The Society of Thoracic Surgeons

Adult Cardiac Surgery Database
Monthly Webinar

Transcatheter Procedures Gone Bad
- Capturing the Deteriorating Patient Accurately

August 14, 2025

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Agenda

- Welcome and Introductions
- Important Dates-Timeline, Harvest, AQO
- Transcatheter Procedures Gone Bad
- Q&A

Important Dates-Timeline

August 14

ACSD Monthly Webinar @ 3pm ET/2pm CT

August 22

ACSD 2025 H3 Closes

Surgery Dates July 1, 2022-June 30, 2025

August 26

ACSD 2025 H3 Opt-out Close **5pm ET**

September 3

ACSD Monthly Webinar @ 3pm ET/2pm CT

September 17

ACSD Quality Improvement Series Webinar @ 3pm ET/2pm CT

September 25-26

AQO San Antonio, Texas

Important Dates-2025 Harvest

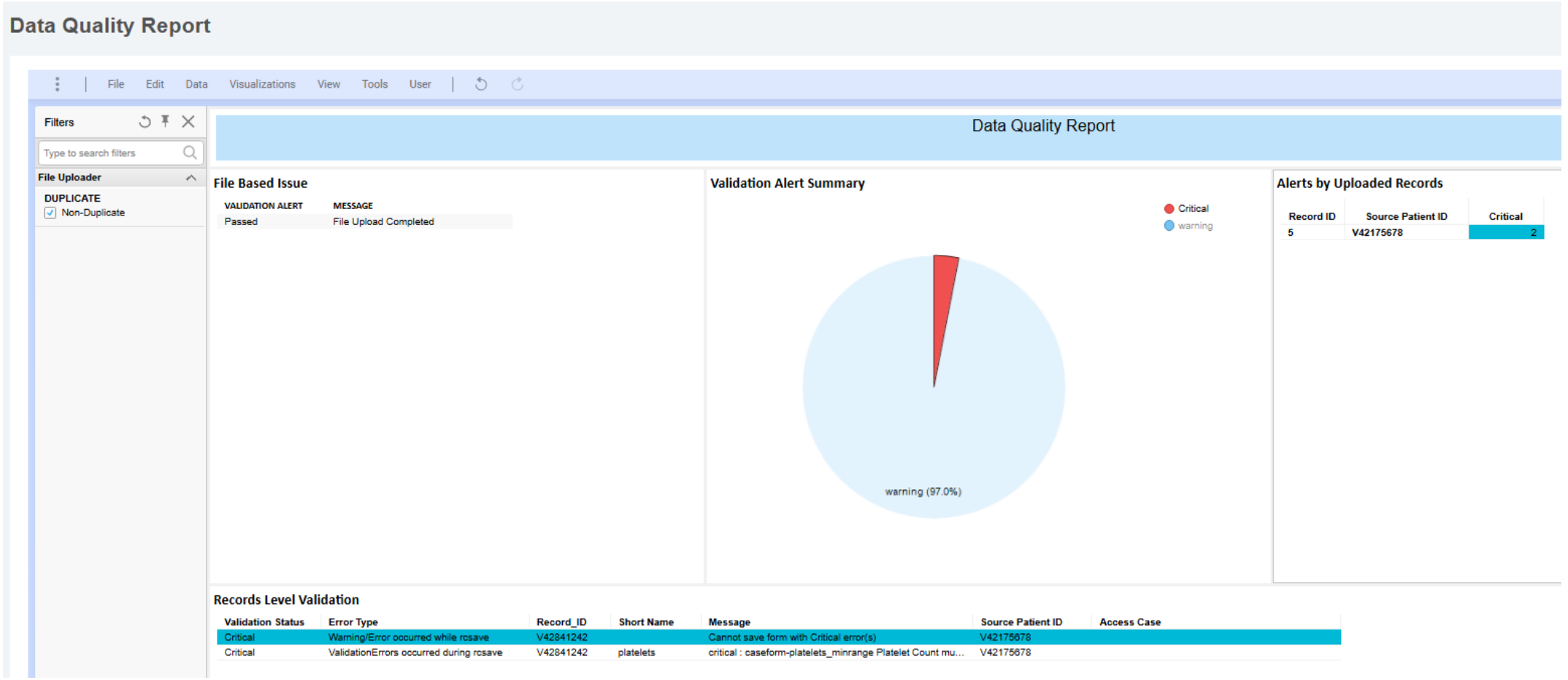
2025 Harvest

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.

