MCSQI Annual Report | 2018

The Maryland Cardiac Surgery Quality Initiative's (MCSQI) Annual Report is a confidential report detailing the activities and achievements of MCSQI. It is intended for use by physicians, administrators, data managers and the cardiac surgery community for development and evaluation of quality improvement plans.

The source of statewide outcome metrics and calculations are from the MCSQI data warehouse. MCSQI member hospitals submit Society of Thoracic Surgeons (STS) Adult Cardiac Surgery data on a quarterly basis. STS exclusion criteria and Observed-to-Expected recalibration coefficients are applied.

All data in this report is protected from disclosure pursuant to the provisions of Maryland statutes as may be applicable.

Unauthorized disclosure or duplication is absolutely prohibited.

Comments and questions may be directed to:

Terri Haber, MPH
Executive Director
thaber@mcsqi.org
443.605.4432

Diane Alejo
MCSQI Co-Founder, Executive Committee
dalejo@jhmi.edu
410.302.1483

Clifford Edwin Fonner
Director of Analytics
cefonner@gmail.com
913.909.3140

https://mcsqi.org

Table of Contents

Letter from the Chairman of the Board

Dear Colleagues,

Paul Massimiano, MD
Washington Adventist Hospital

Now in our fifth year of operation, The Maryland Cardiac Surgery Quality Initiative continues to focus on our primary goal of improving clinical quality in Maryland's ten cardiac surgery programs. In our rapidly changing field, with nearly continuous technology driven innovations, the need for rigorous outcomes analyses has become ever more critical. Serious questions arise daily: what are the short and long-term results of what we do? Is the latest technology really better, and how do we know? Does the cost benefit ratio make sense? Are we really finding the solution that the patient wants? Just to name a few. Our mission is to ask the right questions and seek the answers.

The ability to track state wide metrics, disseminate the information in a real-time peer to peer fashion, and use the data to identify and promulgate best practices is the hallmark of our collaborative effort and the way in which we seek these answers. Through our committee meetings, research projects and quality initiatives we hope to improve the lives of our patients here in Maryland as well as to share our findings with the national and international cardiac community. This year we have had two papers accepted for oral presentation at the Society of Thoracic Surgeons (STS), truly an international audience, which is a tribute to the hard work of the Research and Writing Committee and all of our member programs.

Just as important as our clinical work is our collaboration with the Maryland Health Care Commission (MHCC) as together we pursue our mutual interests in assuring quality and in controlling cost. The MHCC has given to us the enormous privilege of letting our voice be heard in helping to establish the kinds of thoughtful regulatory oversight of our specialty that is mandated by the state and welcomed by our organization. Our efforts to help the MHCC define the components of cardiac surgery and to establish guidelines for the evaluation of our programs under the Certificate of Ongoing Performance are recent examples of our work together. Our current effort to link quality and cost data from the STS and Health Services Cost Review Commission (HSCRC) respectively promises to be a major step forward in our cost containment strategy.

In this annual report I hope you will find not only interesting and compelling data, but also the spirit of cooperation among our various stakeholders and the sincere desire to help improve the lives of our patients…in other words, the spirit that got us all into this field in the first place!

Paul Massimiano, MD
MCSQI Chairman of the Board

MCSQI Overview

The goal of the Maryland Cardiac Surgery Quality Initiative (MCSQI) is to improve clinical quality in the state's cardiac surgery community through outcomes analysis and process improvement. MCSQI serves as a peer-to-peer value exchange whose work promotes the adoption of evidence-based best practices, ensures fair and accurate reports and enhances healthcare policies.

Our group endorses the spirit and intent of the Maryland Health Care Commission's (MHCC) legislative charge to improve oversight and maintain high performance standards in Maryland hospitals' cardiac programs.

***Improve Quality and Control Costs*:** MCSQI members collaborate to analyze hospital processes, work to identify opportunities for improvement and help implement relevant best practice protocols.

***Enhance Communications*:** MCSQI serves as the interface to communicate process of care information between member sites, eliminating decision making in silos and connecting clinical teams.

***Inform MHCC Policy*:** MCSQI helps establish a voice within the state's healthcare legislation by providing MHCC committees and staff with ways to define and assess cardiac surgery performance.

Organizational Components

MCSQI is a non-profit consortium supported by all ten hospitals that perform cardiac surgery in the state of Maryland. The organization provides value to its stakeholders by improving the quality of care through data analysis and implementing best practice protocols led by the Board of Directors, Quality Committee and Research and Writing Committee.

***Communications, Meetings and Outreach*:** MCSQI's network of surgeons, data managers and clinical teams fosters statewide collaboration through in-person meetings, conference calls and site visits. Through dynamic communication MCSQI informs, motivates, builds trust and increases transparency; consequently, helping our quality improvement consortium affect meaningful organizational change.

***Benchmarking and Reporting*:** MCSQI focuses on selecting quality indicators, establishing baseline data, designing scorecards, addressing privacy and confidentiality and using providers' commentary as context to better understand trends and variations. Data managers convene regularly to standardize coding practices, allowing for timely, sound and accurate interpretations of cardiac surgery performance reports.

***Quality and Cost Improvements*:** Identification of statistically significant performance variances based on quarterly analysis of key clinical indicators have resulted in the development of MCSQI best practice guidelines. Involvement in the analysis process and implementation of practice guidelines has improved individual hospital outcomes. As a group, members analyze and compare performance data, share clinical protocols, develop recommended guidelines, and provide quality assessment tools.

MCSQI Overview

***Regulatory / MHCC Policy Engagement*:** Informative and timely updates to MCSQI members about proposed MHCC projects, regulatory changes and comment periods are provided. MCSQI works collaboratively with MHCC and submits consensus recommendation statements representing all 10 cardiac surgery programs to both MHCC and the Maryland Hospital Association. Specific consensus statements and contributing results include:

- **Revisions to COMAR 10.24.17: State Health Plan Chapter for Cardiac Surgery and Percutaneous Coronary Intervention Services to ensure meaningful, accurate and fair Certificate of On-going Performance metrics and quality assessment components.**
- **Determination and revision of ICD-9 /10 procedure codes for defining cardiac surgery.**
- **Exclusion of four specific Potentially Preventable Complications (PPC) for cardiac surgical APR-DRGs under the Maryland Hospital Acquired Condition's Program.**
- **Successful linking of STS data with Health Services Cost Review Commission (HSCRC) charge data; thus, establishing a foundation for future projects focused on correlation of charges/costs to outcomes / quality performance.**

***Enhanced Communication / Education for Members*:** Focused board and committee meeting participation provides the opportunity for physicians, advance practice providers, nurses, data managers, administrators and others to analyze and discuss performance data on a monthly basis, and determine best practices. Semi-annual in-person meetings are held that include outside speakers and workshops for physicians, data managers, and perfusionists.

***Expansion to Multi-disciplinary Collaboration*:** MCSQI has expanded participation involvement to include cardiac anesthesiologists, perfusionists, cardiac rehabilitation specialists, and interventional cardiologists. A multi-disciplinary approach expands opportunity for quality improvement through enhanced coordination and delivery of value-based care. This approach also provides opportunities to collaborate with payers.

***Research and Writing Publications*:** Over 15 research posters, manuscripts, and presentations have been presented at national surgical society meetings. In addition to MCSQI's Director of Analytics, a biostatistician is contracted to assist MCSQI with committee-approved quality research projects and publications.

***Regional and National Collaboration*:** MCSQI has entered into formal agreements and projects with other cardiac quality consortiums such as the Virginia Cardiac Services Quality Initiative and the National Cardiac Surgery Quality IMPROVEment Network that represents seven regional collaboratives.

Summary

Since 2013, MCSQI has brought surgeons, data managers and hospital administrators together to compare data, share best practices, perform outcome analyses and implement process improvements. MCSQI is becoming a trusted, credible leader building a culture of continuous quality improvement in the cardiac surgery community. Benefits include reduced costs, enhanced clinical effectiveness, increased accountability, fewer regional variations and stronger alliances between heart team members.

Organizational Model

Membership

- Member Hospitals
- MHCC

Administration

- Board of Directors
- Executive Director
- Data Managers
- Biostatistician

Committees

- Quality
- Research & Writing
- Regulatory
- Workgroups: Perfusion Anesthesia

Quality Committee

The Quality Committee, formally established in March 2014, is tasked with managing MCSQI's quality improvement agenda. Membership is comprised of clinicians at all ten MCSQI hospitals, including: surgeons, data managers, intensivists, pulmonologists, nurse practitioners and members of the cardiovascular team. During monthly conference calls the Quality Committee examines hospitals' clinical data from the statewide STS registry correlating results with practice variation.

