



Society of Thoracic Surgeons

Congenital Heart Surgery Database

July 15, 2025

Agenda

- Welcome and Introduction
- STS AQO Update
- STS New Data Manager Education (Chasity Wellnitz and Leslie Wacker, CHSD Consultants)
- Q&A

AQO 2025

- **CHSD and GTSD Sessions:**
Thursday, September 25th
- ACSD Session: Friday, September 26th
- Intermacs and Pedimacs Session:
Tuesday, September 23rd VIRTUAL
- 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.



Date(s)

Sep 25—26, 2025



Location

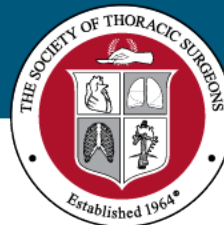
San Antonio, TX



Audience

Allied Health

Data Manager



AQO 2025

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[Hotel Arrangements](#)
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Schedule

- Tuesday, September 23 - Intermacs/Pedimacs Live Virtual Forum
- Thursday, September 25 - General Thoracic and Congenital Heart Surgery, networking reception to follow
- Friday, September 26 - Adult Cardiac

Agenda

[View the agenda.](#) All session titles are preliminary and subject to change.

Pricing

Intermacs Virtual Forum

Join us Tuesday, Sept. 23, for the Intermacs & Pedimacs Live Virtual Forum—a full-day, interactive Zoom event held just ahead of the main AQO meeting. This forum will focus exclusively on Intermacs and Pedimacs registry content, featuring live presentations, real-time Q&A, and opportunities to connect with presenters and fellow attendees. Be ready to join on camera and actively participate in the discussion. (Note: Intermacs content will NOT be offered as part of the in-person meeting.)

Virtual Pass

For those unable to travel to San Antonio, STS offers a virtual registration option. Registrants who choose the "virtual pass" will gain access to on-demand content and e-posters online before AQO and the recorded archive of all sessions following the conclusion of the meeting (the virtual pass does not include live streaming).

Early Bird (Through July 16, 2025)

Category	Member	Nonmember
One Day	\$750	\$850
Two Day	\$1100	\$1300
Virtual Pass	\$350	\$450
Virtual Pass + Intermacs Virtual Forum	\$450	\$550

[Scroll to top](#)

- [2025 Advances in Quality & Outcomes: A Data Managers Meeting | STS](#)

- Early Bird Deadline to be Extended until Thursday, July 31st



AQO Registration Now Open



**ADVANCES
IN QUALITY
& OUTCOMES:**
A Data Managers Meeting

SEPTEMBER 25-26, 2025 • SAN ANTONIO, TX

Register now at sts.org/AQO



CHSD RISK ADJUSTED ANALYSIS REPORT REVIEW

NEW DATA MANAGER WEBINAR

JULY 15, 2025

DISCUSSION OUTLINE

CHSD Report Tools:

- Analysis Overview
- Risk Adjusted Report Calculation Resource

Table Review:

- Tables I & I6
- Benchmark Operation Analysis
- Lesion Specific Analysis

BEFORE WE GET
STARTED...



Welcome,
Leslie Wacker

Currently Viewing

[REDACTED]

DASHBOARD

Community Page

PLATFORM

Upload

Form Management

Notifications 14

ANALYTICS

Operational Reports

RESOURCES

Operational Reports

CHSD Reports

Missing Variable Report
This report identifies important field-specific data quality issues. Name and field name are shown for each issue to help you target data quality issues.

Primary Procedure Mismatch and Mortality Eligibility Summary Report
The Primary Procedure Mismatch report will identify operation mismatch. The Eligibility for Inclusion in Mortality Analysis report will provide users with information on the current status of system variables.

Harvest Summary Report
This report will allow users to see the current status of system variables.

CHSD Participant Dashboard Report
This participant dashboard report will display NON-ANALYZED data.

CHSD Risk Adjusted Dashboard Report
The electronic CHSD Risk Adjusted Report includes analyzed data against the STS overall for the same time period.

ANALYSIS OVERVIEW



Where is it?



What is it?



When to use it?

ANALYSIS OVERVIEW



WHERE IS IT?

STS Website: (must be logged in)

https://www.sts.org/sites/default/files/2025-05/CHSD%20Analyses%20Overview%20Spring%202025_05302025.pdf

ANALYSIS OVERVIEW



WHERE IS IT?

STS Website: (must be logged in)

https://www.sts.org/sites/default/files/2025-05/CHSD%20Analyses%20Overview%20Spring%202025_05302025.pdf

The screenshot shows the STS website homepage. The top navigation bar includes links for Education, News, Resources, Research & Data, Membership, Advocacy, and About. The 'Research & Data' dropdown menu is open, showing a list of links. The 'For Data Managers' link is circled in orange. The main content area features the STS logo and the text 'The Society of Thoracic Surgeons'.

Research & Data	Membership	Advocacy	About
Registries	Research	Public Reporting	Tools
STS National Database	STS Research and Analytic Center	STS Public Reporting	Risk Calculators
For Data Managers	Current Projects	STS/ACC TVT Public Reporting	
STS/ACC TVT Registry	Published Research	STS Database Participant Media Toolkit	
	Industry Data Requests		

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- Clinical Question Request Form
- Contact and Support
- Essential Forms and Resources
- How-To Videos
- Adult Cardiac Surgery Database
- General Thoracic Surgery Database
- Congenital Heart Surgery Database
- Intermacs Database

⬆ Scroll to top

Not receiving notices about weekly webinars? [Add your name to the interest list.](#)

Congenital Heart Surgery Database

The CHSD data collection forms and training manual require a participant login. (If you need assistance with your login credentials, [contact STS Member services.](#))

[Access Data Collection Resources](#)



> [Sample Data Analysis Reports](#)

> [CHSD Harvest Deadlines](#)

CHSD Webinars

CHSD Monthly Webinar

July 15 at 1 p.m. ET • 12 p.m. CT

Call In: 888-475-4499 or 312-626-6799

Webinar ID: 394 740 549
[International Dial-in Numbers](#)

[Join Webinar](#)

CHSD Monthly Webinar

August 19 at 1 p.m. ET • 12 p.m. CT

Call In: 888-475-4499 or 312-626-6799

Webinar ID: 394 740 549
[International Dial-in Numbers](#)

[Join Webinar](#)

CHSD Monthly Webinar

September 16 at 1 p.m. ET • 12 p.m. CT

Call In: 888-475-4499 or 312-626-6799

Webinar ID: 394 740 549
[International Dial-in Numbers](#)

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Congenital Heart Surgery Database

The STS Congenital Heart Surgery Database is currently operating under version 6.23.2.



✓ Version 6.23.2

Effective July 1, 2023

Training Manual - *Updated as of June 2025*

- [Training Manual](#)
- [FAQ Summary](#)

Data Collection Forms (DCFs)

- [Annotated Data Collection Form \(PDF\)](#)
- [Annotated Data Collection Form \(WORD\)](#)

**To view annotation in Word document DCF versions, select File — Options — Display — Hidden Text — Print Hidden Text, and then click OK. If you need further assistance, please contact your IT Department or do an internet search for your specific version of Office on ways to view hidden text.*

Additional Resources

- [Spring 2025 CHSD Analysis Overview \(includes STS Combo Codes\) — Updated May 30, 2025](#)
- [Data Specifications](#)
- [Itemized Changes from 3.41 to 6.23.2](#)
- [Summary Checklist of Changes from 3.41 to 6.23.2](#)
- [Appendix C: STAT Categories \(WORD\)](#)
- [Appendix C: STAT Categories \(EXCEL\)](#)

› Version 3.41

ANALYSIS OVERVIEW



Where is it?



What is it?



When to use it?

ANALYSIS OVERVIEW

- What is it?

Document outlining how analysis was done for a specific reporting period



STS National DatabaseTM
Trusted. Transformed. Real-Time.

**DATA ANALYSES OF THE SOCIETY OF THORACIC SURGEONS
CONGENITAL HEART SURGERY DATABASE**

Spring 2025 Analysis

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While these reports contain the Participant's individual data, they also contain confidential and proprietary aggregate data from the STS National Database and information derived therefrom ("STS Information"). Individual Participants may use their own data for internal quality assurance and monitoring of quality improvement processes. As a tool for service-building, Participants may use their data to participate in certain approved activities for purposes of promotion and marketing of the specialty program.

The STS aggregate Information contained in this report may not be further used or disclosed without the Society's prior express written permission, unless and until the relevant STS Information has been released to the public by the Society.

ANALYSIS OVERVIEW

- What is it?

Document outlining how analysis was done for a specific reporting period

General definitions, inclusion/exclusion criteria, and overview of table populations for the Analyzed Reports displayed in IQVIA

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General Overview

STS Congenital Heart Surgery Database participants receive harvest report dashboards twice a year following the Spring and Fall Harvests. The analysis contains participant specific as well as overall STS information encompassing a 4-year reporting period. *Due to the Data Warehouse transition, there was only one harvest conducted in 2020, 2021 and 2022.*

Participants in the STS National Database agree to complete and accurate data submission regarding cases performed by participating surgeons. Data analysis, risk adjustment, measure development, and national benchmarked results rely on these high data standards.

