STS National Database™

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Society of Thoracic Surgeons

Congenital Heart Surgery Database
Monthly Webinar

April 12, 2022

CHSD Monthly Webinar

- Welcome and Introductions

- STS Update

- STS Education (Chasity Wellnitz, CHSD Consultant)

- IQVIA Update

- User Feedback
  - Include Ticket Number/Case Number

STS Updates

- **April Training Manual posted**

- **2021 Harvest Update**
  - Analysis results expected to be available end of April
  - Official STS Notification to be sent when available

- **Spring 2022 Harvest Update**
  - Harvest Close: Monday, May 16 @ 11:59pm ET
  - Opt out: Wednesday, May 18

- **Database Version Upgrade**
  - Official communication sent 4/1
  - Go live delayed until January 1, 2023

- **IQVIA Primary Procedure Mismatch Report**
  - As of 3/26 this report now incorporates the updated STAT Scores as well as the new rules for Glenn/Hemi Fontan, PVR and Ross procedures
  - Appendix C (pdf) is posted on STS website
  - Excel version to be posted this week

Chasity Wellnitz

CHSD Consultant/Core Group

Phoenix Children's Hospital

Webinar Discussion Topics

- **Primary Procedure Determination**
  - Primary Procedure Mismatch Report update
  - STAT Score Update

- **Missing data clarification**

Primary procedure determination in a multicomponent operation

Primary Procedure Determination

Factors to Consider

- STAT scores
- Exception rules

Reference STS Website Document:

https://www.sts.org/sites/default/files/Database%20Manuals/Determination%20of%20Primary%20Diagnosis%20and%20Primary%20Procedure_3_14_2022.pdf

Refer to CHSD webinar dated 06/15/21 for a more specific review

Recent Updates within the CHSD Database

STAT Scores Updated

- Paper published 2021
  https://doi.org/10.1177/2150135121991528

- Applied in Spring 2022 harvest (2018-2021)

- Appendix C
  https://www.sts.org/sites/default/files/Database%20Manuals/Appendix%20C%20-%202022_3.1.2022.pdf

New Exception Rules

- Rule #15: *Glenn/Hemifontan + Transplant*

- Rule #16: *PVR procedures*

- Rule #17: *Ross procedures*

- STS Reference
  https://www.sts.org/sites/default/files/Database%20Manuals/Determination%20of%20Primary%20Diagnosis%20and%20Primary%20Procedure_3_14_2022.pdf
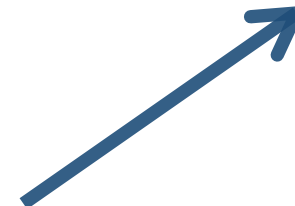
Appendix C Updates

- Existing procedures with newly assigned STAT Mortality Category/Score

- Existing procedures with an increase in STAT Mortality Category/Score

- Existing procedures with a decrease in STAT Mortality Category/Score

Appendix C Updates Continued

Appendix C: The Society of Thoracic Surgeons - European Association for Cardio-Thoracic Surgery Congenital Heart Surgery Mortality Categories (STAT Mortality Categories) (March 1, 2022)

Procedure Harvest Code	Procedure Name	STAT Mortality Score	2020 STAT Mortality Score	STAT Mortality Category	2020 STAT Mortality Category
780	Aortic stenosis, Subvalvar, Repair	0.2	0.1	1	1
600	Valve replacement, Pulmonic (PVR)	0.3	0.1	1	1
**2110	ASD Repair, Patch + PAPCV Repair	0.2	0.1	1	1
30	ASD repair, Patch	0.1	0.1	1	1
	AVC (AVSD) repair, Intermediate (Transitional)				

White columns denote previous STAT Mortality Score and Category

Appendix C Updates Continued

Appendix C: The Society of Thoracic Surgeons - European Association for Cardio-Thoracic Surgery Congenital Heart Surgery Mortality Categories (STAT Mortality Categories) (March 1, 2022)
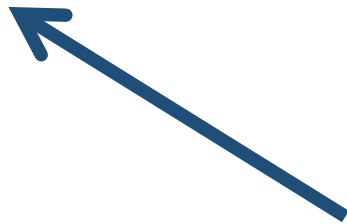
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30	ASD repair, Patch	0.1	0.1	1	1
	AVC (AVSD) repair, Intermediate (Transitional)				

Yellow columns denote <u>updated</u> STAT Mortality Score and Category

Appendix C Updates Continued

Procedure Harvest Code	Procedure Name	STAT Mortality Score	2020 STAT Mortality Score	STAT Mortality Category	2020 STAT Mortality Category
*2170	Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA)	2.5	2.7	4	5
5019	Pulmonary venous stenosis repair + ASD partial closure		2.8		5
*2180	Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA) + application of RPA and LPA bands	3.1	3	5	5
5030	Ebstein's repair + PDA closure, Surgical		3		5
5017	Damus-Kaye-Stansel procedure (DKS) (creation of AP anastomosis without arch reconstruction) + Shunt, Systemic to pulmonary, Modified Blalock-Taussig Shunt (MBTS)		3.2		5