Cleaning Up Your Data



Cleaning Up Your Data

Current Harvest Missing / Unknown % Composite Rating

Go To Reports

Current Harvest Missing / Unknown % Composite Rating

Main Category	Procedure	Year	#Missing	#Eligible	% Percent
Mortality Analysis	Isolated CABG	07/01/2022 - 06/30/2023	0	289	0.00
		07/01/2023 - 06/30/2024	1	307	0.33
		07/01/2024 - 06/30/2025	2	260	0.77
	Isolated AVR	07/01/2022 - 06/30/2023	0	45	0.00
		07/01/2023 - 06/30/2024	0	40	0.00

- Mortality Analysis includes the following variables: Status at Hospital Discharge, Status at 30 days After Surgery, Operative Mortality
- Outcomes and Process Measures Analysis includes the following variables: Internal Artery Mammary Used, Preoperative Beta Blocker, Discharge Anti-platelet, Discharge Beta Blocker, Discharge Anti-lipid

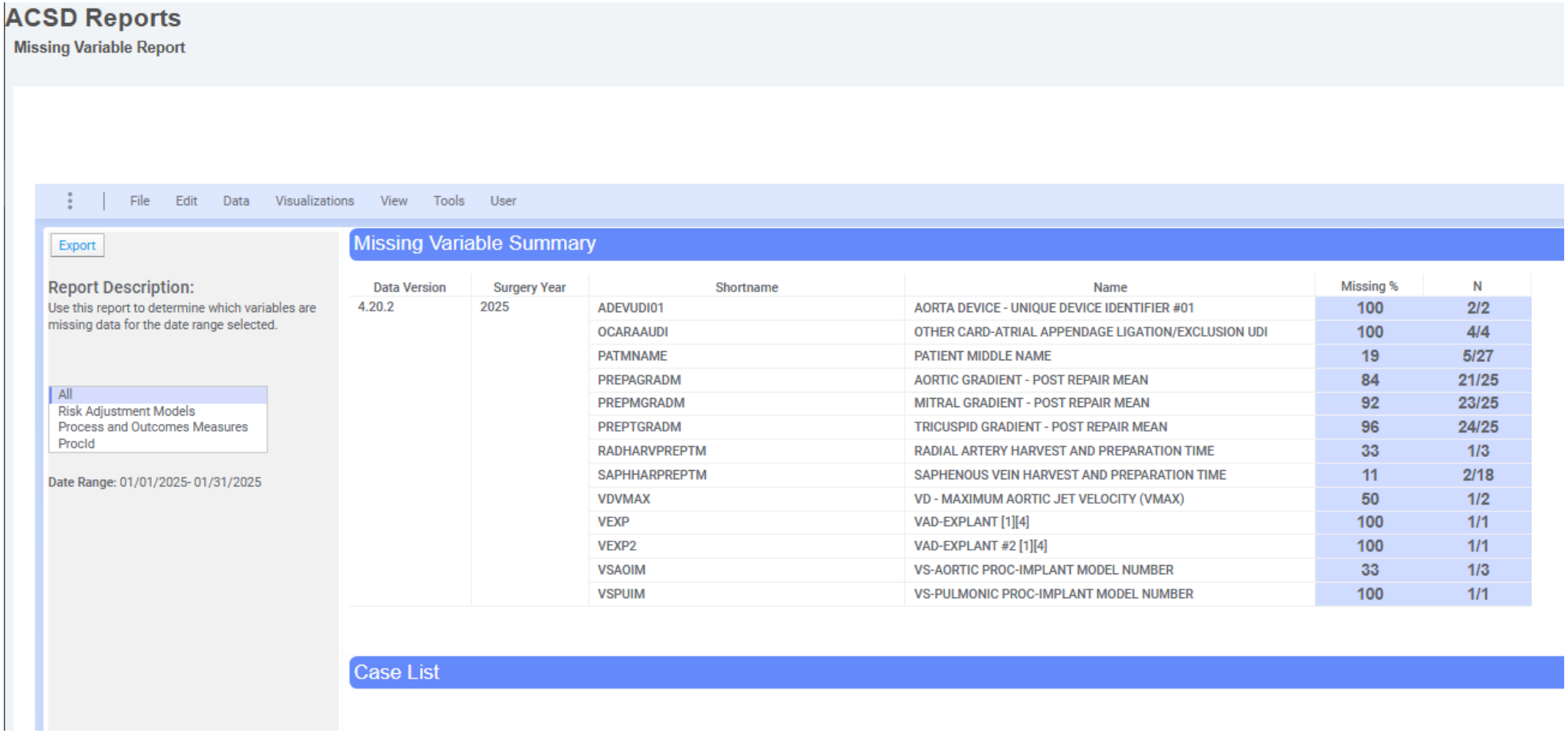
- In addition to meeting required data completeness thresholds, sites must meet the below case count requirements for the 36-month analytical window to be included into analysis.
CABG - 50 cases; AVR - 10 cases; AVR+CAB - 10 cases; MVRR - 36 cases; MVRR+CAB - 25 cases; Multiprocedural - 100 cases

- Color Code Legend
Red - Does not meet requirement for inclusion into composite ratings
Yellow - At risk of not meeting requirement for inclusion in composite ratings
Green - Meets requirement for inclusion into composite ratings

