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The Society of Thoracic Surgeons

Congenital Heart Surgery Database

December 16, 2025

Agenda

- Welcome and Introduction
- STS AQO Update
- STS Data Manager Education (Dr. Jim O'Brien, CHSD Workforce Chair)
  - Table 17: CHSD Morbidity Analysis
- Q&A

STS Updates

- December Training Manual posted

- Fall 2025 Harvest (Includes Surgery dates July 1, 2021 – June 30, 2025)
  - Results have been released to Participants
  - Email communication sent on 12/3/2025

- 2026 Harvest dates posted on STS website
  - Spring 26 Harvest closes March 27th
  - Fall 26 Harvest closes October 9th

AQO: Advances in Quality and Outcomes
A Data Managers Meeting

- AQO 2025
  - Attendees only – Content will be moved to the STS Learning Center
    - Access to all Power point slides, handouts, case scenarios and videos until AQO 2026
  - **Deadline to claim education credit is Friday, December 26, 2025**

- AQO 2026
  - New Orleans – Hilton New Orleans Riverside
  - Dates: **Wednesday, September 30 – Friday October 2, 2026**
  - Wednesday 9/30: Congenital and General Thoracic (main content)
  - Thursday 10/1: CHSD and GTSD Breakout Sessions (1/2 day)

Table 17 Participant Morbidity Analysis

RICHARD E. CLARK MEMORIAL PAPER FOR CONGENITAL HEART SURGERY · Volume 107, Issue 2, P583-589, February 2019

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Development of a Congenital Heart Surgery Composite Quality Metric: Part 1—Conceptual Framework

Sara K. Pasquali, MD, MHS [a] · David M. Shahian, MD [b] · Sean M. O'Brien, PhD [c] · ... · Kevin D. Hill, MD, MS [c] · John E. Mayer, MD [h] · Jeffrey P. Jacobs, MD [d,e] ... Show more

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Abstract

Background

Current pediatric and congenital heart surgery quality measures focus on operative mortality, and numerous stakeholders are interested in more comprehensive measures. This report describes the background, rationale, and conceptual framework related to the development of the first composite quality metric in the field.

Development of a Congenital Heart Surgery Composite Quality Metric: Part 1—Conceptual Framework - The Annals of Thoracic Surgery

RICHARD E. CLARK MEMORIAL PAPER FOR CONGENITAL HEART SURGERY · Volume 107, Issue 2, P590-596, February 2019

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Development of a Congenital Heart Surgery Composite Quality Metric: Part 2—Analytic Methods

Sean M. O'Brien, PhD [a] · Jeffrey P. Jacobs, MD [b,c] · David M. Shahian, MD [d] · ... · Kevin D. Hill, MD, MS [a] · John E. Mayer, MD [h] · Sara K. Pasqualli, MD, MHS [g] ... Show more

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Show Outline

Abstract

Background

We describe the statistical methods and results related to development of the first congenital heart surgery composite quality measure.

Methods

[Development of a Congenital Heart Surgery Composite Quality Metric: Part 2—Analytic Methods - The Annals of Thoracic Surgery]

Table 17 - Morbidity: Criteria for Inclusion

Component Morbidity	3.41 Field / Harvest Code (Complications)	6.23.2 Field / Harvest Code (PostOpEventsMulti)	
Renal failure requiring dialysis	230 / Renal failure requiring dialysis at discharge 223 / Renal failure requiring temporary dialysis 224 / renal failure requiring temporary hemofiltration	**POEAcRenFailDial**=1 / Requiring dialysis at the time of hospital discharge **POEAcRenFailDial**=2 / Temporary dialysis with no dialysis required at discharge **POEAcRenFailDial**=3 / Temporary hemofiltration with no dialysis	
Neurologic deficit at discharge	320 / Neurologic deficit at discharge	**POENeuroDefPAtDis** = 1 / Neurologic deficit present at discharge	
Arrhythmia requiring permanent pacemaker	74 / Arrhythmia necessitating pacemaker	74 / Arrhythmia necessitating pacemaker	
Paralyzed diaphragm/phrenic nerve injury	300 / Paralyzed diaphragm		only when associated w/ a diaphram plication
Mechanical circluatory support	40 / Postoperative/postprocedural mechanical circulatory support	40 / Postoperative/Postprocedural mechanical circulatory support	
Unplanned cardiac reoperation	22 / Unplanned cardiac reoperation 240 / Bleeding requiring reoperation	**POEReopRsn**=1 / Residual or recurrent lesion **POEReopRsn**=2 / Reoperation for bleeding or suspected bleeding	
Non-cardiac reoperation	26 / Unplanned noncardiac reoperation	**POENonCarReopRsn** = 1 / Diaphram plication **POENonCarReopRsn** = 2 / Thoracic duct ligation **POENonCarReopRsn** = 3 Bowel resection **POENonCarReopRsn** = 6 / Tracheostomy **POENonCarReopRsn** = 8 / Vascular surgery to repair fistula, pseudoaneurysms, or vessel disruptions	
Unplanned interventional cardiovascular catheterization	24 / Unplanned interventional cardiovascular catheterization	**POEUnpIntRsn** = 1 / Balloon dilation without stenting **POEUnpIntRsn** = 2 / Balloon dilation with stenting **POEUnpIntRsn** = 3 / Intracardiac or intravascular device placement (other than stent) **POEUnpIntRsn** = 7 / IR Lymphatic vessel occlusion	
Cardiac arrest	30 / Cardiac arrest	30 = Unexpected cardiac arrest	

