



MARYLAND
Health Care
Commission

Certificate of Ongoing Performance for Cardiac Surgery Services

THE UNIVERSITY OF MARYLAND
MEDICAL CENTER

MARCH 16, 2023



Staff Analysis and Conclusions

Summary of Standard	Applicant Information and Staff Analysis	Recommend Finding Hospital Complies with the Standard
Program shall participate in uniform data collection and reporting by participating in the STS-ACSD.	The hospital submitted all required data from January 2018 through June 2022.	Yes
The chief executive officer of the hospital shall certify upon request by the Commission that the hospital fully complies with each requirement for conducting and completing specified quality assurance activities.	The hospital provided a signed certification that it fully complies with the requirements for quality assurance activities.	Yes
Program shall demonstrate that it has taken appropriate action in response to concerns identified through its quality assurance processes.	The hospital conducted quality assurance through its monthly cardiac surgery service quality improvement meetings and provided information about actions taken in response to quality concerns identified.	Yes

Table 1: UMMC's Cardiac Surgery Volume, Isolated CABG Volume, and Composite STS Star Ratings for CABG, by Reporting Period



Reporting Period	Composite Star Rating ¹	Total Isolated CABG Cases Included ²	Total Cardiac Surgery Volume ³	Estimated Percentage of Cardiac Surgery Cases Included in CABG Star Rating
Jan 2018 - Dec 2018		326	911	35.8%
Jul 2018 - Jun 2019		331	894	37.0%
Jan 2019 - Dec 2019		330	920	35.9%
Jul 2019 - Jun 2020		297	846	35.1%
Jan 2020 - Dec 2020		278	812	34.2%
Multi-year Comparisons				
Jul 2018 - Jun 2021		926	2,593	35.7%
Jan 2019 - Dec 2021		929	2,491	37.3%
Jul 2019 - Jun 2022		911	2,405	37.9%

Source: MHCC compilation of information submitted by UMMC and analysis of HSCRC discharge data.

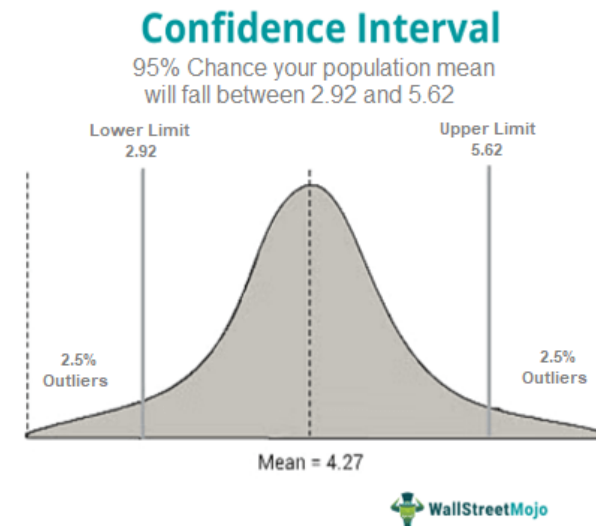
Performance Standard for Maryland Cardiac Surgery Programs



A hospital with an all-cause 30-day risk-adjusted mortality rate for a specific type of cardiac surgery case, such as CABG, that exceeds the **national average** beyond the acceptable margin of error calculated for the hospital by the Commission is subject to a focused review.

The acceptable margin of error is the 95 percent confidence interval calculated for the hospital's all-cause 30-day risk-adjusted mortality rate for a specific type of cardiac surgery case.

COMAR 10.24.17.07B(5)(b)