Covid Data

Starting with OR dates as of January 1, 2020, any Covid-19 positive patient(s) (pre-procedural or within 30 days post-surgery) with a surgery date of January 1, 2020 – December 31, 2021, will be excluded from analysis and will not be included in public reporting. As of January 1, 2022, analysis exclusions will cease for any record with a surgery date of January 1, 2022, forward. Participants should continue to collect the Covid variables until further notice.

Analysis Population

The analysis population included in this report is based upon Cardiovascular Surgical Operations performed during the reporting time period. For the purposes of the STS and EACTS Congenital Heart Surgery Databases, “Cardiovascular Surgical Operations” are defined as operations that are classified as Operation Type “CPB Cardiovascular” or “No CPB Cardiovascular” under the operation type variable in the intraoperative and procedure section of the data collection form). All operations *submitted* to the STS Congenital Heart Surgery Database, regardless of operation type, are listed in Table 1 of the report.

Mortality analyses in this STS Congenital Heart Surgery Database Feedback Report are performed at the level of the distinct patient “episode of care” and are limited to episodes of care in which at least one Cardiovascular Surgical Operation was performed.

Reports in
IQVIA



Population
definitions

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Analysis Population

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Rules for Identifying Episodes of Care

The unit of analysis for mortality analyses in the feedback report is an episode of care.

For 3.41, and 6.23.2 an episode of care will consist of all operation records with the same database discharge date.

If an episode of care does not contain at least one Cardiovascular Surgical Operation as defined above, then this episode of care will not be included in mortality analyses and will be ignored in the report logic described below. Thus, the term "episode of care" will refer to an episode of care with at least one Cardiovascular Surgical Operation.

If a patient has two overlapping episodes of care, as defined by two index operations occurring within 30 days of one another, then the first index operation will be analyzed. Subsequent index operations will be ignored in the report logic as described below.

For v3.41 and 6.23.2 records if a record is missing a date of database discharge but has a database discharge status, then the record is considered to be its own episode of care. If the episode meets the episode-level definition of Operative Mortality, as defined below, the episode will be included in the analysis and counted as an Operative Mortality. Otherwise, the episode will be included if each operation record of the episode has non-missing data for fields used in the calculation of episode-level Operative Mortality, as outlined below. Otherwise, the episode will have missing data for episode-level Operative Mortality and will be excluded on the basis of missing data. **Note:** if the reason for missing Date of Database Discharge is because the episode is ongoing, then logic dictates that these records will have missing values for Mortality Status at Database Discharge, and the records will be excluded on the basis of missing mortality data.



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The index operation of an episode of care is the first Cardiovascular Surgical Operation of the episode.

For v3.41 and 6.23.2, a Cardiovascular Surgical Operation is defined as an operation of Op Types "CPB Cardiovascular" or "No CPB Cardiovascular."

Multiple operations can occur on the same day. To determine which of these operations was the first when making the assignment of the index operation, operations will be ordered by OR Entry Time (OREntryT) followed by record number (rcrdnum). Procedures with a missing OR Entry Time will be treated as if the OR Entry time for that operation is after the other operations which have a valid OR Entry Time.



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Determination of the Primary Diagnosis

The primary diagnosis for an operation is the diagnosis designated as primary by the Participant (V3.41 SeqNo 900 PrimDiag; v6.23.2 SeqNo 1070 Primary Diagnosis). If no primary diagnosis is indicated by the Participant, then primary diagnosis is missing.

When coding the primary diagnosis, select the diagnosis that is the principal diagnostic reason for performing the operation. The primary diagnosis can be:

1. The anatomic diagnosis for which a palliative or reparative surgery is indicated and planned (for example: "Tetralogy of Fallot", or "Truncus Arteriosus with Interrupted Aortic Arch"), OR
2. The physiologic derangement or hemodynamic abnormality to be addressed by the planned operation (for example: "Mitral regurgitation" after repair of "AVC (AVSD), Complete (CAVSD)" or "Ventricular Septal Defect" following repair of tetralogy of Fallot), OR
3. "Postoperative bleeding," after any surgical procedure. While the various "Status post...." diagnoses should be listed as secondary diagnoses whenever applicable, a "Status post...." diagnosis should not be entered as a Primary Diagnosis.

Determination of the Primary Procedure of an Operation and Classification of Multiple-Procedure Operations

The guiding principle for determining the primary procedure for a given operation is to select the procedure with the highest STAT Mortality Score.



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Operative Mortality is defined as any death, regardless of cause occurring (1) within 30 days after surgery in or out of the hospital or (2) after 30 days during the same hospitalization subsequent to the operation.

Operative Mortality is determined by combination of the following three fields:

1. Mortality Status at Database Discharge (v3.41 MtDBDisDt (Seq.4260); v6.23.2 MtDBDisStat (Seq. 4940))
2. Mortality Status at Hospital Discharge (v3.41 MtHospDisStat (Seq. 4230); v6.23.2 MtHospDisStat (Seq. 4880))
3. Mortality Status at 30 days after the last cardiovascular surgical operation of the episode of care. (v3.41 Mt30Stat (Seq. 4300); v6.23.2 Mt30Stat (Seq. 4945))

Important Notes Regarding Implementation of Mortality Determination

Patients weighing less than or equal to 2,500 grams (2.5 kg) at the time of surgery (v.3.41 WeightKg (Seq. 810); v.6.23.2 WeightKg (Seq. 590)) undergoing PDA ligation as their primary procedure are not included in the mortality calculations.

Patients less than or equal to 30 days of age at the time of surgery undergoing one of the following procedures as primary procedure of the index operation, will be excluded from mortality calculations:

- (1460) Pacemaker procedure
- (1450) Pacemaker implantation, permanent
- (2350) Explantation of pacing system
- (1470) ICD (AICD) implantation
- (1480) ICD (AICD) ([automatic] implantable cardioverter defibrillator) procedure

All operations where the primary procedure is either of the following operations, the operation type (v.3.41 OpType (Seq. 1056); v6.23.2 OpType (Seq.1775)) will be classified as **Thoracic** and thus, excluded from analyses of cardiac operations and, therefore, all mortality analyses in this report:

- (1870) Bronchoscopy
- (3010) Pectus repair, Minimally invasive repair (Nuss), with thoracoscopy
- (3020) Pectus repair, Minimally invasive repair (Nuss), without thoracoscopy
- (3030) Pectus repair, Open repair

Participants should continue to collect these data and complete data collection forms according to published STS data specifications. If a patient, as described above dies prior to discharge or within 30 days of surgery, Participants should document this patient as dead in the appropriate field(s).

The exclusion of these patients from mortality calculation takes place at the STS analytic center.



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Determination of Case Eligibility for Inclusion in Mortality Analysis

To be eligible for inclusion in the operative mortality analysis, a Participant's data can have no more than 10% of the eligible operation records for inclusion in the analysis population ("CPB Cardiovascular" or "No CPB Cardiovascular") with invalid or missing values for one or more of the following variables. The Participant's data are included in all other (non-mortality) analyses.

Date of Admission
Primary Diagnosis
Primary Procedure*

**As determined during analysis according to criteria outlined above*

In addition to the 10% missing threshold described above, one additional threshold is applied for inclusion into the operative mortality analysis.

- Cardiovascular surgical operations ("CPB Cardiovascular" or "No CPB Cardiovascular") performed in **2017 and later**, must also have **no more than 2%** of the records eligible for inclusion in the analysis population (by reporting year) with a missing or unknown value for one or more of the below Operative Mortality variables. **If a participant has greater than 2% missing or unknown, they will be excluded from the composite rating/risk adjusted results (Table 16).**

- Mortality Status at Database Discharge (alive or dead)** (v3.41 MtDBDisStat (Seq.4260)); v6.23.2 MtDBDisStat (Seq. 4940))
- Mortality Status at Hospital Discharge (alive or dead)* (v3.41 MtHospDisStat (Seq. 4230)); v6.23.2 MtHospDisStat (Seq. 4880))
- Status at 30 Days after Surgery (alive or dead)** (v3.41 Mt30Stat (Seq. 4300); v6.23.2 Mt30Stat (Seq. 4945))

**As determined during analysis according to criteria outlined above*

***A value of "unknown" for these fields is equivalent to a missing value*

- To be included in the Spring 2025 analysis (OR dates from 1/1/2021 to 12/31/2024) Participants must meet the percent missing/unknown threshold for each rolling year in the analytic period.
 - 1/1/2021-12/31/2021 Participant must have 2% or less missing/unknown for mortality fields AND
 - 1/1/2022-12/31/2022 Participant must have 2% or less missing/unknown for mortality fields AND
 - 1/1/2023-12/31/2023 Participant must have 2% or less missing/unknown for mortality fields AND
 - 1/1/2024-12/31/2024 Participant must have 2% or less missing/unknown for mortality fields

ANALYSIS OVERVIEW



Where is it?



What is it?



When to use it?

ANALYSIS OVERVIEW

- When to use it?

