STS National Database™

Trusted. Transformed. Real-Time.

Society of Thoracic Surgeons

Congenital Heart Surgery Database
Monthly Webinar

March 15, 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

- **March Training Manual available on STS website**

- **2021 Harvest Update**
  - Analysis results expected to be available mid-March
  - Coming Soon! Official STS Notification to be sent when available

- **Spring 2022 Harvest Update**
  - Official STS Communication sent Friday, February 18th

CHSD					
Harvest	Close	Opt-Out	Includes procedures performed through	Report Posting	Comments
Spring 2022	~~March 11~~ April 8	~~March 15~~ April 12	December 31, 2021	Summer 2022	
Fall 2022	September 16	September 20	June 30, 2022	Winter 2022	

STS Updates

- 6.22 Data Version Upgrade
    - Data Specs/Software specs to vendors
    - STS Vendor call held last week
    - Go Live date is under review – to be discussed at March TF Call
    - Upgrade webinars continue
    - Next webinar scheduled for Mar 22nd @ 12pmCT
        - Other Cardiac Precedures into Aorta

- Surgeon Upgrade Webinar
    - Thursday, March 17, 2022 @ 7pmET/6pmCT
    - Moderated by Drs. Jennifer Nelson and Ram Subramanyan
    - https://www.sts.org/meetings/calendar-of-events/new-stat-scores-new-patients-new-chsd-upgrade-webinar

STS Webinar Series — The Society of Thoracic Surgeons

March 17, 2022

7:00 p.m. ET/6:00 p.m. CT

New STAT Scores, New Patients, New CHSD: The Upgrade Webinar

The Congenital Heart Surgery Database (CHSD) continues to undergo improvements to enh
quality of care for patients. In this 1-hour webinar for CHSD participants, the panel will disc
the forthcoming upgrade to version 6.22 (scheduled for July 2022) and implementation of r
STAT scores. The webinar also will include a review of the brand-new Adults with Congenita
Heart Disease (ACHD) component. The surgeon leaders will discuss the goals for the ACHD
component, how data will be captured, and what the future holds in terms of risk assessme
for this rapidly growing population.

Join Webinar   Add Calendar Reminder

Chasity Wellnitz

CHSD Consultant/Core Group

Phoenix Children's Hospital

**It's all about
a data harvest…**

Discussion Topics

- Completion steps
  - Missing data
  - Data Validation
- Tips for success

Steps to Harvest

1. Complete local data set

2. Upload to IQVIA

Spring 2022 Analytic Window:

Surgical dates between 01/01/18 and 12/31/21
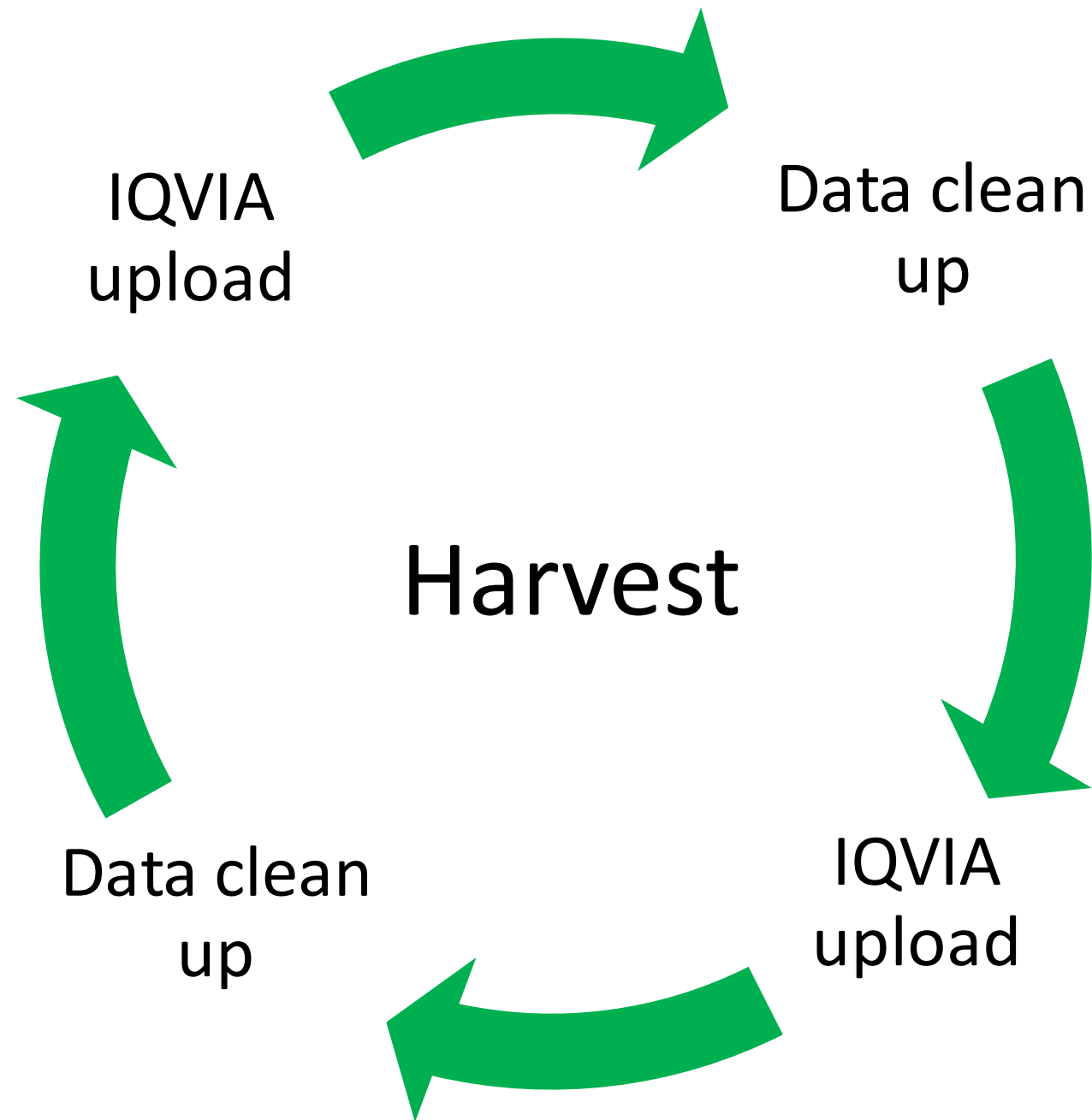
Steps to Harvest

1. Complete local data set

   ➡ Clean up / validate data set

2. Upload to IQVIA

   ➡ Clean up / validate data set

What is Data Clean up?

- Identify missing data

- Validate for data accuracy

Inaccurate data is useless data

Identify Missing Data

Operational Reports -

Missing Variable Report

↓

Enter date range

↓

Select all operations or
Index Only

Missing Variable Report

This report identifies important field-specific data quality issues that affect the complete
surgery year, short name and field name are shown for each issue to help you target an
in reports or risk-adjustment models.

Primary Procedure Mismatch and Mortality Eligibility Summary Report

The Primary Procedure Mismatch report will identify operation records where the prima
Warehouse. The Case Eligibility for Inclusion in Mortality Analysis report will provide us

Harvest Summary Report

This report will allow users to see the current status of system validations on all active r

CHSD Participant Dashboard Report

This participant dashboard report will display NON-ANALYZED data results for the con

CHSD Risk Adjusted Dashboard Report

The electronic CHSD Risk Adjusted Report includes analyzed harvest data results in pl
adjusted performance against the STS overall for the same time period.

