Michigan Vascular Study Group

May 18, 2022
VQI Update
In Conjunction with BMC2 VS CQI
Meeting Attendance Credit

Before we get started, please sign in.

1. Click “Participants” in the box at the top or bottom of your screen.
2. If your full name is not listed, hover next to your name and you’ll see “rename”.
3. Click and sign in.

If you can’t sign in, please email Leka Johnson at ljohnson@svspso.org and let her know the identifier you were signed in under (ex –LM7832 or your phone number).

**SPECIAL NOTE: We do give credit to residents/fellows that don’t have a PATHWAYS user account !!!
Sign in with your Full name, MD, Name of Institution
Appreciation and Thanks

- Ashraf Mansour, MD - Regional Medical Director
- Timothy Nypaver, MD – Associate Regional Medical Director
- Joseph Jacot- Regional Lead Data Manager
- Gary Lemmon, MD - SVS PSO Associate Medical Director
- Kristopher Huffman - Director Analytics & Analytic Team
- Jim Wadzinski– SVS PSO Deputy Executive Director
- Leka Johnson - Quality Improvement Specialist
- SVS PSO Staff
VQI Michigan Data Review: Ashraf Mansour, MD
VQI National Update: Jim Wadzinski, SVS PSO
AQC Update: Mitchell Weaver, MD
VQC Update: Jennifer Watson, MD
RAC Update: Nicholas Osborne, MD
Site Profile

• Please routinely review your Center Characteristics for accuracy

• For those who have left your facility, please change their status to inactive and maintain current email addresses
Welcome and Introductions

Ascension Borgess Hospital
Ascension Genesys Hospital
Ascension Providence Hospital, Novi Campus
Ascension Providence Hospital, Southfield Campus
Ascension St. John Hospital
Ascension St. Mary's Hospital
Beaumont Royal Oak
Bronson Battlecreek Hospital
Bronson Methodist Hospital
Covenant Healthcare
DMC Harper University Hospital
Henry Ford Allegiance Health
Henry Ford Hospital, Detroit MI
Henry Ford Hospital, West Bloomfield MI
Henry Ford Macomb Hospital
McLaren Bay Region
McLaren Flint
McLaren Greater Lansing
McLaren Macomb
McLaren Northern Michigan
McLaren Port Huron
Mercy Health Saint Mary's
Michigan Vascular Center
Munson Medical Center
MyMichigan Health-Midland
Oaklawn Hospital
Providence Hospital-Rochester
Spectrum Health Hospital
St. John Macomb Oakland
St. Joseph Mercy Health System
St. Mary Mercy Livonia
University of Michigan
Vascular Institute of Michigan
VQI Regional Quality Report

Spring 2022

This report is patient safety work product generated within the SVS PSO, LLC, and is considered privileged and confidential.

About the Report

The VQI Regional Quality Report is produced semiannually to provide centers and regions targeted, comparative results and benchmarks for a variety of procedures, process measures, and postoperative outcomes. The report is organized into separate reports that can be quickly accessed by clicking on the report names in the table of contents on the left.

*For drill-down and data feedback on your center’s cases, click on “VQI Case Appendix” in the table of contents on the left.*
Important Notes

- All results are based on data entered into the VQI as of January 31, 2022. Any subsequent changes or updates to data after that date will not be reflected in this report.

- Procedure timeframes and inclusion/exclusion criteria are given at the top of each report. Cases are also excluded if outcomes are missing or not enough data was entered to determine whether the case met inclusion/exclusion criteria.

- Regions must have at least 3 centers with included cases for regional results to be displayed in tables and line charts.

- Regions must have at least 3 centers with at least 10 included cases per center for regional results to be displayed in bar charts. It is therefore possible for a region’s results to be displayed in tables and line charts, but not in bar charts.

- For risk-adjusted reports, regions must have at least 3 centers with at least 10 complete cases per center for regional results to be displayed in bar charts. It is therefore possible for a region’s results to be displayed in tables and line charts, but not in bar charts.

- In all graphics, "**" indicates a p-value <.05.
Important Updates

The following updates have been implemented to enhance and improve the Spring 2022 VQI Regional Quality Report:

• **Number of Centers Displayed**
  - All center-variation bar charts now show the number of centers displayed in the chart, as well as the total number of centers in the region contributing data to the associated report.

• **Updated Region Volume Appendix**
  - The Region Volume Appendix now contains entries for the “Procedure Volume” and “Procedure Volume, All Years” reports.
Report-Specific Updates

The following report-specific updates have been implemented to enhance and improve the specified report(s):

• **TFEM CAS**
  – Changed inclusion/exclusion criteria – Procedures with an approach of either Brachial or Radial are now included in both ASYMP and SYMP reports.

• **EVAR: SVS Sac Size Guideline**
  – Nomenclature change to “EVAR: SVS AAA Diameter Guideline”. No changes to the report itself.
Dashboard

The dashboard provides a high-level summarization of your center’s results for each of 25 reports, and gives both regional and VQI-wide benchmarks for comparison. The “Your Center” column gives the percentage of your center’s cases with the noted outcome. Numbers in parentheses give the number of cases with the outcome and the total number of cases meeting the inclusion criteria for that report. The “Your Region” and “VQI Overall” columns give the aggregate percentage of cases with the noted outcome, as well as the 10th, 25th, 50th (median), 75th, and 90th percentiles for centers in your region and VQI, respectively ([10th|25th|50th|75th|90th]). Your center’s results are highlighted blue if your center is in the “top” 25th percentile for VQI Overall, and coral if your center is in the “bottom” 25th percentile for VQI Overall.

For details on a particular report, click on the report name in the table of contents on the left.

Legend: Blue = “Top” 25th percentile  Coral = “Bottom” 25th percentile

Note that procedure volume results are not highlighted.
# MVSG Regional Dashboard

The dashboard provides a high-level summary of your center's results for each of 26 reports, and gives both regional and VQI-wide benchmarks for comparison. The "Your Center" column gives the percentage of your center's cases with the noted outcome. Numbers in parentheses give the number of cases the outcome and the total number of cases meeting the inclusion criteria for that report. The "Your Region" and "VQI Overall" columns give the aggregate percentage of cases with the noted outcome, as well as the 10th, 25th, 50th (median), 75th, and 90th percentiles for centers in your region and VQI, respectively. (10th/25th/50th/75th/90th).

For details on a particular report, click on the report name in the table of contents on the left.

## Procedure Group

<table>
<thead>
<tr>
<th>Procedure Group</th>
<th>Outcome</th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>Procedure Volume</td>
<td>[224, 43]</td>
<td>[25, 133]</td>
<td>[205 (507)</td>
</tr>
<tr>
<td></td>
<td>Procedure Volume, All Years</td>
<td>[39, 160]</td>
<td>[59, 556]</td>
<td>[340, 1760]</td>
</tr>
<tr>
<td>Multiple</td>
<td>Long-Term Follow-up</td>
<td>70.0% [0.54]</td>
<td>60 [93] 75</td>
<td>71.1% [0.57]</td>
</tr>
<tr>
<td></td>
<td>Discharge Medications</td>
<td>20.2% [0.3]</td>
<td>90 [93] 98</td>
<td>22.2% [0.3]</td>
</tr>
<tr>
<td>TFEM CAS SYMP</td>
<td>Stroke/Death</td>
<td>0.8% [0.0]</td>
<td>0 [0] 0</td>
<td>1.7% [0] 0</td>
</tr>
<tr>
<td>TFEM CAS SYMP</td>
<td>Stroke/Death</td>
<td>8.7% [0.1]</td>
<td>0 [1] 4</td>
<td>4.3% [0] 0</td>
</tr>
<tr>
<td>TCAR SYMP</td>
<td>Stroke/Death</td>
<td>0.6% [0] 0</td>
<td>0 [0] 0</td>
<td>1.3% [0] 0</td>
</tr>
<tr>
<td>TCAR SYMP</td>
<td>Stroke/Death</td>
<td>3.5% [0] 0</td>
<td>0 [0] 0</td>
<td>2.6% [0] 0</td>
</tr>
<tr>
<td>CEA SYMP</td>
<td>Stroke/Death</td>
<td>0% [0] 0</td>
<td>0 [0] 0</td>
<td>0.9% [0] 0</td>
</tr>
<tr>
<td>CEA SYMP</td>
<td>Stroke/Death</td>
<td>0% [0] 0</td>
<td>0 [0] 0</td>
<td>2.2% [0] 0</td>
</tr>
<tr>
<td></td>
<td>Stroke/Death</td>
<td>0% [0] 0</td>
<td>0 [0] 0</td>
<td>2.2% [0] 0</td>
</tr>
<tr>
<td>FMDV</td>
<td>Postop LOS=2 Days</td>
<td>41.8% [23.0]</td>
<td>20 [45] 40</td>
<td>40.8% [25]</td>
</tr>
<tr>
<td></td>
<td>Sac Diameter Reporting</td>
<td>46% [16] 40</td>
<td>40 [65] 71</td>
<td>56% [22] 60</td>
</tr>
<tr>
<td></td>
<td>SVS AAA Diameter Guideline</td>
<td>60.1% [30.0]</td>
<td>90 [65] 90</td>
<td>75.3% [60]</td>
</tr>
<tr>
<td></td>
<td>Sac Diameter Reporting</td>
<td>22.1% [12] 20</td>
<td>32 [45] 67</td>
<td>90.3% [20] 50</td>
</tr>
<tr>
<td></td>
<td>In-Hospital Mortality</td>
<td>4.2% [0] 0</td>
<td>0 [0] 0</td>
<td>4.2% [0] 0</td>
</tr>
<tr>
<td></td>
<td>SVS Cell-Saver Guideline</td>
<td>90.3% [60] 94</td>
<td>90 [99] 100</td>
<td>94% [73] 90</td>
</tr>
<tr>
<td></td>
<td>SVS Iliac Infow Guideline</td>
<td>96% [74] 88</td>
<td>100 [100] 100</td>
<td>97% [82] 66</td>
</tr>
<tr>
<td>PVI CLAUD</td>
<td>ABI/Toe Pressure</td>
<td>60.3% [20] 73</td>
<td>64 [90] 96</td>
<td>74.2% [20] 62</td>
</tr>
<tr>
<td></td>
<td>INFRA CLTI Major Complications</td>
<td>4% [0] 0</td>
<td>0 [4] 8</td>
<td>4% [0] 0</td>
</tr>
<tr>
<td>SUPRA CLTI</td>
<td>Major Complications</td>
<td>0% [0] 0</td>
<td>0 [0] 0</td>
<td>0.1% [0] 0</td>
</tr>
<tr>
<td>LEAMF</td>
<td>Postop Complications</td>
<td>NA [0]</td>
<td>[0] 0</td>
<td>11.1% [0]</td>
</tr>
<tr>
<td>HDA</td>
<td>Primary AVF vs. Graft</td>
<td>NA [0]</td>
<td>[0] 0</td>
<td>62.3% [0]</td>
</tr>
<tr>
<td>IVCF</td>
<td>Filter Retrieval Reporting</td>
<td>NA [0]</td>
<td>[0] 0</td>
<td>54.5% [0]</td>
</tr>
</tbody>
</table>

**Legend:** Blue = "Top" 25th percentile  Coral = "Bottom" 75th percentile

Note that procedure volume results are not highlighted.
## Region Volume Appendix
### Spring 2022

**About the Appendix**
The Region Volume Appendix provides your region's case volumes for each report. In addition, the number of centers with cases contributing to each report is given. Note that columns referencing complete cases are appropriately left blank for non-risk-adjusted reports.