Identification of statistically significant performance variances based on quarterly analysis of key clinical indicators have resulted in the development of MCSQI best practice guidelines. Involvement in the analysis process and implementation of practice guidelines has improved individual hospital outcomes. As a group, members analyze and compare performance data, share clinical protocols, develop recommended guidelines, and provide quality assessment tools.

Quality Committee Highlights:

<table>
<tr><td rowspan="4">Early Extubation / Prolonged Ventilation</td><td>MCSQI Rates (Unadjusted)</td><td>2013 CAB Only</td><td>2017 CAB Only</td></tr>
<tr><td>Early Extubation ↑</td><td>40%</td><td>61%</td></tr>
<tr><td>Prolonged Ventilation ↓</td><td>9.5%</td><td>7.0%</td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td rowspan="3">Blood Utilization</td><td>Intra-operative Blood Transfusion ↓</td><td>39%</td><td>25%</td></tr>
<tr><td>Post-operative Blood Transfusion ↓</td><td>34%</td><td>31%</td></tr>
<tr><td>Any Blood Transfusion ↓</td><td>55%</td><td>42%</td></tr>
<tr><td>Maryland Hospital-Acquired Conditions (MHACs) / Potentially Preventable Complications (PPCs)</td><td colspan="3">Consensus Statement to the Maryland Hospital Association requesting elimination of six MHACs from Cardiac Surgery. Four approved*.
<table>
<tr><th>MHAC</th><th>Note: Recommendations apply to Cardiac Surgery Services Only</th></tr>
<tr><td>3*</td><td>Acute Pulmonary Edema and Respiratory Failure without Ventilation</td></tr>
<tr><td>8*</td><td>Other Pulmonary Complications</td></tr>
<tr><td>9*</td><td>Shock</td></tr>
<tr><td>14</td><td>Ventricular Fibrillation / Cardiac Arrest</td></tr>
<tr><td>40*</td><td>Post-Operative Hemorrhage & Hematoma without Hemorrhage Control Proc. or I&D Proc.</td></tr>
<tr><td>41</td><td>Post-Operative Hemorrhage & Hematoma with Hemorrhage Control Procedure or I&D Proc.</td></tr>
</table></td></tr>
<tr><td>MCSQI Statewide TVT Survey</td><td colspan="3">Practice assessment of TAVR programs. Proposed aggregation of statewide TAVR Registry data for quality improvement and research.</td></tr>
<tr><td>HSCRC / MCSQI STS Data Linking</td><td colspan="3">MCSQI and MHCC collaboration: HSCRC financial data set linked to MCSQI STS data set with a 97% Match Rate!</td></tr>
<tr><td>Enhanced Recovery After Cardiac Surgery (ERACS)</td><td colspan="3">Special Lecture, Guest Speaker: Michael Grant, MD:
Opportunities to learn and leverage a systematic ERACS model for performance improvement.</td></tr>
<tr><td>Atrial Fibrillation Task Force</td><td colspan="3">Statewide review of A-Fib protocols and STS A-Fib rates.
A-Fib practice survey (100% response rate among adult cardiac surgeons).
Atrial Fibrillation Workshop scheduled for 2018 MCSQI Fall Meeting.</td></tr>
<tr><td>Perfusion Task Force</td><td colspan="3">Perfusion Workshop – 2018 MCSQI Fall Meeting:
Perfusion team launches quality-driven measures and goal-directed strategies for process improvement.</td></tr>
<tr><td>MCSQI Statewide Quality Assessment Tool</td><td colspan="3">MCSQI Quality Assessment Tool (One Year Follow-up Survey) assesses the tenets of quality within the ten cardiac surgery programs in Maryland.</td></tr>
</table>

Research and Writing Committee

In August 2015, the MCSQI Board of Directors voted to formally establish a committee tasked with overseeing and developing a research and publication process. This Research and Writing Committee is chaired by Dr. Niv Ad of Washington Adventist Hospital. The group officially reviews and approves proposals for research.

In 2018 MCSQI welcomed Dr. Sari Holmes, our new Biostatistician. Dr. Holmes brings a wealth of experience in analyzing STS data and conducting cardiovascular research.

MCSQI Research and Writing Committee members are excited for the opportunity to impact quality improvement and research on a regional and national level. To date, MCSQI has nine posters, four published manuscripts, and three national podium presentations, with two abstracts accepted for presentation at the 2019 STS Annual Meeting. **Refer to page 21 for a complete list of posters, presentations, and manuscripts.**

2018 MCSQI Presentations:

Variation in Platelet Transfusion Practices during Cardiac Operations among Centers in Maryland: Results from a State Quality-Improvement Collaborative
Society of Thoracic Surgeon (STS) 54th Annual Meeting

Bilateral Internal Mammary Artery Utilization in Diabetics: Friend or Foe?
Society of Thoracic Surgeon (STS) 54th Annual Meeting

Recent Antiplatelet Therapy Does Not Affect Short Term Outcomes Following Non-CABG Cardiac Surgery
Southern Thoracic Surgical Association (STSA) 65th Annual Meeting

Research and Writing Committee

2018 MCSQI Poster Presentations:

Off-Pump Coronary Artery Bypass in Octogenarians: Results of a Statewide, Matched Comparison

Alejandro Suarez-Pierre[1] (asuarez8@jhmi.edu) , Todd C Crawford[1], Charles D Fraser III[1] , Xun Zhou[1], Cecillia Lui[1], Diane Alejo[1], Clifford E Fonner[2], Christopher C Kwon[3], Bradley Taylor[4], Kurt Wehberg[5], John V Conte[6], Michael Fiocco[7], Glenn J Whitman[1], and Rawn Salenger[4] on behalf of the MCSQI collaborators

1. Division of Cardiac Surgery, Department of Surgery, Johns Hopkins University School of Medicine, Baltimore, MD
2. Maryland Cardiac Surgery Quality Initiative, Baltimore, MD
3. Division of Cardiac Surgery, Sinai Hospital of Baltimore, LifeBridge Cardiovascular Institute, Baltimore, MD
4. Division of Cardiac Surgery, Department of Surgery, University of Maryland School of Medicine, Baltimore, MD
5. Division of Cardiac Surgery, Peninsula Regional Medical Center, Salisbury, MD
6. Division of Cardiac Surgery, Penn State College of Medicine, Hershey, PA
7. Division of Cardiac Surgery, MedStar Union Memorial Hospital, Baltimore, MD

Objectives

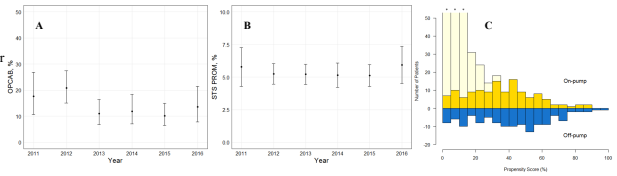
- Coronary artery bypass (CAB) may be safely performed in the elderly while providing satisfactory long-term survival benefits
- Reports suggest that certain groups benefit from OPCAB; especially women, those with renal failure, and high-risk profiles
- We sought to understand whether octogenarians could attain a similar benefit
- Hypothesis: octogenarians may benefit from avoiding CPB and cardioplegic arrest

Methods

- Patients ≥ 80 years (octogenarians) undergoing isolated CAB from July 2011 to July 2016 in the state of Maryland
- 926 octogenarians were dichotomized into on-pump CAB (ONCAB, n=798) versus off-pump (OPCAB, n=128)
- We calculated a score to predict propensity of being assigned to OPCAB among 36 preoperative factors (c-statistic=0.89)
- 128 pairs were matched (1:1) using nearest-neighbor principle
- Primary outcomes:
  - Operative mortality
  - Completeness of revascularization = total grafts / diseased vessels
- Secondary outcomes:
  - Length of stay
  - Discharge pathways
  - Occurrence of major complications

Results

- OPCAB was performed in 14% of octogenarians
- Overall, the majority of patients were male (64%), had hypertension (91%), and 3-vessel coronary disease (80%)
- Mean STS predicted risk of mortality was 5% and overall operative mortality was 4.5% (O/E ratio=0.9)
- Factors associated with OPCAB were female sex, African American race, diffuse aortic calcification, liver disease, renal replacement therapy, and fewer diseased coronary vessels (all *p-values* ≤ 0.01)
- Matching yielded 128 pairs with adequate balance (all SMD < 0.20) within a comprehensive spectrum among possible scores (**Figure C**)
- There was no difference in operative mortality after matching (p=0.36)
- Rates of complications and discharge pathways were similar between groups
- OPCAB patients has a lower revascularization ratio (0.92 vs 1.15, p<0.01), mostly from a lower number of vein grafts (median 1 vs 2 grafts, p<0.01)



Legend: [A] Percentage of OPCAB with 95% CI in relation to all CAB by year of operation. [B] STS PROM with 95% CI by year of operation. [C] Mirrored histogram illustrating the distribution of propensity scores for CAB (in yellow; above zero-line) and OPCAB (in blue; below zero-line). Dark area represents matched pairs, demonstrating a comprehensive spectrum obtained through the matching algorithm. *Censored bars; y-axis fitted to focus on matched pairs.
CAB, coronary artery bypass; *CI*, confidence intervals; *OPCAB*, off-pump CAB; *PROM*, predicted risk of mortality.

