# The Society of Thoracic Surgeons

Adult Cardiac Surgery Database
QI Series Webinar
New Project Kick Off

July 16, 2025

STS National Database™
Trusted. Transformed. Real-Time.

# Agenda

- Welcome and Introductions
- Important Dates
- Decreasing Blood Usage Wrap-Up
- New QI Project Introduction

# Important Dates

**July 16**

ACSD QI Series Webinar @ 3pm ET/2pm CT

**August 14**

ACSD Monthly Webinar@ 3pm ET/2pm CT

**August 22**

Harvest 3 2025 Close

Surgery Dates 7/1/2022-6/30/2025

**August 26**

Harvest 3 Opt-out Deadline **@ 5pm ET**

**September 3**

ACSD Monthly Webinar@ 3pm ET/2pm CT

**September 25-26**

AQO 2025 San Antonio

# Harvest Schedule 2025

## 2025 Harvest

| Term | Harvest Submission Window Close | Opt-Out Date | Includes Procedures Performed Through: | Report Posting | Comments |
|---|---|---|---|---|---|
| **Harvest 1** | 2/21/2025 | 2/25/2025 | 12/31/2024 | Spring 2025 | Star Rating |
| **Harvest 2** | 5/23/2025 | 5/27/2025 | 3/31/2025 | Summer 2025 | |
| **Harvest 3** | 8/22/2025 | 8/26/2025 | 6/30/2025 | Fall 2025 | Star Rating |
| **Harvest 4** | 11/21/2025 | 11/25/2025 | 9/30/2025 | Winter 2025 | |
| Analysis for each harvest is based on a 36-month window. | | | | | |

*Data Submission Open is continuous for all harvest terms. Submission Close occurs at 11:59 p.m. Eastern on the date listed.*

*Harvest Opt-Out closes at 5:00 p.m. Eastern on the date listed.*

# AQO 2025

sts.org

- Intermacs and Pedimacs Session: Tuesday, September 23rd VIRTUAL
- CHSD and GTSD Sessions: Thursday, September 25th
- ACSD Session: Friday, September 26th
- Grand Hyatt San Antonio Riverwalk
- Both In Person (ACSD, CHSD, GTSD) and Virtual options (all databases) will be available

Event

## 2025 Advances in Quality & Outcomes: A Data Managers Meeting

Discussions on valuable research and important clinical findings with the goal of improving data collection and patient outcomes.

Register Now | Book Housing


Date(s)
**Sep 25—26, 2025**

Location
**San Antonio, TX**

Audience
**Allied Health**
**Data Manager**

# AQO 2025

## Data Manager Guidance

### Advances in Quality Outcomes: A Data Managers Meeting

AQO 2025 will offer a unique opportunity to explore techniques for optimizing data collection using case scenarios and driving quality improvement. Head for San Antonio this September to attend the premier gathering of STS National Database professionals as they share valuable research and important clinical findings with hundreds of peers. Learn more here.

- Schedule
- Agenda
- Pricing
- Hotel information
- Request a justification letter

# Quality Improvement Series: Decreasing Blood Usage Wrap-Up

# Thank you to our amazing speakers!

- Kevin Brady, MD, Chief Cardiac Surgery, St. Joseph's Hospital and Medical Center, Phoenix, Arizona-November 2024
- Amanda Rea, DNP, CRNP, AGACNP-BC, CCRN, CMC, CSC, E-AEC, Advanced Practice Lead, Division of Cardiac Surgery, University of Maryland St Joseph Medical Center, Towson, Maryland-December 2024
- Melissa Williams, MHA BSN RN CPHQ, Transfusion Task Force, Duke University Medical Center, Durham, North Carolina-March 2025
- Karen Singh, MD, FASE, Associate Professor, Anesthesiology, UVA Health, Charlottesville, Virginia-April 2025

# Decreasing Blood Usage
# What We Learned

- Decreasing blood usage is a culture change
- Decreasing blood usage is a multidisciplinary endeavor, touching all phases of operative care
- Must have buy-in from all stakeholders
- Successful programs have a surgeon/physician champion
- The surgical team must "own" the transfusion orders
- All members of the healthcare team must be aware of the goals
- Optimization of preoperative anemia and minimizing blood loss in the operating room are key.
- All members of the healthcare team must be able to tolerate permissive anemia

Finally, even though blood conservation “requires multidisciplinary collaboration, the journey typically starts with one person”.

Dr. Kevin Brady

# ACSD Quality Improvement Series-Why?


To show value of the database – outside of just getting reports

Making the data actionable

Showing how important you are in abstracting data

Improving patient outcomes!!

Be part of a NATIONAL TEAM EFFORT in improving patient outcomes!!

(did I mention patient outcomes!)

Because it's awesome to work toward something together ☺

# Decreasing Postoperative Renal Failure

# Decreasing Postoperative Renal Failure

- Up to 80 percent of cardiac surgery patients may have some degree of AKI associated with the procedure, according to a 2023 study published in *The Annals of Thoracic Surgery*.*[1]*

*And*

- AKI increases the risk of morbidity after surgery and in-hospital mortality.[2]

# Decreasing Postoperative Renal Failure

- Among postoperative CABG patients with elevated preoperative serum creatinine, 76% of those who developed stage 3 AKI required RRT, of which 66% died within 30 days.[3]

# Decreasing Postoperative Renal Failure

- Patients with the mildest forms of cardiac surgery associated AKI (CSA-AKI) and those with the lowest risk, have higher rates of in-hospital mortality.
- Patients with postoperative AKI have higher long-term mortality, with survival differences as much as 44% versus 63% for AKI and no AKI respectively at 10 years.
- This difference in long-term mortality between patients with and without postoperative AKI still exists *even when there is complete renal recovery* at the time of hospital discharge.[3]

# Decreasing Postoperative Renal Failure

An additional study revealed that prolonged episodes of AKI were associated with increased in-hospital mortality rates; 15.3% mortality for AKI lasting 7 days or longer compared to 4.1% for AKI lasting 1-2 days.