Case List

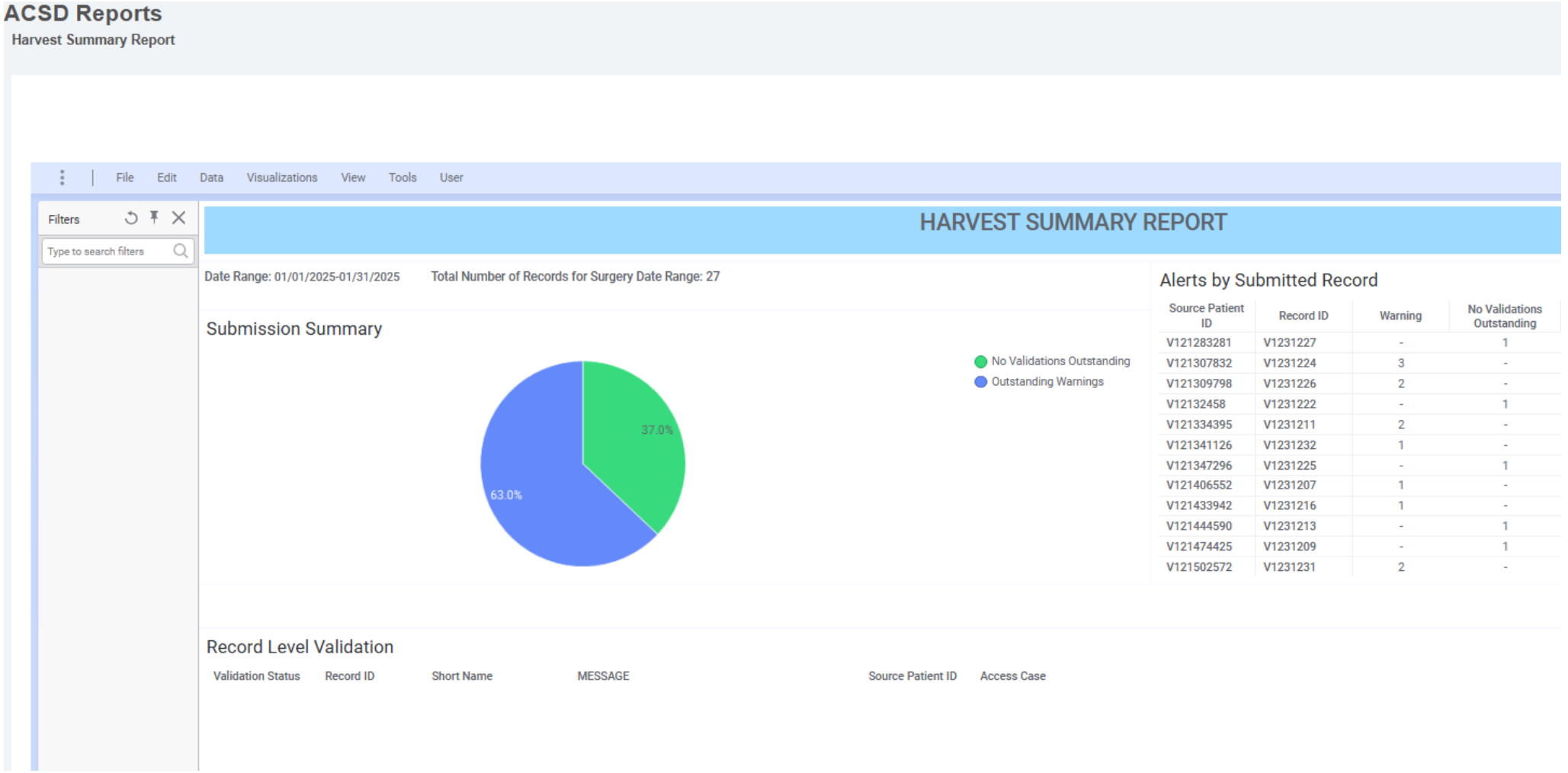
Category	Procedure Group	Surgery Year	Patient ID	Access Case

Cleaning Up Your Data



Data Version	Surgery Year	Shortname	Name	Missing %	N
4.20.2	2025	ADEVUDI01	AORTA DEVICE - UNIQUE DEVICE IDENTIFIER #01	100	2/2
		OCARAAUDI	OTHER CARD-ATRIAL APPENDAGE LIGATION/EXCLUSION UDI	100	4/4
		PATMNAME	PATIENT MIDDLE NAME	19	5/27
		PREPAGRADM	AORTIC GRADIENT - POST REPAIR MEAN	84	21/25
		PREPMGRADM	MITRAL GRADIENT - POST REPAIR MEAN	92	23/25
		PREPTGRADM	TRICUSPID GRADIENT - POST REPAIR MEAN	96	24/25
		RADHARVPREPTM	RADIAL ARTERY HARVEST AND PREPARATION TIME	33	1/3
		SAPHHARPREPTM	SAPHENOUS VEIN HARVEST AND PREPARATION TIME	11	2/18
		VDVMAX	VD - MAXIMUM AORTIC JET VELOCITY (VMAX)	50	1/2
		VEXP	VAD-EXPLANT [1][4]	100	1/1
		VEXP2	VAD-EXPLANT #2 [1][4]	100	1/1
		VSAOIM	VS-AORTIC PROC-IMPLANT MODEL NUMBER	33	1/3
		VSPUIM	VS-PULMONIC PROC-IMPLANT MODEL NUMBER	100	1/1