Disclosures: The authors have no relevant financial disclosures or conflicts of interest to report

Comparisons Between Matched Pairs	ONCAB n = 128	OPCAB n = 128	p-value
Outcomes			
Operative mortality, n (%)	4 (3)	7 (6)	0.36
Stroke, n (%)	3 (2)	0	0.08
Prolonged length of stay (>14d), n (%)	11 (9)	5 (4)	0.12
ICU length of stay (hours), median (IQR)	41 (23-71)	29 (22-54)	0.09
30-day hospital readmission, n (%)	7 (6)	11 (9)	0.33
Discharge pathway, n (%)			0.49
Home	44 (34)	45 (35)	
Transition/extended care	74 (58)	66 (52)	
Inpatient facility	6 (5)	10 (8)	
Deceased	4 (3)	7 (6)	
Operative results			
Operative time (min), median (IQR)	194 (166-232)	158 (140-179)	< 0.01
In-room time (min), median (IQR)	264 (237-308)	232 (208-260)	< 0.01
Use of any blood products, n (%)	80 (63)	42 (33)	< 0.01
Use of pRBC, n (%)	73 (57)	34 (27)	< 0.01
Revascularization ratio, mean ± SD	1.15 ± 0.33	0.92 ± 0.41	< 0.01
Distal graft types, median (IQR)			
Arterial	1	1	0.50
Venous	2 (1-3)	1 (0-2)	< 0.01
Total	3 (2-4)	2 (1-3)	< 0.01
Graft use, n (%)			
Left IMA	114 (89)	124 (97)	0.01
Right IMA	5 (4)	1 (1)	0.10

ICU, intensive care unit; IMA, internal mammary artery; IQR, interquartile range; pRBC, packed red blood cells; SD, standard deviation.

Limitations

- Inherent selection bias must be considered from retrospective study design
- Intention-to-treat and patient crossover are lacking
- Long-term survival and surgeon effect could not be addressed
- Potential for unrecognized miscoding of data

Conclusions

- OPCAB did not offer a survival benefit to octogenarians after matching
- Furthermore, OPCAB was associated to inferior completeness of revascularization
- ONCAB should continue to be considered the standard of care for this patient population

Presented at the Society of Thoracic Surgeons (STS) 54th Annual Meeting; January 27-31, 2018

Contemporary Outcomes Comparing Mitral Valve Repair and Replacement in the Elderly in a Large Statewide Registry

Xun Zhou[1], Charles D Fraser III[1], Alejandro Suarez-Pierre[1], Cecillia Lui[1], Juan A Sanchez[2], Bradley S Taylor[3], John V Conte[4], and Kaushik Mandal[1] on behalf of the Maryland Cardiac Surgery Quality Initiative
[1]Johns Hopkins Hospital, [2]Saint Agnes Hospital, [3]University of Maryland Medical Center, [4]Penn State Hershey Medical Center

Objective

- Mitral valve repair (MVP) is associated with better survival than replacement (MVR) in elderly patients
- Postoperative complications have not been well characterized

Methods

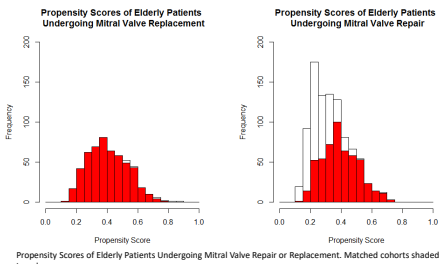
- Retrospective of the Maryland Cardiac Surgery Quality Initiative (MCSQI) database.
- Patient selection:
  - 1,601 patients undergoing mitral valve surgery between 2011 and 2016
  - Classified by age (greater or less than 65) and type of operation (MVP vs MVR)
- Outcomes:
  - Primary: 30-day mortality
  - Secondary: Society of Thoracic Surgery (STS) reported complications
- 1:1 propensity score matching
  - Age greater or less than 65 (1.017 pairs)
  - MVP and MVR in elderly patients (519 pairs)
- Multivariate linear and logistic regression

Results

- Of 1,601 elderly patients (age>65), 36.7% underwent MVP

Characteristics of Elderly Patients Undergoing Mitral Valve Surgery

	Replace	Repair	P-value
Risk Factors			
Hypertension (%)	0.84	0.76	<0.001
Diabetes (%)	0.33	0.21	<0.001
CHF (%)	0.58	0.50	<0.001
STS predicted morbidity (%)	0.40	0.23	<0.001
STS predicted mortality (%)	0.09	0.04	<0.001
Valve Characteristics			
Mitral regurgitation severity (0-5)	3.37	3.69	<0.001
Mitral stenosis	0.33	0.03	<0.001
Valve area (cm²)	1.19	1.95	0.022
Valve gradient (mmHg)	12.72	8.65	0.025



Propensity Scores of Elderly Patients Undergoing Mitral Valve Repair or Replacement. Matched cohorts shaded in red

Multivariate Logistic Regression of Outcomes

Outcome	Estimate		Odds Ratio (95% Confidence Interval)	P-value
	Repair	Replace		
30-day mortality	4.2%	9.5%	0.57 (0.33 - 0.98)	0.04
Surgical site infection	2.2%	1.8%	1.59 (0.64 - 3.95)	0.31
Sternal wound infection	0.3%	0.2%	1.35 (0.07 - 23.8)	0.84
Pneumonia	5.1%	7.4%	0.74 (0.41 - 1.35)	0.34
Sepsis	2.2%	4.2%	0.58 (0.24 - 1.36)	0.21
Stroke	3.0%	3.5%	0.81 (0.33 - 1.98)	0.66
Acute renal failure	7.0%	12.2%	0.75 (0.44 - 1.28)	0.30
Atrial fibrillation	54.6%	43.5%	1.41 (1.03 - 1.91)	0.03
Prolonged intubation	28.7%	41.2%	0.77 (0.55 - 1.06)	0.12
Readmission	9.5%	13.9%	0.86 (0.52 - 1.43)	0.58

- MVP was associated with decreased rates of 30-day mortality
- MVP was associated with increased risk of atrial fibrillation
- Mean cardiopulmonary bypass time was longer for MVR

Limitations

- Retrospective analysis
- Limited information regarding left atrial dimension

Conclusions

- In the elderly, mitral valve repair is associated with lower risk of mortality, even after risk adjustment
- Increased risk of atrial fibrillation warrants further investigation

