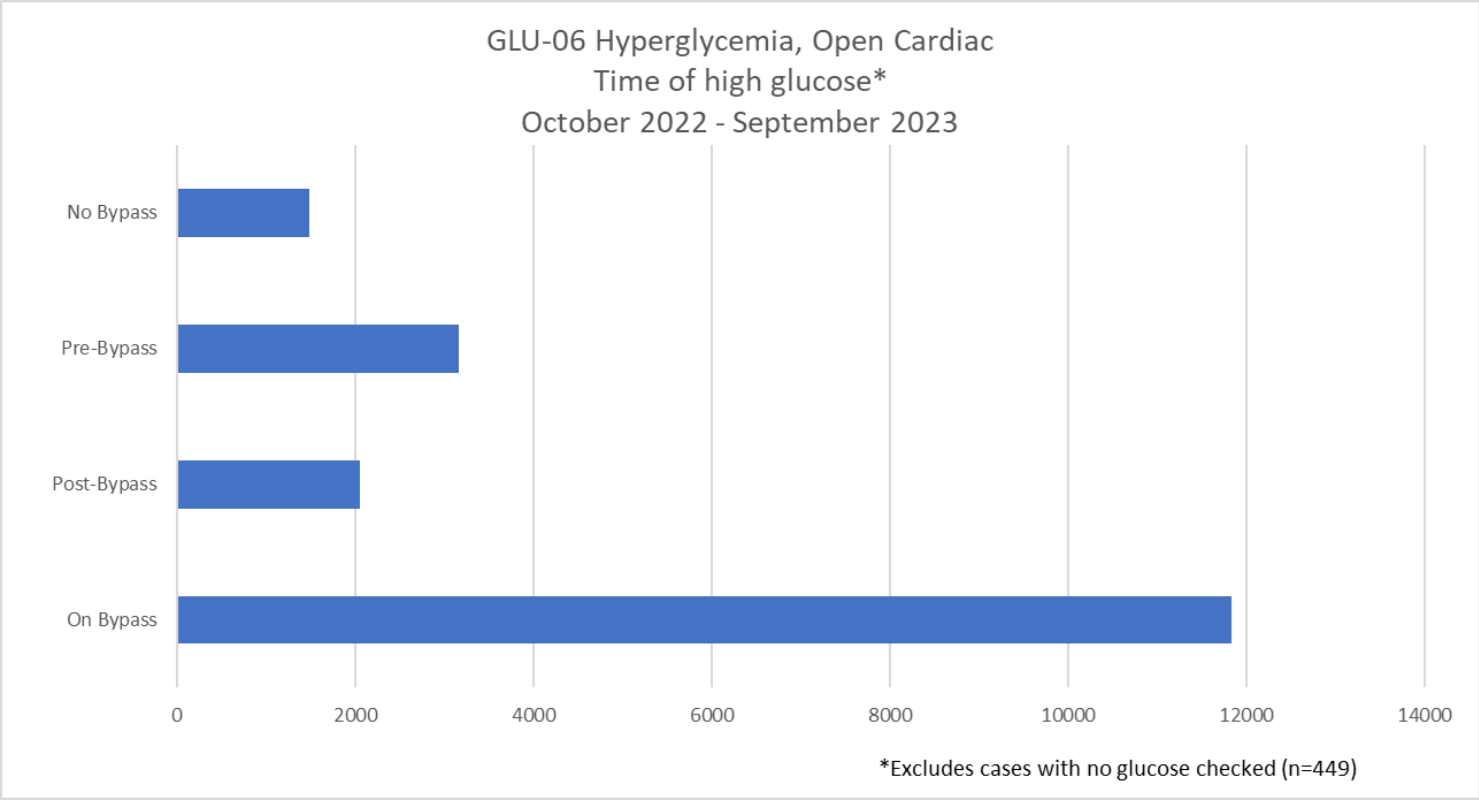
Diabetic vs. Non-diabetic



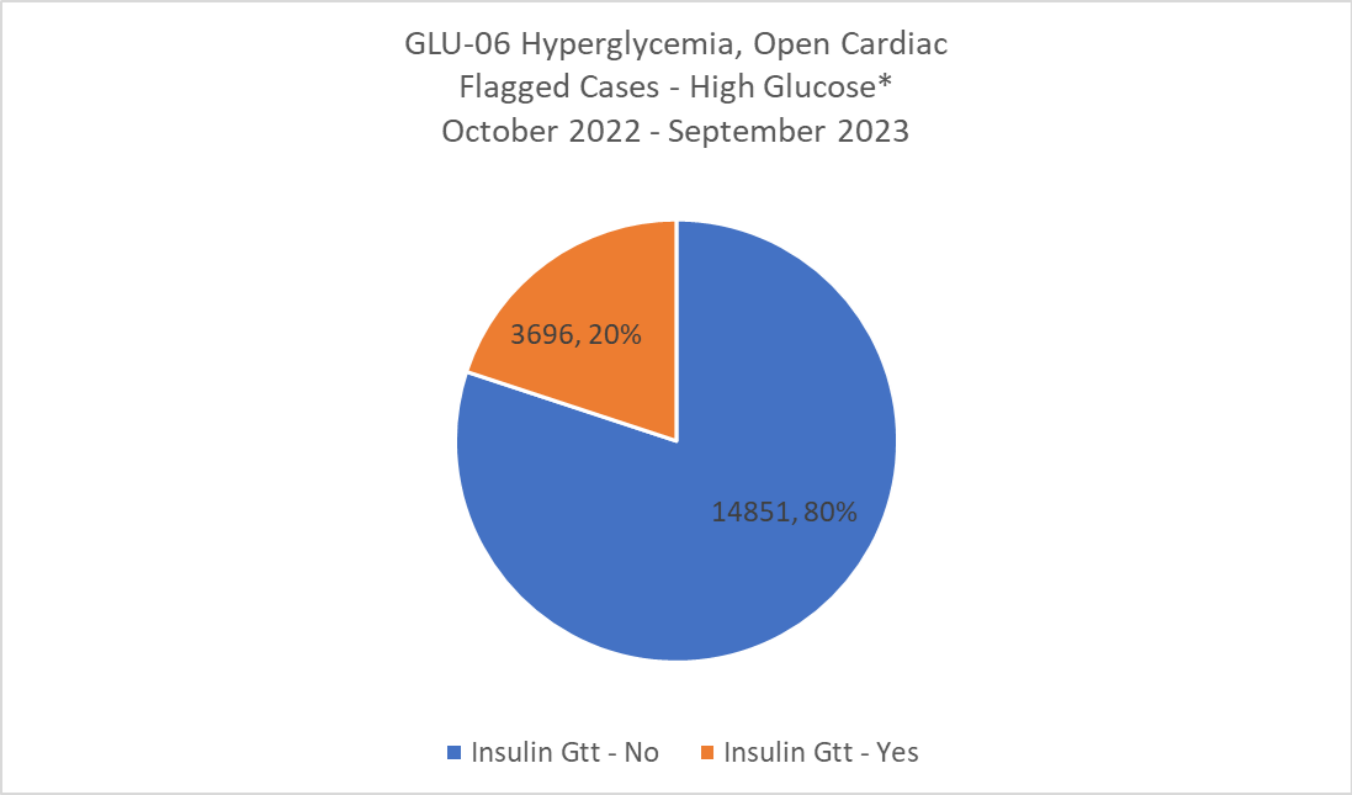
Diabetic vs. Non-Diabetic



Timing of High Glucose Value



Insulin drip at time of high glucose value?



Cardiac **Hypo**glycemia Avoidance Measure (GLU-07)

- **GLU-07:**
  - Percentage of adult patients, undergoing open cardiac surgery with any intraoperative blood glucose value < 70 mg/dL.
    - Note: open cardiac cases without ANY glucose values documented are flagged
- **Timing:**
  - Start: Anesthesia Start
  - End: 15 minutes after Anesthesia End