<table>
<thead>
<tr>
<th>Report</th>
<th>Included Cases</th>
<th>Centers with Included Cases</th>
<th>Centers with at least 10 Included Cases</th>
<th>Complete Cases</th>
<th>Centers with Complete Cases</th>
<th>Centers with at least 10 Complete Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedure Volume</td>
<td>5060</td>
<td>23</td>
<td>22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Procedure Volume, All Years</td>
<td>433882</td>
<td>27</td>
<td>27</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long-Term Follow-up</td>
<td>3937</td>
<td>20</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discharge Medications</td>
<td>3006</td>
<td>22</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TFEM CAS ASYMP: Stroke/Death</td>
<td>138</td>
<td>10</td>
<td>4</td>
<td>109</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>TFEM CAS SYMP: Stroke/Death</td>
<td>135</td>
<td>12</td>
<td>4</td>
<td>122</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>TCAR ASYMP: Stroke/Death</td>
<td>101</td>
<td>16</td>
<td>7</td>
<td>170</td>
<td>16</td>
<td>7</td>
</tr>
<tr>
<td>TCAR SYMP: Stroke/Death</td>
<td>85</td>
<td>13</td>
<td>3</td>
<td>80</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>CEA ASYMP: Stroke/Death</td>
<td>155</td>
<td>6</td>
<td>4</td>
<td>152</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>CEA ASYMP: Postop LOS&gt;1 Day</td>
<td>155</td>
<td>6</td>
<td>4</td>
<td>152</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>CEA SYMP: Stroke/Death</td>
<td>82</td>
<td>5</td>
<td>2</td>
<td>81</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>CEA SYMP: Postop LOS&gt;1 Day</td>
<td>82</td>
<td>5</td>
<td>2</td>
<td>81</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>EVAR: Postop LOS&gt;2 Days</td>
<td>150</td>
<td>4</td>
<td>4</td>
<td>137</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>EVAR: Sac Diameter Reporting</td>
<td>200</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EVAR: SVS AAA Diameter Guideline</td>
<td>135</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TEVAR: Sac Diameter Reporting</td>
<td>22</td>
<td>3</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OAAA: In-Hospital Mortality</td>
<td>294</td>
<td>6</td>
<td>4</td>
<td>278</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>OAAA: SVS Coll-Saver Guideline</td>
<td>268</td>
<td>6</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OAAA: SVS Iliss Inflow Guideline</td>
<td>313</td>
<td>6</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PVI CLAUD: ABI/Toe Pressure</td>
<td>613</td>
<td>15</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INFRA CLTI: Major Complications</td>
<td>125</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUPRA CLTI: Major Complications</td>
<td>28</td>
<td>4</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEAMP: Postop Complications</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HDA: Primary AVF vs. Graft</td>
<td>254</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IVCF: Filter Retrieval Reporting</td>
<td>54</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Procedure Volume

Procedures performed between January 1 and December 31, 2021

Number of cases entered into the VQI, by registry and overall

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Your Center (N)</th>
<th>Your Region (N)</th>
<th>VQI Overall (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS (TFEM CAS &amp; TCAR)</td>
<td>612</td>
<td>15409</td>
<td></td>
</tr>
<tr>
<td>CEA</td>
<td>273</td>
<td>17679</td>
<td></td>
</tr>
<tr>
<td>EVAR</td>
<td>159</td>
<td>7653</td>
<td></td>
</tr>
<tr>
<td>HDA</td>
<td>NA (&lt;3 centers)</td>
<td>5978</td>
<td></td>
</tr>
<tr>
<td>INFRA</td>
<td>186</td>
<td>6789</td>
<td></td>
</tr>
<tr>
<td>IVCF</td>
<td>NA (&lt;3 centers)</td>
<td>1322</td>
<td></td>
</tr>
<tr>
<td>LEAMP</td>
<td>NA (&lt;3 centers)</td>
<td>3085</td>
<td></td>
</tr>
<tr>
<td>OAAA</td>
<td>79</td>
<td>1283</td>
<td></td>
</tr>
<tr>
<td>PVI</td>
<td>1820</td>
<td>43995</td>
<td></td>
</tr>
<tr>
<td>SUPRA</td>
<td>48</td>
<td>1870</td>
<td></td>
</tr>
<tr>
<td>TEVAR</td>
<td>NA (&lt;3 centers)</td>
<td>3163</td>
<td></td>
</tr>
<tr>
<td>Varicose Veins</td>
<td>1508</td>
<td>5991</td>
<td></td>
</tr>
<tr>
<td>Overall (Jan-Dec 2021)</td>
<td>5060</td>
<td>114217</td>
<td></td>
</tr>
<tr>
<td>Overall (Jan-Dec 2020)</td>
<td>5502</td>
<td>111113</td>
<td></td>
</tr>
</tbody>
</table>
Procedure Volume by Center in Your Region (Jan-Dec 2021)

- Other centers in your region
- Your center

Centers (centers with <10 cases not shown)

22 of 23 centers displayed

Procedure Volume Across VQI (Jan-Dec 2021)

Regions (regions with <3 centers with at least 10 cases not shown)
# Procedure Volume, All Years

Includes all procedures with procedure date through December 31, 2021

Number of cases entered into the VQI, by registry and overall

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Your Center (N)</th>
<th>Your Region (N)</th>
<th>VQI Overall (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS (TFEM CAS &amp; TCAR)</td>
<td>2344</td>
<td>66792</td>
<td></td>
</tr>
<tr>
<td>CEA</td>
<td>4538</td>
<td>167675</td>
<td></td>
</tr>
<tr>
<td>EVAR</td>
<td>1814</td>
<td>67929</td>
<td></td>
</tr>
<tr>
<td>HDA</td>
<td>3326</td>
<td>66228</td>
<td></td>
</tr>
<tr>
<td>INFRA</td>
<td>2549</td>
<td>70209</td>
<td></td>
</tr>
<tr>
<td>IVCF</td>
<td>873</td>
<td>16522</td>
<td></td>
</tr>
<tr>
<td>LEAMP</td>
<td>NA (&lt;3 centers)</td>
<td>23123</td>
<td></td>
</tr>
<tr>
<td>OA AAA</td>
<td>736</td>
<td>15617</td>
<td></td>
</tr>
<tr>
<td>PVI</td>
<td>11307</td>
<td>299452</td>
<td></td>
</tr>
<tr>
<td>SUPRA</td>
<td>863</td>
<td>22545</td>
<td></td>
</tr>
<tr>
<td>TEVAR</td>
<td>287</td>
<td>22625</td>
<td></td>
</tr>
<tr>
<td>Varicose Veins</td>
<td>14195</td>
<td>50680</td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>43382</td>
<td>889397</td>
<td></td>
</tr>
</tbody>
</table>
Procedure Volume by Center in Your Region (Through Dec 2021)

- Other centers in your region
- Your center

Centers (centers with <10 cases not shown)

27 of 27 centers displayed

Procedure Volume Across VQI (Through Dec 2021)

Regions (regions with <3 centers with at least 10 cases not shown)

“Others” indicates centers that do not belong to a regional group.
Physician Specialties

Physician Specialties Across VQI (as of January 31, 2022, N=5849 Physicians)

- Vascular Surgery: 45%
- Cardiology: 15%
- Radiology: 10%
- General Surgery: 7%
- Cardiothoracic Surgery: 5%
- Neurosurgery: 4%
- None: 3%
- Podiatry: 2%
- Other: 1%
- Orthopedic Surgery: 1%
- Neurology: 1%
Physician Specialties Across Your Region (as of January 31, 2022, N=263 Physicians)
Long-Term Follow-up

Procedures performed between January 1 and December 31, 2019

Includes CAS (TFEM CAS and TCAR), CEA, EVAR, HDA, INFRA, IVCF, LEAMP, OAAA, PVI, SUPRA, and TEVAR procedures only. Excludes procedures not eligible for long-term follow-up.