GOES BACK IN TIME (rolling 4-year reporting period)

NOT for how to code now (use the Training Manual)

ANALYSIS OVERVIEW

- When to use it?

GOES BACK IN TIME (rolling 4-year reporting period)

NOT for how to code now (use the Training Manual)

Good to identify table populations, combo codes (specifically what gets in/thrown out of a table), exclusions (site or case by case)

REVIEW with each report release



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Number Submitted and in analysis (Table 1)

Please refer to the CHSD Risk Adjusted Calculation spreadsheet within the IQVIA Library for technical details

Operations are classified into various sections based upon the logic below:

Number Submitted and in analysis Neonates, Infants, Children, and Adults (Table 7)

Please refer to the CHSD Risk Adjusted Calculation spreadsheet within the IQVIA Library for technical details

Operations are classified into various sections as described under Table 1, and further stratified by age group:

- Neonates (Age in Days = 0 - 30)
- Infants (Age in Days = 31 - 365)
- Children (Age in Days = 366 - 6,574)
- Adults (Age in Days \geq 6,575)

CHSD Risk Model 1 – Operative Mortality and Adjusted Mortality (Table 16)

Please refer to the CHSD Risk Adjusted Calculation spreadsheet within the IQVIA Library for technical details

The purpose of this report is to compare your site performance with STS aggregate outcomes. STS Surgeon Leadership determined that a summary statement versus the previously reported star ratings, which is provided at the top of Table 16, more accurately reflects the intent of providing overall outcomes ratings and is the best way to represent site performance.

Benchmark Operations: Mortality & Postoperative LOS (Table 18)

Please refer to the CHSD Risk Adjusted Calculation spreadsheet within the IQVIA Library for technical details

Operations are classified into the various benchmark operation groups according to the assigned primary procedure for that operation.

Note: PLOS is set to missing if >365 days from surgery date

Risk Stratified: Mortality & Postoperative LOS (Table 19)

Please refer to the CHSD Risk Adjusted Calculation spreadsheet within the IQVIA Library for technical details

PLOS is calculated using ORExit to Database Discharge Date (OR Exit date = Surgery date. If field MultiDay (Seq No 1975) = Yes (1), then OR Exit date = Surgery date +1).

Operations are classified by STAT Mortality Category and further analyzed.





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Benchmark Operations: Mortality & Postoperative LOS (Table 18)*Please refer to the CHSD Risk Adjusted Calculation spreadsheet within the IQVIA Library for technical details*

Operations are classified into the various benchmark operation groups according to the assigned primary procedure for that operation.

Note: PLOS is set to missing if >365 days from surgery date

Procedure Type	Abbreviation	STS-CHSDB Primary Procedure Codes
1. VSD repair	VSD	110 = VSD repair, Patch 5001 = VSD repair, Patch + ASD repair, Primary closure
2. TOF repair	TOF	350 = TOF repair, No ventriculotomy 360 = TOF repair, Ventriculotomy, Nontransanular patch 370 = TOF repair, Ventriculotomy, Transanular patch 3330 = TOF repair, Ventriculotomy, Transanular patch, plus native valve reconstruction*** 3340 = TOF repair, Ventriculotomy, Transanular patch, with monocusp or other surgically fashioned RVOT valve*** 5004 = TOF repair, No Ventriculotomy + ASD repair, Primary closure
3. Complete atrioventricular canal repair	AVC	170 = AVC (AVSD) repair, Complete (CAVSD)
4. Arterial switch	ASO	1110 = Arterial switch operation (ASO)
5. Arterial switch + VSD repair	ASO + VSD	1120 = Arterial switch operation (ASO) and VSD repair
6. Glenn/HemiFontan	Glenn/HemiFontan	1670 = Bidirectional cavopulmonary anastomosis (BDCPA) (bidirectional Glenn) 1680 = Glenn (unidirectional cavopulmonary anastomosis) (unidirectional Glenn) 1690 = Bilateral bidirectional cavopulmonary anastomosis (BBDCPA) (bilateral bidirectional Glenn) 1700 = HemiFontan 2130 = Superior Cavopulmonary anastomosis(es) + PA reconstruction
7. Fontan operation	Fontan	970 = Fontan, TCPC, Lateral tunnel, Fenestrated



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Lesion Specific Reports (Tables 20 - 28)

Please refer to the *CHSD Risk Adjusted Calculation spreadsheet within the IQVIA Library for technical details*

Specific inclusionary and exclusionary criteria must be met for operations to be included in each of the nine lesion specific tables of the report. For a procedure to be included in a given table, the primary diagnosis **and** primary procedure of the index operation must have both come from the allowable list. These criteria were designed to identify populations that are analytically comparable across Participants but note ***only specific procedure/diagnosis combinations may be reported.***

Required Primary Diagnosis and Procedure Lists for Inclusion in Lesion-Specific Reporting

Lesion	Primary Diagnosis	Primary Procedure
Atrial Septal Defect (ASD)	20 - ASD, Secundum	10 - PFO, Primary closure
	30 - ASD, Sinus venosus	20 - ASD repair, Primary closure
	40 - ASD, Coronary sinus	5007 - ASD repair, Primary closure + PAPVC repair
	50 - ASD, Common atrium (single atrium)	30 - ASD repair, Patch
	10 - PFO (Patent foramen ovale)	40 - ASD repair, Device
		2110 - ASD repair, Patch + PAPVC repair
		50 - ASD, Common atrium (single atrium), Septation
		70 - ASD partial closure
Ventricular Septal Defect (VSD)	71 - VSD, Type 1 (Subarterial) (Supracristal) (Conal septal defect) (Infundibular)	100 - VSD repair, Primary closure
	73 - VSD, Type 2 (Perimembranous) (Paramembranous) (Conoventricular)	110 - VSD repair, Patch
	75 - VSD, Type 3 (Inlet) (AV canal type)	120 - VSD repair, Device
	77 - VSD, Type 4 (Muscular)	130 - VSD repair, Multiple Repair
	79 - VSD, Type: Gerbode (LV-RA communication)	150 - Ventricular Septal fenestration
	80 - VSD, Multiple	5001 - VSD repair, Patch + ASD repair, Primary closure
Coarctation of the Aorta (COA)	990 - Coarctation of aorta	1210 - Coarctation repair, End to end
	1000 - Aortic arch hypoplasia	1220 - Coarctation repair, End to end, Extended
	92 - VSD + Aortic arch hypoplasia	1230 - Coarctation repair, Subclavian flap
	94 - VSD + Coarctation of aorta	1240 - Coarctation repair, Patch aortoplasty
		1250 - Coarctation repair, Interposition graft



General Overview



Covid Data



Rules for Identifying Episodes of Care

Rules for Assigning Index Operations

Determination of Primary Diagnosis and Primary Procedure

Fields Used for Mortality Calculation

Determination of Case Eligibility for Inclusion in Mortality Analysis

Operative Mortality Status at the Level of Episode of Care

Method of Mortality Calculation

Risk Adjusted & Analytical Reports

Required Primary Diagnosis and Procedure Lists for Inclusion in Lesion-Specific Reporting

Risk Adjusted Outcomes: Overview

CHSD Risk Model Specifications

Interpretation of Adjusted Mortality Results

Congenital Cardiac Anesthesia

STS Combination Procedure Codes

Operation Type Cleanup Process

Lesion Specific Reports (Tables 20 - 28)

Please refer to the CHSD Risk Adjusted Calculation spreadsheet within the IQVIA Library for technical details

Specific inclusionary and exclusionary criteria must be met for operations to be included in each of the nine lesion specific tables of the report. For a procedure to be included in a given table, the primary diagnosis **and** primary procedure of the index operation must have both come from the allowable list. These criteria were designed to identify populations that are analytically comparable across Participants but note **only specific procedure/diagnosis combinations may be reported**.

Required Primary Diagnosis and Procedure Lists for Inclusion in Lesion-Specific Reporting

Lesion	Primary Diagnosis	Primary Procedure
Atrial Septal Defect (ASD)	20 - ASD, Secundum	10 - PFO, Primary closure
	30 - ASD, Sinus venosus	20 - ASD repair, Primary closure
	40 - ASD, Coronary sinus	5007 - ASD repair, Primary closure + PAPVC repair
	50 - ASD, Common atrium (single atrium)	30 - ASD repair, Patch
	10 - PFO (Patent foramen ovale)	40 - ASD repair, Device
Ventricular Septal Defect (VSD)	71 - VSD, Type 1 (Subarterial) (Supracristal) (Conal septal defect) (Infundibular)	100 - VSD repair, Primary closure
	73 - VSD, Type 2 (Perimembranous) (Paramembranous) (Conoventricular)	110 - VSD repair, Patch
	75 - VSD, Type 3 (Inlet) (AV canal type)	120 - VSD repair, Device
	77 - VSD, Type 4 (Muscular)	130 - VSD repair, Multiple Repair
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	80 - VSD, Multiple	5001 - VSD repair, Patch + ASD repair, Primary closure
Coarctation of the Aorta (COA)	990 - Coarctation of aorta	1210 - Coarctation repair, End to end
	1000 - Aortic arch hypoplasia	1220 - Coarctation repair, End to end, Extended
	92 - VSD + Aortic arch hypoplasia	1230 - Coarctation repair, Subclavian flap
	94 - VSD + Coarctation of aorta	1240 - Coarctation repair, Patch aortoplasty
		1250 - Coarctation repair, Interposition graft

RISK ADJUSTED REPORT CALCULATION RESOURCE



Where is it?