Presented at the Heart Valve Society Scientific Meeting; April 12-14, 2018

Data Manager Committee

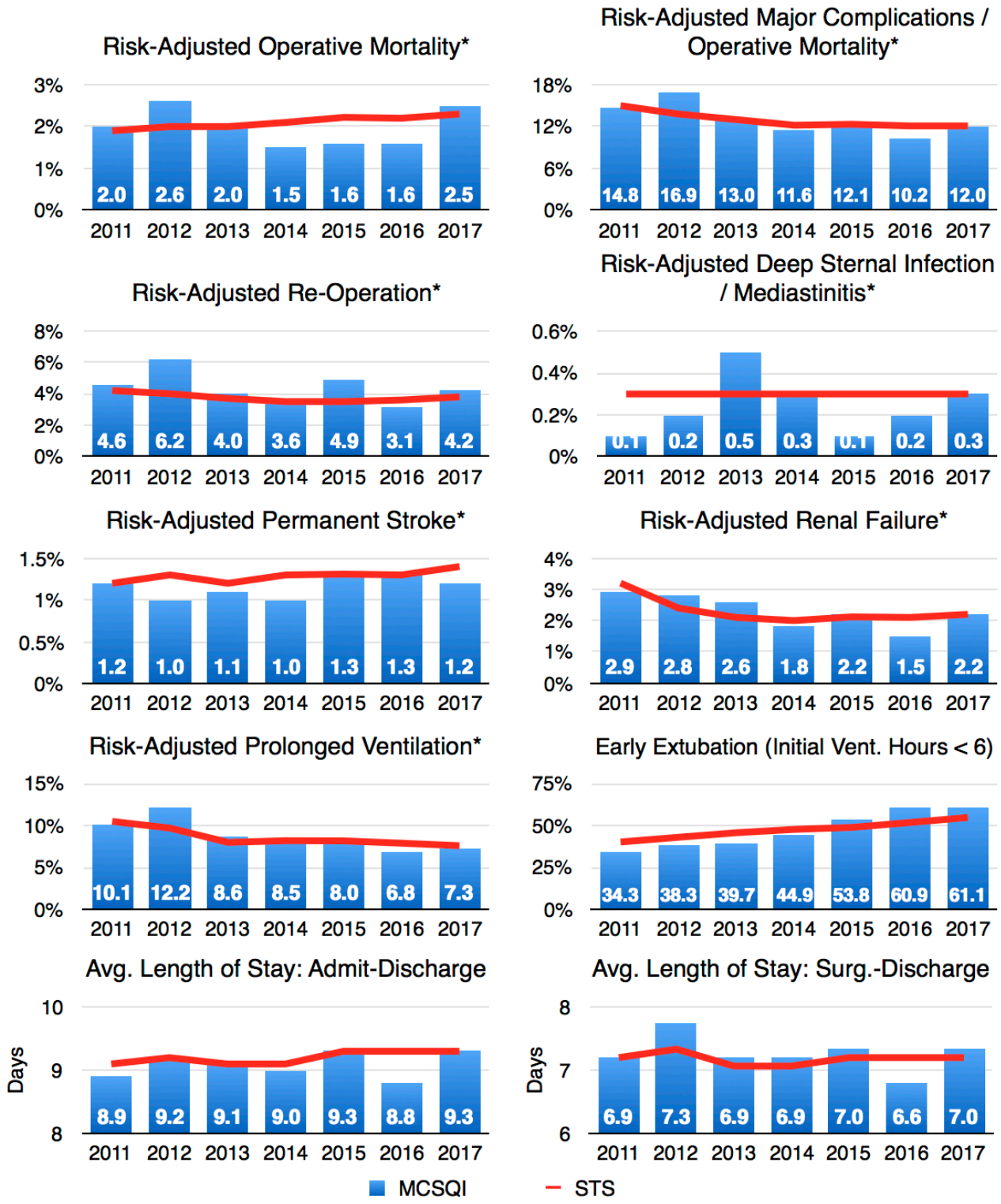
MCSQI's STS Data Manager Committee, co-chaired by Kate Maloney and Kim Behrens of Johns Hopkins Hospital and Filiz Demirci of University of Maryland, serves as the backbone to the organization. The data managers each share vital details related to data abstraction with their internal teams, which allows for more accurate and consistent data collection. Collaboration amongst the group is instrumental in ensuring that all data abstractors across the state are collecting data with the same understanding of STS definitions.

Data Managers convene at bi-annual workshops to review challenging cases and confirm all members are up-to-date with the latest STS definition clarifications. STS surgeons have also participated in these workshops. At the MCSQI Spring 2018 Meeting, Dr. Jennifer Lawton, Chief of Cardiac Surgery at the Johns Hopkins Hospital, gave a presentation on Aortic Surgery and STS Data Collection. At the MCSQI Fall 2018 Meeting, Dr. Thomas Matthew, Director of Cardiothoracic Surgery at Suburban Hospital, presented on the topic of Mitral Valve surgery. MCSQI data managers also interface with counterparts in Virginia, Michigan and Texas.

Data Managers have also developed a comprehensive set of data quality reports utilizing consistency checks from the STS and the Michigan Society of Thoracic and Cardiovascular Surgeons. The MCSQI data managers are continuously looking for ways to be armed with high quality, defensible data to assist with the accurate measurement of clinical quality metrics. Data managers serve alongside surgeons on various committees and task forces within MCSQI. They participate in research and quality improvement to enhance cardiac surgery care in Maryland.

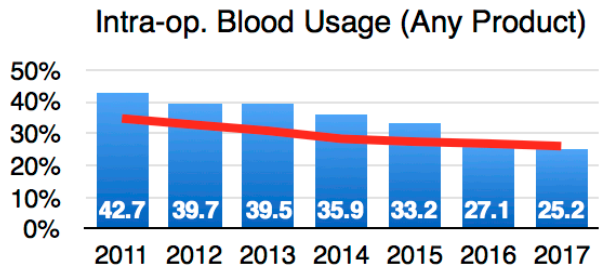
"Working together to improve the quality of cardiac surgery in Maryland"

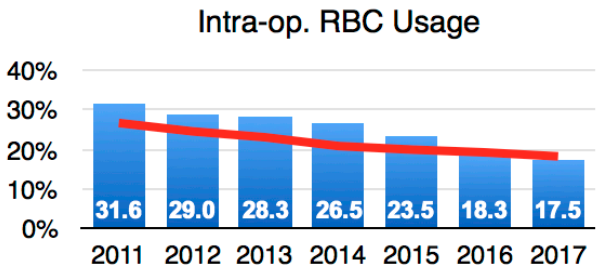
Clinical Quality Indicators – Isolated CABG

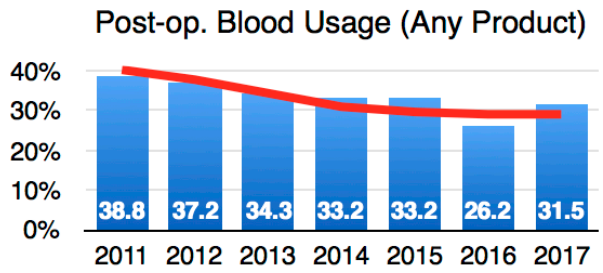


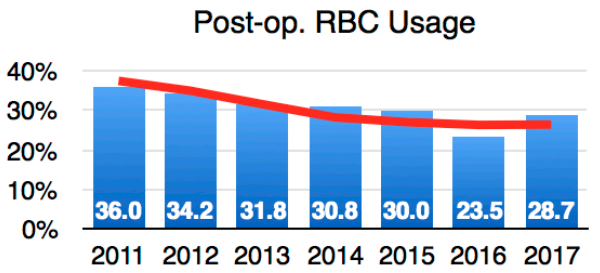
***STS Risk-adjusted Rates**. These calculations involve two steps: 1. Calculation of the O/E ratio, which divides the percentage of an observed morbidity by the rate predicted by the STS risk calculator, and 2. Multiplication of the O/E ratio by the STS national rate of the observed morbidity. All O/E ratios apply STS Recalibration coefficients, which normalize the national benchmark value to exactly 1.0. All Risk-adjusted Rates apply Recalibration coefficients from the 2017 STS report.

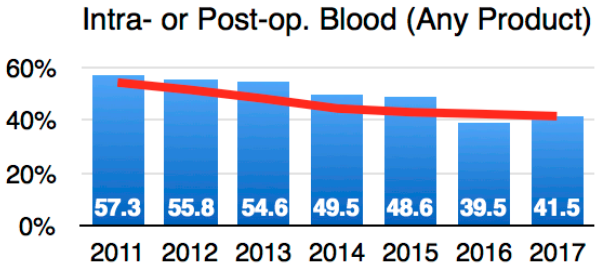
Clinical Quality Indicators – Isolated CABG