The table below gives the number of procedures meeting the inclusion criteria, and the percentage of those procedures with follow-up recorded between 9 and 21 months post-procedure.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS</td>
<td>486 (83%)</td>
<td>11358 (66%)</td>
<td></td>
</tr>
<tr>
<td>CEA</td>
<td>464 (72%)</td>
<td>19463 (73%)</td>
<td></td>
</tr>
<tr>
<td>EVAR</td>
<td>217 (65%)</td>
<td>7711 (72%)</td>
<td></td>
</tr>
<tr>
<td>HDA</td>
<td>NA (&lt;3 centers)</td>
<td>8378 (69%)</td>
<td></td>
</tr>
<tr>
<td>INFRA</td>
<td>250 (75%)</td>
<td>7383 (74%)</td>
<td></td>
</tr>
<tr>
<td>IVCF</td>
<td>NA (&lt;3 centers)</td>
<td>1887 (76%)</td>
<td></td>
</tr>
<tr>
<td>LEAMP</td>
<td>NA (&lt;3 centers)</td>
<td>3199 (72%)</td>
<td></td>
</tr>
<tr>
<td>OAAA</td>
<td>70 (67%)</td>
<td>1250 (74%)</td>
<td></td>
</tr>
<tr>
<td>PVI</td>
<td>1760 (71%)</td>
<td>40101 (71%)</td>
<td></td>
</tr>
<tr>
<td>SUPRA</td>
<td>90 (74%)</td>
<td>2269 (73%)</td>
<td></td>
</tr>
<tr>
<td>TEVAR</td>
<td>29 (21%)</td>
<td>2961 (68%)</td>
<td></td>
</tr>
<tr>
<td>Overall (Jan-Dec 2019)</td>
<td>3937 (71%)</td>
<td>105960 (71%)</td>
<td></td>
</tr>
<tr>
<td>Overall (Jan-Dec 2018)</td>
<td>3645 (67%)</td>
<td>95242 (73%)</td>
<td></td>
</tr>
</tbody>
</table>
Long-Term Follow-Up by Center in Your Region (Jan-Dec 2019)

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%

Other centers in your region
Your center

Centers (centers with <10 cases not shown)

Index | Medical Center Name
--- | ---
1 | McLaren Flint
2 | McLaren Bay Region
3 | Bronson Methodist Hospital
4 | Bronson Battlecreek Hospital
5 | Ascension Borgess Hospital
6 | Ascension St. John Hospital
7 | University of Michigan
8 | Spectrum Health Hospital
9 | McLaren Macomb
10 | Covenant Healthcare
11 | Michigan Vascular Center
12 | St. Joseph Mercy Health System
13 | Henry Ford Allegiance Health
14 | Beaumont Royal Oak
15 | Henry Ford Hospital, Detroit MI
16 | McLaren Port Huron
17 | McLaren Northern Michigan
18 | Vascular Institute of Michigan

18 of 20 centers displayed
** Indicates center's rate differs significantly from the regional rate.
"*** Indicates region’s rate differs significantly from the VQI rate.

"Others" Indicates centers that do not belong to a regional group.
Discharge Medications

Procedures performed between January 1 and December 31, 2021

Includes CAS (TFEM CAS and TCAR), CEA, EVAR, INFRA, LEAMP, OAAA, PVI, SUPRA, and TEVAR procedures only. Antiplatelet is defined as ASA or P2Y12 inhibitor. Cases are excluded if (1) Discharge Statin = “No, for medical reason” OR (2) Both Discharge ASA = “No, for medical reason” AND Discharge P2Y12 inhibitor = “No, for medical reason” OR (3) An in-hospital death occurred.

The table below gives the number of procedures meeting the inclusion criteria, and the percentage of those procedures where patients received discharge medications.

<table>
<thead>
<tr>
<th></th>
<th>Number of Procedures at Your Center</th>
<th>Antiplatelet+Statin</th>
<th>Antiplatelet Only</th>
<th>Statin Only</th>
<th>Neither</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CEA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EVAR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INFRA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEAMP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OAAA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PVI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUPRA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TEVAR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your Center Overall</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your Region Overall</td>
<td></td>
<td>3006</td>
<td>89%</td>
<td>7%</td>
<td>3%</td>
</tr>
<tr>
<td>VQI Overall</td>
<td></td>
<td>94968</td>
<td>86%</td>
<td>9%</td>
<td>3%</td>
</tr>
</tbody>
</table>
21 of 22 centers displayed

*** Indicates center’s rate differs significantly from the regional rate.

*** Indicates region’s rate differs significantly from the VQI rate.
TFEM CAS ASYMP: Stroke/Death

Procedures performed between January 1 and December 31, 2021

Includes Transfemoral Carotid Artery Stenting (TFEM CAS) procedures performed on asymptomatic patients. Asymptomatic patients are patients with no ipsilateral or contralateral retinal or cortical TIA or stroke within 180 days prior to surgery. Includes procedures utilizing a femoral, brachial, or radial approach. Excludes any patient with prior vertebrobasilar TIA or stroke, prior ipsilateral CAS, CAS for intracranial treatment, or any procedure involving dissection, trauma, FMD, or “Other” lesion types. Procedures with an approach other than femoral, brachial, or radial are also excluded.

The table below gives the number of TFEM CAS procedures (performed on asymptomatic patients) meeting the inclusion criteria, and the observed and expected rates of in-hospital stroke or death for those cases.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of TFEM CAS procedures meeting inclusion criteria</td>
<td>118</td>
<td>2334</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among procedures meeting inclusion criteria</td>
<td>0.6%</td>
<td>1.7%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>109</td>
<td>2125</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among cases with complete data</td>
<td>0.9%</td>
<td>1.6%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of stroke or death among cases with complete data</td>
<td>1.3%</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>1</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

*"Expected rate" is the rate estimated by a statistical model that accounts for patient characteristics, including age, gender, race, BMI, comorbidities, medication and stroke and vascular history. "Cases with complete data" include patients who have data on all of those factors.
Stroke or Death after TFEM CAS for Asymptomatic Patients by Year

Rates shown are observed rates among cases meeting inclusion criteria.
Stroke or Death after TFEM CAS for Asymptomatic Patients in Your Region (Jan-Dec 2021)

- Other centers in your region
- Your center
- Observed
- Expected

Centers (centers with <10 complete cases not shown)

4 of 10 centers displayed
Rates shown are among complete cases. "***" indicates center's observed rate differs significantly from its expected rate.

Stroke or Death after TFEM CAS for Asymptomatic Patients by Region Across VQI (Jan-Dec 2021)

- Observed
- Expected

Regions (regions with <3 centers with at least 10 complete cases not shown)

Rates shown are among complete cases. "***" indicates region's observed rate differs significantly from its expected rate.
TFEM CAS SYMP: Stroke/Death

Procedures performed between January 1 and December 31, 2021

Includes Transfemoral Carotid Artery Stenting (TFEM CAS) procedures performed on symptomatic patients. Symptomatic patients are patients with an ipsilateral or contralateral retinal or cortical TIA or stroke within 180 days prior to surgery. Includes procedures utilizing a femoral, brachial, or radial approach. Excludes any patient with prior vertebrobasilar TIA or stroke, prior ipsilateral CAS, CAS for intracranial treatment, or any procedure involving dissection, trauma, FMD, or “Other” lesion types. Procedures with an approach other than femoral, brachial, or radial are also excluded.

The table below gives the number of TFEM CAS procedures (performed on symptomatic patients) meeting the inclusion criteria, and the observed and expected rates of in-hospital stroke or death for those cases.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of TFEM CAS procedures meeting inclusion criteria</td>
<td>135</td>
<td>2316</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among procedures meeting inclusion criteria</td>
<td>6.7%</td>
<td>4.7%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>122</td>
<td>2135</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among cases with complete data</td>
<td>6.6%</td>
<td>4.5%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of stroke or death among cases with complete data</td>
<td>4.6%</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>0.28</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

*“Expected rate” is the rate estimated by a statistical model that accounts for patient characteristics, including age, gender, race, BMI, comorbidities, medication and stroke and vascular history. “Cases with complete data” include patients who have data on all of those factors.
Stroke or Death after TFEM CAS for Symptomatic Patients by Year

Rates shown are observed rates among cases meeting inclusion criteria.
Stroke or Death after TFEM CAS for Symptomatic Patients in Your Region (Jan-Dec 2021)

- Other centers in your region
- Your center
- Observed
- Expected

Centers (centers with <10 complete cases not shown)

4 of 12 centers displayed
Rates shown are among complete cases. "***" Indicates center's observed rate differs significantly from its expected rate

Stroke or Death after TFEM CAS for Symptomatic Patients by Region Across VQI (Jan-Dec 2021)

- Observed
- Expected

Regions (regions with <3 centers with at least 10 complete cases not shown)
Rates shown are among complete cases. "***" Indicates region's observed rate differs significantly from its expected rate
TCAR ASYMP: Stroke/Death

Procedures performed between January 1 and December 31, 2021

Includes TransCarotid Artery Revascularization (TCAR) procedures performed on asymptomatic patients. Asymptomatic patients are patients with no ipsilateral or contralateral retinal or cortical TIA or stroke within 180 days prior to surgery. Excludes any patient with prior vertebrobasilar TIA or stroke, prior ipsilateral CAS, CAS for intracranial treatment, or any procedure involving dissection, trauma, FMD, or “Other” lesion types. Procedures with an approach other than carotid percutaneous or carotid open are also excluded.

The table below gives the number of TCAR procedures (performed on asymptomatic patients) meeting the inclusion criteria, and the observed and expected rates of in-hospital stroke or death for those cases.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of TCAR procedures meeting inclusion criteria</td>
<td>181</td>
<td>5108</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among procedures meeting inclusion criteria</td>
<td>0.6%</td>
<td>1.3%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>170</td>
<td>4840</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among cases with complete data</td>
<td>0.6%</td>
<td>1.2%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of stroke or death among cases with complete data</td>
<td>1.1%</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>1</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

*“Expected rate” is the rate estimated by a statistical model that accounts for patient characteristics, including age, gender, race, BMI, comorbidities, medication and stroke and vascular history. “Cases with complete data” include patients who have data on all of those factors.
Stroke or Death after TCAR for Asymptomatic Patients by Year

Rates shown are observed rates among cases meeting inclusion criteria.
Stroke or Death after TCAR for Asymptomatic Patients in Your Region (Jan-Dec 2021)

- Other centers in your region
- Your center
- Observed
- Expected

Centers (centers with <10 complete cases not shown)

7 of 16 centers displayed
Rates shown are among complete cases. "***" indicates center’s observed rate differs significantly from its expected rate

Stroke or Death after TCAR for Asymptomatic Patients by Region Across VQI (Jan-Dec 2021)

- Observed
- Expected

Regions (regions with <3 centers with at least 10 complete cases not shown)

Rates shown are among complete cases. "***" indicates region’s observed rate differs significantly from its expected rate
TCAR SYMP: Stroke/Death

Procedures performed between January 1 and December 31, 2021

Includes TransCarotid Artery Revascularization (TCAR) procedures performed on symptomatic patients. Symptomatic patients are patients with an ipsilateral or contralateral retinal or cortical TIA or stroke within 180 days prior to surgery. Excludes any patient with prior vertebrobasilar TIA or stroke, prior ipsilateral CAS, CAS for intracranial treatment, or any procedure involving dissection, trauma, FMD, or “Other” lesion types. Procedures with an approach other than carotid percutaneous or carotid open are also excluded.