Another investigation showed that patients who experienced *early* renal recovery following AKI had improved long-term survival, with the most important predictor of 1-year survival being the percentage reduction in serum creatinine within 24 hours of its peak.[3]

# Decreasing Postoperative Renal Failure

Patients experiencing postoperative AKI are more likely to develop sepsis and coagulopathy compared to those without postoperative AKI. [2]

Moreover, individuals with postoperative AKI face an increased risk of requiring mechanical ventilation.[2]

Those with AKI also show elevated rates of other postoperative complications, such as infections, prolonged mechanical ventilation, and cerebrovascular and cardiovascular incidents.[3]

# Decreasing Postoperative Renal Failure

- Hansen et al. determined that the 5-year risk of a combined cardiovascular outcome—including myocardial infarction, heart failure, or stroke—was 24.9% for patients experiencing postoperative AKI following cardiac surgery, compared to 12.1% for those without AKI.
- Another large single-center cohort study found that 79% of patients who developed AKI also experienced at least one additional postoperative complication after major surgery.[3]

# Decreasing Postoperative Renal Failure

- In addition to mortality and morbidity, postoperative AKI contributes significantly to increased hospital lengths of stay, cost, and resource utilization.
  - An early study, published before the adoption of consensus definitions of AKI, estimated that one episode of hospital-based AKI resulted in nearly $7500 in excess costs and that hospital-based AKI resulted in annual expenditures which exceed $10 billion.[3]
  - A newer study found that postoperative AKI translates into longer ICU stays, higher readmission rates and contributes up to $69,000 in additional costs per patient. In total, adding $5.4 to $24 billion in complication costs to the U.S. health care system each year.[4]

# Decreasing Postoperative Renal Failure

In another study involving post-CABG patients, the postoperative cost averaged $37,674 for those with CSA-AKI, compared to $18,463 for patients without it. Additionally, both ICU and overall hospital stays were longer, with costs rising in line with the severity of the AKI classification.[3]

The higher expenses were noted across multiple care areas, including ICU, medical supplies, laboratory tests, pharmacy, and respiratory services.

# Decreasing Postoperative Renal Failure

| Procedure | STS Renal Failure Rate H1 2025 Benchmark Report |
|---|---|
| CABG | 1.95% |
| AVR | 1.78% |
| AVR + CABG | 3.65% |
| MVR | 5.07% |
| MVR + CABG | 10.32% |
| MV Repair | 1.21% |
| MV Repair + CABG | 5.71% |
| Multivalve | 7.93% |
| Multivalve + CABG | 14.36% |

# Decreasing Postoperative Renal Failure

## Plan

Nationally decrease postoperative renal failure in cardiac surgery patients over the next 12-24 months.

## Do

Engage site leaders who have had success with decreasing renal failure to present their projects on upcoming QI webinars.

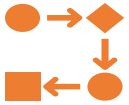
Using the STS Harvest Reports and local data, sites will implement processes at their hospitals to decrease the incidence of postoperative renal failure.

STS will serve as a resource for education and support.

## Study

STS will track data during the study period to measure progress.

Sites will track their data to measure progress.



## Act

Sites will review their data and evaluate and adjust processes to facilitate improvement.

# We Need You!

If you or someone at your site have been successful in implementing a QI project to decrease postoperative renal failure, please reach out to Nancy Honeycutt @ nhoneycutt@sts.org.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# Open Discussion

Please use the raise-hand function.

Please use the Q&A Function.

We will answer as many questions as possible.

We encourage your feedback and want to hear from you!

# Sources

3 ▸ Curr Opin Anaesthesiol. Author manuscript; available in PMC: 2018 Feb 1.

*Published in final edited form as:* Curr Opin Anaesthesiol. 2017 Feb;30(1):113–117. doi: 10.1097/ACO.0000000000000422

**Mortality and Cost of Acute and Chronic Kidney Disease After Cardiac Surgery**

Nicholas Lysak [1], Azra Bihorac [2], Charles Hobson [3]

1 

Ann Thorac Surg 2023;115:11-5 0003-4975/$36.00 11
https://doi.org/10.1016/j.athoracsur.2022.10.022

EDITORIALS

**A Turnkey Order Set for Prevention of Cardiac Surgery–Associated Acute Kidney Injury**

Check for updates

Daniel T. Engelman, MD,[1] and Andrew D. Shaw, MB[2]

2 ▸ Korean J Anesthesiol. 2017 May 26;70(3):258–266. doi: 10.4097/kjae.2017.70.3.258

**Postoperative acute kidney injury**

Jung Tak Park [1,✉]

4 Kayser, A. One of hospitals' most profitable procedures has a hidden cost. Newsweek. May 13, 2025.

# Contact Information

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  - Database Operational Questions (Billing, Contracts, Contacts)
- STSDB_Helpdesk@sts.org
  - IQVIA/Database Platform Questions (Uploader, DQR, Missing Variable, Dashboard, Password and Login)
- STSDB-FAQ@sts.org
  - Clinical Questions

# Thank You for Joining!

Reminder: Our next ACSD Webinar will be held on *THURSDAY*, August 14, 2025 at 3pm ET/2pm CT/1pm MT/12pm PT.