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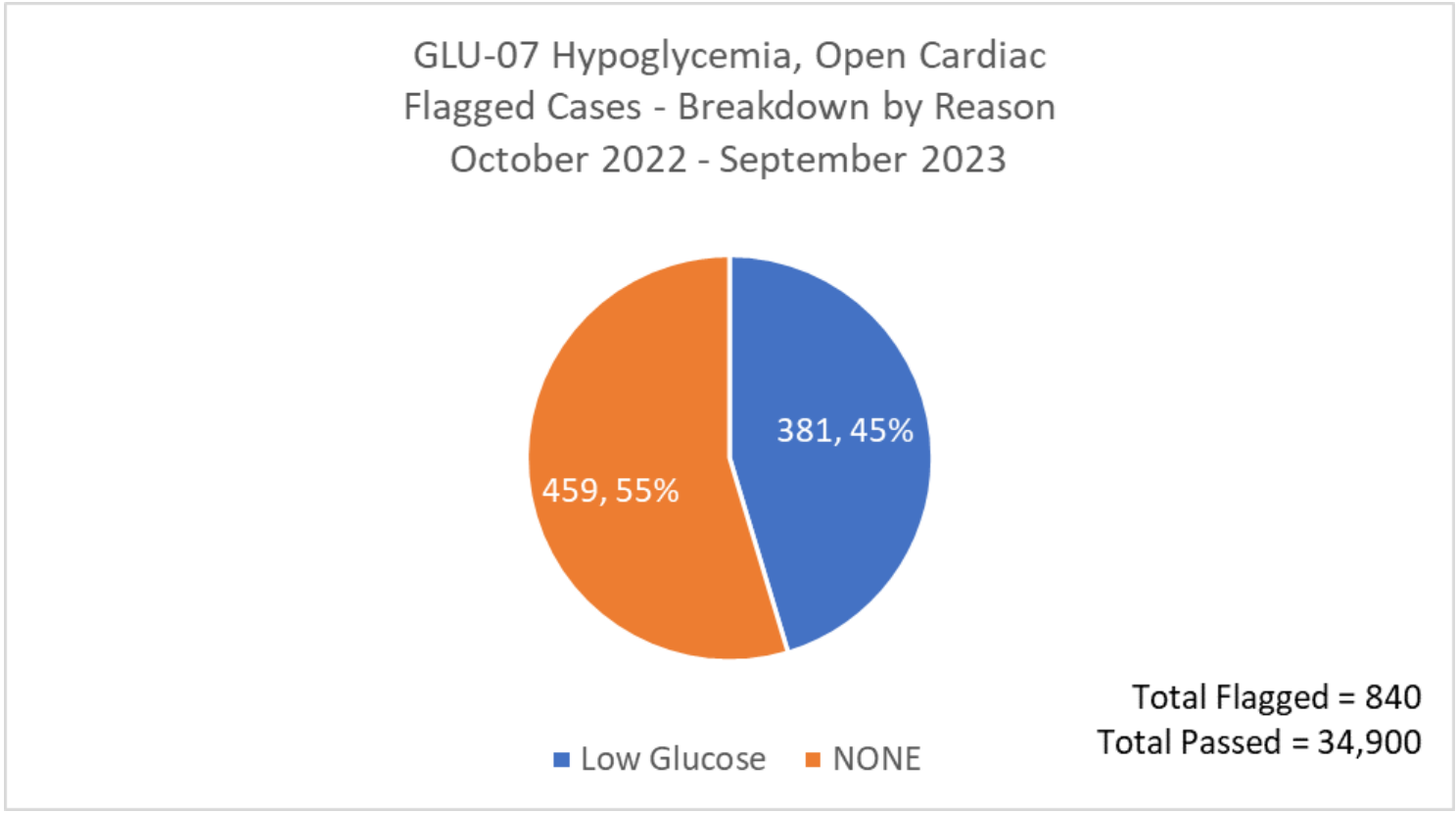