The table below gives the number of TCAR procedures (performed on symptomatic patients) meeting the inclusion criteria, and the observed and expected rates of in-hospital stroke or death for those cases.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of TCAR procedures meeting inclusion criteria</td>
<td>85</td>
<td>2611</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among procedures meeting inclusion criteria</td>
<td>3.5%</td>
<td>2.6%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>80</td>
<td>2498</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among cases with complete data</td>
<td>2.5%</td>
<td>2.6%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of stroke or death among cases with complete data</td>
<td>2.8%</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>1</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

*Expected rate* is the rate estimated by a statistical model that accounts for patient characteristics, including age, gender, race, BMI, comorbidities, medication and stroke and vascular history. *Cases with complete data* include patients who have data on all of those factors.
Stroke or Death after TCAR for Symptomatic Patients by Year

Rates shown are observed rates among cases meeting inclusion criteria.
CEA ASYMP: Stroke/Death

Procedures performed between January 1 and December 31, 2021

Includes Carotid Endarterectomy (CEA) procedures performed on asymptomatic patients. Asymptomatic patients are patients with no ipsilateral retinal or cortical TIA or stroke within 180 days prior to surgery. Excludes any patient with prior vertebrobasilar or non-specific TIA or stroke, prior ipsilateral CEA or CAS, or any procedure with a concomitant CABG, proximal endovascular, distal endovascular, or “Other” arterial procedure.

The table below gives the number of CEA procedures (performed on asymptomatic patients) meeting the inclusion criteria, and the observed and expected rates of in-hospital stroke or death for those cases.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of CEA procedures meeting inclusion criteria</td>
<td>159</td>
<td>10107</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among procedures meeting inclusion criteria</td>
<td>0%</td>
<td>0.9%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>152</td>
<td>9627</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among cases with complete data</td>
<td>0%</td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of stroke or death among cases with complete data</td>
<td>0.8%</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>0.64</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

*“Expected rate” is the rate estimated by a statistical model that accounts for patient characteristics, including age, gender, race, BMI, comorbidities, medication and stroke and vascular history. “Cases with complete data” include patients who have data on all of those factors.
Stroke or Death after CEA for Asymptomatic Patients by Year

Rates shown are observed rates among cases meeting inclusion criteria.
Stroke or Death after CEA for Asymptomatic Patients in Your Region (Jan-Dec 2021)

Centers (centers with <10 complete cases not shown)

4 of 6 centers displayed
Rates shown are among complete cases. "***" indicates center’s observed rate differs significantly from its expected rate

Stroke or Death after CEA for Asymptomatic Patients by Region Across VQI (Jan-Dec 2021)

Rates shown are among complete cases. "***" indicates region’s observed rate differs significantly from its expected rate
CEA ASYMP: Postop LOS>1 Day

Procedures performed between January 1 and December 31, 2021

Includes Carotid Endarterectomy (CEA) procedures performed on asymptomatic patients. Asymptomatic patients are patients with no ipsilateral retinal or cortical TIA or stroke within 180 days prior to surgery. Excludes any patient with prior vertebrobasilar or non-specific TIA or stroke, prior ipsilateral CEA or CAS, or any procedure with a concomitant CABG, proximal endovascular, distal endovascular, or “Other” arterial procedure. Procedures where in-hospital death occurred with postoperative LOS≤1 day are also excluded. Postoperative LOS is based on the midnight rule used for hospital billing.

The table below gives the number of CEA procedures (performed on asymptomatic patients) meeting the inclusion criteria, and the observed and expected rates of postoperative LOS>1 Day for those cases.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of CEA procedures meeting inclusion criteria</td>
<td>159</td>
<td>10111</td>
<td></td>
</tr>
<tr>
<td>Observed rate of LOS&gt;1 day among procedures meeting inclusion criteria</td>
<td>21.4%</td>
<td>21.7%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>152</td>
<td>9628</td>
<td></td>
</tr>
<tr>
<td>Observed rate of LOS&gt;1 day among cases with complete data</td>
<td>20.4%</td>
<td>21.6%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of LOS&gt;1 day among cases with complete data</td>
<td>19.4%</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>0.76</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

*“Expected rate” is the rate estimated by a statistical model that accounts for patient characteristics, including age, gender, race, BMI, comorbidities, medication and stroke and vascular history. “Cases with complete data” include patients who have data on all of those factors.
Postop LOS>1 Day after CEA for Asymptomatic Patients by Year

Rates shown are observed rates among cases meeting inclusion criteria.
Postop LOS>1 Day after CEA for Asymptomatic Patients in Your Region (Jan-Dec 2021)

Centers (centers with <10 complete cases not shown)

4 of 6 centers displayed
Rates shown are among complete cases. "*" Indicates center's observed rate differs significantly from its expected rate.

Postop LOS>1 Day after CEA for Asymptomatic Patients by Region Across VQI (Jan-Dec 2021)

Regions (regions with <3 centers with at least 10 complete cases not shown)

Rates shown are among complete cases. "*" Indicates region's observed rate differs significantly from its expected rate.
CEA SYMP: Stroke/Death

Procedures performed between January 1 and December 31, 2021

Includes Carotid Endarterectomy (CEA) procedures performed on symptomatic patients. Symptomatic patients are patients with an ipsilateral retinal or cortical TIA or stroke within 180 days prior to surgery. Excludes any patient with prior vertebrobasilar or non-specific TIA or stroke, prior ipsilateral CEA or CAS, or any procedure with a concomitant CABG, proximal endovascular, distal endovascular, or “Other” arterial procedure.

The table below gives the number of CEA procedures (performed on symptomatic patients) meeting the inclusion criteria, and the observed and expected rates of in-hospital stroke or death for those cases.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of CEA procedures meeting inclusion criteria</td>
<td>82</td>
<td>5069</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among procedures meeting inclusion criteria</td>
<td>0%</td>
<td>2.2%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>81</td>
<td>4888</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among cases with complete data</td>
<td>0%</td>
<td>2.2%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of stroke or death among cases with complete data</td>
<td>2%</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>0.41</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

*“Expected rate” is the rate estimated by a statistical model that accounts for patient characteristics, including age, gender, race, BMI, comorbidities, medication and stroke and vascular history. “Cases with complete data” include patients who have data on all of those factors.
Stroke or Death after CEA for Symptomatic Patients by Year

Rates shown are observed rates among cases meeting inclusion criteria.
Stroke or Death after CEA for Symptomatic Patients in Your Region (Jan-Dec 2021)

- Other centers in your region
- Your center
- Observed
- Expected

Centers (centers with <10 complete cases not shown)

3 of 5 centers displayed
Rates shown are among complete cases. "***" indicates center's observed rate differs significantly from its expected rate.

Stroke or Death after CEA for Symptomatic Patients by Region Across VQI (Jan-Dec 2021)

- Observed
- Expected

Regions (regions with <3 centers with at least 10 complete cases not shown)
Rates shown are among complete cases. "***" indicates region's observed rate differs significantly from its expected rate.
CEA SYMP: Postop LOS>1 Day

Procedures performed between January 1 and December 31, 2021

Includes Carotid Endarterectomy (CEA) procedures performed on symptomatic patients. Symptomatic patients are patients with an ipsilateral retinal or cortical TIA or stroke within 180 days prior to surgery. Excludes any patient with prior vertebrobasilar or non-specific TIA or stroke, prior ipsilateral CEA or CAS, or any procedure with a concomitant CABG, proximal endovascular, distal endovascular, or “Other” arterial procedure.

Procedures where in-hospital death occurred with postoperative LOS>1 day are also excluded. Postoperative LOS is based on the midnight rule used for hospital billing.

The table below gives the number of CEA procedures (performed on symptomatic patients) meeting the inclusion criteria, and the observed and expected rates of postoperative LOS>1 Day for those cases.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of CEA procedures meeting inclusion criteria</td>
<td>82</td>
<td>5069</td>
<td></td>
</tr>
<tr>
<td>Observed rate of LOS&gt;1 day among procedures meeting inclusion criteria</td>
<td>41.5%</td>
<td>40.8%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>81</td>
<td>4888</td>
<td></td>
</tr>
<tr>
<td>Observed rate of LOS&gt;1 day among cases with complete data</td>
<td>42%</td>
<td>40.9%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of LOS&gt;1 day among cases with complete data</td>
<td>40.8%</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>0.82</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

**“Expected rate” is the rate estimated by a statistical model that accounts for patient characteristics, including age, gender, race, BMI, comorbidities, medication and stroke and vascular history. “Cases with complete data” include patients who have data on all of those factors.**
Postop LOS>1 Day after CEA for Symptomatic Patients by Year

Rates shown are observed rates among cases meeting inclusion criteria.
Postop LOS >1 Day after CEA for Symptomatic Patients in Your Region (Jan-Dec 2021)

3 of 5 centers displayed
Rates shown are among complete cases. ** Indicates center’s observed rate differs significantly from its expected rate.

Postop LOS >1 Day after CEA for Symptomatic Patients by Region Across VQI (Jan-Dec 2021)

Rates shown are among complete cases. ** Indicates region’s observed rate differs significantly from its expected rate.
EVAR: Postop LOS>2 Days

Procedures performed between January 1 and December 31, 2021

Includes Endovascular AAA Repair (EVAR) procedures. Excludes any procedure with ruptured aneurysm. Procedures where in-hospital death occurred with postoperative LOS≤2 days are also excluded. Postoperative LOS is based on the midnight rule used for hospital billing.