What is it?



When to use it?

RISK ADJUSTED REPORT CALCULATION RESOURCE



Where is it?



Welcome,
Leslie Wacker

Currently Viewing



DASHBOARD

Community Page

PLATFORM

Upload

Form Management

Notifications

14

ANALYTICS

Operational Reports

RESOURCES

Library

ACCOUNT

My Account

Log out

Library

National Report Overview, Data Checks, and Opt-Out Form

CHSD Analysis Overview Updated 12/13/2024

CHSD Risk Adjusted Report Calculation Resource (UPDATED 12/13/2024)

CHSD Registry Critical Errors/Errors and Warnings List

End of Harvest Review Checklist

Missing Variable Report User Guide (UPDATED 8.5.2022)

STS Harvest Opt Out Request Form

Quality Ratings Summary and Multiplier Tables

Fall 2024 Harvest Composite Quality Ratings Summary

Spring 2024 CHSD Harvest Composite Quality Ratings Summary

Fall 2023 Harvest Composite Quality Ratings Summary

Spring 2023 Harvest Composite Quality Ratings Summary

Fall 22 CHSD Harvest Composite Quality Ratings Summary

Report Overview Documents

Analyses Risk Adjusted Report Navigation Overview

Appendix C: STAT Categories

Appendix D: Estimated Odds Ratios and 95% CI for Individual Syndromes and Chromosomal Abnormalities

Appendix E and F: Frequencies of Chromosomal and Non-Cardiac Abnormalities

RISK ADJUSTED REPORT CALCULATION RESOURCE



What is it?

IQVIA Submit
data for
harvest

STS Inclusion/
Exclusion

Define
Primary,
Index Op,
EOC

IQVIA Display
data in
reports

- DETAILED description of table populations
- Fields used, line by line

RISK ADJUSTED REPORT CALCULATION RESOURCE

Report Definitions:

NOTE: gender(1,2) is no longer applicable starting with the Fall Harvest 2023 report

Category	Calculation Name	Calculation
Number of Operations/Patients	Operations Submitted	all Operations
Number of Operations/Patients	Operations in Analysis	ioptype = 1 or iotype = 2 and Include = 1 and mortdata = 1
Number of Operations/Patients	Patients in Analysis	ioptype = 1 or iotype = 2 and PrimaryOp = 1 and include = 1 and mortdata = 1
Operative Mortality	Number of Mortalities	ioptype = 1 or iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and Include = 1 and mortdata = 1
Operative Mortality	Number Eligible	ioptype = 1 or iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0 and Include = 1 and mortdata = 1
STAT Mortality	STAT Mortality Category	ioptype = 1 or iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and STATMortLevel = x and Include = 1 and mortdata = 1
Operative Mortality	Mortality Rate	(Number of Mortalities/Number Eligible)

STS/Participant/Both	Category	Calculation Name	Variables
Both	Number of Operations/Patients	Operations Submitted	all Operations
Both	Number of Operations/Patients	Operations in Analysis	ioptype = 1, iotype = 2 and Include = 1 and mortdata = 1
Both	Number of Operations/Patients	Patients in Analysis	ioptype = 1, iotype = 2 and PrimaryOp = 1 and include = 1 and mortdata = 1
Both	Operative Mortality	Number of Mortalities	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and Include = 1 and mortdata = 1
Both	Operative Mortality	Number Eligible	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0 and Include = 1 and mortdata = 1
Both	Operative Mortality	Mortality Percent	Number of Mortalities/Number Eligible
Both	Operative Mortality	Mortality (95% CI)	95% CI (calculation performed in spotfire)
Both	STAT Mortality Category 1	Number of Mortalities	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 1	Number Eligible	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 1	Mortality Percent	Number of Mortalities/Number Eligible
Both	STAT Mortality Category 1	Mortality (95% CI)	95% CI (calculation performed in spotfire)
Both	STAT Mortality Category 2	Number of Mortalities	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 2	Number Eligible	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 2	Mortality Percent	Number of Mortalities/Number Eligible
Both	STAT Mortality Category 2	Mortality (95% CI)	95% CI (calculation performed in spotfire)
Both	STAT Mortality Category 3	Number of Mortalities	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 3	Number Eligible	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 3	Mortality Percent	Number of Mortalities/Number Eligible
Both	STAT Mortality Category 3	Mortality (95% CI)	95% CI (calculation performed in spotfire)
Both	STAT Mortality Category 4	Number of Mortalities	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 4	Number Eligible	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 4	Mortality Percent	Number of Mortalities/Number Eligible
Both	STAT Mortality Category 4	Mortality (95% CI)	95% CI (calculation performed in spotfire)
Both	STAT Mortality Category 5	Number of Mortalities	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 5	Number Eligible	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 5	Mortality Percent	Number of Mortalities/Number Eligible
Both	STAT Mortality Category 5	Mortality (95% CI)	95% CI (calculation performed in spotfire)

RISK ADJUSTED REPORT CALCULATION RESOURCE

Table
population
definition

Report Definitions:

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Number of Operations/Patients	Patients in Analysis	ioptype = 1 or iotype = 2 and PrimaryOp = 1 and include = 1 and mortdata = 1
Operative Mortality	Number of Mortalities	ioptype = 1 or iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0
Operative Mortality	Number Eligible	ioptype = 1 or iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0
STAT Mortality	STAT Mortality Category	ioptype = 1 or iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0
Operative Mortality	Mortality Rate	(Number of Mortalities/Number Eligible)

STS/Participant/Both	Category	Calculation Name	Variables
Both	Number of Operations/Patients	Operations Submitted	all Operations
Both	Number of Operations/Patients	Operations in Analysis	ioptype = 1, iotype = 2 and Include = 1 and mortdata = 1
Both	Number of Operations/Patients	Patients in Analysis	ioptype = 1, iotype = 2 and PrimaryOp = 1 and include = 1 and mortdata = 1
Both	Operative Mortality	Number of Mortalities	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and Include = 1 and mortdata = 1
Both	Operative Mortality	Number Eligible	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0 and Include = 1 and mortdata = 1
Both	Operative Mortality	Mortality Percent	Number of Mortalities/Number Eligible
Both	Operative Mortality	Mortality (95% CI)	95% CI (calculation performed in spotfire)
Both	STAT Mortality Category 1	Number of Mortalities	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 1	Number Eligible	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 1	Mortality Percent	Number of Mortalities/Number Eligible
Both	STAT Mortality Category 1	Mortality (95% CI)	95% CI (calculation performed in spotfire)
Both	STAT Mortality Category 2	Number of Mortalities	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 2	Number Eligible	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 2	Mortality Percent	Number of Mortalities/Number Eligible
Both	STAT Mortality Category 2	Mortality (95% CI)	95% CI (calculation performed in spotfire)
Both	STAT Mortality Category 3	Number of Mortalities	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 3	Number Eligible	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 3	Mortality Percent	Number of Mortalities/Number Eligible
Both	STAT Mortality Category 3	Mortality (95% CI)	95% CI (calculation performed in spotfire)
Both	STAT Mortality Category 4	Number of Mortalities	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 4	Number Eligible	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 4	Mortality Percent	Number of Mortalities/Number Eligible
Both	STAT Mortality Category 4	Mortality (95% CI)	95% CI (calculation performed in spotfire)
Both	STAT Mortality Category 5	Number of Mortalities	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 5	Number Eligible	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 5	Mortality Percent	Number of Mortalities/Number Eligible
Both	STAT Mortality Category 5	Mortality (95% CI)	95% CI (calculation performed in spotfire)

RISK ADJUSTED REPORT CALCULATION RESOURCE

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definitions

Report Definitions:

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Number of Operations/Patients	Patients in Analysis	ioptype = 1 or iotype = 2 and PrimaryOp = 1 and include = 1 and mortdata = 1
Operative Mortality	Number of Mortalities	ioptype = 1 or iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0
Operative Mortality	Number Eligible	ioptype = 1 or iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0
STAT Mortality	STAT Mortality Category	ioptype = 1 or iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0
Operative Mortality	Mortality Rate	(Number of Mortalities/Number Eligible)