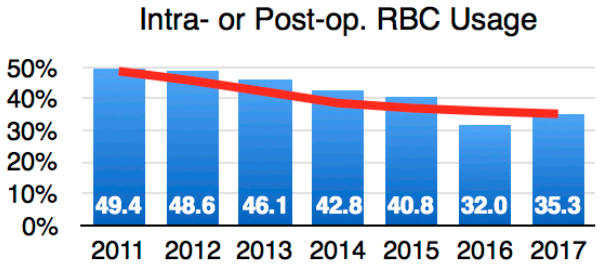


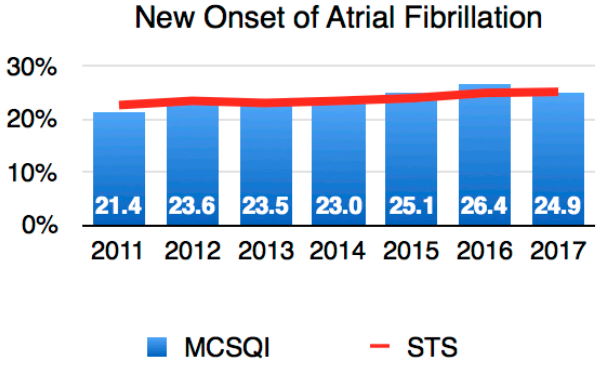




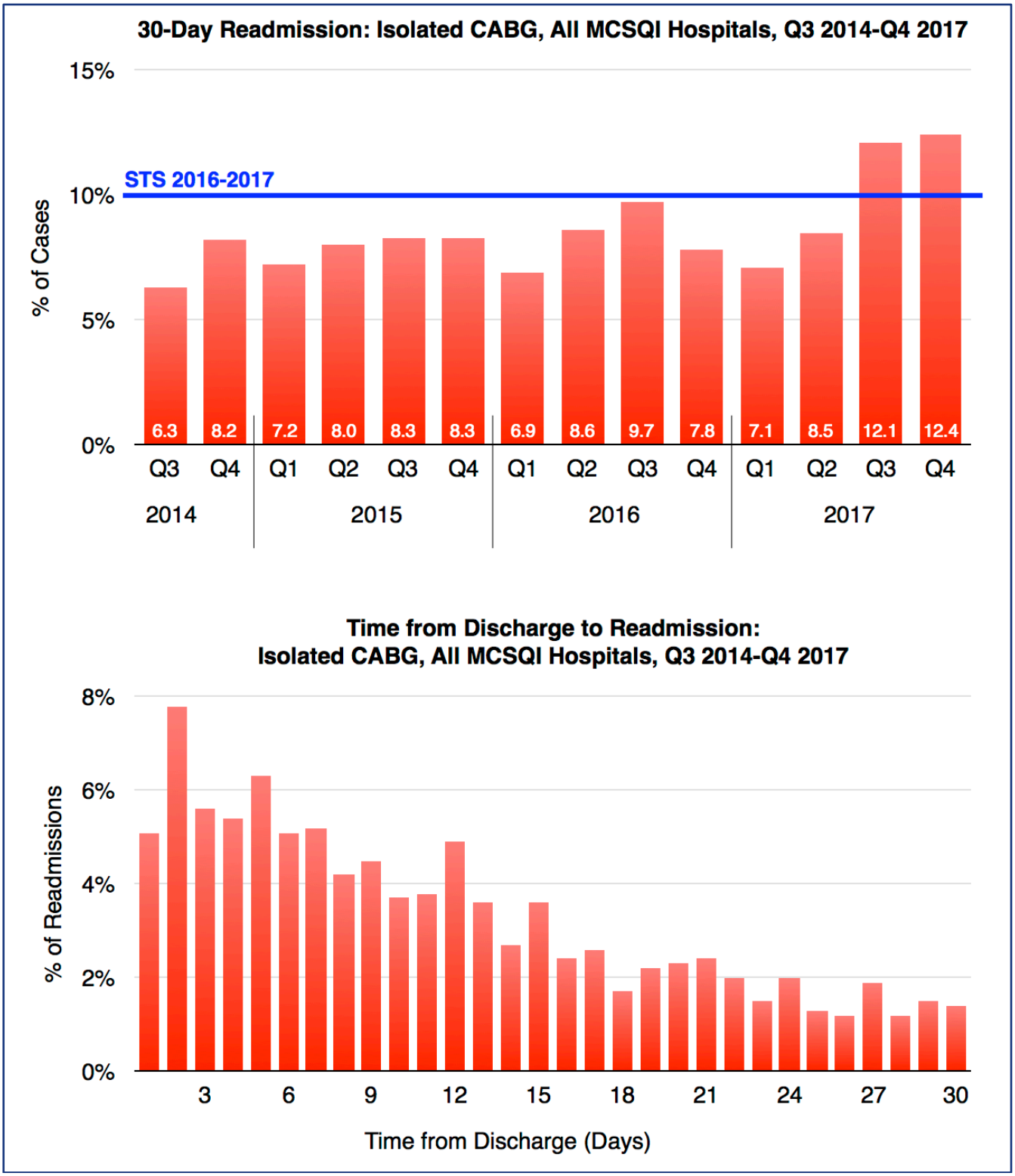








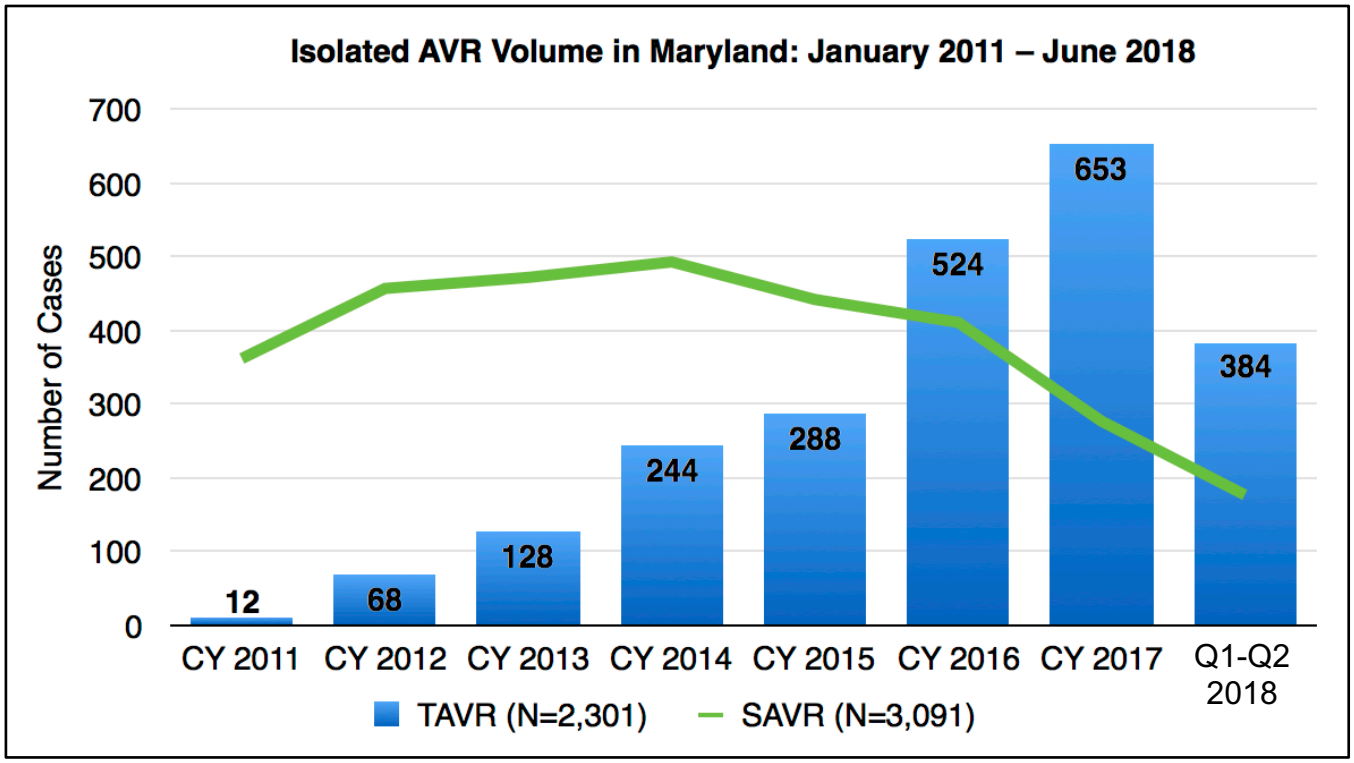
Clinical Quality Indicators – Isolated CABG



Procedure Volumes

MCSQI Procedure Volume	2012	2013	2014	2015	2016	2017
Isolated CABG	1,898 (47.4%)	2,071 (48.0%)	2,228 (48.2%)	2,424 (52.8%)	2,324 (53.4%)	2,459 (58.5%)
Isolated AVR (SAVR)	457 (11.4%)	472 (10.9%)	493 (10.7%)	442 (9.6%)	411 (9.4%)	277 (6.6%)
AV Replacement + CABG	252 (6.3%)	290 (6.7%)	284 (6.1%)	262 (5.7%)	262 (6.0%)	207 (4.9%)
Isolated MVR	56 (1.4%)	88 (2.0%)	70 (1.5%)	86 (1.9%)	82 (1.9%)	88 (2.1%)
MV Replacement + CABG	11 (0.3%)	31 (0.7%)	29 (0.6%)	34 (0.7%)	22 (0.5%)	29 (0.7%)
Isolated MV Repair	171 (4.3%)	190 (4.4%)	177 (3.8%)	173 (3.8%)	165 (3.8%)	221 (5.3%)
MV Repair + CABG	70 (1.7%)	65 (1.5%)	66 (1.4%)	59 (1.3%)	49 (1.1%)	53 (1.3%)
Total: STS Major Procedures	**2,915 (72.8%)**	**3,207 (74.3%)**	**3,347 (72.5%)**	**3,480 (75.8%)**	**3,315 (76.2%)**	**3,334 (79.4%)**
Other Procedures*	1,089 (27.2%)	1,110 (25.7%)	1,272 (27.5%)	1,114 (24.2%)	1,036 (23.8%)	866 (20.6%)
Total: All Procedures	**4,004**	**4,317**	**4,619**	**4,594**	**4,351**	**4,200**