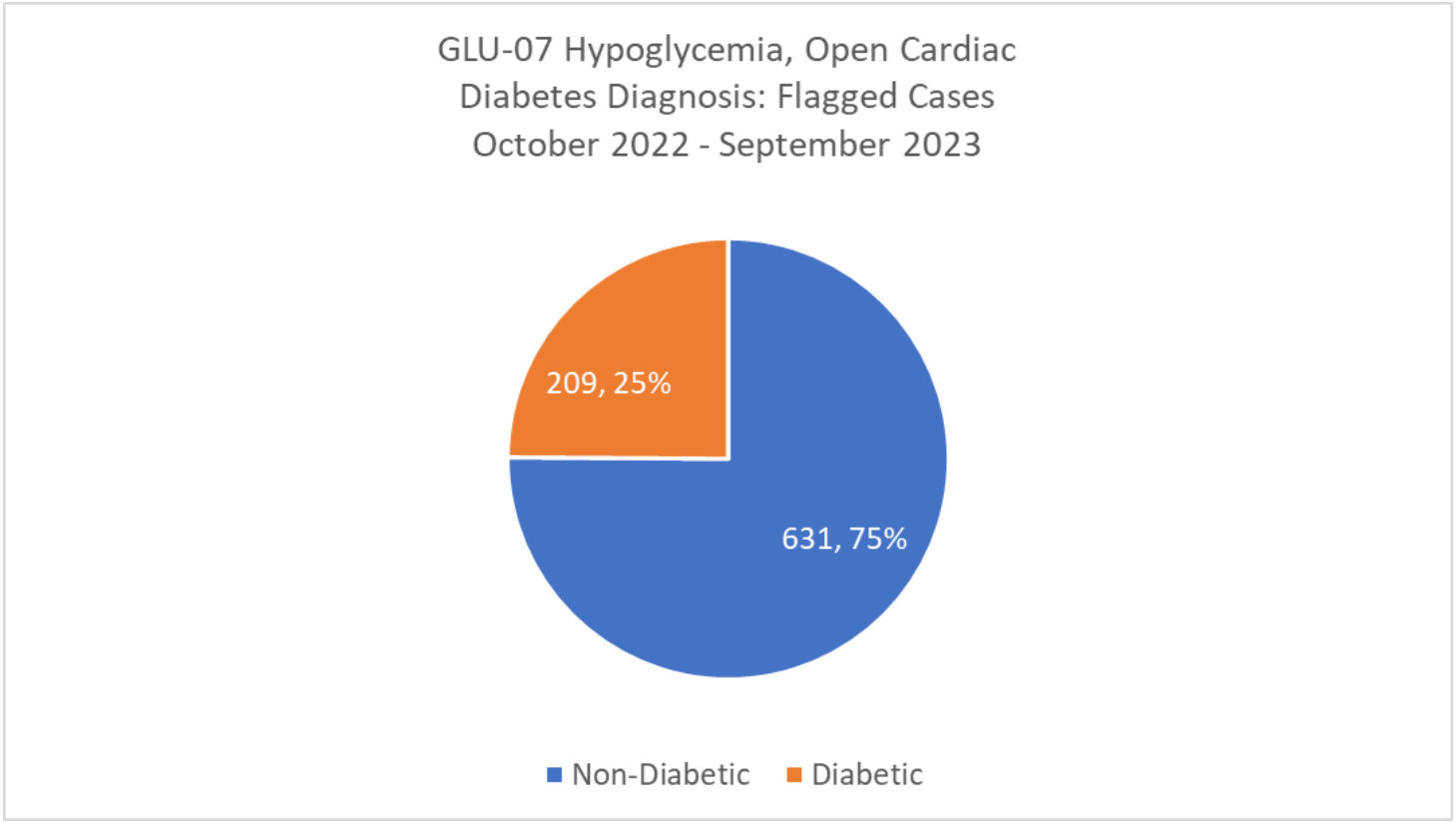
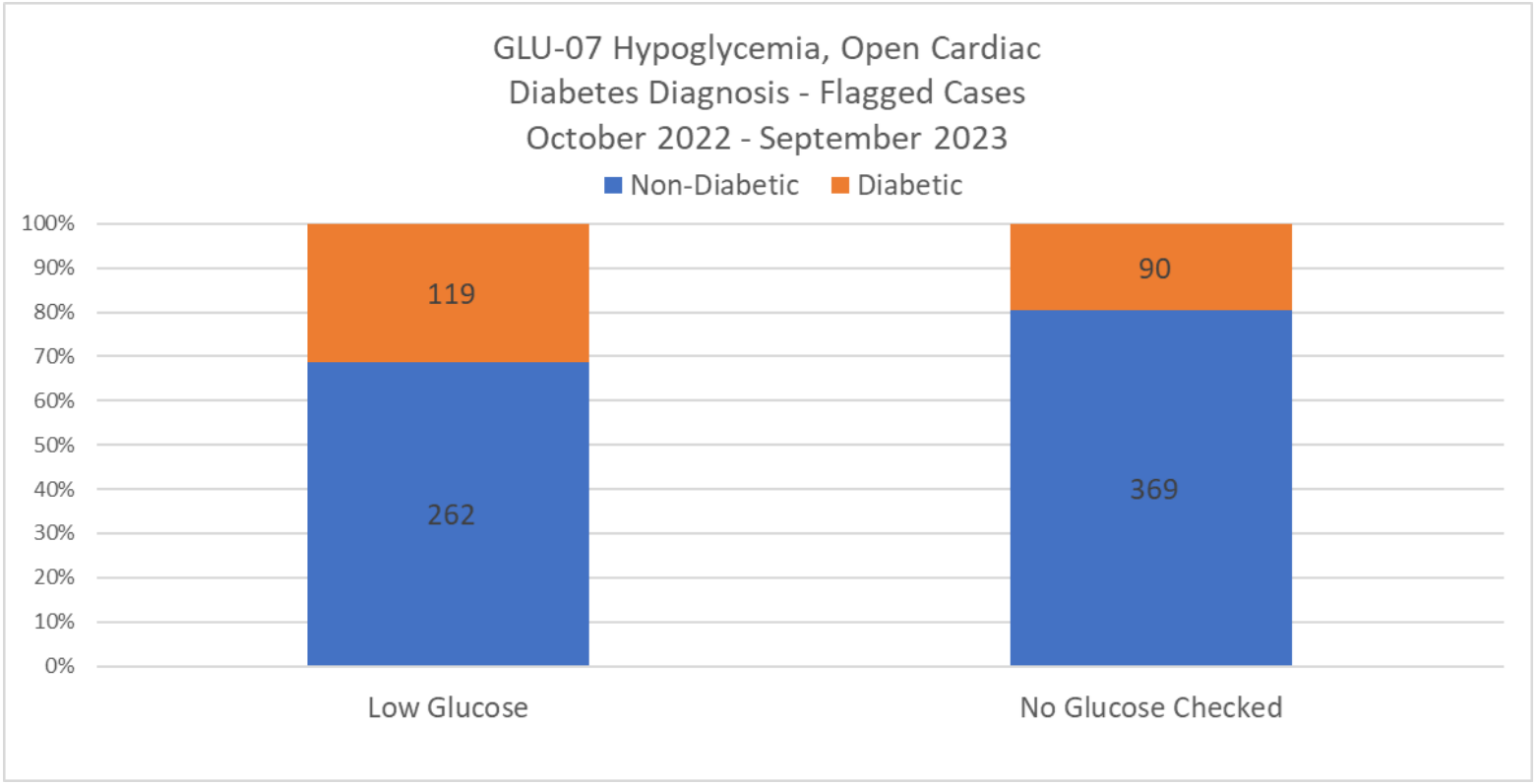
Flagged Cases: Breakdown by Reason