The table below gives the number of EVAR procedures meeting the inclusion criteria, and the observed and expected rates of postoperative LOS>2 Days for those cases.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of EVAR procedures meeting inclusion criteria</td>
<td>150</td>
<td>7138</td>
<td></td>
</tr>
<tr>
<td>Observed rate of LOS&gt;2 days among procedures meeting inclusion criteria</td>
<td>14%</td>
<td>16.7%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>137</td>
<td>6628</td>
<td></td>
</tr>
<tr>
<td>Observed rate of LOS&gt;2 days among cases with complete data</td>
<td>14.6%</td>
<td>16.7%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of LOS&gt;2 days among cases with complete data</td>
<td>14.7%</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>1</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

*"Expected rate" is the rate estimated by a statistical model that accounts for patient characteristics, including age, gender, race, BMI, comorbidities, medication and stroke and vascular history. "Cases with complete data" include patients who have data on all of those factors.
Postop LOS>2 Days after EVAR by Year

Rates shown are observed rates among cases meeting inclusion criteria.
Postop LOS>2 Days after EVAR in Your Region (Jan-Dec 2021)

Other centers in your region

Observed

Expected

Centers (centers with <10 complete cases not shown)

Rates shown are among complete cases. "***" Indicates center's observed rate differs significantly from its expected rate.

Postop LOS>2 Days after EVAR by Region Across VQI (Jan-Dec 2021)

Regions (regions with <3 centers with at least 10 complete cases not shown)

Rates shown are among complete cases. "***" Indicates region's observed rate differs significantly from its expected rate.
EVAR: Sac Diameter Reporting

Procedures performed between January 1 and December 31, 2019

Includes Endovascular AAA Repair (EVAR) procedures. Excludes patients who were converted to open or died within 21 months of surgery.

The table below gives the number of EVAR procedures meeting the inclusion criteria, and the percentage of those procedures where a sac diameter was reported between 9 and 21 months post-procedure.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of EVAR procedures meeting inclusion criteria</td>
<td>200</td>
<td>7112</td>
<td></td>
</tr>
<tr>
<td>Percentage with sac diameter reported between 9 and 21 months post-procedure</td>
<td>48%</td>
<td>58%</td>
<td></td>
</tr>
</tbody>
</table>
EVAR Sac Diameter Reporting in Your Region (Jan-Dec 2019)

- Other centers in your region
- Your center

4 of 4 centers displayed

*** Indicates center’s rate differs significantly from the regional rate.

EVAR Sac Diameter Reporting by Region Across VQI (Jan-Dec 2019)

Regions (regions with <3 centers with at least 10 cases not shown)

*** Indicates region’s rate differs significantly from the VQI rate.
EVAR: SVS AAA Diameter Guideline

Procedures performed between January 1 and December 31, 2021

Includes Endovascular AAA Repair (EVAR) procedures. Excludes any non-elective procedure. SVS AAA diameter guideline is ≥5 cm for Women and ≥5.5 cm for men. If the patient has any iliac aneurysm, the guideline is considered met regardless of AAA diameter.

The table below gives the number of EVAR procedures meeting the inclusion criteria, and the percentage of those procedures meeting the SVS AAA diameter guideline.

<table>
<thead>
<tr>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of EVAR procedures meeting inclusion criteria</td>
<td>135</td>
<td>6335</td>
</tr>
<tr>
<td>Percentage meeting SVS AAA diameter guideline</td>
<td>88.1%</td>
<td>75.3%</td>
</tr>
</tbody>
</table>
EVAR SVS AAA Diameter Guideline in Your Region (Jan-Dec 2021)

Centers (centers with <10 cases not shown)

4 of 4 centers displayed

** Indicates center's rate differs significantly from the regional rate.

EVAR SVS AAA Diameter Guideline by Region Across VQI (Jan-Dec 2021)

Regions (regions with <3 centers with at least 10 cases not shown)

*** Indicates region's rate differs significantly from the VQI rate.
TEVAR: Sac Diameter Reporting

Procedures performed between January 1 and December 31, 2019

Includes Thoracic Endovascular Aortic Repair (TEVAR) procedures for aneurysm or aneurysm from dissection. Excludes procedures where no aortic device was implanted or patients who were converted to open or died within 21 months of surgery.

The table below gives the number of TEVAR procedures meeting the inclusion criteria, and the percentage of those procedures where a sac diameter was reported between 9 and 21 months post-procedure.

<table>
<thead>
<tr>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of TEVAR procedures meeting inclusion criteria</td>
<td>22</td>
<td>1703</td>
</tr>
<tr>
<td>Percentage with sac diameter reported between 9 and 21 months post-procedure</td>
<td>22.7%</td>
<td>59.3%</td>
</tr>
</tbody>
</table>
TEVAR Sac Diameter Reporting in Your Region (Jan-Dec 2019)

Centers (centers with <10 cases not shown)

0 of 3 centers displayed

*** indicates center’s rate differs significantly from the regional rate.

TEVAR Sac Diameter Reporting by Region Across VQI (Jan-Dec 2019)

Regions (regions with <3 centers with at least 10 cases not shown)

*** indicates region’s rate differs significantly from the VQI rate.
OAAA: In-Hospital Mortality

Procedures performed between January 1, 2018 and December 31, 2021
Includes Open AAA (OAAA) procedures. Excludes any patient with a ruptured aneurysm.

The table below gives the number of OAAA procedures meeting the inclusion criteria, and the observed and expected rates of in-hospital death for those cases.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of OAAA procedures meeting inclusion criteria</td>
<td>294</td>
<td>4503</td>
<td></td>
</tr>
<tr>
<td>Observed rate of In-Hospital Mortality among procedures meeting inclusion criteria</td>
<td>3.1%</td>
<td>4.2%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>278</td>
<td>4201</td>
<td></td>
</tr>
<tr>
<td>Observed rate of In-Hospital Mortality among cases with complete data</td>
<td>3.2%</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of In-Hospital Mortality among cases with complete data</td>
<td>4.5%</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>0.38</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

*“Expected rate” is the rate estimated by a statistical model that accounts for patient characteristics, including age, gender, race, BMI, comorbidities, medication and stroke and vascular history. “Cases with complete data” include patients who have data on all of those factors.
In-Hospital Death after OAAA by Year

Rates shown are observed rates among cases meeting inclusion criteria.
In-Hospital Death after OAAA in Your Region (Jan 2018-Dec 2021)

- Other centers in your region
- Your center
- Observed
- Expected

Centers (centers with <10 complete cases not shown)

Rates shown are among complete cases. "**" indicates center's observed rate differs significantly from its expected rate.

In-Hospital Death after OAAA by Region Across VQI (Jan 2018-Dec 2021)

- Observed
- Expected

Regions (regions with <3 centers with at least 10 complete cases not shown)

Rates shown are among complete cases. "**" indicates region's observed rate differs significantly from its expected rate.
OAAA: SVS Cell-Saver Guideline

Procedures performed between January 1, 2018 and December 31, 2021

Includes Open AAA (OAAA) procedures. Excludes any patient with EBL≤500 ml. SVS cell-saver guideline is met if cell salvage or ultrafiltration device was used.

The table below gives the number of OAAA procedures meeting the inclusion criteria, and the percentage of those procedures meeting the SVS cell-saver guideline.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of OAAA procedures meeting inclusion criteria</td>
<td></td>
<td>268</td>
<td>4576</td>
</tr>
<tr>
<td>Percentage meeting SVS cell-saver guideline</td>
<td></td>
<td>90.3%</td>
<td>92.4%</td>
</tr>
</tbody>
</table>
OAAA: SVS Iliac Inflow Guideline

Procedures performed between January 1, 2018 and December 31, 2021

Includes Open AAA (OAAA) procedures. SVS iliac inflow guideline is met if preservation of flow was maintained to at least one internal iliac artery.

The table below gives the number of OAAA procedures meeting the inclusion criteria, and the percentage of those procedures meeting the SVS iliac inflow guideline.

<table>
<thead>
<tr>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of OAAA procedures meeting inclusion criteria</td>
<td>313</td>
<td>5134</td>
</tr>
<tr>
<td>Percentage meeting SVS iliac inflow guideline</td>
<td>96.5%</td>
<td>97.6%</td>
</tr>
</tbody>
</table>
OAAA Iliac Inflow Guideline by Year

- Your Center
- Your Region
- VQI Overall
- Your Region (4-yr Rate)
OAAA Iliac Inflow Guideline in Your Region (Jan 2018-Dec 2021)

Centers (centers with <10 cases not shown)

4 of 6 centers displayed

*** Indicates center's rate differs significantly from the regional rate.

OAAA Iliac Inflow Guideline by Region Across VQI (Jan 2018-Dec 2021)

Regions (regions with <3 centers with at least 10 cases not shown)

*** Indicates region's rate differs significantly from the VQI rate.
PVI CLAUD: ABI/Toe Pressure

Procedures performed between January 1 and December 31, 2021

Includes Peripheral Vascular Intervention (PVI) procedures for mild, moderate, or severe claudication. “ABI/Toe Pressure Assessment” indicates at least one ABI or toe pressure assessment was made prior to PVI for the side of the procedure, or on both sides for bilateral and aortic procedures.

The table below gives the number of PVI procedures meeting the inclusion criteria, and the percentage of those procedures in which an ABI or toe pressure was assessed prior to PVI.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of PVI procedures meeting inclusion criteria</td>
<td></td>
<td>613</td>
<td>14657</td>
</tr>
<tr>
<td>Percentage with ABI/toe pressure assessment</td>
<td>80.3%</td>
<td></td>
<td>74.8%</td>
</tr>
</tbody>
</table>
ABI/Toe Pressure Assessment before PVI for Claudication by Year

- Your Center
- Your Region
- VQI Overall
ABI/Toe Pressure Assessment before PVI for Claudication in Your Region (Jan-Dec 2021)

Other centers in your region  Your center

Centers (centers with <10 cases not shown)

12 of 15 centers displayed

**"** indicates center’s rate differs significantly from the regional rate.

ABI/Toe Pressure Assessment before PVI for Claudication by Region Across VQI
(Jan-Dec 2021)

Regions (regions with <3 centers with at least 10 cases not shown)

**"** indicates region’s rate differs significantly from the VQI rate.
INFRA CLTI: Major Complications

Procedures performed between January 1 and December 31, 2021

Includes Intrainguinal Bypass (INFRA) procedures for rest pain, tissue loss, or acute ischemia. Major complications are defined as in-hospital death, ipsilateral BK or AK amputation, or graft occlusion.