Missing Data Continued

Prioritize data that will exclude the case from analysis

- mortality analysis

- case mix models

- benchmark ops

- lesion specific ops

Missing Variable Summary			
Shortname	Name	Missing %	N
ABLDGASMGT	ARTERIAL BLOOD GAS MANAGEMENT DURING C...	0	2/1042
AIRWAYINSITU	AIRWAY IN-SITU (ETT OR TRACHEOSTOMY) [3]	9	121/1420
AIRWAYSIZEINTUB	AIRWAY SIZE - ENDOTRACHEAL INTUBATION [3]	0	3/1276
AIRWAYTYPE	AIRWAY TYPE [3]	9	121/1420
ANESADVEVENT	ANESTHESIA ADVERSE EVENT [3]	10	137/1436
ANESADVEVENTINT	ANESTHESIA ADVERSE EVENT - ADDITIONAL IN...	11	10/92
APGARKNOWN	APGAR SCORES KNOWN	2	33/1817
ARTLINE	ARTERIAL LINE [3]	9	121/1420
BASEEXCESS	BASE EXCESS [3]	0	2/1204
BIRTHCIT	CITY OF BIRTH	3	35/1346
BIRTHCOUNTRY	COUNTRY OF BIRTH	0	3/1346
BIRTHHOSPTIN	BIRTH HOSPITAL TIN	11	96/894

Report Description:
Use this report to determine which variables are missing data for the date range selected.

Date Range: 01/01/2018 - 12/31/2021

All
Mortality
Anesthesia
Risk Model

Operation Type
☑ OPERATION TYPE 1 AND 2
☑ OTHER

Export

Use the filters to identify missing fields from specific analysis tables

Missing Data Continued

Identify patients with missing variables for mortality analysis

↓

Employ methods for completing fields

↓

Go back to software to update & reupload file to IQVIA

Mortality Data

Missing Data Continued

Operational Reports –

Mortality Eligibility Summary
Report

↓

Enter date range

↓

Use filters to identify ineligible
cases

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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

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)

Fields Required for Mortality Analysis

– Date of admission	– Primary procedure
– Date of surgery	– Mortality status hospital DC
– Operation type	– Mortality status 30 days
– Primary diagnosis	– Mortality status database DC

If any are missing, the case is excluded from all mortality analyses
***And* if >2% missing per year within the participant date file, the participant is excluded**

Fields Required for Risk Model Analysis

Mortality analysis fields plus the following:

– Preoperative factors	– # prior cardiothoracic operations
– Chromosomal abnormalities	– Prematurity (neonates/infants)
– Syndromes	– Age (date of birth)*
– Noncardiac congenital anatomic abnormalities	– Sex (male/female)*

If >10% missing, the participant is excluded from model analysis
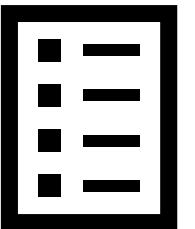
* If missing, case is excluded

Missing Data Continued

How do I maintain organization and minimize rework?

- Keep a working report or spreadsheet to organize

- Note: when you update data, need to re-upload to IQVIA to see changes; data updates will impact multiple reports

What if I cannot find the information to complete the fields?

- Missing thresholds will be applied upon analysis

- Cases or entire data set may be excluded from analysis

Tools for Identifying Data Accuracy

Missing Variable Report

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surgery year, short name and field name are shown for each issue to help you target ar
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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 (i.e., STAT score update, 3 new rules)

Primary Procedure Mismatch Report
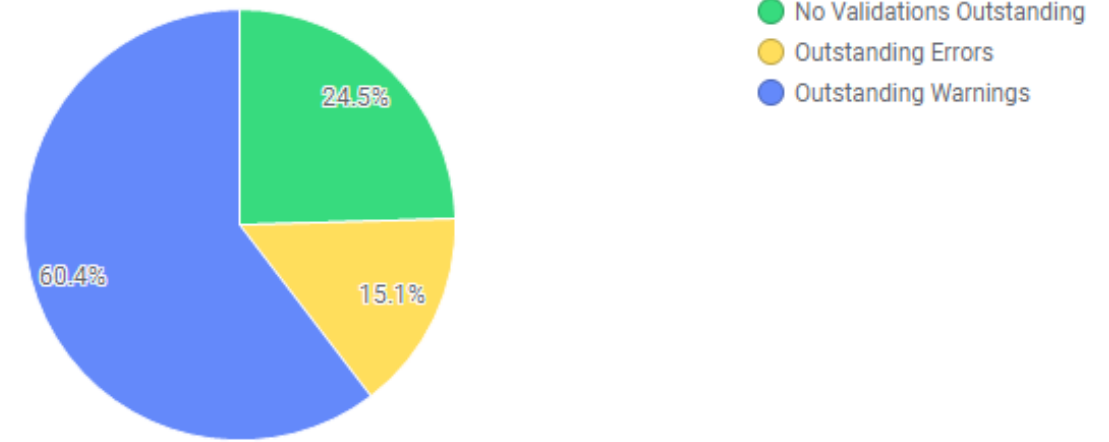
Primary Procedure Mismatch Summary