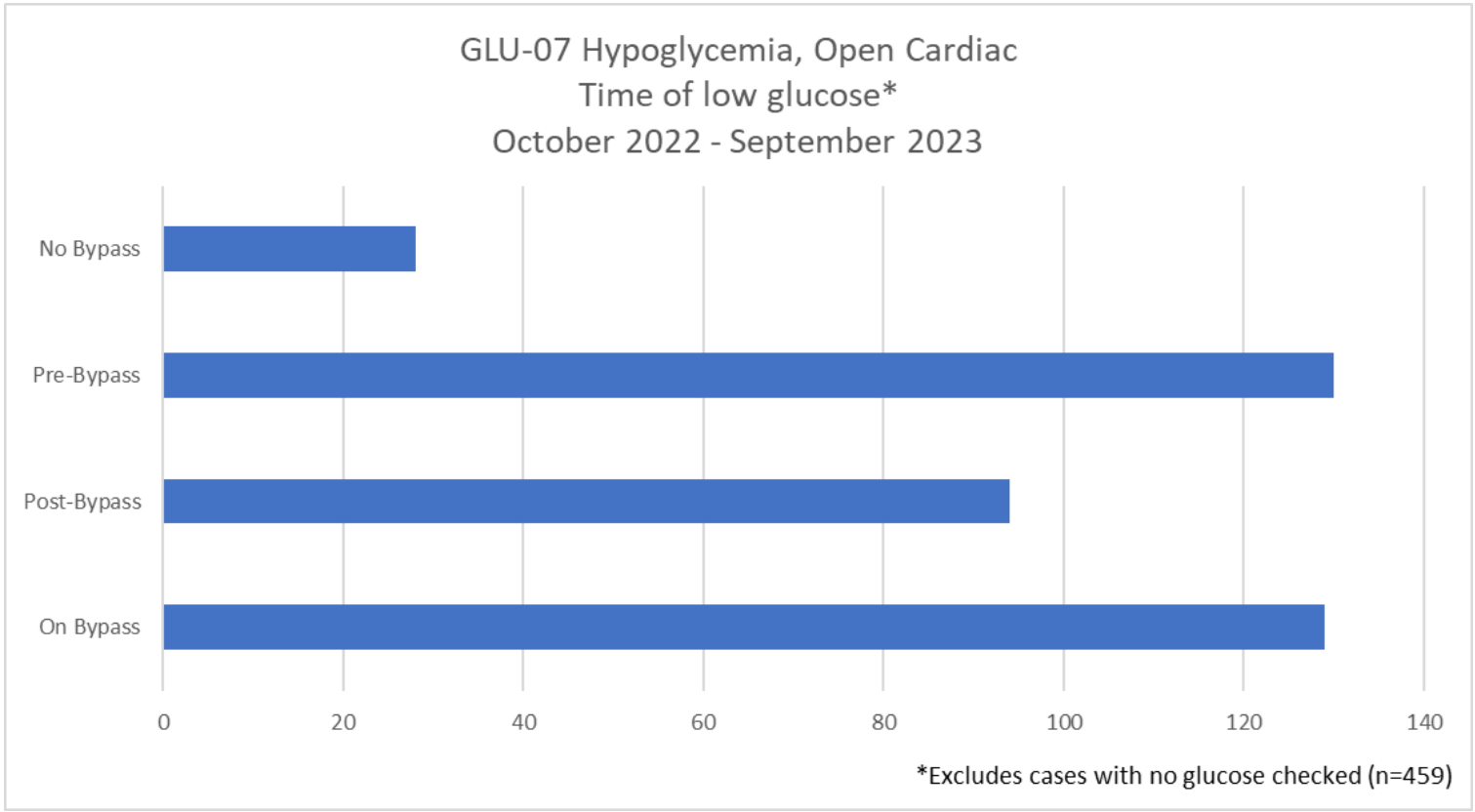
Diabetic vs. Non-Diabetic



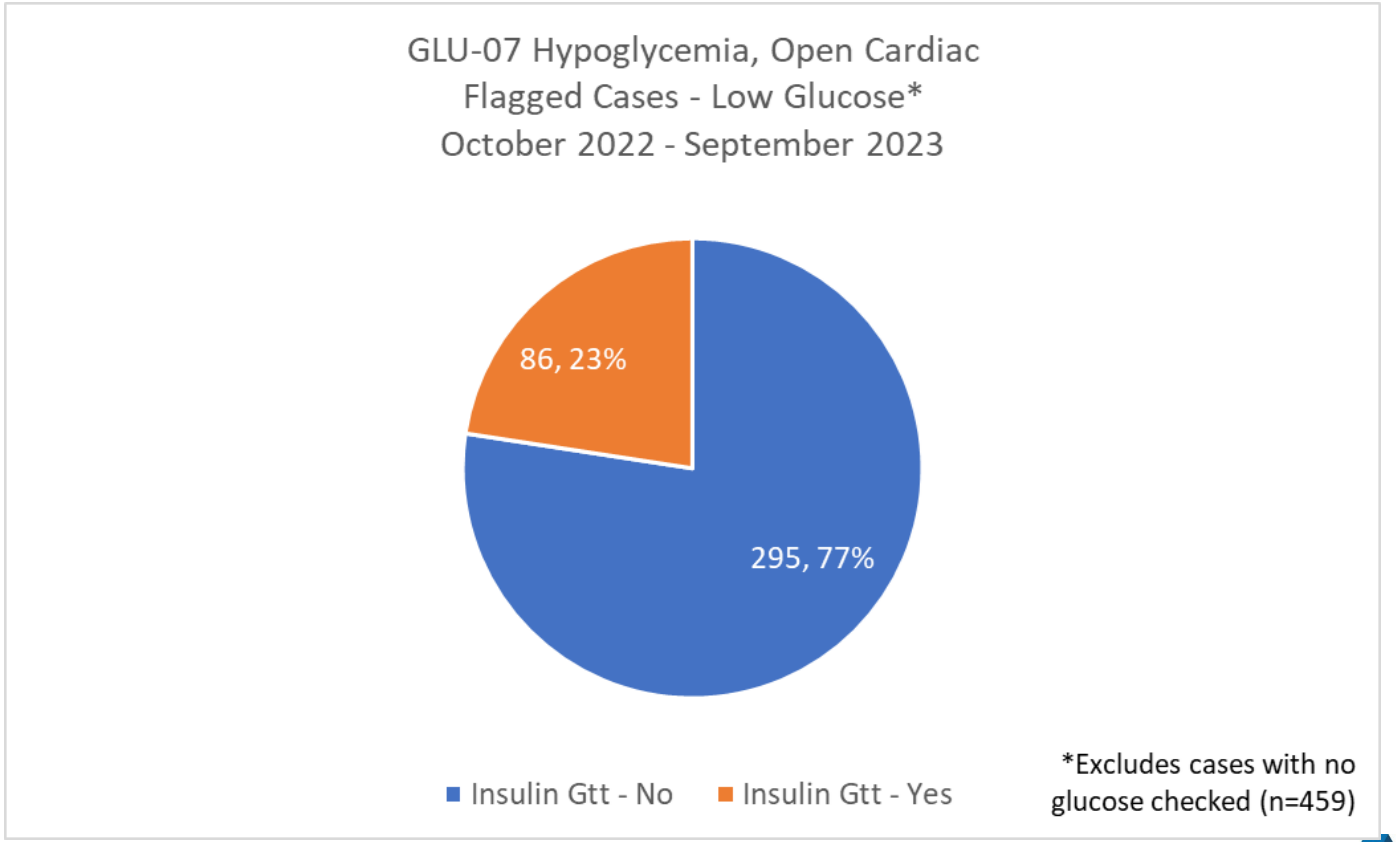
Diabetic vs. Non-Diabetic



Time of Low Glucose Value



Insulin drip running at time of low glucose value?



Cardiac **Hyper**glycemia Treatment Measure (GLU-08)

- **GLU-08:**
  - Percentage of patients, ≥18 years age, who undergo open cardiac surgical procedures under general anesthesia of 120 minutes case duration or longer for whom any blood glucose measure >/=180mg/dL was either treated with insulin or rechecked and found to be <180mg/dL within 30 minutes.
    - Note: open cardiac cases without ANY glucose values documented are flagged
- **Timing:**
  - Start: Anesthesia Start
  - End: 30 minutes after Anesthesia End