The table below gives the number of INFRA procedures meeting the inclusion criteria, and the percentage of those procedures that resulted in in-hospital death, ipsilateral BK or AK amputation, or graft occlusion.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of INFRA procedures meeting inclusion criteria</td>
<td>125</td>
<td>5187</td>
<td></td>
</tr>
<tr>
<td>Percentage with major complications</td>
<td>4%</td>
<td>4.9%</td>
<td></td>
</tr>
</tbody>
</table>
Major Complications after INFRA for CLTI in Your Region (Jan-Dec 2021)

- Other centers in your region
- Your center

Centers (centers with <10 cases not shown)

5 of 5 centers displayed

*** Indicates center's rate differs significantly from the regional rate.

Major Complications after INFRA for CLTI by Region Across VQI (Jan-Dec 2021)

Regions (regions with <3 centers with at least 10 cases not shown)

*** Indicates region's rate differs significantly from the VQI rate.
SUPRA CLTI: Major Complications

Procedures performed between January 1 and December 31, 2021

Includes Suprainguinal Bypass (SUPRA) procedures for rest pain, tissue loss, or acute ischemia. Major complications are defined as in-hospital death, ipsilateral BK or AK amputation, or graft occlusion.

The table below gives the number of SUPRA procedures meeting the inclusion criteria, and the percentage of those procedures that resulted in in-hospital death, ipsilateral BK or AK amputation, or graft occlusion.

<table>
<thead>
<tr>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of SUPRA procedures meeting inclusion criteria</td>
<td>28</td>
<td>1162</td>
</tr>
<tr>
<td>Percentage with major complications</td>
<td>0%</td>
<td>8.1%</td>
</tr>
</tbody>
</table>
Major Complications after SUPRA for CLTI in Your Region (Jan-Dec 2021)

Centers (centers with <10 cases not shown)

0 of 4 centers displayed

*** Indicates center’s rate differs significantly from the regional rate.

Major Complications after SUPRA for CLTI by Region Across VQI (Jan-Dec 2021)

Regions (regions with <3 centers with at least 10 cases not shown)

*** Indicates region’s rate differs significantly from the VQI rate.
LEAMP: Postop Complications

Procedures performed between January 1 and December 31, 2021

Includes Lower-Extremity Amputation (LEAMP) procedures. Postoperative complications are defined as myocardial infarction, dysrhythmia, congestive heart failure, surgical site infection, renal complication, or respiratory complication.

The table below gives the number of LEAMP procedures meeting the inclusion criteria, and the percentage of those procedures that resulted in a postoperative complication.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of LEAMP procedures meeting inclusion criteria</td>
<td></td>
<td>NA (&lt;3 centers)</td>
<td>3080</td>
</tr>
<tr>
<td>Percentage with postoperative complications</td>
<td></td>
<td></td>
<td>11.7%</td>
</tr>
</tbody>
</table>
Postop Complications after LEAMP in Your Region (Jan-Dec 2021)

Centers (centers with <10 cases not shown)

0 of 1 centers displayed

*** Indicates center's rate differs significantly from the regional rate.

Postop Complications after LEAMP by Region Across VQI (Jan-Dec 2021)

Regions (regions with <3 centers with at least 10 cases not shown)

*** Indicates region's rate differs significantly from the VQI rate.
Regional Improvement Projects

Ashraf Mansour, MD
Timothy Nypaver, MD

• Brainstorming for new Regional Quality Improvement Projects
National VQI Update

Jim Wadzinski
SVS PSO Deputy Executive Director
Number of Participating Centers

Location of VQI Participating Centers

928 VQI Centers
927 centers in North America
1 center in Singapore
Total Procedures Captured (as of 4/1/2022) 936,887

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peripheral Vascular Intervention</td>
<td>317,955</td>
</tr>
<tr>
<td>Carotid Endarterectomy</td>
<td>172,414</td>
</tr>
<tr>
<td>Infra-Inguinal Bypass</td>
<td>73,346</td>
</tr>
<tr>
<td>Endovascular AAA Repair</td>
<td>71,506</td>
</tr>
<tr>
<td>Hemodialysis Access</td>
<td>69,705</td>
</tr>
<tr>
<td>Carotid Artery Stent</td>
<td>72,267</td>
</tr>
<tr>
<td>Varicose Vein</td>
<td>53,246</td>
</tr>
<tr>
<td>Supra-Inguinal Bypass</td>
<td>23,646</td>
</tr>
<tr>
<td>Thoracic and Complex EVAR</td>
<td>24,435</td>
</tr>
<tr>
<td>Lower Extremity Amputations</td>
<td>24,459</td>
</tr>
<tr>
<td>IVC Filter</td>
<td>17,119</td>
</tr>
<tr>
<td>Open AAA Repair</td>
<td>16,188</td>
</tr>
<tr>
<td>Vascular Medicine Consult</td>
<td>527</td>
</tr>
<tr>
<td>Venous Stent</td>
<td>76</td>
</tr>
</tbody>
</table>

VQI Total Procedure Volume

(Through March 31, 2022)

Total Procedure Volume tab reflects net procedures added to the registry for the month.
2022 VQI Annual Meeting at VAM

Dates:
- Tuesday afternoon, June 14, 2022, 12PM – 6:30PM ET
- Wednesday, June 15, 2022, 8AM – 5PM ET

Location:
- Hynes Convention Center, Boston, MA

*Poster Presentation and Networking Reception
  Tuesday, June 14, 2022
  5:00PM to 6:30PM

Hope to see you there!!!
Long Term Follow Up Reports

Currently available:

- EVAR, CAS, CEA
- Soon to be released PVI, TEVAR, IVC, HDA......

CEA Follow-Up Outcomes Report

Prepared for Demo Medical Center on 02/08/2022

This report is a patient safety work product generated within the SVS PSQ, LLC, and is considered privileged and confidential.

Follow-Up Rate

<table>
<thead>
<tr>
<th></th>
<th>My Center</th>
<th>My Region</th>
<th>All YQI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cases with any follow-up</td>
<td>100% (2/2)</td>
<td>NA (≥3 cemtran)</td>
<td>NA (≥3 cemtran)</td>
</tr>
<tr>
<td>Cases with follow-up ≥ 3 months</td>
<td>0% (0/2)</td>
<td>NA (≥3 cemtran)</td>
<td>NA (≥3 cemtran)</td>
</tr>
<tr>
<td>Cases with follow-up ≥ 6 months and imaging</td>
<td>0% (0/2)</td>
<td>NA (≥3 cemtran)</td>
<td>NA (≥3 cemtran)</td>
</tr>
</tbody>
</table>

100.00%
80.00%
60.00%
40.00%
20.00%
0.00%
Pilot Extension

• Quality of Life survey for the PVI Registry
• Extending pilot to new interested centers
• Start up education and promotional documents will be provided
• For questions or interest please contact cmorgan@svspso.org
Regional Lead Data Managers

• Volunteer position

• Help to organize/coordinate Regional Meetings

• Disseminate information gathered from RLDM quarterly meetings with the SVS PSO staff to your region’s Data Managers

• Strategies for recruitment & filling vacant positions
Website Redesign

• A new VQI.org experience is coming!
• New look and feel, fresh content, and improved navigation.
• Our goal is to showcase the new site at VQI@VAM
VQI Mobile App

• The SVS PSO is pursuing the creation of a brand new VQI Mobile App that could be used on your personal device.

• We hope this will allow us to get information to you more effectively and efficiently.

• The VQI Mobile App will start out as a communication tool, and hopefully grow from there.
Conclusions:
Endologix AFX has history of increased Type III endoleaks –
- Panel expressed concerns about role of AFX 2
- Mitigation efforts taken
- Further steps underway with FDA, industry and VQI

Real World Evidence plays an important role in analyzing EVAR
- Follow up 5-10 years
- Needs support
  - Clinical Registry – VQI
  - Vascular Research Collaborative (VRC)
  - VISION - CMS claims linkage
Trainee Program Update

- Mentor based 12–18-month program
- Regional meetings, center data review
- Quality and research opportunities
- VQI@VAM
- Chance to be selected for scholarship
- Quarterly check-ins with SVS PSO staff
- Satisfaction surveys, feedback
- G Lemmon@svspso.org or bwymer@svspso.org
2022 PARTICIPATION AWARDS PROGRAM

The four domains for the 2022 Participation Awards criteria:

Domain 1 – LTFU – 40% weighted
Domain 2 – Regional Meeting Attendance – 30% weighted
Domain 3 – QI Project – 20% weighted
Domain 4 – Registry Subscriptions – 10% weighted

The final score is calculated as follows:

Total points = 4 x LTFU score + 3 x Attendance score + 2 x QI score + 1 x registry score
Participation Awards

Domain – QI Project – 20% weighted

Scoring on 0 – 6-point scale to keep consistent with other measures. This gives centers options for getting 6 maximum QI points.

- Initiation of a QI Project, evidenced by submitting a Project Charter to QI@SVSPSO.ORG or bwymer@svspso.org (2 points). One charter per year.

- Presenting a QI Project (presentation or poster) at a Regional VQI, *Regional Society Meeting, or *Hospital Board meeting (2 points) When presenting at succinct regional meetings, project slides must reflect a change or update in status.