Surgery Year	Surgical Date Range	Total Count
2019	23 Oct 2019 - 12 Dec 2019	1
2020	22 Sep 2020 - 22 Sep 2020	1

Primary Procedure Mismatch Record Details

Data Version	Surgery Year	Ope...	Pat...	Participant Primary	Participant Primary Proc...	STS Primary	STS Primary Procedure Des...	Access Case
3.41	2019	V34...	V3...	110	VSD repair, Patch	150	Ventricular septal fenestrati...	https://sts.ir
3.41	2020	V34...	V3...	1150	Rastelli	140	VSD creation/enlargement	https://sts.ir

Harvest Summary Report

- Identifies data file Errors and Warnings
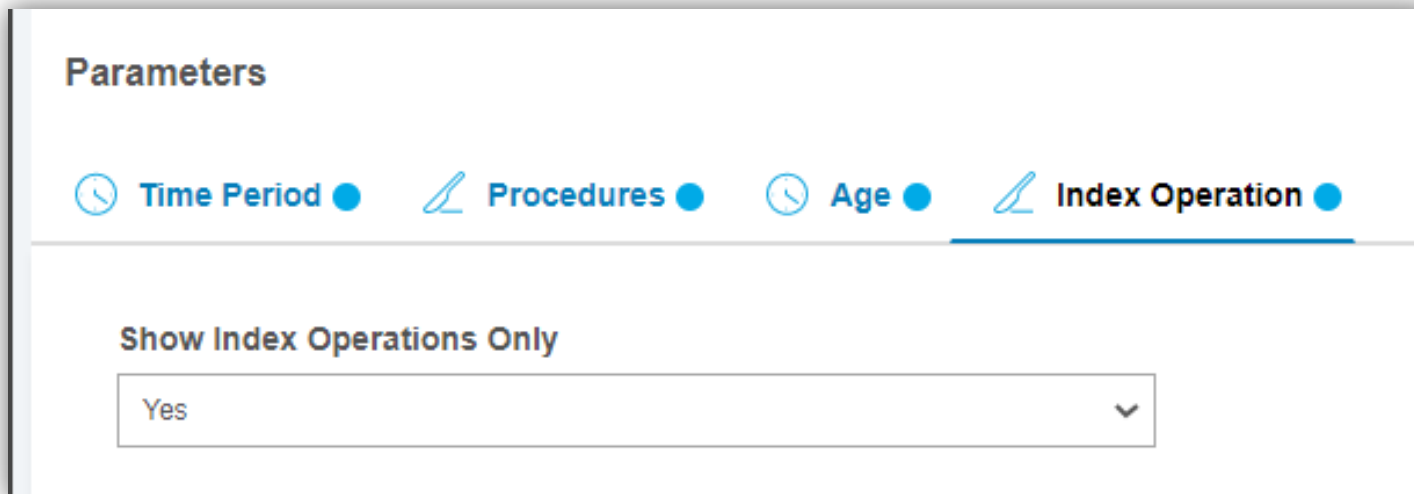
- Includes missing data