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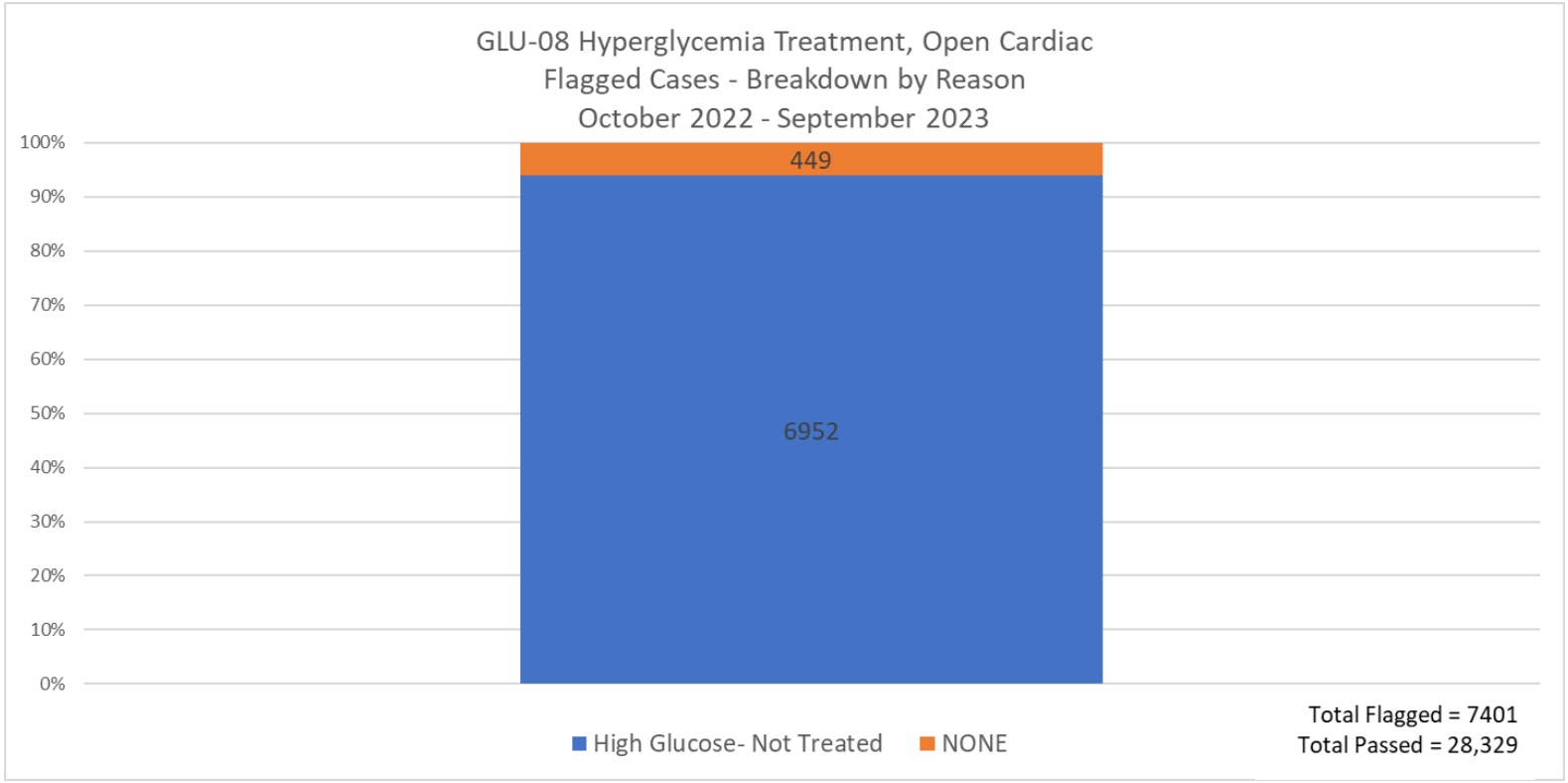