- Presenting a QI Project (presentation or poster) at the National VQI or *Vascular Annual Meeting (2 points)

- *Publish a VQI quality improvement article in a Peer Reviewed Journal (2 points)

- Centers with significant improvement or excellent performance rates on National QI Initiatives will receive one additional point (per initiative), for a maximum of 6 QI points

* Please send attestation (proof) to bwymer@svspso.org on or before December 31, 2022.
Participation Award Results

 McLaren Flint
 University of Michigan
 Ascension Borgess Hospital
 McLaren Bay Region

 Henry Ford Hospital, Detroit MI
 Spectrum Health Hospital
 Bronson Battle Creek Hospital
 Bronson Methodist Hospital
 Covenant Healthcare

 Michigan Vascular Center
 Beaumont Royal Oak
 DMC Harper University Hospital
 McLaren Macomb
 Munson Medical Center

 Congratulations!
Charter Historical Review

Quality Improvement Charters

<table>
<thead>
<tr>
<th>Category</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>LTFU</td>
<td>5</td>
<td>10</td>
<td>8</td>
<td>14</td>
</tr>
<tr>
<td>DC Meds</td>
<td>16</td>
<td>20</td>
<td>17</td>
<td>12</td>
</tr>
<tr>
<td>Documentation</td>
<td>4</td>
<td>4</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Clinical</td>
<td>3</td>
<td>3</td>
<td>23</td>
<td>10</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Quality Improvement Charters

<table>
<thead>
<tr>
<th>Year</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>55</td>
<td>37</td>
<td>58</td>
<td>74</td>
</tr>
</tbody>
</table>

Charter Historical Review

Quality Improvement Charters

<table>
<thead>
<tr>
<th>Category</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>LTFU</td>
<td>5</td>
<td>10</td>
<td>8</td>
<td>14</td>
</tr>
<tr>
<td>DC Meds</td>
<td>16</td>
<td>20</td>
<td>17</td>
<td>12</td>
</tr>
<tr>
<td>Documentation</td>
<td>4</td>
<td>4</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Clinical</td>
<td>3</td>
<td>3</td>
<td>23</td>
<td>10</td>
</tr>
<tr>
<td>Other</td>
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Quality Improvement Charters

<table>
<thead>
<tr>
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<th>2018</th>
<th>2019</th>
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<tbody>
<tr>
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<td>55</td>
<td>37</td>
<td>58</td>
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Charter Historical Review

Quality Improvement Charters

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Quality Improvement Updates

• How to Begin a Charter
  – Attend Charter Focus Calls
  – Listen to Prior Webinars
    • www.vqi.org
  – Review Sample Charters
    • https://www.vqi.org/quality-improvement/qi-projects/
  – Network with colleagues
  – 1:1 Meeting
    • bwymer@svspso.org
Quality Improvement Updates

• Charter Focus Calls
  – New format
• Quarterly Webinars
• Monthly VQI Newsletter
• Sample Charters
• Overview of QI Tools
• [https://www.vqi.org/quality-improvement/](https://www.vqi.org/quality-improvement/)
Arterial Quality Council:
Mitchell Weaver, MD
Spring 2022 AQC Update

• Discussion for development of new National Quality Initiatives
  – Discharge Mediation measure placed in maintenance mode due to high compliance
  – EVAR Sac Diameter – need for continued efforts to improve compliance

• National LTFU Survey creation & results

• VQI Risk Calculators

• Harmonization of Urgency variables as much as possible across “like” registries
Venous Quality Council:
Jennifer Watson, MD
SVS created a separate Venous RAC

**The Vascular Quality Initiative - National Venous RAC Schedule (vqi.org)**

2021: 3 proposals

- Incidence of venous thromboembolic events (VTE) after endovenous ablation in patients with venous stasis ulcers (C6 disease): Jaime Benarroch-Gampel
- Impact of Treatment Length and Treatment Region on Clinical Outcomes after Varicose Vein Procedures: Halbert Bai
- Safety and efficacy of endovenous ablation in patients with a history of DVT: Mikel Sadek

- AVF meeting
  
  February 23rd - 26th, 2022

**Ideas for Venous Registry Specific Metrics:**

- Anticoagulation after venous stents?
- C2 disease for varicose veins?
- IVC temporary filter retrieval?
- IDEAS???
Arterial Research Advisory Council:

Jim Wadzinski
Spring 2022 RAC Reminders

Dr. Leila Mureebe,  
SVS PSO Associate Medical Director

— Creating videos on how to submit a RAC Proposal for “success”
— Creating useful tools and tips to train new investigators
1. Management and treatment outcomes of patients undergoing endovenous ablation are significantly different between Intersocietal Accreditation Commission-accredited and nonaccredited vein centers
Andrea T Obi, Sophia Afridi, Fedor Lurie DOI: 10.1016/j.jvsv.2020.07.007

2. Transcarotid artery revascularization versus carotid endarterectomy and transfemoral stenting in octogenarians
Ambar Mehta, Priya B Patel, Danielle Bajakian, Richard Schutzer, Nicholas Morrissey, Mahmoud Malas, Marc Schermerhorn, Virendra I Patel DOI: 10.1016/j.jvs.2021.05.028

3. Percutaneous brachial access associated with increased incidence of complications compared with open exposure for peripheral vascular interventions in a contemporary series
Charles DeCarlo, Christopher A Latz, Laura T Boitano, Anna A Pendleton, Jahan Mohebali, Mark F Conrad, Matthew J Eagleton, Samuel I Schwartz DOI: 10.1016/j.jvs.2020.08.143

4. A comparison of administrative data and quality improvement registries for abdominal aortic aneurysm repair
Kirsten D Dansey, Livia E V M de Guerre, Nicholas J Swerdlow, Chun Li, Jinny Lu, Priya B Patel, Salvatore T Scali, Kristina A Giles, Marc L Schermerhorn DOI: 10.1016/j.jvs.2020.06.105

5. Perioperative Outcomes for Centers Routinely Admitting Postoperative Endovascular Aortic Aneurysm Repair to the ICU
Thomas W Cheng, Alik Farber, Scott R Levin, Mahmoud B Malas, Karan Garg, Virendra I Patel, Ahmed Kayssi, Denis Rybin, Rebecca B Hasley Jeffrey J Siracuse DOI: 10.1016/j.jamcollsurg.2021.03.035
DOI: 10.1053/j.semvascsurg.2021.04.001

7. Lower Extremity Revascularization for Chronic Limb-Threatening Ischemia among Patients at the Extremes of Age  Tanner I Kim, Edouard Aboian, Uwe Fischer, Yawei Zhang, Raul J Guzman, Cassius Iyad Ochoa Chaar  
DOI: 10.1016/j.avsg.2020.08.135

8. Stress testing before abdominal aortic aneurysm repair does not lead to a reduction in perioperative cardiac events  Jesse A Columbo, Falen Demsas, Zachary J Wanken, Bjoern D Suckow, Jocelyn M Beach, Stanislav Henkin, Philip P Goodney, David H Stone  
DOI: 10.1016/j.jvs.2021.02.032

DOI: 10.1016/j.jvs.2020.08.147

10. Endovascular interventions for claudication do not meet minimum standards for the Society for Vascular Surgery efficacy guidelines  Jonathan Bath, Peter F Lawrence, Dan Neal, Yuanyuan Zhao, Jamie B Smith, Adam W Beck, Michael Conte, Marc Schermerhorn, Karen Woo  
DOI: 10.1016/j.jvs.2020.10.067
• Ensure your RAC submission is complete
  – Data Tables
  – Full Research proposal
  – CV
  – Regional RAC Review

• Your center must participate in the registry related to your research proposal
1. Review list of projects: 
https://www.vqi.org/data-analysis/rac-approved-project-search/

2. Submit proposal online: 
http://abstracts123.com/svs1/meetinglogin

3. Deadlines for submissions: 
The Vascular Quality Initiative | National Arterial and Venous RAC Schedules (vqi.org)
Nominations Venous RAC

• Call for nominations to fill vacancy for the Mid-South Venous Research Advisory Council.
  
  – Three-year term with one additional renewal
  – Email notification to the region Sent March 11, 2022, of officer nominations.
  – Region will be permitted a period of one week to nominate individuals.
  – Regional EC will be given three weeks to vote for their member of choice.
  – All nominations will be conducted in the spring.
Governing Council:
Ashraf Mansour, MD
• Dr. Lemmon provided an updated on the VQI Fellows in Training program

• The Governing Council provided input on the PSO 2022/2023 software development activities

• Dr. Jorgensen provided an update on the FDA panel discussions regarding type 3 endoleaks

• Kristopher Huffman presented the PSO’s strategy around the development and maintenance of Risk Calculators
Updates for Spring 2022
VQI Regional Meeting
PATHWAYS Support

Claims Validation

The annual claims validation process is intended to ensure that all eligible cases have been captured in the registry and is a requirement of participation in the VQI.

The 2020 Claims Validation process was launched in September 2021.

- The deadline to finish was 12/31/21.
- PATHWAYS Support is here to help you. Please reach out if your center was selected to participate in the audit and would like assistance.

The selection and launch of 2021 Claims Validation is coming soon! Stay tuned!
What’s New?
Please check out recent enhancements in the PATHWAYS Support tab designed to improve your experience. Let us know what you think!

- **Documents** – Easy access to important abstraction documents.
  - **Code List** – Complete list of current VQI Eligible ICD-10 and CPT codes.
  - **Data Dictionary** – Ability to download data variables by procedure or all procedures.
  - **Inclusion/Exclusion Criteria** – Defines the procedures that are eligible for Inclusion/Exclusion in the registry.
  - **Paper Form** – Paper form for data abstraction.

- **Release Notes** - Access details on historical registry updates and other important announcements.

- **Training Schedule** – List of upcoming training opportunities and registration links for new staff and experienced abstractors.
PATHWAYS Support

Coming Soon...

The Support Team continues to work on implementing enhanced tools and training opportunities for new and existing PATHWAYS users to learn more about PATHWAYS functionality.