STS/Participant/Both	Category	Calculation Name	Variables
Both	Number of Operations/Patients	Operations Submitted	all Operations
Both	Number of Operations/Patients	Operations in Analysis	ioptype = 1, iotype = 2 and Include = 1 and mortdata = 1
Both	Number of Operations/Patients	Patients in Analysis	ioptype = 1, iotype = 2 and PrimaryOp = 1 and include = 1 and mortdata = 1
Both	Operative Mortality	Number of Mortalities	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and Include = 1 and mortdata = 1
Both	Operative Mortality	Number Eligible	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0 and Include = 1 and mortdata = 1
Both	Operative Mortality	Mortality Percent	Number of Mortalities/Number Eligible
Both	Operative Mortality	Mortality (95% CI)	95% CI (calculation performed in spotfire)
Both	STAT Mortality Category 1	Number of Mortalities	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 1	Number Eligible	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 1	Mortality Percent	Number of Mortalities/Number Eligible
Both	STAT Mortality Category 1	Mortality (95% CI)	95% CI (calculation performed in spotfire)
Both	STAT Mortality Category 2	Number of Mortalities	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 2	Number Eligible	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 2	Mortality Percent	Number of Mortalities/Number Eligible
Both	STAT Mortality Category 2	Mortality (95% CI)	95% CI (calculation performed in spotfire)
Both	STAT Mortality Category 3	Number of Mortalities	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 3	Number Eligible	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 3	Mortality Percent	Number of Mortalities/Number Eligible
Both	STAT Mortality Category 3	Mortality (95% CI)	95% CI (calculation performed in spotfire)
Both	STAT Mortality Category 4	Number of Mortalities	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 4	Number Eligible	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 4	Mortality Percent	Number of Mortalities/Number Eligible
Both	STAT Mortality Category 4	Mortality (95% CI)	95% CI (calculation performed in spotfire)
Both	STAT Mortality Category 5	Number of Mortalities	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 5	Number Eligible	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 5	Mortality Percent	Number of Mortalities/Number Eligible
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RISK ADJUSTED REPORT CALCULATION RESOURCE

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Operative Mortality	Number Eligible	ioptype = 1 or iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0
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Operative Mortality	Mortality Rate	(Number of Mortalities/Number Eligible)

Table
population
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STS/Participant/Both	Category	Calculation Name	Variables
Both	Number of Operations/Patients	Operations Submitted	all Operations
Both	Number of Operations/Patients	Operations in Analysis	ioptype = 1, iotype = 2 and Include = 1 and mortdata = 1
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Both	Operative Mortality	Mortality (95% CI)	95% CI (calculation performed in spotfire)
Both	STAT Mortality Category 1	Number of Mortalities	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 1	Number Eligible	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 1	Mortality Percent	Number of Mortalities/Number Eligible
Both	STAT Mortality Category 1	Mortality (95% CI)	95% CI (calculation performed in spotfire)
Both	STAT Mortality Category 2	Number of Mortalities	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 2	Number Eligible	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 2	Mortality Percent	Number of Mortalities/Number Eligible
Both	STAT Mortality Category 2	Mortality (95% CI)	95% CI (calculation performed in spotfire)
Both	STAT Mortality Category 3	Number of Mortalities	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 3	Number Eligible	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 3	Mortality Percent	Number of Mortalities/Number Eligible
Both	STAT Mortality Category 3	Mortality (95% CI)	95% CI (calculation performed in spotfire)
Both	STAT Mortality Category 4	Number of Mortalities	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 4	Number Eligible	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 4	Mortality Percent	Number of Mortalities/Number Eligible
Both	STAT Mortality Category 4	Mortality (95% CI)	95% CI (calculation performed in spotfire)
Both	STAT Mortality Category 5	Number of Mortalities	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 5	Number Eligible	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0 and Include = 1 and mortdata = 1
Both	STAT Mortality Category 5	Mortality Percent	Number of Mortalities/Number Eligible
Both	STAT Mortality Category 5	Mortality (95% CI)	95% CI (calculation performed in spotfire)

Line by line
definitions

Each table



RISK ADJUSTED REPORT CALCULATION RESOURCE

Report Definitions:

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Category	Calculation Name	Calculation
Number of Operations/Patients	Operations Submitted	all Operations
Number of Operations/Patients	Operations in Analysis	ioptype = 1 or iotype = 2 and Include = 1 and mortdata = 1
Number of Operations/Patients	Patients in Analysis	ioptype = 1 or iotype = 2 and PrimaryOp = 1 and include = 1 and mortdata = 1
Operative Mortality	Number of Mortalities	ioptype = 1 or iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and Include = 1 and mortdata = 1
Operative Mortality	Number Eligible	ioptype = 1 or iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0 and Include = 1 and mortdata = 1
STAT Mortality	STAT Mortality Category	ioptype = 1 or iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and STATMortLevel = x and Include = 1 and mortdata = 1
Operative Mortality	Mortality Rate	(Number of Mortalities/Number Eligible)

RISK ADJUSTED REPORT CALCULATION RESOURCE

Report Definitions:

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Category	Calculation Name	Calculation
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Operative Mortality	Mortality Rate	(Number of Mortalities/Number Eligible)

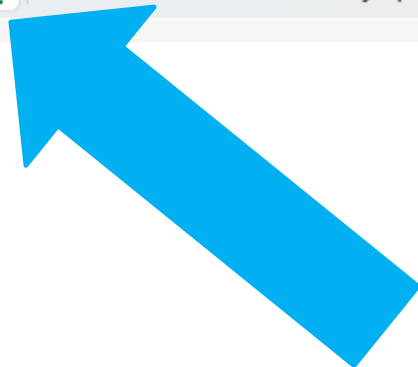
Questions variable_definitions_patient

T1.NumSubmitandinAnalyOpM

T7.NumSubmitandinAnalyOpMNeoAdu

Figure7AllPatsOpMortSTATMort

T16.Mode



RISK ADJUSTED REPORT CALCULATION RESOURCE

Alphabetic List of Variables and Attributes					
#	Variable	Type	Length	Format	Label
6	agegrp	Num	8		Age Group (D)
38	benchmark	Num	8	BENCH.	
5	facility_id	Char	12		
35	hospcode	Num	8		Report Code Assignment for ParticID (D)
7	ianyothpf	Num	8		
8	include	Num	8		Include CPB/Non-CPB Cardio Ops in Rpt time frame (D)
9	infoca	Num	8	YESNO.	Chromosomal Abnormalities Information Present (D)
10	infonc	Num	8	YESNO.	NonCardiac Anatomic Abnormalities Information Present (D)
11	infopf	Num	8	YESNO.	Preoperative Factors Information Present (D)
12	infosy	Num	8	YESNO.	Syndrome Information Present (D)
20	ioptype	Num	8		
13	ipfneustrk	Num	8		
25	ipremature	Num	8		
14	iprematurity_ni	Num	8		
15	iprvctop	Num	8		
16	irenfail	Num	8		
17	mortdata	Num	8	YESNO.	Include in mortality analysis [D]
18	mortexclude	Num	8		Record to be Excluded from Mortality Analysis (D)
4	operationid	Char	25		Operation Table Record Identifier
19	opmort	Num	8	YESNO.	Operative Mortality (D)
2	particid	Char	5		Participant ID
1	partpatid	Char	45		Unique Deidentified Participant Patient Identifier [D]
3	patid	Char	25		Operations Link to Demographics Table
21	pfcircsupp	Num	8	YESNO.	Preoperative/Preprocedural mechanical circulatory support (IABP, VAD, ECMO, or CPS)
22	pfshockp	Num	8	YESNO.	Shock, Persistent at time of surgery
23	pfventsupp	Num	8	YESNO.	Invasive Mechanical ventilation to treat cardiorespiratory failure
24	plos	Num	8		Post Operative Length of Stay in Days (D)
26	primarydx	Num	8	DXLIST.	Primary Diagnosis (D)
27	primaryop	Num	8		Index Operation
36	primaryproc	Num	8	PXLIST.	Primary Procedure (D)
28

RISK ADJUSTED REPORT CALCULATION RESOURCE

< > ... T1.NumSubmitandinAnalyOpM T7.NumSubmitandinAnalyOpMNeoAdu Figure7AllPatsOpMortSTATMort T16.Model1(DCRI_RiskAdjdata) T18.BenchmarkOpera ... +

Ready

Report Definitions:			
NOTE: gender(1,2) is no longer applicable starting with the Fall Harvest 2023 report			
Category	Calculation Name	Calculation	
Number of Operations/Patients	Operations Submitted	all Operations	
Number of Operations/Patients	Operations in Analysis	ioptype = 1 or iotype = 2 and Include = 1 and mortdata = 1	
Number of Operations/Patients	Patients in Analysis	ioptype = 1 or iotype = 2 and PrimaryOp = 1 and include = 1 and mortdata = 1	
Operative Mortality	Number of Mortalities	ioptype = 1 or iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and Include = 1 and mortdata = 1	
Operative Mortality	Number Eligible	ioptype = 1 or iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0 and Include = 1 and mortdata = 1	
STAT Mortality	STAT Mortality Category	ioptype = 1 or iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and STATMortLevel = x and Include = 1 and mortdata = 1	
Operative Mortality	Mortality Rate	(Number of Mortalities/Number Eligible)	
Category: CI			
STS/Participant/Both	Category	Calculation	Variables
Both	Number of Operations/Patients	Operations Submitted	all Operations
Both	Number of Operations/Patients	Operations in Analysis	ioptype = 1, iotype = 2 and Include = 1 and mortdata = 1
Both	Number of Operations/Patients	Patients in Analysis	ioptype = 1, iotype = 2 and PrimaryOp = 1 and include = 1 and mortdata = 1
Both	Operative Mortality	Number of Mortalities	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and Include = 1 and mortdata = 1
Both	Operative Mortality	Number Eligible	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort is not null and MortExclude = 0 and Include = 1 and mortdata = 1
Both	Operative Mortality	Mortality Percent	Number of Mortalities/Number Eligible
Both	Operative Mortality	Mortality (95% CI)	95% CI (calculation performed in spotfire)
Both	STAT Mortality Category 1	Number of Mortalities	ioptype = 1, iotype = 2 and PrimaryOp = 1 and Opmort = 1 and MortExclude = 0 and Include = 1 and mortdata = 1