Table 17: Morbidity Analysis

Participant Morbidity Analysis, Last 4 Years (Table 17)

Data in this table are for the four year analytic window of 07/01/2021 to 06/30/2025, inclusive.

	STAT Category	# Observed	# Eligible	% Observed	% Expected	Observed/Expected (95% CI)	AMR (95% CI)	STS
Neonates+ Infants+ Children+ Adults	All STAT Categories	75*	1241*	6.04%	11.61%	0.52 (0.42, 0.62)	6.55 (5.26, 7.85)	12.59%
	STAT Category 1	17*	653*	2.60%	5.58%	0.47 (0.27, 0.74)	2.77 (1.62, 4.40)	5.94%
	STAT Category 2	19*	274*	6.93%	11.79%	0.59 (0.36, 0.90)	7.40 (4.51, 11.33)	12.58%
	STAT Category 3	8*	122*	6.56%	17.57%	0.37 (0.16, 0.71)	7.06 (3.09, 13.47)	18.92%
	STAT Category 4	20*	143*	13.99%	24.76%	0.56 (0.35, 0.84)	14.69 (9.20, 21.81)	26%
	STAT Category 5	11*	49*	22.45%	37.82%	0.59 (0.31, 0.97)	25.08 (13.16, 40.92)	42.25%
Neonates+ Infants+ Children	All STAT Categories	72*	1211*	5.95%	11.71%	0.51 (0.40, 0.63)	6.51 (5.13, 8.14)	12.82%
	STAT Category 1	15*	631*	2.38%	5.64%	0.42 (0.24, 0.69)	2.44 (1.37, 3.99)	5.79%
	STAT Category 2	18*	270*	6.67%	11.80%	0.57 (0.34, 0.88)	7.17 (4.30, 11.11)	12.69%
	STAT Category 3	8*	119*	6.72%	17.41%	0.39 (0.17, 0.74)	7.15 (3.13, 13.63)	18.51%
	STAT Category 4	20*	142*	14.08%	24.74%	0.57 (0.36, 0.85)	14.87 (9.31, 22.08)	26.12%
	STAT Category 5	11*	49*	22.45%	37.82%	0.59 (0.31, 0.97)	25.11 (13.17, 40.96)	42.30%
Neonates+ Infants	All STAT Categories	46*	660*	6.97%	15.90%	0.44 (0.32, 0.58)	7.50 (5.54, 9.89)	17.12%
	STAT Category 1	4*	241*	1.66%	6.49%	0.26 (0.07, 0.65)	1.90 (0.52, 4.81)	7.43%
	STAT Category 2	11*	165*	6.67%	14.24%	0.47 (0.24, 0.82)	7.05 (3.57, 12.28)	15.06%
	STAT Category 3	4*	79*	5.06%	19.31%	0.26 (0.07, 0.65)	5.28 (1.46, 12.99)	20.13%
	STAT Category 4	16*	127*	12.60%	25.40%	0.50 (0.29, 0.77)	13.58 (7.95, 21.19)	27.39%
	STAT Category 5	11*	48*	22.92%	38.14%	0.60 (0.32, 0.98)	25.94 (13.62, 42.23)	43.16%
Neonates	All STAT Categories	28*	205*	13.66%	22.64%	0.60 (0.41, 0.85)	15.06 (10.23, 21.10)	24.97%
	STAT Category 1	1*	23*	4.35%	7.07%	0.61 (0.02, 3.10)	6.52 (0.16, 32.91)	10.60%


QUESTIONS

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

- 1/20/26 @ 12pmCT
- 2/17/26 @ 12pmCT

Contact Information

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