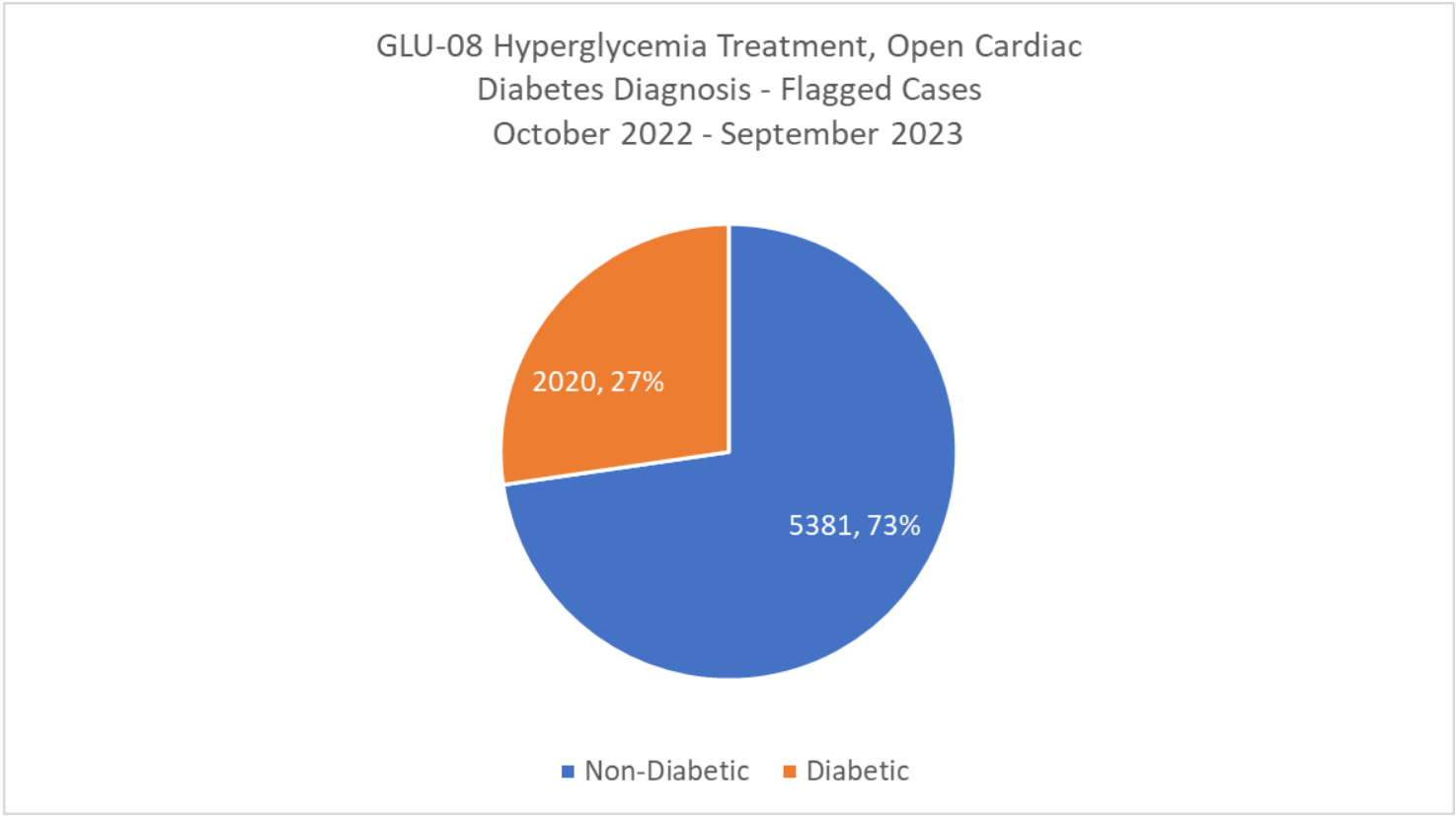
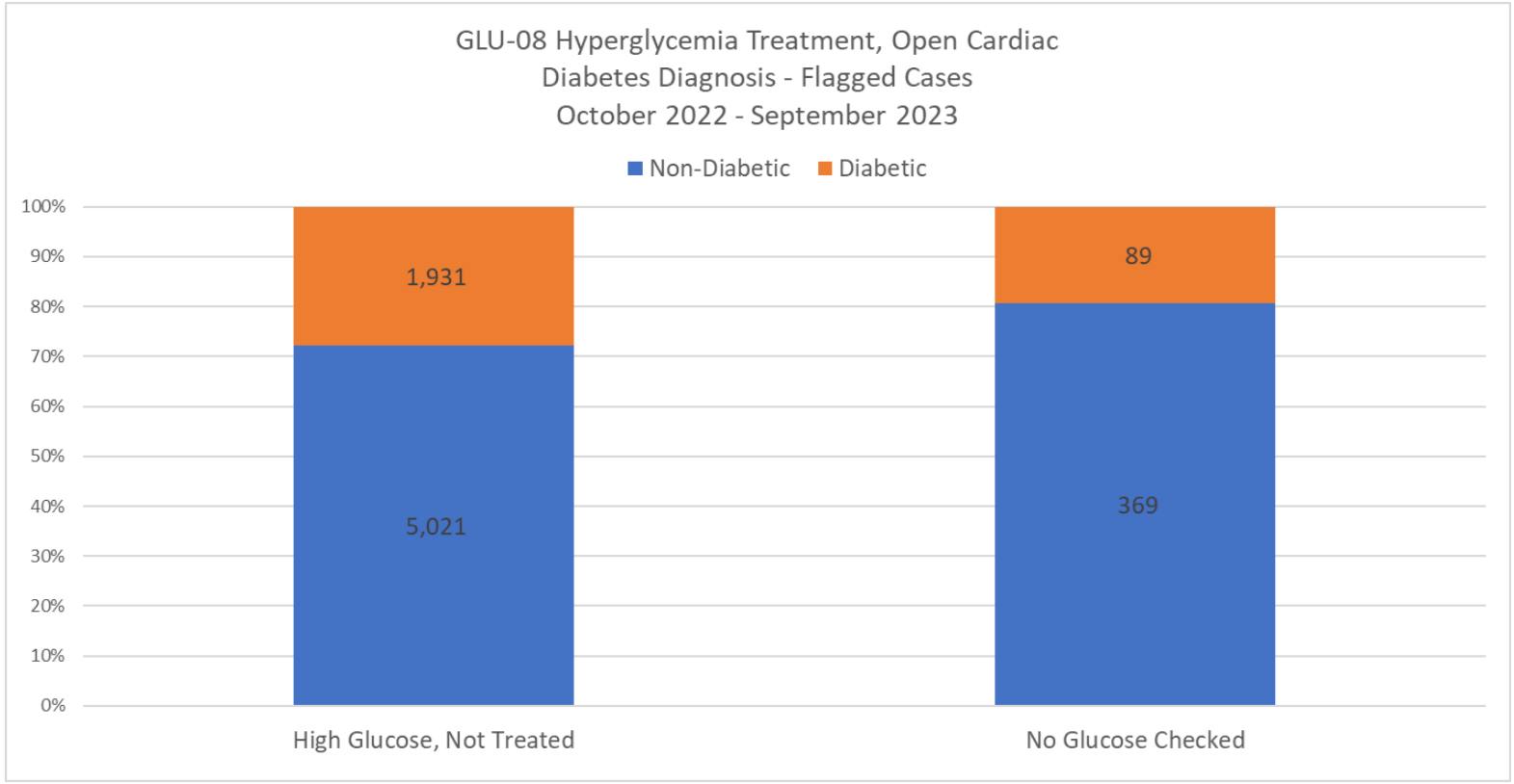
Flagged Cases: Breakdown by Reason