Blue columns indicate fields for Version 6.22 (6.23) & cannot be used until surgery dates on or after version go live

Software Vendor Notes

- Currently vendors are not required to maintain STAT scores within software

- Those with STAT scores are not required to update scores between data versions

When updating primary procedures may not look correct in software

Updates to software come from the vendor

Primary Procedure Mismatch Report

Identifies if your entered Primary Procedure is following the STS rules for identifying the Primary Procedure

Recommended to update your procedures to match the report

Rules added overtime so Primary Procedure determination may change overtime

Primary Procedure Mismatch Report Updates

Update Implications:

- New mismatches for previous surgery years

- Recommended to update primary procedure mismatches
  - Refer to updated Appendix C

    https://www.sts.org/sites/default/files/Database%20Manuals/Appendix%20C%20-%202022_3.1.2022.pdf

Future Implications

Anticipate more changes with version upgrade:

-- Combination procedures with retrospective application
-- Version procedures

Scenario:

I now have 50 primary procedure mismatches in the Primary Procedure Mismatch Report.
Can this be true?

Yes

- The number of mismatches depends on your surgical program's procedures completed

Scenario:

I changed a procedure in a previous harvest and now it says to change it again. How do I handle this?

Update the mismatches

- Review the reason for mismatch:
  - STAT score update
  - New exception rule

- Update the primary procedure in your local software and resubmit your data file to IQVIA

Scenario:

My surgeon feels a different procedure is primary than what the Primary Procedure Mismatch Report lists. How do I handle this?

Educate the Surgeon

- Utilize resources:
  - CHSD rules for determining primary diagnosis/procedure
  - Appendix C
  - Send an FAQ to the Core Group

Know the correct procedure will still be analyzed but will not match your local data

Scenario:

How do I verify the Primary Procedure Report is correct?

Utilize your Resources

– CHSD rules for determining primary diagnosis/procedure

https://www.sts.org/sites/default/files/Database%20Manuals/Determination%20of%20Primary%20Diagnosis%20and%20Primary%20Procedure_3_14_2022.pdf

– Appendix C

https://www.sts.org/sites/default/files/Database%20Manuals/Appendix%20C%20-%202022_3.1.2022.pdf

– Send an FAQ to the Core Group

Scenario:

The Primary Procedure Mismatch report states a procedure without a STAT score is primary. Is this correct?

Remember what Updated

– There are existing procedures that now have an associated STAT Mortality Score and Category

– Vendor software may not have the STAT scores updated

Missing Data Clarifications - Analysis Report Overview

Fields Required for Mortality Analysis

If any listed fields missing, the case is excluded from all mortality analyses

– Date of admission
– Primary Diagnosis
– Primary Procedure

– Mortality status hospital DC
– Mortality status 30 days
– Mortality status database DC

And if >10% missing within the participant data file, the participant is excluded

And if >2% missing <u>per analysis year</u> within the participant data file, the participant is excluded

Mortality Eligibility Summary Report

Op Type 1 & 2 Case Eligibility Summary

Surgery Year	Surgical Date Range	Total Number of Records	Number of Ineligible Cases	% Missing or "Unknown"
2018	02 Jan 2018 - 27 Dec 2018	429	1	0.23
2019	02 Jan 2019 - 31 Dec 2019	395	0	0.00
2020	07 Jan 2020 - 31 Dec 2020	454	0	0.00
2021	04 Jan 2021 - 30 Jun 2021	241	0	0.00
Grand total		1519	1	0.07

Identifies missing thresholds for participant exclusion by year

Op Type 1 & 2 Case Eligibility Record Details

Data Ve...	Surg...	Ope...	Pati...	Ineligible or Eligible	Hospital Discharge Status	Database Discharge Status	30-day Status	Operation Type	Date of Admission	Access C...
3.3	2018	V34...	V34...	Ineligible			X			https://st...