Cleaning Up Your Data



Cleaning Up Your Data

STS National Database Webinar Archive

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Access recordings of past webinars for data managers below or visit and subscribe to the STS National Database YouTube channel

Adult Cardiac Surgery Database

Webinar	Date	Description
ACSD Monthly Webinar	February 5, 2025	ACSD Updates for 2025

[STS National Database Webinar Archive | STS]

ACSD Data Manager Training Webinar	March 20, 2025	Data Submission (Harvest), Data Quality Report (DQR)	Listen to recording	View Slides
ACSD Data Manager Training Webinar	March 25, 2025	National Report Analyses Overview, Process and Outcome Measures, STAR Ratings	Listen to recording	View Slides
ACSD Data Manager Training Webinar	April 1, 2025	Helpdesk Support	Listen to recording	View Slides
ACSD Monthly Webinar	April 2, 2025	Data Manager Survey	Listen to recording	View Slides
ACSD Data Manager Training Webinar	April 8, 2025	IQVIA Reporting	Listen to recording	View Slides
ACSD Quality Improvement Series	April 16, 2025	Translating cardiac surgery PBM guidelines into clinical practice: UVA experience, Dr. Karen Singh, UVA	Listen to recording	View Slides
ACSD Monthly Webinar	May 7, 2025	Preparing for Harvest	Listen to recording	View Slides

AQO 2025

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- Intermacs and Pedimacs Session: Tuesday, September 23rd VIRTUAL Forum
- CHSD and GTSD Sessions In-person: Thursday, September 25th
- ACSD Session In-person: Friday, September 26th
- Grand Hyatt San Antonio Riverwalk
- Virtual options also available

Friday, Sept. 26, 8 a.m. – 5 p.m. Central
Adult Cardiac Surgery Database (ACSD) – Texas Ballroom A&B

This program will focus on the ACSD, offering updates on the scope of cardiothoracic surgery practice and helping participants improve data collection and advance registry abstraction and coding skills.

Moderators: Nancy Honeycutt, BSN, RN, and Melinda Offer, MSN, RN

7 – 8 a.m. **Breakfast in Texas Ballroom C**

8 – 8:05 a.m. **Welcome**
Nancy Honeycutt, BSN, RN, and Melinda Offer, MSN, RN

8:05 – 8:45 a.m. **Adult Cardiac High-Level Overview**
Michael E. Bowdish, MD, MS

8:45 – 9:20 a.m. **Valve Replacement or Repair after Transcatheter Valve Therapies**
Dawn Hui, MD

9:20 – 10 a.m. **Valve Replacement or Repair after Transcatheter Valve Therapies: Case Scenarios**
Molly Whittenburg, BSN, RN, and Melinda Offer, MSN, RN

10 – 10:30 a.m. **Break in Texas Ballroom Foyer**

10:30 – 11:15 a.m. **Aorta**
Karen Kim, MD, MS

11:15 a.m. – 12 p.m. **Aorta: Case Scenarios**
Kali Carroll, RN

12 – 1 p.m. **Lunch in Texas Ballroom C**

1 – 1:25 p.m. **Division of Responsibility: Data Manager vs. Surgeon Leader**
Erin McCabe, BSN, RN

1:25 – 3 p.m. **Breakout Discussion Groups**
*This content will not be recorded and is for in-person attendees only. There will be six topics to choose from, and we will rotate three times. Each breakout discussion will be for 30 minutes with five minutes to rotate between tables. Attendees will note their top three topics prior to the conference and will be provided with which table to start at when they check in at registration

IRR: What It Is, Why We Do It, and How We Do It
Keli Parker

Pros and Cons: Concurrent vs Retrospective Data Abstraction
Heather Homampour, MSN, RN

Navigating US News and World Report and Other Reporting Agencies Accessing Your Data
Judy Smith, RN

Strategies to Effectively Train New Data Managers
Meetali Mahendrakar, MBBS, MS, CCP

Juggling Multiple Registries: ACSD and CHSD and TVT, Oh My!
Nancy Satou, RN

The Secret Sauce for Working with Data Abstraction Companies
Alla Kaner, MSN, RN

3 – 3:35 p.m. **Breakout Discussion Reporting**
Keli Parker, Heather Homampour, MSN, RN, Judy Smith, RN, Meetali Mahendrakar, MBBS, MS, CCP, Nancy Satou, RN, and Alla Kaner, MSN, RN

3:35 – 4:05 p.m. **Break in Texas Ballroom Foyer**

4:05 – 4:40 p.m. **Unfolding the Mysteries of Mitral Valve Procedures**
Robert L. Smith, MD

4:40 – 5:05 p.m. **Unfolding the Mysteries of Mitral Valve Procedures: Case Scenarios**
Meetali Mahendrakar, MBBS, MS, CCP