* Excludes Transcatheter Aortic Valve Replacement Procedures (TAVR)



NQF Measures

Calendar Year 2017, Isolated CABG Procedures (unless otherwise indicated)

		MCSQI	STS
Procedure Volume	Isolated CABG	2,459 (56.9%)	158,290 (54.9%)
	Isolated Valve	607 (14.0%)	47,985 (16.6%)
	CABG + Valve	289 (6.7%)	23,915 (8.3%)
	Other	966 (22.4%)	58,290 (20.2%)
Pre-Operative	Timing of Antibiotic Administration	99.6%	99.3%
	Selection of Antibiotic Administration	99.9%	98.9%
	Duration of Prophylaxis	99.8%	99.0%
	Pre-operative Beta Blockers	98.8%	95.4%
Operative	Use of Internal Mammary Artery	99.8%	98.7%
Complications	Risk-Adjusted Prolonged Ventilation	7.3%	7.6%
	Risk-Adjusted Deep Sternal Infection	0.3%	0.3%
	Risk-Adjusted Permanent Stroke	1.2%	1.4%
	Risk-Adjusted Renal Failure	2.2%	2.2%
	Risk-Adjusted Re-Operation	4.2%	3.8%
Discharge	Anti-Platelets	99.2%	98.3%
	Beta Blockers	99.7%	98.5%
	Anti-Lipids	99.2%	97.8%
Mortality	Risk-Adjusted Inpatient Mortality: Isolated CABG	1.9%	1.8%
	Risk-Adjusted Operative Mortality: Isolated CABG	2.5%	2.3%
	Risk-Adjusted Operative Mortality: AV Replacement	4.5%	2.0%
	Risk-Adjusted Operative Mortality: AV Replacement + CABG	1.9%	3.7%
	Risk-Adjusted Operative Mortality: MV Replacement	7.0%	5.0%
	Risk-Adjusted Operative Mortality: MV Replacement + CABG	5.8%	9.4%
	Risk-Adjusted Operative Mortality: MV Repair	0.6%	1.2%
	Risk-Adjusted Operative Mortality: MV Repair + CABG	2.1%	5.3%
Readmissions	30-Day Readmission Rate: Isolated CABG	9.2%	10.0%

STS Data Specifications

Operative Mortality O/E*: Any death during patient hospitalization or within 30 days of surgery	**Inpatient Mortality O/E***: Any death during patient hospitalization
Prolonged Ventilation O/E*: Post-operative pulmonary ventilation greater than 24 hours	**Permanent Stroke O/E***: Post-operative stroke that did not resolve within 24 hours
Renal Failure O/E*: Increase in post-operative serum creatinine greater than 3 times baseline, serum creatinine greater or equal to 4 mg/dL, or new requirement for dialysis post-operatively	**Mediastinitis O/E***: Any post-operative deep sternal wound infection or mediastinitis during patient hospitalization or within 30 days of surgery
Re-Operation O/E*: Return to the operating room for bleeding, valve dysfunction, graft occlusion, aortic intervention, or other cardiac reasons (the NQF definition does not include 'other non-cardiac reasons')	**Morbidity/Mortality O/E***: Any patient incurring operative mortality or any of the five major STS morbidities
Readmissions within 30 Days: Any patient who was readmitted for inpatient stay at an acute care facility within 30 days of discharge	**Re-Operation for Bleeding**: Re-exploration for mediastinal bleeding either in the ICU or return to operating room
Length of Stay (LOS) Admit-Discharge: Total number of days from patient admission to discharge	**Length of Stay (LOS) Surgery-Discharge**: Total number of days from surgery to discharge
Post-Operative Ventilation Time: Total amount of time from operating room exit to initial extubation, plus any additional time spent on pulmonary ventilation	**Early Extubation**: Initial Ventilation Hours less than 6; excludes patients who were extubated in the operating room
Intra-Operative Blood Products: Any patient who was transfused any time intra-operatively during the initial surgery.	**Post-Operative Blood Products**: Any patient who was transfused any time post-operatively
New Onset of Atrial Fibrillation: Any patient with post-operative Atrial Fibrillation; excludes patients with pre-operative history of atrial fibrillation.	***The Observed-to-Expected Ratio (O/E)**. These calculations divide the percentage of an observed morbidity by the rate predicted by the STS risk calculator. All O/E ratios apply STS Recalibration coefficients, which normalize the national benchmark value to exactly 1.0.

MCSQI Correspondence to MHCC

June 2, 2018

Eileen Fleck
Chief, Acute Care Policy & Planning
Maryland Health Care Commission
4160 Patterson Avenue
Baltimore, MD 21215

Dear Ms. Fleck,

After thoughtful review by members of the Maryland Cardiac Surgery Quality Initiative (MCSQI) regarding MHCC's request for feedback on the template for a Certificate of Ongoing Performance Report, we would like to share with you our concerns on the selection of the performance metric information and how it could be misused or misunderstood, if not presented carefully.

We would like to submit the following comments as we have reached out to Dr. David Shahian, Professor of Surgery, Harvard Medical School, Vice President, Center for Quality and Safety, Massachusetts General Hospital. In addition to his clinical career, Dr. Shahian has been involved in health policy issues for more than two decades, particularly in the areas of performance measurement and public reporting. As Chair of The Society of Thoracic Surgeons (STS) Workforce on National Databases and its Quality Measurement Task Force, he has led the development and implementation of dozens of risk models and composite performance measures. Dr. Shahian has been a leader in the implementation of a mandatory cardiac surgery public reporting initiative in Massachusetts and the voluntary, nationwide public reporting program established by The Society of Thoracic Surgeons. The latter includes publication on the STS and Consumer Reports websites of detailed performance reports for common cardiac surgical procedures.

We have received permission from Dr. Shahian to submit the following formal response:

"The STS Quality Measurement Task Force (which I chair, and which includes our statistical colleagues at the Duke Clinical Research Institute) believes that STS risk-adjusted outcomes should be used as they were intended—i.e., with reference to STS national benchmark results for comparable case mixes. This is a much more robust measure of quality than could be provided by comparisons with a state average.

Additionally, we are strong advocates for use of STS composite measures rather than risk-adjusted CABG mortality alone. As CABG mortality has fallen to the 1% range, it is very difficult to discriminate quality based solely on this single infrequent outcome. By considering both mortality and major morbidity (and two process measures, in the case of the STS CABG composite), you effectively increase the number of endpoints, thus making it easier to discriminate quality differences. This multidimensional composite also provides valuable information to consumers about serious complications, some of which have potentially life-altering consequences (e.g., dialysis dependent renal failure, debilitating stroke).

MCSQI Correspondence to MHCC

Finally, Maryland should consider using the entire portfolio of STS composite measures—isolated CABG, isolated AVR, AVR + CABG, mitral procedures, and mitral + CABG. This would provide a much more comprehensive perspective on the performance of your cardiac surgery centers, particularly as the proportion of isolated CABG cases have fallen relative to these other procedures." David Shahian, MD. June 2, 2018.

In summary, MCSQI would like to make it clear that we are in favor of public reporting that is appropriate and congruent with the STS national composite measures which include morbidity and mortality metrics. Comparing risk adjusted mortality rates with a Maryland state mortality rate will not yield an evaluation of each of our programs that will be meaningful to the MHCC or the public as outlined above. We therefore recommend that it should be excluded from the Certificate of Ongoing Performance Reports and excluded from hospital performance assessments that are publicly reported by MHCC. The appropriate national STS Composite measures are available and it's in the best interest of the public for MHCC to provide the relevant metrics. We endorse the approach outlined by Dr. Shahian and the STS Quality Measurement Task.

MSCQI will submit a formal comment on the Proposed Permanent Regulation 10.24.17 State Health Plan for Facilities and Services: Specialized Health Care Services — Cardiac Surgery and Percutaneous Coronary Intervention Services by the deadline posted in the Maryland Registrar of 4:30 p.m. on June 25, 2018.

Thank you for the opportunity to provide feedback on this important matter.

Respectfully,

Paul Massimiano, MD
Chairman, MCSQI, Inc.