More details to come!
Technology Updates for VQI
Released in Q3 2021

- CAS Follow-up Outcomes Report
- A new 'Follow-up Outcomes Report' for the CAS registry, developed by the SVS PSO, is now available in the PATHWAYS Reporting tab. The report will provide key follow up metrics for VQI sites with center data as well as regional and all VQI benchmarking and includes drill down capabilities to better understand center data at the procedure level.
Released in Q3 2021

• Infra Opioid Pilot
  • Infra-inguinal Bypass registry was updated to include new Opioid fields for all participating sites. The fields appear on their own tab at the end of the procedure and follow-up forms.
  • Procedure variables were added to the Procedure form in a tab called “Opioid”. The tab contains both Demographics and Post-Op variables.
  • Follow-up variables are in the 30-day follow-up and long-term follow-up forms for Infra-inguinal Bypass procedures.
  • Discharge and follow-up opioid detail columns display dynamically depending on type(s) of opioids selected.
Released in Q3 2021

- Infra Opioid Pilot, cont.
  - Follow-up medications also include reference columns so the user can see the number of pills/patches and refills originally prescribed at discharge. These reference columns automatically populate based on data entered in the procedure form, or display N/A if there is no discharge information available.
  - For discharge and follow-up opioids, the Morphine Equivalent (MME) column is automatically calculated using medication-specific factors. MME is calculated as Dose x Frequency x Conversion Factor. We will not calculate the MME value if the medication type is Other, and/or if the frequency is PRN. Please note that for Methadone the conversion factor increases at higher doses and for Fentanyl it is dosed in mcg/hr instead of mg/day.
Released in Q3 2021

• TEVAR revisions - New dependency for LTFU Entry Flow and Dissection Date and Type
  • TEVAR LTFU Entry Flow:
    • A change was made to the dependency for Entry Flow on the TEVAR follow-up form. The field ‘Entry Flow’ no longer displays when imaging is equal to ‘None’.
  • TEVAR Dissection Date and Type:
    • There was formerly no validation between Dissection Onset Date and Procedure Date, or between Dissection Onset Date and Dissection Type. As such, it was possible to enter a Dissection Date that is after Procedure Date, as well as record a Dissection Date that does not match the selected type (Acute or Chronic). Validation was added so if this mismatch occurs, users must correct either the ‘Dissection Date’ or the ‘Dissection Type’ before being allowed to submit the procedure form.
Released in Q3 2021

- CEA revisions
  - New fields associated with imaging were added.
  - New dependencies were added to the Modified Rankin Score fields so they will display on the form only when the patient had a stroke.
  - The layout of the Pre-op Imaging section was changed slightly in order to harmonize the format with other registries where Right and Left sides are displayed separately in two columns.
  - The Stenosis fields being retired were mapped to new fields.
Released in Q3 2021

- CAS revisions
  - New event fields and fields associated with imaging were added in order to collect more granular information.
  - Modified fields - Lesion Stenosis L1 and L2 have updated min/max ranges from 0-99 to 0-100.
  - The Other Imaging Stenosis fields were retired and replaced with fields that are specific to each imaging type.
Released in Q3 2021

• VMC revisions
  • New fields were added to the VMC registry to capture Peak Systolic Velocity and End Diastolic Velocity Stenosis Events in the Procedure and Long-Term Follow-up.
  • The response options for the Carotid Stenosis Right and Carotid Stenosis Left in both the Procedure and the Follow-up forms were revised.
  • The Carotid PSV Right and Carotid PSV Left data collection fields were retired. The layout of the Carotid Disease section of the Procedure Form will be changed slightly in order to harmonize the format with other registries where Right and Left sides are displayed separately in two columns.
Released in Q3 2021

- IVC Filter revisions
  - The registry consolidated the “Other” IVC filter device options into a single option for both retrievable and permanent devices. All of the “Other” temporary and retrievable devices (select options 20 through 39 in the IVC_FILTER_TYPE field) were retired and a new 99 = Other field was created which will open the existing Other field (IVC_FILTER_TYPE_OTHER).
Released in Q3 2021

- Add comment to completed record
  - Users are now able to append additional comments without making changes to original data in the form. The Comments field now includes a new button labelled “Update Comments” that initially appears as grayed out. If users change or add any information in the Comments field, the button becomes active and allows the user to save the changes without reverting the form.
Released in Q3 2021

- Auto-save before timeout
  - Formerly, if users were logged out of PATHWAYS due to inactivity, any data entry changes they have made were lost. This feature will automatically save changes to records and will flag the record accordingly in the record information table.
Released in Q4 2021

• EVAR and TEVAR revisions: Convert "Aptus HeliFX" device name to "HeliFX"
  • The manufacturer name was removed from the response options for the “Anchors Type” field. Therefore the “Aptus Heli-FX” device name was converted to “Heli-FX”. This change affected both the procedure and long-term follow-up (LTFU) forms.
EVAR Follow-up Outcomes Report

The existing EVAR Follow-up Outcomes report was moved from Insights to the Reporting tab in PATHWAYS. As a result, the Report Privileges in the User Information page under the Admin tab replaced the current Insights section.

The report was updated to include Kaplan Meier rates of occurrence for Stroke, Myocardial Infarction, Mortality, and Re-intervention at 1 year.

At the time of release, all users who currently had access to the Insights version of the report will automatically have the permission enabled for the updated version.

Released in Q4 2021
Released in Q4 2021

- Custom Lists
  - A new “Custom Lists” button was added to the Admin tab in PATHWAYS. The existing “Assistant Setup” and “Hemodialysis Access Late Follow-up Contact” icons under the Admin tab were transitioned to the “Custom Lists” functionality. Custom Lists will allow users to create Assistants, Trainees and Hemodialysis Access late Follow-Up Contacts.
Released in Q4 2021

- Infra Opioid Updates
  - Antidepressant option was removed from the Non-Opioid Pain Med Use variables.
  - The Number of Pills Prescribed fields was modified to accept 3 digits instead of 2.
  - The “Number of Refills Since Procedure” labels was changed to “Number of New Prescriptions Since Procedure.”
  - The Dose, frequency, number of pills/patches, and number of new prescriptions fields will be optional in the 30-day follow-up form.
  - The Dose, frequency, number of pills/patches, and number of new prescriptions fields will remain required on the Long-Term Follow-up (LTFU) but will not be mandatory for follow-up credit.
  - The LTFU Completion Rate will be recalculated. LTFU records submitted before the release that meet the updated mandatory field requirements will be flagged as valid and included in the calculation for successful follow-up.
Released in Q4 2021

- VQI Across Registry Revisions - Gender to Sex
  - The label for the “Gender” data collection field will be changed across all VQI registries to “Birth Sex” and a new response option, “Other”, will be added. The help text will be updated to reflect this change:

  **Birth Sex**
  
  Male = As assigned at birth.
  
  Female = As assigned at birth.
  
  Other = Not designated.
Released in Q4 2021

- New COVID Vaccination fields
  - Four new data collection fields will be added under the Procedure tab in PATHWAYS to collect information about COVID-19 vaccines

![New COVID Vaccination fields](image)
Released in Q4 2021

• New Trainee and Other Assistant fields
  • PATHWAYS Admin section of PATHWAYS was updated to introduce new Trainee fields to the VQI registries. This release allows trainee and other assistant information and retires the Assistant field previously used to collect similar information.
Released in Q4 2021

- EVAR/TEVAR revisions
  - **EVAR**
    - The min/max range for Largest Sheath Size Right and Largest Sheath Size Left will be changed from 7-24 to 6-24.
    - The help text will be updated to reflect the change in the min/max range, and the existing EVAR Devices graph will be removed.
  - **TEVAR**
    - The min/max range for Largest Sheath Size Right and Largest Sheath Size Left will be changed from 16-30 to 6-30.
    - The help text will be updated to reflect the change in the min/max range, and the existing TEVAR Devices graph will be removed.
Released in Q4 2021

• CEA Follow-up Outcomes Report
• A new 'Follow-up Outcomes Report' for the CEA registry, developed by the SVS PSO, is now available in the PATHWAYS Reporting tab. The report will provide key follow up metrics for VQI sites with center data as well as regional and all VQI benchmarking and includes drill down capabilities to better understand center data at the procedure level.

Prepared for Demo Medical Center on 02/07/2022

This report is a patient safety work product generated within the SVS PSQ, LLC, and is considered privileged.

Follow-Up Rate

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<th>My Region</th>
<th>All VQI</th>
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<tr>
<td>Cases with any follow-up</td>
<td>100% (32)</td>
<td>NA (≥3 centers)</td>
<td>NA (≥3 centers)</td>
</tr>
<tr>
<td>Cases with follow-up &lt; 3 months</td>
<td>1% (2)</td>
<td>NA (≥3 centers)</td>
<td>NA (≥3 centers)</td>
</tr>
<tr>
<td>Cases with follow-up ≥ 9 months and ≤ 1 year</td>
<td>1% (2)</td>
<td>NA (≥3 centers)</td>
<td>NA (≥3 centers)</td>
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Registry Projects
SVS Post-Market Surveillance Projects

• These projects are conducted within the SVS PSO and only non-identifiable data (removal of patient, center and physician information) will be provided to Medtronic/BARD/Cook/Gore or the FDA. Only standard of care practice is being evaluated. For such PSO activities, patient informed consent and Institutional Review Board review are not required.

• Sites must follow their institutional guidelines.
TEVAR Dissection Surveillance Project

• The SVS PSO is excited to announce the continuation of the TEVAR Dissection Surveillance Project to evaluate the Cook Zenith Dissection Endovascular System. FDA approval was granted for this device after safety and effectiveness were demonstrated in pre-market studies of complicated dissection with the proviso that the efficacy of TEVAR treatment of descending aortic dissection would be more fully analyzed through post-market surveillance, as was done through VQI for the W. L. Gore and Medtronic devices after their approval.

• Patients will have 30 day, and annual visits for 5 years.
• Total reimbursement of $4,000 per patient for a patient followed annually for 5 years
TEVAR Dissection Surveillance Project

- 73 of the 180 required patients enrolled (39 potential cases in process)
- Retrospective enrollment allowed- All eligible cases from December 31, 2018 (protocol FDA approval date)
- 34 30-Day visits completed, 18 1-year follow-up visits completed and 1 2-year follow-up visit completed
- All 40 sites enrolled (5 are in contracting)
- This project is conducted within the SVS PSO and only non-identifiable data (removal of patient, center and physician information) will be provided to Cook or the FDA. Only standard of care practice is being evaluated. For such PSO activities, patient informed consent and Institutional Review Board review are not required.
Initiated in October 2014, the TEVAR Dissection Surveillance Project Arm evaluates the W.L. Gore and Medtronic devices for treatment of Type B thoracic dissections.

- Meeting FDA requirement
  - 194 chronic and 200 acute patients with device technical success
- Currently in 5-year follow-up phase
PATHWAYS Support
Fall 2022 Meeting:
November 5, 2022
Location TBD