5:05 – 5:30 p.m. **2025 Dorothy Latham Poster Award Announcement, ACSD Wrap-Up, and Looking to the Future**
Dawn Hui, MD, and Carole Krohn, MPH, BSN, RN, LSSBG

On-Demand Content

The Canadian Experience with the Adult Cardiac Surgery Database
Nadia Clarizia, MD

ACSD Audit: Lessons Learned
Annie Kouchoukos, BSN, RN

Mechanical Assist Device Overview
Mani A. Daneshmand, MD

Surgical Therapies for Atrial Fibrillation
Alex Iribarne, MD, MS

What Does the Future Hold for the Treatment of Structural Heart Disease?
Yoshi Kaneko, MD

30-Day Follow-Up: Tips and Tricks for Staying Off the 2% Missing List
Alla Kaner, MSN, RN, and Carley Hanmer

Transcatheter Procedures Gone Bad - Capturing the Deteriorating Patient Accurately

Melinda Offer, RN, MSN

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Scenario

Patient presented for **elective TAVR**. Once the TAVR valve was deployed and seated, there was a significant amount of perivalvular leak. **A decision was made to perform a balloon valvuloplasty.** During the valvuloplasty, the valve appeared to migrate out of the aortic annulus into the LV outflow track. **During this time, the patient appeared to have significant ischemic changes as well as a sudden drop in blood pressure. Echo demonstrated severely reduced left ventricular function. The surgical team was mobilized.** The patient's blood pressure continued to deteriorate and ACLS measures were undertaken **including chest compressions. While the patient was receiving chest compressions a rapid incision was made in the chest for emergent sternotomy.**

What is the Index Procedure and is this Planned or Unplanned?

- What is the index procedure?
  - Answer - SAVR. The TAVR is captured as a prior CV intervention.
- Planned or unplanned?
  - Answer – Planned. Being caught off guard prior to the incision, but having to do a procedure emergently, does not prevent the procedure from being “planned”. This is no different than a dissection that has to emergently go to the OR.

Valve Procedure Performed: OpValve (2129)	☒ Yes ☐ No		
	(If Yes →)	Was a valve explanted: ☐ Yes ☐ No ValExp (2130) (If Yes complete Section K)	
		Aortic Valve Procedure performed: VSAV (2131)	☒ Yes, planned ☐ Yes, unplanned due to surgical complication ☐ Yes, unplanned due to unsuspected disease or anatomy ☐ No
		(If Yes →)	Was a procedure performed on the Aorta? ☐ Yes ☒ No AVAortaProcPerf (2132) (If ‘Yes’ complete M2; If ‘No’ complete K1)

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How to Code the TAVR?

The TAVR is captured as a prior CV intervention.

- Also capture the balloon valvuloplasty

Previous Valve Procedure: ** ☒ Yes ☐ No (If PrValve Yes, Enter at least one previous valve procedure and up to 5 PrValve (675)

	#1** PrValveProc1 (695)	#2** PrValveProc2 (700)	#3** PrValveProc3 (705)
No additional valve procedure(s)			
Aortic valve balloon valvotomy/valvuloplasty		✖	
Aortic valve repair, surgical			
Aortic valve replacement, surgical			
Aortic valve replacement, transcatheter	✖		

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Pre-op Cardiac Status– Cardiogenic Shock and Resuscitation

The definition for Cardiogenic Shock and Resuscitation state ***"developed prior to induction"***. In this scenario despite their development after induction, you should capture shock and resuscitation.

In patients having non-cardiac procedures such as CEA, or a Watchman or ICD, **that develop cardiogenic shock or need resuscitation, as defined in the Training Manual, and require emergent surgical intervention, code "cardiogenic shock and resuscitation at time of the procedure".**

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Pre-op Cardiac Status– Cardiogenic Shock

Definition: Indicate if the patient developed cardiogenic shock prior to Induction.

- Cardiogenic Shock - sustained (>30 min) episode of hypoperfusion evidenced by systolic blood pressure <90 mm Hg and/or, if available, cardiac index <2.2 L/min per square meter determined to be secondary to cardiac dysfunction and/or the requirement for parenteral inotropic or vasopressor agents or mechanical support (e.g., IABP, extracorporeal circulation, VADs) to maintain blood pressure and cardiac index above those specified levels.

This patient is arresting and requiring CPR – **Code “cardiogenic shock at time of procedure”**

Cardiogenic Shock :** ☒ Yes, at the time of the procedure ☐ Yes, not at the time of the procedure but within prior 24 hours ☐ No

CarShock (930)

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Pre-op Cardiac Status- Resuscitation

Definition: Indicate whether the patient required cardiopulmonary resuscitation before induction of anesthesia.

Capture resuscitation timeframe:

- within 1 hour or
- 1-24 hours pre-op.
- >24 hours does not count.