Diane Alejo
Executive Director, MCSQI, Inc.

MCSQI Correspondence to MHCC

June 21, 2018

Eileen Fleck
Chief, Acute Care Policy & Planning
Maryland Health Care Commission
4160 Patterson Avenue
Baltimore, MD 21215

Dear Ms. Fleck,

The Maryland Cardiac Surgery Quality Initiative (MSCQI) would like to submit a formal comment on the Proposed Permanent Regulation: 10.24.17 State Health Plan for Facilities and Services: Specialized Health Care Services — Cardiac Surgery and Percutaneous Coronary Intervention Services.

MCSQI recommends the use of STS composite measures rather than the risk-adjusted CABG mortality rate alone. By itself, operative mortality has a much smaller incidence, and statistically it is not valid to assess programs' overall quality of care by this metric. Additionally, the STS risk-adjusted outcomes should be evaluated with reference to **STS national benchmark** results to ensure comparable case mix. This is a more robust measure of quality than could be provided by comparisons with a state average. The STS multidimensional Composite Star Ratings are nationally benchmarked and provide valuable quality indicators about serious events and complications, some of which have potentially life-altering consequences. These national benchmarks provide a statistically sound methodology for rating performance, identifying outliers and rendering meaningful assessments.

MCSQI also recommends that the MHCC specify a minimum date range used in analyzing program performance. A minimum of 12 months of data should be included in any analysis of Isolated Coronary Artery Bypass Surgery. Otherwise small sample sizes will yield excessive variability and could incorrectly identify performance outliers.

In summary, MCSQI applauds the MHCC for ensuring safe and high quality care to patients undergoing heart surgery in Maryland as outlined in the regulations. We would like to reiterate that we are in favor of transparency and public reporting that is appropriate and congruent with the STS national composite measures which include composite morbidity and mortality metrics. Comparing risk-adjusted mortality rates with a Maryland state mortality rate will not yield an evaluation of each of our programs that will be meaningful to the MHCC or the public as outlined above. We therefore recommend that it should be excluded from the COMAR 10.24.17 regulations and also excluded from the Certificate of Ongoing Performance Reports and from hospital performance assessments that are publicly reported by the MHCC.

The appropriate national STS Composite Star Rating measures are available, and we believe it is in the best interest of the public for the MHCC to assess programs using these appropriate and relevant metrics.
Thank you for the opportunity to provide feedback on this important matter.

Respectfully,

Paul Massimiano, MD
Chairman, MCSQI, Inc.

Diane Alejo
Executive Director, MCSQI, Inc.

Abstracts, Posters and Manuscripts

Posters

The Maryland Cardiac Surgery Quality Initiative: Collaborating to Improve Outcomes Statewide. Alejo D, Horvath KA, Salenger R, Conte JV, Whitman GR, Bobbitt J, Fonner CE.
Society of Thoracic Surgeons Advances in Quality and Outcomes Meeting, 2015.

Are Surgeons Discussing STS Predicted Risk Scores? A Look across Maryland Hospitals. Alejo D, Bobbitt J, Costantini F, Brogan M, Getson K, Toro A, Romine H, Hanna G, Kakellos M, Roach D, Behrens K, Fonner CE.
Society of Thoracic Surgeons Advances in Quality and Outcomes Meeting, 2016.

STS Data Managers & Surgeons Enhancing Quality Measurement – Statewide Review of Reasons for Prolonged Ventilation. Alejo D, Bobbitt J, Costantini F, Brogan M, Getson K, Toro A, Romine H, Hanna G, Kakellos M, Roach D, Behrens K, Fonner CE.
Society of Thoracic Surgeons Advances in Quality and Outcomes Meeting, 2016.

Sternal Wound Care Practices in Maryland Cardiac Surgery Programs.
Demirci F, Alejo D, Fonner CE, Bobbitt J, Hanna G, Fiocco M, Getson K, Nelson M, Conte JV, Whitman GJ, Salenger R, Todd J, Wehberg K and the MCSQI Collaborative.
Society of Thoracic Surgeons Advances in Quality and Outcomes Meeting, 2017.

Variations in Perfusion Practice during Adult Cardiac Surgery: A Statewide Survey.
Suarez-Pierre A, Wierschke C, Crawford TC, Zhou X, Fraser CD III, Alejo D, Fonner CE, Salenger R, Whitman GJ, Conte JV.
Eastern Cardiothoracic Surgical Society (ECTSS) Annual Meeting, 2017.

Off-pump Coronary Artery Bypass in Octogenarians: Results of a Statewide, Matched Comparison.
Suarez-Pierre A, Crawford TC, Fraser III CD, Lui, C, Zhou, Alejo, D, Fonner CE, Kwon CC, Taylor, B, Wehberg K, Conte JV, Fiocco, M, Whitman GJ, Salenger R, behalf of the MCSQI Collaborative.
Society of Thoracic Surgeons Annual Meeting, 2018.

Contemporary Outcomes Comparing Mitral Valve Repair and Replacement in the Elderly in a Statewide Registry.
Zhou X, Fraser III CD, Suarez-Pierre A, Lui C, Sanchez JA, Taylor BS, Conte JV, Mandal K.
Heart Valve Society Scientific Meeting, 2018.

Government Based Insurance is Associated with Fewer Arterial Conduits in CABG.
Zhou X, Fraser CD, Suarez-Pierre A, Lui C, Sanchez JA, Taylor BS, Conte JV, Higgins RS.
American College of Surgeons Clinical Congress, 2018.

Predictors of Operative Mortality in Cardiac Surgery Patients with Prolonged Ventilation.
Suarez-Pierre A, Fraser CD, Zhou X, Crawford TC, Lui C, Metkus TS, Whitman GJ, Higgins RS, Lawton JS.
American College of Surgeons Clinical Congress, 2018.

Abstracts, Posters and Manuscripts

Manuscripts

Variation in Red Blood Cell Transfusion Practices During Cardiac Surgery Among Centers in Maryland: Results from A State Quality Improvement Collaborative.
Magruder JT, Blasco-Colmenares E, Crawford TC, Alejo D, Conte JV, Salenger R, Fonner CE, Kwon CC, Bobbitt J, Brown JM, Nelson MG, Horvath KA, Whitman GR.
Annals of Thoracic Surgery. 2017 Jan; 103(1):152-160. Epub 2016 Aug 20.

Less is More: Results of a Statewide Analysis of the Impact of Blood Transfusion on CABG Outcomes.
Crawford TC, Magruder JT, Fraser III CD, Suarez-Pierre A, Alejo D, Fonner CE, Canner J, Horvath K, Wehberg K, Taylor B, Kwon C, Whitman GJ, Conte JV, Salenger R.
Annals of Thoracic Surgery. 2018 Jan; 105(1):129-36.

Off-Pump Coronary Artery Bypass in Octogenarians: Results of a Statewide, Matched Comparison.
Suarez-Pierre A, Crawford TC, Fraser III CD, Zhou X, Lui C, Taylor B, Wehberg K, Conte JV, Whitman GJ, Salenger R; MCSQI Collaborative.
General Thoracic and Cardiovascular Surgery. 2018 Oct 19. doi:10.1007/s11748-018-1025-8.

Bilateral Internal Mammary Artery Use in Diabetic Patients: Friend or Foe?
Crawford TC, Zhou X, Fraser III CD, Magruder JT, Suarez-Pierre A, Alejo D, Bobbitt J, Fonner CE, Wehberg K, Taylor B, Kwon C, Fiocco M, Conte JV, Salenger R, Whitman GJ; Investigators for the Maryland Cardiac Surgery Quality Initiative.
Annals of Thoracic Surgery. 2018 Oct; 106(4):1088-1094. doi:10.1016/j.athoracsur.2018.04.030. Epub 2018 Jun 20.

Abstracts, Posters and Manuscripts

Podium Presentations:

Variation in Platelet Transfusion Practices During Cardiac Operations Among Centers in Maryland: Results from a State Quality-Improvement Collaborative.
Zhou X, Fraser III CD, Suarez-Pierre A, Crawford TC, Lui C, Alejo D, Conte J, Lawton J, Fonner CE, Taylor B, Whitman GJ, Salenger, R.
Society of Thoracic Surgeon (STS) 54th Annual Meeting, 2018.

Bilateral Internal Mammary Artery Utilization in Diabetics: Friend or Foe?
Crawford TC, Zhou X, Fraser III CD, Suarez-Pierre A, Alejo D, Fonner CE, Bobbitt J, Salenger R, Wehberg K , Kwon C, Taylor B, Fiocco M, Conte JV, Whitman G.
Society of Thoracic Surgeon (STS) 54th Annual Meeting, 2018.