RISK ADJUSTED REPORT CALCULATION RESOURCE

T1.NumSubmitandinAnalyOpM					
T7.NumSubmitandinAnalyOpMNeoAdu					
Figure7AllPatsOpMortSTATMort					
T16.Model1(DCRI_RiskAdjdata)					
T18.BenchmarkOpera					
nger applicable starting with the Fall Harvest 2023 report					
mortexclude = 0	Note:				
IOPTYPE IN (1,2)	Percentage and non-percentage values should display to 2 decimal places except when it is a whole number. This applies to both graphs and tables.				
PRIMARYOP = 1					
STATMORTSCORE is not null					
OPMORT is not null					
MORTDATA = 1					
Include = 1					
ZSCORE BETWEEN -7 AND 5 OR AGEGRP >= 3					
Field: STS; Participant; Both	Report Name	Operation	Category	Sub Category	Calculation
Participant	Model 1 - Participant Operative Mortality, Adjusted Operative Mortality and Star Rating	All STAT Mortality Categories	Neonates	All STAT Mortality Categories	Number Observed
Participant	Model 1 - Participant Operative Mortality, Adjusted Operative Mortality and Star Rating	All STAT Mortality Categories	Neonates	All STAT Mortality Categories	Number Eligible
Both	Model 1 - Participant Operative Mortality, Adjusted Operative Mortality and Star Rating	All STAT Mortality Categories	Neonates	All STAT Mortality Categories	Observed
Participant	Model 1 - Participant Operative Mortality, Adjusted Operative Mortality and Star Rating	All STAT Mortality Categories	Neonates	All STAT Mortality Categories	Expected
Participant	Model 1 - Participant Operative Mortality, Adjusted Operative Mortality and Star Rating	All STAT Mortality Categories	Neonates	All STAT Mortality Categories	Observed/Expected
Participant	Model 1 - Participant Operative Mortality, Adjusted Operative Mortality and Star Rating	All STAT Mortality Categories	Neonates	All STAT Mortality Categories	Observed/Expected (95% CIL)
Participant	Model 1 - Participant Operative Mortality, Adjusted Operative Mortality and Star Rating	All STAT Mortality Categories	Neonates	All STAT Mortality Categories	Observed/Expected (95% CIU)
Participant	Model 1 - Participant Operative Mortality, Adjusted Operative Mortality and Star Rating	All STAT Mortality Categories	Neonates	All STAT Mortality Categories	AMR
Participant	Model 1 - Participant Operative Mortality, Adjusted Operative Mortality and Star Rating	All STAT Mortality Categories	Neonates	All STAT Mortality Categories	AMR (95% CIL)
Participant	Model 1 - Participant Operative Mortality, Adjusted Operative Mortality and Star Rating	All STAT Mortality Categories	Neonates	All STAT Mortality Categories	AMR (95% CIU)
Participant	Model 1 - Participant Operative Mortality, Adjusted Operative Mortality and Star Rating	STAT Mortality Category 1	Neonates	STAT Mortality Category 1	Number Observed
Participant	Model 1 - Participant Operative Mortality, Adjusted Operative Mortality and Star Rating	STAT Mortality Category 1	Neonates	STAT Mortality Category 1	Number Eligible
Both	Model 1 - Participant Operative Mortality, Adjusted Operative Mortality and Star Rating	STAT Mortality Category 1	Neonates	STAT Mortality Category 1	Observed
Participant	Model 1 - Participant Operative Mortality, Adjusted Operative Mortality and Star Rating	STAT Mortality Category 1	Neonates	STAT Mortality Category 1	Expected
Participant	Model 1 - Participant Operative Mortality, Adjusted Operative Mortality and Star Rating	STAT Mortality Category 1	Neonates	STAT Mortality Category 1	Observed/Expected
Participant	Model 1 - Participant Operative Mortality, Adjusted Operative Mortality and Star Rating	STAT Mortality Category 1	Neonates	STAT Mortality Category 1	Observed/Expected (95% CIL)
Participant	Model 1 - Participant Operative Mortality, Adjusted Operative Mortality and Star Rating	STAT Mortality Category 1	Neonates	STAT Mortality Category 1	Observed/Expected (95% CIU)
Participant	Model 1 - Participant Operative Mortality, Adjusted Operative Mortality and Star Rating	STAT Mortality Category 1	Neonates	STAT Mortality Category 1	AMR
Participant	Model 1 - Participant Operative Mortality, Adjusted Operative Mortality and Star Rating	STAT Mortality Category 1	Neonates	STAT Mortality Category 1	AMR (95% CIL)
Participant	Model 1 - Participant Operative Mortality, Adjusted Operative Mortality and Star Rating	STAT Mortality Category 1	Neonates	STAT Mortality Category 1	AMR (95% CIU)
Participant	Model 1 - Participant Operative Mortality, Adjusted Operative Mortality and Star Rating	STAT Mortality Category 2	Neonates	STAT Mortality Category 2	Number Observed
Participant	Model 1 - Participant Operative Mortality, Adjusted Operative Mortality and Star Rating	STAT Mortality Category 2	Neonates	STAT Mortality Category 2	Number Eligible

RISK ADJUSTED REPORT CALCULATION RESOURCE



When to use it?

- NOT every day
- Identifying patients / how metrics are defined
- Answering questions – anesthesia thinks more patients are extubated in the OR than what is reported; surgeon says we do a lot more VSD repairs than reported...
- Matching local and reported data

RESOURCES, IN SUMMARY:

Analysis Overview

- General overview
- Day-to-day resource
- Read after EVERY report release

Risk Adjusted Calculation Resource

- VERY detailed
- Line by line
- If you need technical information, fields used

TABLE REVIEW REMINDERS

- Each table is a distinct analysis
- Determine the meaning of each table:
 - identify table population
 - determine calculations completed
 - interpret table results

TABLE I

NUMBER SUBMITTED
AND IN ANALYSIS

Table I – Volume

	Calculation	Participant				
		Yearly				Last Four
		Jan 21 –Dec 21	Jan 22 – Dec 22	Jan 23 – Dec 23	Jan 24 – Dec 24	Jan 21 – Dec 24
Number of Operations /Patients	Operations Submitted	580	550	540	560	2230
	Operations in Analysis	480	475	440	475	1870
	Patients in Analysis	350	325	330	345	1350

Who is the population?

Table I

	Calculation	Participant				
		Yearly				Last Four
		Jan 21 –Dec 21	Jan 22 – Dec 22	Jan 23 – Dec 23	Jan 24 – Dec 24	Jan 21 – Dec 24
Number of Operations /Patients	Operations Submitted	580	550	540	560	2230
	Operations in Analysis	480	475	440	475	1870
	Patients in Analysis	350	325	330	345	1350

Who is the population?

I. Volume by surgery year and total 4-years – participant and STS

Table I

	Calculation	Participant				
		Yearly				Last Four
		Jan 21 –Dec 21	Jan 22 – Dec 22	Jan 23 – Dec 23	Jan 24 – Dec 24	Jan 21 – Dec 24
Number of Operations /Patients	Operations Submitted	580	550	540	560	2230
	Operations in Analysis	480	475	440	475	1870
	Patients in Analysis	350	325	330	345	1350

Who is the population?

Report
Overview

Category	Inclusion
Operations Submitted	All operations submitted with a surgical date within the analytic time period.
Operations in Analysis	All operations submitted with a surgical date within the analytic time period with the Operation Type CPB, Cardiovascular or No CPB, Cardiovascular. Excludes 2020 and 2021 Covid positive cases and PDA ligations <= 2.5kg.
Patients in Analysis	All index operations submitted with a surgical date within the analytic time period with the Operation Type CPB, Cardiovascular or No CPB, Cardiovascular. Excludes 2020 and 2021 Covid positive cases and PDA ligations <= 2.5kg.

Operations Submitted

→ All operations submitted

Operations in Analysis

→ Cardiac Operations:
CPB CV + No CPB CV
(excluding Covid '20 & '21)

Patients in Analysis

→ Index Operations:
1st CPB CV + No CPB CV
(excluding Covid '20 & '21)

Table I

	Calculation	Participant				
		Yearly				Last Four
		Jan 21 –Dec 21	Jan 22 – Dec 22	Jan 23 – Dec 23	Jan 24 – Dec 24	Jan 21 – Dec 24
Number of Operations /Patients	Operations Submitted	580	550	540	560	2230
	Operations in Analysis	480	475	440	475	1870
	Patients in Analysis	350	325	330	345	1350

Who is the population?