This patient is arresting and requiring CPR –

Code “resuscitation within 1 hour”

Resuscitation:** ☒ Yes - Within 1 hour of the start of the procedure ☐ Yes - More than 1 hour but less than 24 hours of the start of the procedure ☐ No

Resusc (935)

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Operative – Incidence

Incidence: refers to whether the anatomic space involved with the operation had been previously entered e.g the pericardial or the pleural space

- In this scenario, the TAVR was on the same day in the “same procedure” as the SAVR: the case is not a reop
- A TAVR , during a prior event, followed by a SAVR: SAVR is a reop as the aortic valvular space had been violated

Incidence: Code SEQ 1970 as “first CV surgery” since the instruction to code as a reop applies to a prior TAVR (not a freshly implanted TAVR).

Incidence: **	☒ First cardiovascular surgery	☐ Third re-op cardiovascular surgery
Incidenc (1970)	☐ First re-op cardiovascular surgery	☐ Fourth or more re-op cardiovascular surgery
	☐ Second re-op cardiovascular surgery	☐ NA- not a cardiovascular surgery

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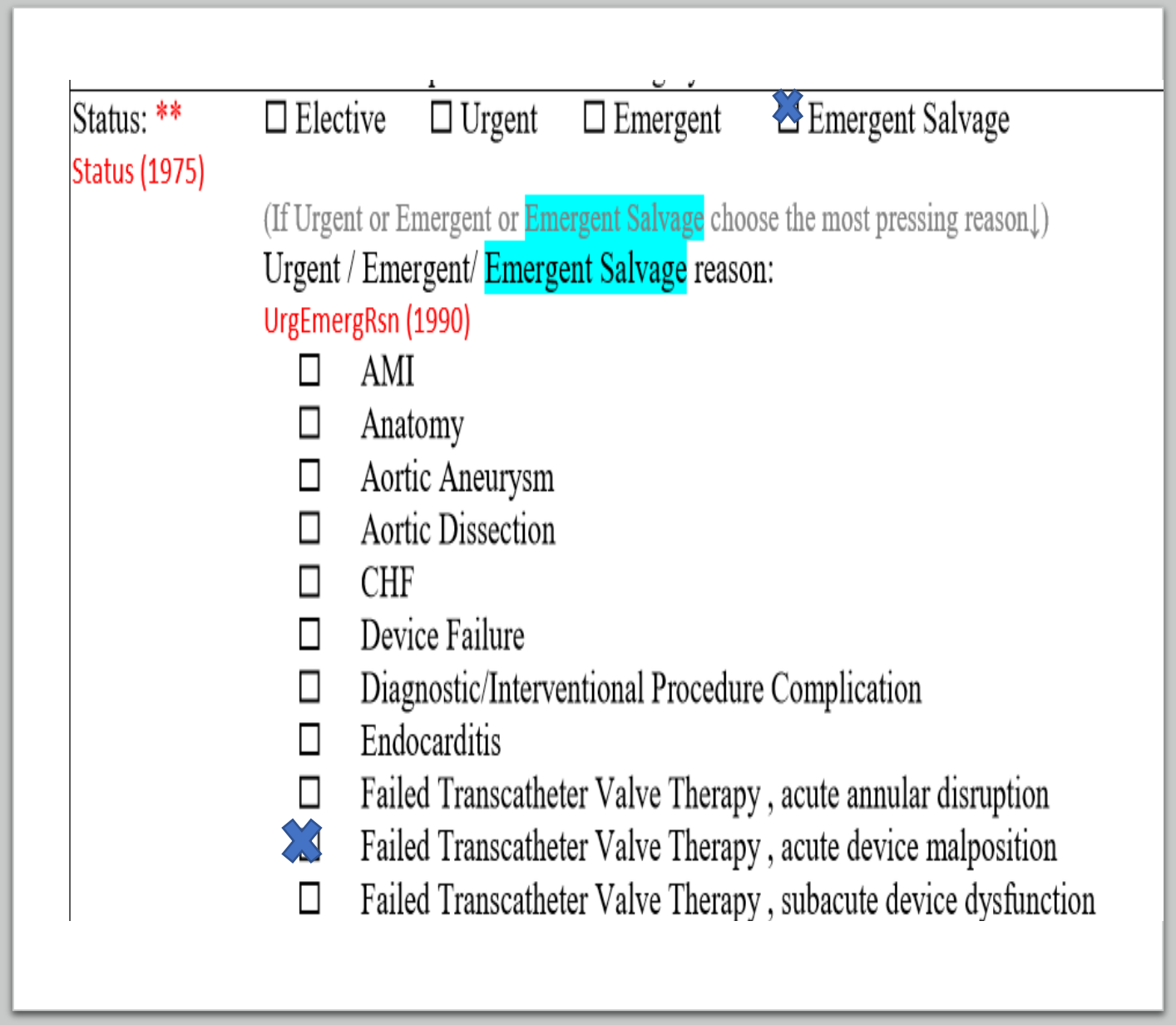
Operative – Status

Status: Emergent Salvage -The patient is undergoing CPR enroute to the OR prior to anesthesia induction or has ongoing ECMO to maintain life.