Recent Antiplatelet Therapy Does Not Affect Short Term Outcomes Following Non-CABG Cardiac Surgery.
Lui C, Zhou X, Suarez-Pierre A, Fraser III CD, Zehr KJ, Choi CW, Kilic A.
Southern Thoracic Surgical Association (STSA) 65th Annual Meeting, 2018.

Accepted Abstracts for Presentations in 2019

55th Society of Thoracic Surgeons Annual Meeting, San Diego, California, Jan 27-29, 2019

Blood Utilization: Tale of Two Metrics – Improvement and Variability.
Zhou X, Fonner CE, Suarez-Pierre A, Lui C, Alejo D, Whitman GJ, Taylor B, Ad N, Salenger R.

Mitigating the Risk: Transfusion or Reoperation for Bleeding After Cardiac Surgery.
Pasrija C, Ghoreishi M, Whitman GJ, Ad N, Alejo D, Holmes SD, Schena S, Salenger R, Mazzeffi MA, Fonner CE, Taylor B.

MCSQI Membership / Leadership

Hospitals

Johns Hopkins Hospital
MedStar Union Memorial Hospital
Peninsula Regional Medical Center
Sinai Hospital of Baltimore
Suburban Hospital
University of Maryland Prince George's Hospital Center
University of Maryland St. Joseph Medical Center
University of Maryland Medical Center
Washington Adventist Hospital
Western Maryland Health System

Board Members

Stefano Schena, MD	Johns Hopkins Hospital
Michael Fiocco, MD	MedStar Union Memorial Hospital
James Todd, MD	Peninsula Regional Medical Center
Peter Cho, MD	Sinai Hospital of Baltimore
Thomas Matthew, MD	Suburban Hospital
Jamie Brown, MD	UM Prince George's Hospital Center
Rawn Salenger, MD	UM St. Joseph Medical Center
Brad Taylor, MD	University of Maryland Medical Center
Paul Massimiano, MD, Chair	Washington Adventist Hospital
Mark Nelson, MD	Western Maryland Health System
Terri Haber, MPH, Executive Director	MCSQI
Diane Alejo, BA	MCSQI
Clifford E. Fonner, BA	MCSQI
Eileen Fleck, MPP	Maryland Health Care Commission

Treasurer

Rawn Salenger, MD	UM St. Joseph Medical Center

Director of Analytics

Clifford E. Fonner, BA	MCSQI

Biostatistician

Sari D. Holmes, PhD	MCSQI

Co-founders:

Edwin Fonner Jr, DrPH
Clifford E. Fonner, BA
John V. Conte, MD
Diane Alejo, BA

MCSQI Committee Leadership

Executive Committee

Paul Massimiano, MD	Washington Adventist Hospital
Rawn Salenger, MD	UM St. Joseph Medical Center
Terri Haber, MPH	MCSQI
Clifford E. Fonner, BA	MCSQI
Diane Alejo, BA	MCSQI

Quality Committee

Jennifer Bobbitt, RN, BSN, Co-Chair	Washington Adventist Hospital
Glenn Whitman, MD, Co-Chair	Johns Hopkins Hospital
Rawn Salenger, MD, Workgroup Leader	UM St. Joseph Medical Center
Clifford E. Fonner, BA	MCSQI
Diane Alejo, BA	MCSQI / Johns Hopkins Hospital

Regulatory Committee

Paul Massimiano, MD	Washington Adventist Hospital
Terri Haber, MPH	MCSQI
Clifford E. Fonner, BA	MCSQI
Diane Alejo, BA	MCSQI / Johns Hopkins Hospital
Eileen Fleck, MPP	MHCC

Data Manager Committee

Kate Maloney, BS, Chair	Johns Hopkins Hospital
Kimberly Behrens, RN, BSN, Co-Chair	Johns Hopkins Hospital
Clifford E. Fonner, BA	MCSQI
Diane Alejo, BA	MCSQI / Johns Hopkins Hospital
Filiz Demirci, BS	Emeritus

Perfusion Task Force

Holly Tannehill, CCP	Washington Adventist Hospital

Cardiac Anesthesia Task Force

Jaspreet Singh, MD, Co-Chair	Peninsula Regional Medical Center
Charles Brown, MD, Co-Chair	Johns Hopkins Hospital

Research & Writing Committee

Niv Ad, MD, Chair	Washington Adventist Hospital
Rawn Salenger, MD, Co-Chair	UM St. Joseph Medical Center
Diane Alejo, BA, Co-Chair	Johns Hopkins Hospital
Sari Holmes, PhD	MCSQI

Resources / Affiliates

RESOURCES:	
MCSQI Website	https://mcsqi.org
Maryland Health Care Commission (MHCC)	https://mhcc.maryland.gov
MHCC Quality Reports	https://healthcarequality.mhcc.maryland.gov
Maryland Health Services Cost Review Commission (HSCRC)	http://www.hscrc.state.md.us
Society of Thoracic Surgeons (STS)	https://www.sts.org
STS Public Reporting	https://publicreporting.sts.org/acsd
National Quality Forum (NQF)	http://www.qualityforum.org

AFFILIATES:	
ARMUS Corporation	https://www.armus.com
IMPROVE Network	http://www.improvenetwork.org
Virginal Cardiac Services Quality Initiative	http://vcsqi.org

MCSQI Member Institutions

Peninsula Regional Health System
Johns Hopkins Medicine – The Johns Hopkins Hospital
Suburban Hospital – Johns Hopkins Medicine
Sinai Hospital – A LifeBridge Health Center
Western Maryland Health System
MedStar Union Memorial Hospital
Adventist HealthCare
University of Maryland St. Joseph Medical Center
University of Maryland Prince George's Hospital Center
University of Maryland Medical Center
MHCC

Testimonials

"The MCSQI state collaborative has been a successful collaboration of all the cardiac surgery centers in Maryland and is taking quality of care for cardiac surgery patients to an even higher level. The multidisciplinary interaction provides resources, networking, and sharing of best practices and ideas that has already demonstrated positive outcomes and has set the basis for future quality initiatives in cardiac surgery."

~ Chrissy Ruhl, Western Maryland Health System

"It is gratifying to see Maryland's cardiac surgery programs working together to improve services for cardiac surgery patients. MCSQI's collaborative efforts bode well for future patients."

~ Eileen Fleck, Maryland Health Care Commission

"In this day and age with so much confrontation and dissension, it is comforting to note that the Maryland Cardiac Surgery Quality Initiative stands for just the opposite. Through the sharing of experience and data, collegiality and cooperation, MCSQI has a vision to improve the care that this state gives its cardiac patients. There are not many collaboratives throughout the country like this, and Maryland can count itself among those few that recognize the importance of this kind of united effort, where the only thing that matters is one common goal, better treatment for our patients."

~ Dr. Glenn Whitman, Johns Hopkins Hospital

"Following the pioneering efforts of Dr. Alfred Blalock at Johns Hopkins Hospital in the 1940's and Dr. Joseph McLaughlin at University of Maryland in the 1970's, the development of the Maryland Cardiac Surgery Quality Initiative (MCSQI) is probably the single most important advancement in the history of organization of cardiovascular medicine in the state of Maryland. The future of cardiac surgery in Maryland is dependent on statewide hospital and physician collaboration and sharing of "best practices."

~Dr. Kurt Wehberg, Peninsula Medical Regional Center

Testimonials

"MCSQI provides the framework for an ongoing unprecedented level of collaboration between cardiac surgery programs in Maryland. By learning from experiences at other high quality programs, UM Saint Joseph Medical Center has been able to augment our own quality initiatives, and ultimately improve care for our patients."

~ Dr. Rawn Salenger, St. Joseph Medical Center

"In 2013 Maryland created a statewide cardiovascular quality initiative providing a platform for in depth review of the care our patients receive who undergo heart surgery. Success of a program is measured by its outcomes. The Society of Thoracic Surgery (STS) sets the 'National' benchmarks to measure this success. The data managers in MCSQI are committed to ensuring Maryland programs succeed in data integrity, as this is the core of meaningful data. Data Managers at all ten sites in Maryland work collaboratively, review patient scenarios/data definitions, etc. to ensure STS registry data is accurate, complete, reproducible, and reflect the quality of care for patients in Maryland. The data managers play a vital role in supporting the quality improvement goals of MCSQI at a regional level and align themselves with other regional STS collaboratives at a national level! This collaborative and supportive approach is the key to MCSQI's success in reporting surgical outcomes among the 10 programs in our State."

~ Jennifer Bobbitt, Washington Adventist Hospital