

OUR OUTCOMES – Texas Center for Pediatric and Congenital Heart Disease

The Society of Thoracic Surgeons (STS) collects data from more than 95% of the approximately 100 hospitals that perform congenital heart surgery in the US. Twice a year, the STS analyzes the data to help benchmark congenital cardiac programs. The data is risk-adjusted to account for the different characteristics of patients treated by a particular hospital (age, type of procedure, weight, prior cardiothoracic operations, prematurity, preoperative factors, non-cardiac congenital anomalies, and syndromes). The report provided includes data from the last 4 years (January 2019 – December 2022).

According to this report, Dell Children’s Medical Center’s observed mortality was, for the first time, significantly lower than the national benchmark. This designation is usually achieved by only 8-10% of congenital cardiac programs in the country.

	Observed mort #	Observed mort %	Expected mort %	O/E ratio (95% CI)	AMR (95% CI)	STS mortality %
All procedures	18/1089	1.65%	2.65%	0.62 (0.37, 0.98)	1.65 (0.98, 2.59)	2.64%
STAT 1	2/511	0.39%	0.66%	0.6 (0.07, 2.15)	0.38 (0.05, 1.38)	0.64%
STAT 2	4/269	1.49%	1.84%	0.81 (0.22, 2.05)	1.55 (0.42, 3.92)	1.91%
STAT 3	2/146	1.37%	3.36%	0.41 (0.05, 1.45)	1.43 (0.17, 5.06)	3.5%
STAT 4	4/133	3.01%	7.62%	0.39 (0.11, 0.99)	3.08 (0.85, 7.7)	7.8%
STAT 5	6/30	20%	18.52%	1.08 (0.42, 2.08)	15.9 (6.13, 30.66)	14.73%

HOW TO INTERPRET THE DATA

STAT categories are based on the expected mortality of different procedures. STAT 1 procedures are those expected to have the lowest mortality (e.g., ASD repair). STAT 5 procedures are those expected to have the highest mortality (e.g., Norwood procedure).

Observed mortality is the number of deaths that occur within 30 days or while a patient remains in the hospital after congenital heart surgery. *Expected mortality* is the number of deaths expected to occur in the hospital considering the unique case mix of that hospital.

The *observed-to-expected (O/E) ratio* is the number of observed deaths divided by the number of expected deaths.

- O/E >1: The hospital had **more deaths than expected** based on the actual case mix of that hospital.
- O/E <1: The hospital had **fewer deaths than expected** based on the actual case mix of that hospital.

The *95% confidence interval (95% CI)* provides a statistical range that represents a hospital's underlying true O/E ratio. If the numbers in the 95% CI:

- Are >1, the hospital has **higher than expected** mortality (lower than expected performance).
- Overlap with 1, the hospital is performing **as expected**.
- Are <1, the hospital has **lower than expected** mortality (higher than expected performance).

The *adjusted mortality rate (AMR)* is the rate that the hospital would have if the observed performance was applied to the overall case mix of the STS database. This allows for direct comparison to the observed STS mortality rate.

Dell Children’s observed mortality rate was 1.65%, 38% lower than what one would expect (2.65%). Since the 95% CI is below 1, the hospital had a statistically lower mortality than expected.