- Status:- Code SEQ 1975 as “Emergent Salvage”

Reason: Emergent Salvage (annular disruption, malposition, or subacute device dysfunction)

- Code SEQ 1990- Failed Transcatheter Valve Therapy , acute device malposition



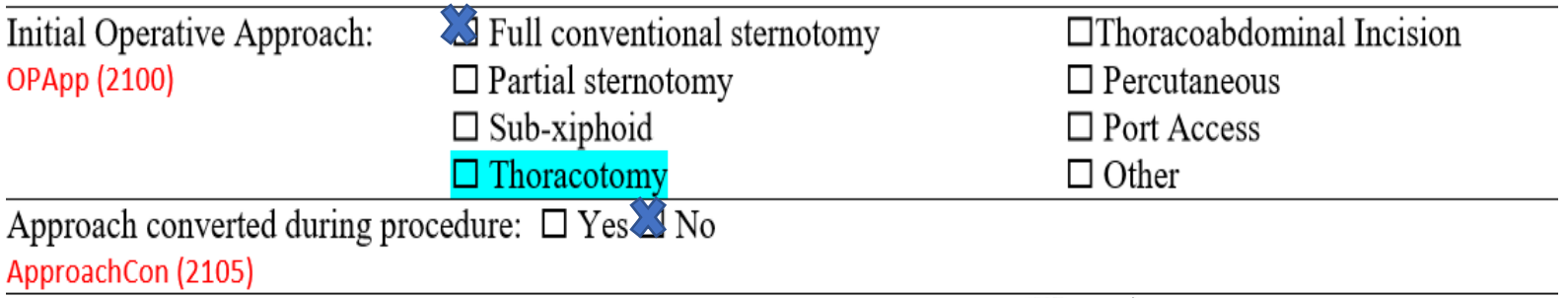
Operative Approach and Operative Approach Converted

Operative Approach- Definition: Indicate the initial operative approach.

The intent is to capture the approach for the index procedure. In this scenario, the SAVR is the index procedure.

“Operative Approach Converted” refers to a conversion during the index procedure.

- Operative Approach – CODE SEQ 2100 as “Full conventional sternotomy”
- Operative Approach Converted –Code “NO” to SEQ 2105 as this is not applicable here, as the initial approach for the index procedure was a sternotomy, not the percutaneous TAVR.
  - Operative Approach Converted is most frequently used when a mini–incision procedure has to be converted to a full sternotomy, which can happen for a variety of reasons



Initial Operative Approach: OPApp (2100)	☒ Full conventional sternotomy	☐ Thoracoabdominal Incision
	☐ Partial sternotomy	☐ Percutaneous
	☐ Sub-xiphoid	☐ Port Access
	☐ Thoracotomy	☐ Other
Approach converted during procedure: ApproachCon (2105)	☐ Yes	☒ No

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OR Entry Time and Skin Incision Time

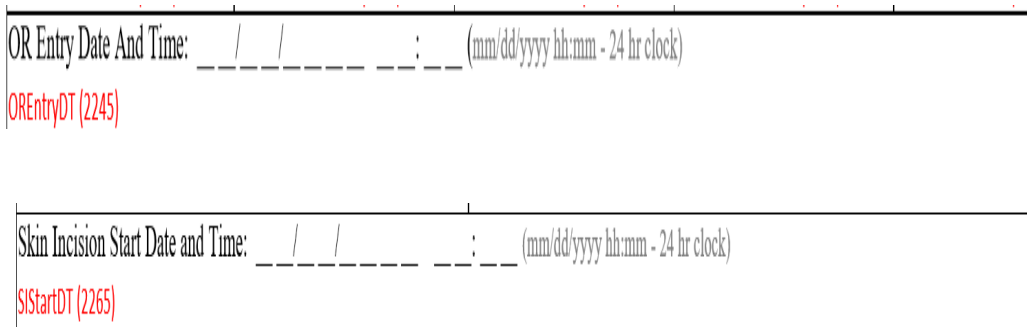
This depends on your site's process.

For sites that have separate Cath and OR logs:

- OR Entry Time: Use the times on the OR log.

For sites that do not separate Cath/OR logs, using only one log:

- OR Entry Time: use the incision time of the SAVR (time of sternotomy or incision to perform the emergent STS qualifying procedure).



OR Entry Time and Incision Time are coded as the same time for sites who use one log

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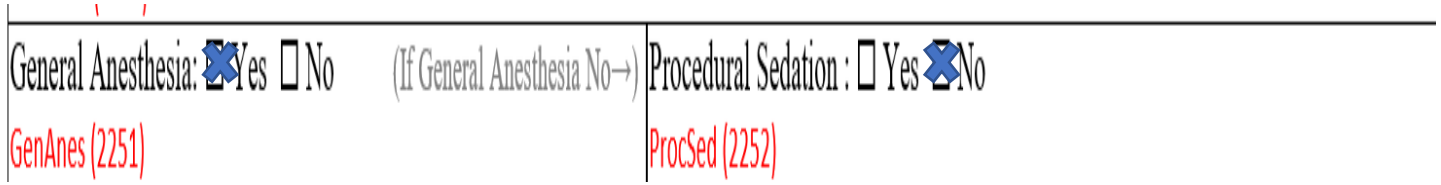
Anesthesia

General Anesthesia - Indicate whether general anesthesia was used at any time during this procedure.