Includes:

- Patients still hospitalized
- Operations with missing data
- Operations excluded for other reasons

Table I – Operative Mortality

	Calculation	Participant				
		Yearly				Last Four
		Jan 21 –Dec 21	Jan 22 – Dec 22	Jan 23 – Dec 23	Jan 24 – Dec 24	Jan 21 – Dec 24
Operative Mortality	Number of Mortalities	5	4	7	5	21
	Number Eligible	343	320	325	341	1329
	Mortality Percent	1.46	1.25	2.15	1.47	1.58
	Mortality 95% CI	(1.35, 5.15)	(1.10, 4.75)	(1.5, 5.23)	(1.33, 5.25)	(1.35, 3.15)

What calculation is being performed on the table population?

Table I – Operative Mortality

	Calculation	Participant				
		Yearly				Last Four
		Jan 21 – Dec 21	Jan 22 – Dec 22	Jan 23 – Dec 23	Jan 24 – Dec 24	Jan 21 – Dec 24
Operative Mortality	Number of Mortalities	5	4	7	5	21
	Number Eligible	343	320	325	341	1329
	Mortality Percent	1.46	1.25	2.15	1.47	1.58
	Mortality 95% CI	(1.35, 5.15)	(1.10, 4.75)	(1.5, 5.23)	(1.33, 5.25)	(1.35, 3.15)

What calculation is being performed on the table population?

Must be eligible for mortality analysis – refer to Analysis Overview

MORTALITY CALCULATION

Number of Mortalities: Total mortalities

Number Eligible: Index operations eligible for mortality calculation

Mortality Percent: $(\# \text{ mortalities} / \# \text{ eligible}) * 100$

Mortality 95% CI: plausible range of values where a participant's true mortality rate lies

Mortality Analysis



- Index operation
(excluding covid '20 & '21)

Mortality Analysis



```
graph TD; A[Mortality Analysis] --> B[Mortality Analysis fields complete];
```

Mortality Analysis
fields complete

- Index operation
(excluding covid '20 & '21)

- Data of admission
- Primary diagnosis
- Primary Procedure
- Mortality status at
hospital DC, DB DC,
30d post cardiac op

Mortality Analysis



Mortality Analysis
fields complete

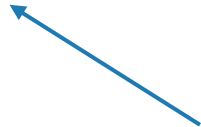


Eligible index
operation

- Index operation
(excluding covid '20 & '21)
- Data of admission
- Primary diagnosis
- Primary Procedure
- Mortality status at
hospital DC, DB DC, 30d
post cardiac op

Excludes:

- PDA ligations <2.5kg
- PM/ICD procedures <30d
- Pectus repairs
- Bronchoscopy
- Organ procurement
- Overlapping EOC
- Optype cleanup



PATIENTS IN ANALYSIS VS. NUMBER ELIGIBLE MORTALITY

	Calculation	Last Four
		Jan 21 – Dec 24
Number of Operations /Patients	Operations Submitted	2230
	Operations in Analysis	1870
	Patients in Analysis	1350



	Calculation	Last Four
		Jan 21 – Dec 24
Operative Mortality	Number of Mortalities	21
	Number Eligible	1329
	Mortality Percent	1.58
	Mortality 95% CI	(1.35, 3.15)



Related to
excluded cases

Table I – Operative Mortality by STAT Category

	Calculation	Participant				
		Yearly				Last Four
		Jan 21 –Dec 21	Jan 22 – Dec 22	Jan 23 – Dec 23	Jan 24 – Dec 24	Jan 21 – Dec 24
STAT Mortality Category 1	Number of Mortalities	0	1	1	3	5
	Number Eligible	150	155	160	150	615
	Mortality Percent	0	1.25	2.15	1.47	1.58
	Mortality 95% CI	(1.35, 5.15)	(1.10, 4.75)	(1.5, 5.23)	(1.33, 5.25)	(1.35, 3.15)

Who is the population and what calculation is being performed?

Table I – Operative Mortality by STAT Category

	Calculation	Participant				
		Yearly				Last Four
		Jan 21 – Dec 21	Jan 22 – Dec 22	Jan 23 – Dec 23	Jan 24 – Dec 24	Jan 21 – Dec 24
STAT Mortality Category 1	Number of Mortalities	0	1	1	3	5
	Number Eligible	150	155	160	150	615
	Mortality Percent	0	1.25	2.15	1.47	1.58
	Mortality 95% CI	(1.35, 5.15)	(1.10, 4.75)	(1.5, 5.23)	(1.33, 5.25)	(1.35, 3.15)

Who is the population and what calculation is being performed?

Must be eligible for mortality analysis & have an associated STAT Mortality Score

Mortality Analysis

- Index operation
(excluding covid '20 & '21)

Mortality Analysis
fields complete

Excludes:

- PDA ligations <2.5kg
- PM/ICD procedures <30d
- Pectus repairs
- Bronchoscopy
- Organ procurement
- Overlapping EOC
- Optype clean up

Eligible index
operation

- Data of admission
- Primary diagnosis
- Primary Procedure
- Mortality status at
hospital DC, DB DC, 30d
post cardiac op

Operation with STAT
Score

MORTALITY CALCULATION – STRATIFIED BY STAT CATEGORY

Number of Mortalities: Total mortalities

Number Eligible: Index operations eligible for mortality calculation

Mortality Percent: $(\# \text{ mortalities} / \# \text{ eligible}) * 100$

Mortality 95% CI: plausible range of values where a participant's true mortality rate lies

INTERPRET MORTALITY CALCULATION – 95% CI

	Calculation	Last Four
		Jan 21 – Dec 24
Operative Mortality	Number of Mortalities	21
	Number Eligible	1329
	Mortality Percent	1.58
	Mortality 95% CI	(1.35, 3.15)

Use the 95% CI to determine if the observed mortality rate is different from the 'true' mortality rate

Is your mortality rate true or due to random chance?

INTERPRET MORTALITY CALCULATION – 95% CI

Plausible range of values of where your true mortality rate lies

- Small interval = more precise estimate true MR
- Range impacted by denominator size (eligible ops)

INTERPRET MORTALITY CALCULATION – 95% CI

Plausible range of values of where your true mortality rate lies

- Small interval = more precise estimate true MR
- Range impacted by denominator size (eligible ops)

- * Compare participant rate to STS rate (higher/lower)?
- * Does the CI contain the STS rate?

INTERPRET MORTALITY CALCULATION

- I. Is the participant MR higher or lower than the STS MR?

1.58% vs. 2.7%

Calculation		Last Four
		Jan 21 – Dec 24
Operative Mortality	Number of Mortalities	21
	Number Eligible	1329
	Mortality Percent	1.58
	Mortality 95% CI	(1.35, 3.15)
STS		Last Four
		Jan 21 – Dec 24
Operative Mortality	Number of Mortalities	2591
	Number Eligible	95,948
	Mortality Percent	2.7
	Mortality 95% CI	(2.60, 2.80)

INTERPRET MORTALITY CALCULATION

- I. Is the participant MR higher or lower than the STS MR?

1.58% vs. 2.7%

Participant MR is lower than the STS MR

Calculation		Last Four
		Jan 21 – Dec 24
Operative Mortality	Number of Mortalities	21
	Number Eligible	1329
	Mortality Percent	1.58
	Mortality 95% CI	(1.35, 3.15)
STS		Last Four
		Jan 21 – Dec 24
Operative Mortality	Number of Mortalities	2591
	Number Eligible	95,948
	Mortality Percent	2.7
	Mortality 95% CI	(2.60, 2.80)

INTERPRET MORTALITY CALCULATION

	Calculation	Last Four
		Jan 21 – Dec 24
Operative Mortality	Number of Mortalities	21
	Number Eligible	1329
	Mortality Percent	1.58
	Mortality 95% CI	(1.35, 3.15)

STS		Last Four
		Jan 21 – Dec 24
Operative Mortality	Number of Mortalities	2591
	Number Eligible	95,948
	Mortality Percent	2.7
	Mortality 95% CI	(2.60, 2.80)

- I. Is the participant MR higher or lower than the STS MR?

1.58% vs. 2.7%

Participant MR is lower than the STS MR

Is this true or due to random chance?