Reports identify missing only – does not apply logic applied in the analysis (i.e., analysis exclusions)

Analysis Report Overview Clarified

- Thresholds for each surgical year in the analytic window must be met to be included in the mortality / risk adjusted analysis

Mortality Status at:

Database Discharge / Hospital Discharge / 30 Days after Surgery

01/01/18 – 12/31/18 Participant must have 2% or less missing /unknown for the mortality fields *AND*

01/01/19 – 12/31/19 Participant must have 2% or less missing /unknown for the mortality fields *AND*

01/01/20 – 12/31/20 Participant must have 2% or less missing /unknown for the mortality fields *AND*

01/01/21 – 12/31/21 Participant must have 2% or less missing /unknown for the mortality fields

Scenario:

For one of the 12 month periods in the analytic window I have 2.1% missing, however my overall missing is <2%. Will I still be excluded from the mortality analysis or receive a table 16?
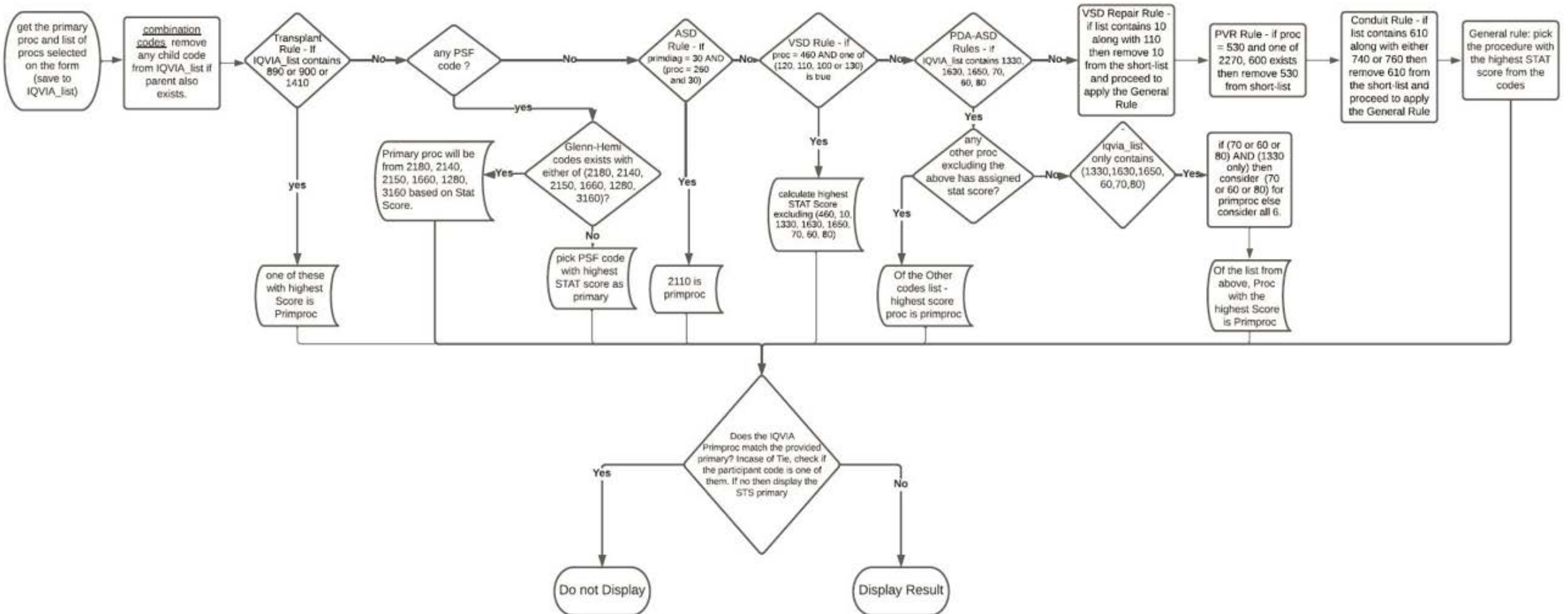
Mortality Exclusion: YES

- The % missing thresholds must be met for each year within the analytic window

- Refer to the Analysis Overview posted in the IQVIA Library

IQVIA Update
Melanie Bent

IQVIA Known Issues & Updates

Please access the Library to review the March 2022 Known Issues and Updates list in the platform for the related CHSD items.

The development team is reviewing additional items and will post an updated version for April 2022.

IQVIA Update

Please note: Submitted tickets are currently under review and the IQVIA support team will follow up on resolution and/or target release confirmation.

The IQVIA Team is currently reviewing items that will be released in an upcoming release. Those items will be posted to the Notifications section.

Analysis Report Questions

- Please contact IQVIA Support
  - chsdtechsupport@iqvia.com

- STS/DCRI will be looped in as needed when tickets are escalated to Tier 2

Contact Information

Leigh Ann Jones, STS National Database Manager, Congenital and General Thoracic

- Ljones@sts.org
- 312-202-5822

Database Operational Questions

- STSDB@sts.org

Upcoming CHSD Webinars

Monthly Webinar

- May 17@ 12pm CT

Upgrade Webinar

- April 19 @ 12pm CT

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!

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THANK YOU FOR JOINING!