- SAVR is the index procedure, code the type of Anesthesia used to perform this procedure.
- General Anesthesia – CODE SEQ 2251 as “General Anesthesia”
  - If at any time the procedure requires general anesthesia, that is what you should code.
  - “Procedural Sedation” is only coded if general anesthesia was NEVER used to complete the procedure



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Procedures Performed in the Op Note

- TAVR (26 Medtronic Evolut Pro Corevalve) – **This is a prior CV intervention**
- Explantation of transcatheter aortic valve – **Explant of valve, but not other cardiac procedure in this scenario**
- Surgical AVR (21 mm ST Jude Trifecta Tissue Valve) – **Index Procedure**

In this case, just because you see it in the op note, does not mean you code for it as a procedure in the ACSD

Aortic Valve Procedure Performed

- Code SEQ 3390 – Yes, planned
- Code SEQ 3395 – Replacement = Yes
- Code SEQ 3400 TAVR = NO, the TAVR is a prior CV intervention
- Code SEQ 3402 Surgical Valve Replacement = YES

Aortic Valve Procedure Performed: ☒ Yes, planned ☐ Yes, unplanned due to surgical complication
VSAV (3390) ☐ Yes, unplanned due to unsuspected disease or anatomy ☐ No (If Yes ↓)

Procedure Performed:
VSAVPr (3395)

☒ Replacement (If Replacement ↓)

Transcatheter Valve Replacement: ☐ Yes ☒ No (If Yes ↓)
VSTCV (3400)

Approach: ☐ Transapical ☐ Transaxillary ☐ Transfemoral ☐ Transaortic ☐ Subclavian ☐ Other
VSTCVR (3405)

Surgical valve Replacement: ☒ Yes ☐ No
VSAVSurgRep (3407)

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Aortic Valve Procedure

Aortic Valve Procedure Performed: ☒ Yes, planned ☐ Yes, unplanned due to surgical complication
VSAV (3390) ☐ Yes, unplanned due to unsuspected disease or anatomy ☐ No (If Yes ↓)

Procedure Performed:
VSAVPr (3395)

☒ Replacement (If Replacement ↓)

Transcatheter Valve Replacement: ☐ Yes ☒ No (If Yes ↓)
VSTCV (3400)

Approach: ☐ Transapical ☐ Transaxillary ☐ Transfemoral ☐ Transaortic ☐ Subclavian ☐ Other
VSTCVR (3405)

Surgical valve Replacement: ☒ Yes ☐ No
VSAVSurgRep (3407)

Valve Explant Surgery – Yes or No?

Op Note - An aortotomy was then performed intimately attached to the aortic wall was the transcatheter valve. I was able to manipulate the valve frame in order to complete the aortotomy. At this point the valve was grasped and inspected.

- **Answer - In this scenario, the TAVR valve was deployed and was explanted. Since the TAVR is a prior CV intervention, we need to document the explant of the valve.**

Valve Procedure Performed: OpValve (2129)	☒ Yes ☐ No				
	Was a valve explanted? ☒ Yes ☐ No ValExp (2130) (If Yes complete Section K)				
(If Valve Explanted (ValExp) is Yes ↓) First Valve Prosthesis Explant:					
	Explant Position: ValExpPos (3315)	☒ Aortic	☐ Mitral	☐ Tricuspid	☐ Pulmonic
	Explant Type: ValExpTyp (3320)	☐ Mechanical Valve	☐ Bioprosthetic Valve	☐ Homograft	☐ Autograft
		☐ Annuloplasty Device	☐ Leaflet Clip	☒ Transcatheter Valve	☐ Transcatheter Valve in Valve with prosthetic valve
		☐ Other	☐ Unknown		

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Other Cardiac Procedure Yes or No?

Should the removal of the transcatheter valve be considered another procedure, and thus this case will not be coded as an isolated aortic valve replacement?

- Answer – No this is not an “other cardiac procedure” since it was retrieved at time of aortotomy.
- If the valve had been found in some other location that required, an incision not normally associated with the SAVR then it would be an “other cardiac procedure.” For example, TAVR valve was found in the LV and had to be removed that would be an “other cardiac procedure.”

Other Cardiac Procedure, except Afib:	☐ Yes, planned
OpOCard (2140)	☐ Yes, unplanned due to surgical complication
	☐ Yes, unplanned due to unsuspected disease or anatomy
	☒ No
(If Yes, Complete Section M)	

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thank you!

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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!

Contact Information

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- Nancy Honeycutt, STS National Database Manager, ACSD, Intermacs/Pedimacs
  - nhoneycutt@sts.org
- STSDB@sts.org
  - 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 Wednesday, September 3, 2025 at 3pm ET/2pm CT.