Submission Summary

- No Validations Outstanding
- Outstanding Errors
- Outstanding Warnings

24.5%
60.4%
15.1%

Record Level Validation

Validation Status	Ope...	Short Name	MESSAGE	Sourc...	Access (...
Warning	V34...	mt365stat	Status at 365 days after Surgery(4311) should be ent...	V342...	https://s
Warning	V34...	mt365stat	Status at 365 days after Surgery(4311) should be ent...	V342...	https://s
Warning	V34...	mt365stat	Status at 365 days after Surgery(4311) should be ent...	V342...	https://s
Warning	V34...	mt365stat	Status at 365 days after Surgery(4311) should be ent...	V342...	https://s
Warning	V34...	mt365stat	Status at 365 days after Surgery(4311) should be ent...	V342...	https://s
Warning	V34...	mt365stat	Status at 365 days after Surgery(4311) should be ent...	V342...	https://s

CHSD Participant Dashboard Report

Useful for data validation

- Can filter by index operation (not just op type 1 & 2)

Select index or all operations

Data Validation by Report

Admin/Demographics Report

- Identify Sex at birth = Ambiguous
- Number of cases submitted

Discharge/Readmission

- Mortality review

Tip:
Run for all and index operations when validating data

Validating Mortalities

Fields used to determine mortality:

– Mortality status at hospital discharge

– Mortality status at database discharge

– Mortality status at 30 days after the last cardiovascular surgical operation of the episode of care

Source: IQVIA Library - CHSD Analyses Overview
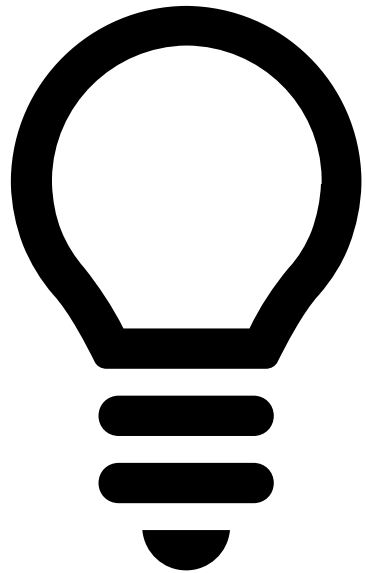Fields Used for Mortality Calculation

Validating Mortalities

DISCHARGE/READMISSION	NUMBER OF CASES	NUMBER OF CASES
MORTALITY STATUS AT HOSPITAL DISCHARGE:	ALIVE	
	DEAD	
	MISSING	
MORTALITY STATUS AT DATABASE DISCHARGE	ALIVE	
	DEAD	
	UNKNOWN	

STATUS AT 30 DAYS AFTER SURGERY:	ALIVE
	DEAD
	UNKNOWN
	MISSING

– Easiest to export tables into Excel

– Review each case marked as dead

Tips for Successful Harvest

– Do not wait until end of harvest to clean/validate data

– Consistent/organized approach

– Re-validate after changing local data and uploading data

IQVIA Update
Joe Brower

IQVIA Upcoming Report Enhancements

The below is currently under release review by the IQVIA development team. Release Timing: TBD

CHSD Primary Procedure Report

- **STS-7662** – Report update will be implemented to update the priority of transplants when done in conjunction with Rule 1 Exception codes

- **STS-7666** – Report update will be implemented to update to include a new rule to address PVR procedures.

- **STS-7667** – Report will be updated to include new STAT codes on the report

- **STS-7678** – Report will be updated to consider VSD repair patch (110) as the primary when the report identifies a tie with the PFO, Primary closure (100) when done in conjunction with the Valvuloplasty, Tricuspid (460)

IQVIA Upcoming Report Enhancements

The below is currently under release review by the IQVIA development team. Release Timing: TBD

CHSD Risk Adjusted Report

- **STS-7589** – Updates will be applied to Table 21 to remove results for VSD + Aortic Arch Hypoplasia and VSD + Coarctation of Aorta (1275 and 1285)

IQVIA Library Resources

The full list of CHSD known Issues are posted to the Library. Enhancements are still under review and will be updated once the list is finalized.

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

- March 15 @ 12pm CT

Upgrade Webinars

- February 22 @ 12pm CT
- March 1 @ 12pm CT
- March 8 @ 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!

![STS National Database™ — Trusted. Transformed. Real-Time.]

THANK YOU FOR JOINING!