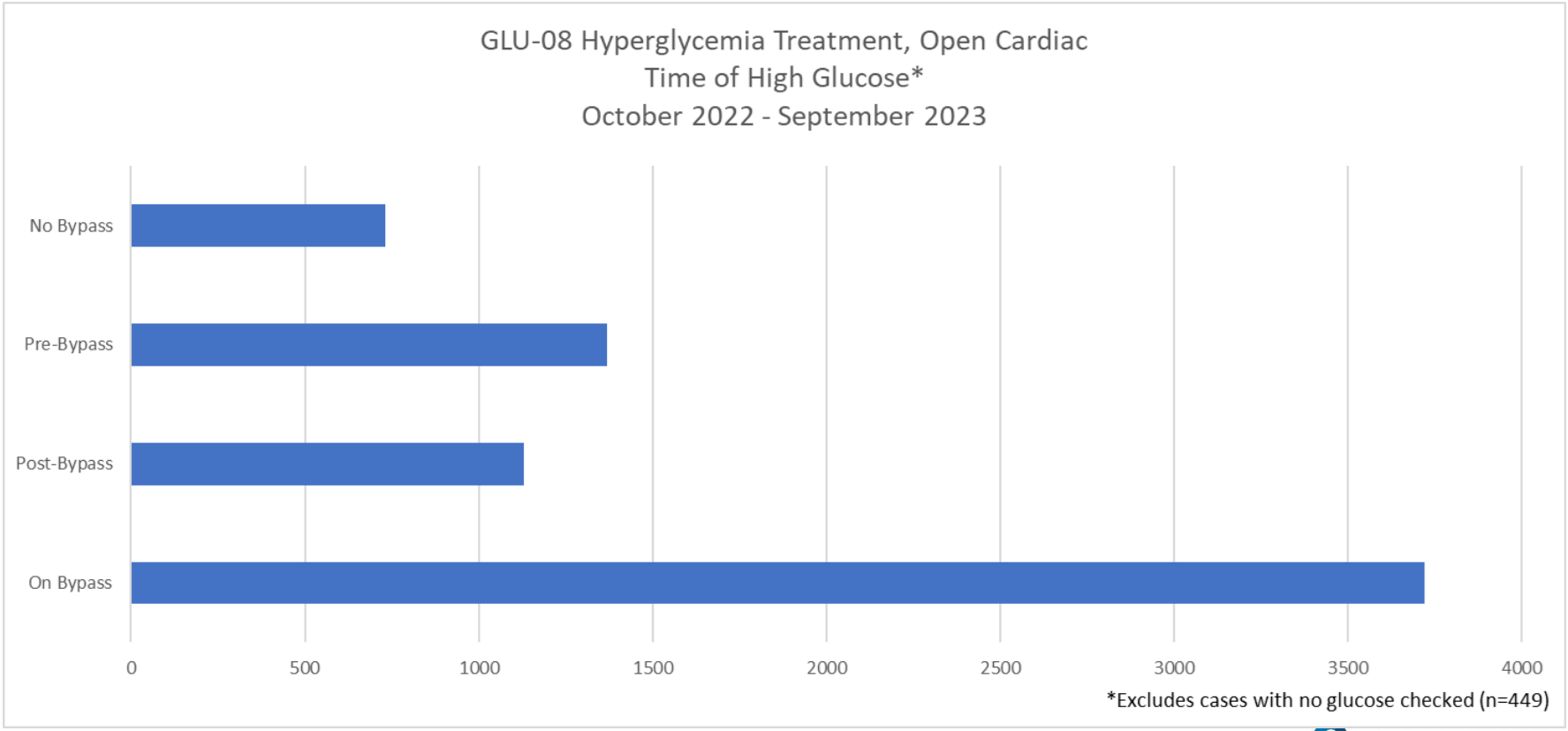
Diabetic vs. Non-diabetic



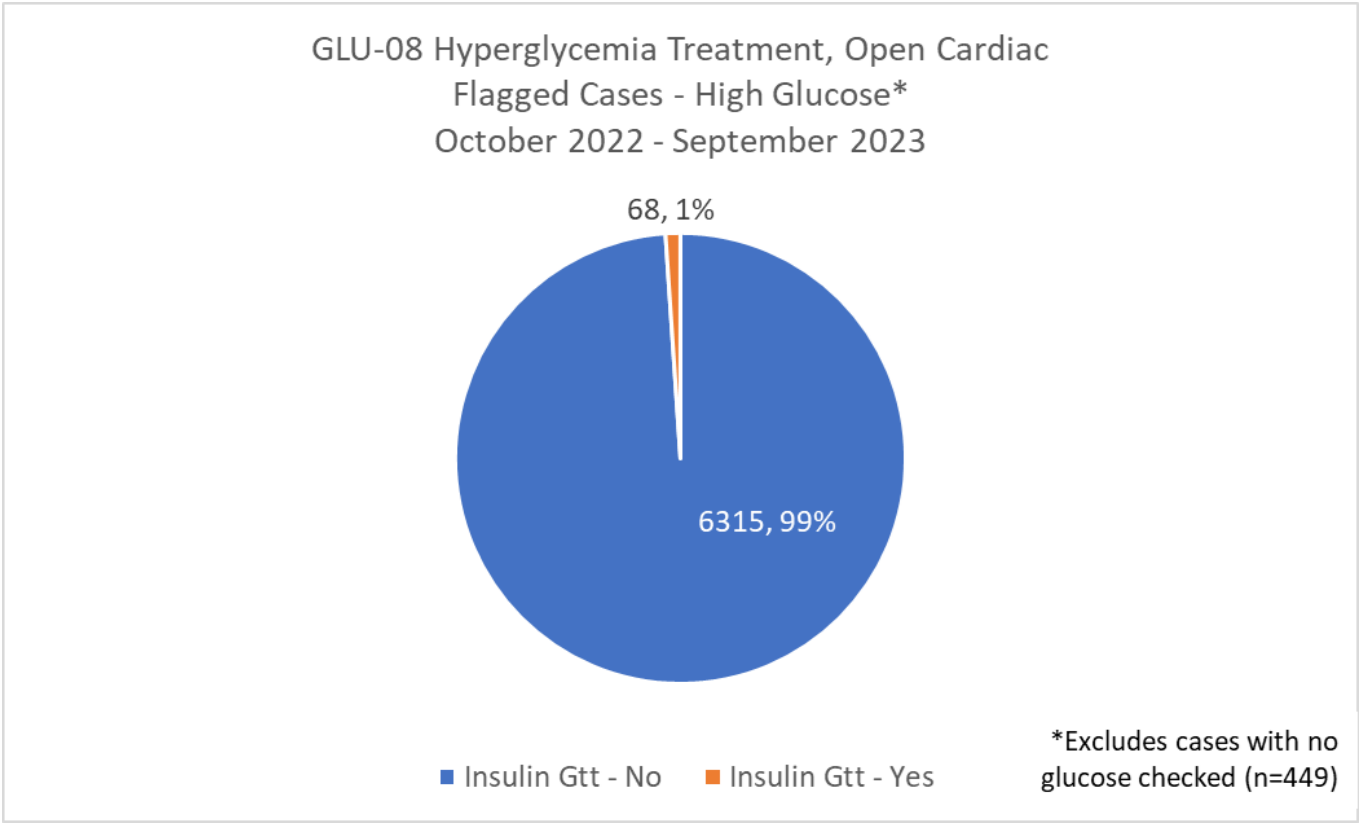
Diabetic vs. Non-diabetic



Time of high glucose value



Insulin drip running at time of high glucose value?



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
  - April 2024
  - August 2024
  - December 2024

- Thank you for using the forum for discussion between meetings

Thank you!

Allison Janda, MD
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