INTERPRET MORTALITY CALCULATION

II. Does the participant 95% CI contain the STS MR?

1.35, 3.15

	Calculation	Last Four
		Jan 21 – Dec 24
Operative Mortality	Number of Mortalities	21
	Number Eligible	1329
	Mortality Percent	1.58
	Mortality 95% CI	(1.35, 3.15)

STS		Last Four
		Jan 21 – Dec 24
Operative Mortality	Number of Mortalities	2591
	Number Eligible	95,948
	Mortality Percent	2.7
	Mortality 95% CI	(2.60, 2.80)

INTERPRET MORTALITY CALCULATION

II. Does the participant 95% CI contain the STS MR?

1.35, 3.15

The participant's 95% CI does contain the STS MR (2.7%)

Calculation		Last Four
		Jan 21 – Dec 24
Operative Mortality	Number of Mortalities	21
	Number Eligible	1329
	Mortality Percent	1.58
	Mortality 95% CI	(1.35, 3.15)
STS		Last Four
		Jan 21 – Dec 24
Operative Mortality	Number of Mortalities	2591
	Number Eligible	95,948
	Mortality Percent	2.7
	Mortality 95% CI	(2.60, 2.80)

INTERPRET MORTALITY CALCULATION

	Calculation	Last Four
		Jan 21 – Dec 24
Operative Mortality	Number of Mortalities	21
	Number Eligible	1329
	Mortality Percent	1.58
	Mortality 95% CI	(1.35, 3.15)
STS		Last Four
		Jan 21 – Dec 24
Operative Mortality	Number of Mortalities	2591
	Number Eligible	95,948
	Mortality Percent	2.7
	Mortality 95% CI	(2.60, 2.80)

While the participants MR is lower than the STS, the participant's 95% CI contains the STS MR, *thus* the participant's MR is not statistically different than the STS MR

TABLE 16

MODEL I PARTICIPANT REPORT

Table 16 Participant Operative Mortality and Adjusted Operative Mortality, Last 4 Years

	STAT Category	# Observed	# Eligible	% Observed	% Expected	Observed/Expected (95% CI)	AMR (95% CI)	STS
Neonates + Infants+ Children+ Adults	All STAT Mortality Categories							
	STAT Mortality Category 1							
	STAT Mortality Category 2							
	STAT Mortality Category 3							
	STAT Mortality Category 4							
	STAT Mortality Category 5							

Who is the population & what calculation is being performed??

Mortality Analysis

Mortality Analysis fields complete

Eligible index operation

Table 16 Inclusions

Excludes:

- PDA ligations <2.5kg
- PM/ICD procedures <30d
- Pectus repairs
- Bronchoscopy
- Organ procurement
- Overlapping EOC
- Optype clean up

- Age
- STAT Score
- V. 3.0 or greater
- Weight for age Z-score between -7.0 and 5.0

- Index operation
(excluding covid '20 & '21)

- Data of admission
- Primary diagnosis
- Primary Procedure
- Mortality status at hospital DC, DB DC, 30d post cardiac op

Table 16 Participant Operative Mortality and Adjusted Operative Mortality, Last 4 Years

STAT Category	# Observed	# Eligible	% Observed	% Expected	Observed/Expected (95% CI)	AMR (95% CI)	STS
---------------	------------	------------	------------	------------	----------------------------	--------------	-----

Observed: Number of mortalities reported in participant's data

Eligible: Index operations eligible for mortality calculation in table 16

% Observed: $(\# \text{ observed} / \# \text{ eligible}) * 100$

% Expected: statistical estimation deaths expected given pt's surgical risk

Observed/Expected: $(\% \text{ observed} / \% \text{ expected})$

Mortality 95% CI: plausible range of values where the true underlying MR

Table 16

Participant Operative Mortality and Adjusted Operative Mortality, Last 4 Years

	STAT Category	# Observed	# Eligible	% Observed	% Expected	Observed/Expected (95% CI)	AMR (95% CI)	STS
Neonates+ Infants+ Children+ Adults	All STAT Mortality Categories	20	1200	1.66%	2.58%	0.64 (0.35, 0.98)	1.58 (0.25, 2.1)	2.66%
	STAT Mortality Category 1							
	STAT Mortality Category 2							
	STAT Mortality Category 3							
	STAT Mortality Category 4							
	STAT Mortality Category 5							

How to interpret the O/E Ratio and 95% CI?

INTERPRET O/E RATIO

- < 1.0: participant had fewer deaths than expected
- > 1.0: participant had more deaths than expected

INTERPRET O/E RATIO

- < 1.0: participant had fewer deaths than expected
- > 1.0: participant had more deaths than expected

Is it true or due to random chance?

Use 95% CI to check for difference from STS (statistical significance):

- If 1.0 is contained within the interval, not statistically different
- If the interval does not contain 1.0, there is statistical difference

Table 16

Participant Operative Mortality and Adjusted Operative Mortality, Last 4 Years

	STAT Category	# Observed	# Eligible	% Observed	% Expected	Observed/Expected (95% CI)
	All STAT Mortality Categories	20	1200	1.66%	2.58%	0.64 (0.35, 0.98)

I. Is the participant O/E ratio greater or less than 1.0?

Table 16

Participant Operative Mortality and Adjusted Operative Mortality, Last 4 Years

	STAT Category	# Observed	# Eligible	% Observed	% Expected	Observed/Expected (95% CI)
	All STAT Mortality Categories	20	1200	1.66%	2.58%	0.64 (0.35, 0.98)

I. Is the participant O/E ratio greater or less than 1.0?

Participant O/E ratio is less than 1.0

Is this true or due to random chance?

Table 16

Participant Operative Mortality and Adjusted Operative Mortality, Last 4 Years

	STAT Category	# Observed	# Eligible	% Observed	% Expected	Observed/Expected (95% CI)
	All STAT Mortality Categories	20	1200	1.66%	2.58%	0.64 (0.35, 0.98)

II. Does the participant's CI contain the value 1.0 (0.35, 0.98)?

Table 16

Participant Operative Mortality and Adjusted Operative Mortality, Last 4 Years

	STAT Category	# Observed	# Eligible	% Observed	% Expected	Observed/Expected (95% CI)
	All STAT Mortality Categories	20	1200	1.66%	2.58%	0.64 (0.35, 0.98)

II. Does the participant's CI contain the value 1.0 (0.35, 0.98)?

1.0 is not contained within the CI (the CI fully excludes the value of 1.0)

Table 16

Participant Operative Mortality and Adjusted Operative Mortality, Last 4 Years

	STAT Category	# Observed	# Eligible	% Observed	% Expected	Observed/Expected (95% CI)
	All STAT Mortality Categories	20	1200	1.66%	2.58%	0.64 (0.35, 0.98)

Interpretation:

With an O/E ratio < 1.0 and a 95% CI that fully excludes 1.0, the participants risk adjusted MR is less than the STS aggregate

Participant is performing better than expected

TABLE 18

BENCHMARK OPS:
MORTALITY &
POSTOPERATIVE LOS

BENCHMARK OPS ANALYSES PERFORMED

- 10 procedures included
- Determined by primary procedure of an eligible EOC with index op
- Not risk adjusted
- Postop Length of Stay:
 - calculated with Database DC date
 - excludes patients who stay >365 days
 - Excludes in hospital mortalities (in the surgical hospital)

TABLES 20 - 28

LESION SPECIFIC REPORTS

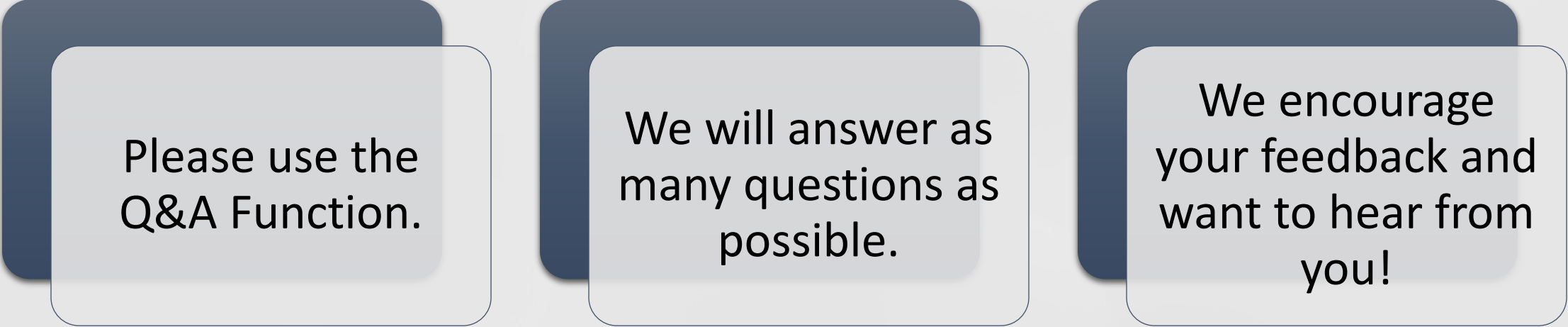
LESION SPECIFIC OPS ANALYSES PERFORMED

- 9 lesions included
- Determined by primary procedure of an eligible EOC with index op
- Specific inclusion criteria – diagnosis and procedure pairings
- Postop Events with overlap between versions

- Read the Analysis Report Overview with each harvest
- Review each table separately
- Utilize tools to determine table population and calculations being performed

IN SUMMARY

Open Discussion



Please use the
Q&A Function.

We will answer as
many questions as
possible.

We encourage
your feedback and
want to hear from
you!

Upcoming
CHSD
Webinars

Monthly Webinars

- 8/19/25 @ 12pmCT
- 9/16/25 @ 12pmCT

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THANK YOU FOR JOINING!