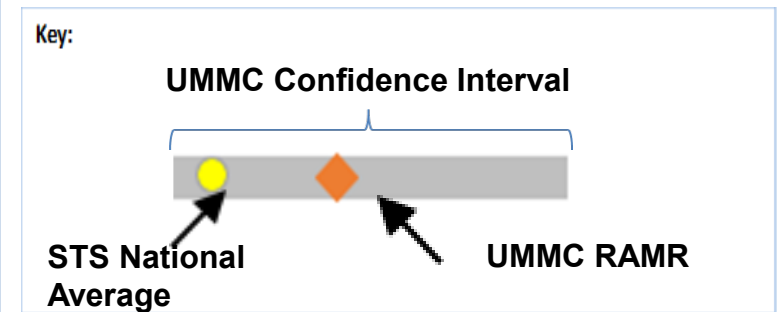
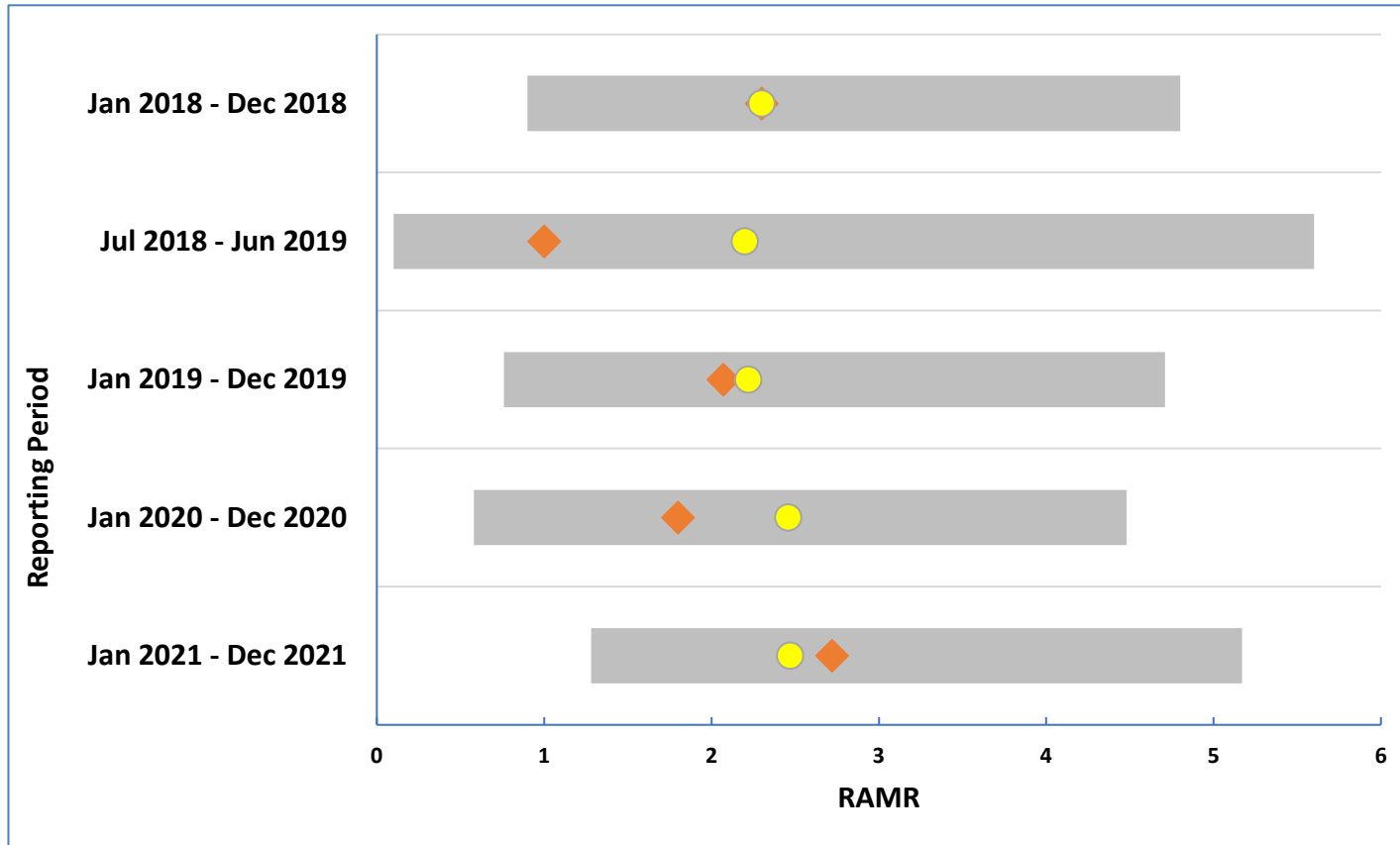




Confidence Interval

- Is a range of values that describe the uncertainty around an estimate.
- When the population described by a confidence interval is large, there is less uncertainty, and the confidence interval includes a smaller range of values.
- For Maryland cardiac surgery programs, the population described in the performance metric used by MHCC is a hospital's 30-day risk adjusted mortality rate for isolated CABG cases.
- The 95 percent confidence interval that is used to evaluate cardiac surgery hospitals in Maryland, is most accurately interpreted to mean that if the performance of a hospital for isolated CABG cases was measured 100 times, 95 of those times, the hospital's performance would be within the calculated confidence intervals, and five times the hospital's performance would be either higher or lower than the range of the confidence interval.

Figure 1: All-Cause 30-Day Risk-Adjusted Mortality Rates (RAMR) for Isolated CABG: UMMC Compared to the National Average for All Cardiac Surgery Programs by Reporting Period





Source: MHCC staff compilation of STS reports provided directly to MHCC.



Interpretation of a Cardiac Surgery Program's Performance

- If the confidence interval (CI) for the hospital's performance includes the national benchmark, as shown here:



- The hospital's performance on isolated CABG cases is similar to the national average AND
 - Does not differ by a statistically significant degree from the national average
- If the CI for the hospital's performance does not include the national average because the national average is higher than the high-end of the CI, as shown here: 
 - The hospital's performance on isolated CABG cases is better than the national average AND
 - Is statistically significantly better than the national benchmark
- If the CI for the hospital's performance does not include the national average because the national average is lower than the low-end of the CI, as shown here: 
 - The hospital's performance on isolated CABG cases is worse than the national average AND
 - Is statistically significantly worse than the national benchmark



Interpretation of a Cardiac Surgery Program's Performance

- Cardiac surgery programs provide a range of different types of surgery, and performance for a single type of cardiac surgery (isolated CABG) is not indicative of how well the hospital performs other types of cardiac surgery.
- Due to the uncertainty regarding the precise performance of a cardiac surgery program, it is not appropriate to try and rank programs.



Staff Analysis and Conclusions

Summary of Standard	Applicant Information and Staff Analysis	Recommend Finding Hospital Complies with the Standard
The hospital shall maintain an STS-ACSD composite score for isolated CABG cases of two stars or higher.	The hospital received ratings of two stars for all reporting periods between January 2018 and June 2022.	Yes
Maintain a hospital all-cause 30-day risk-adjusted mortality rate for CABG cases that is consistent with high quality care.	The hospital's risk-adjusted mortality rate for isolated CABG cases was similar to the national average in all reporting periods; it did not statistically significantly differ from the national average for STS registry participants.	Yes
Program shall maintain an annual volume of 200 or more cases.	The hospital performed 852 cardiac surgery cases in FY 2018, 831 cases in FY 2019, 794 cases in FY 2020, 852 cases in FY 2021 and 717 cases for FY 2022.	Yes

Analysis and Conclusions

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Recommendation

The Executive Director of the Maryland Health Care Commission recommends that the Commission issue a Certificate of Ongoing Performance that permits The University of Maryland Medical Center to continue providing cardiac surgery services for the next four years.