Pacific Northwest Vascular Study Group (PNWVSG)

May 21, 2020
4pm – 6pm PT
REMOTE
Click “Participants” in the box at the top or bottom of your screen. If your full name is not listed, hover next to your name and you’ll see “rename”. 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).
AGENDA

I. Welcome and Introduction  Nam Tran, MD
II. National VQI Update  Cheryl Jackson, SVS PSO
III. AQC Update  Nam Tran, MD
IV. VQC Update  Cheryl Jackson, SVS PSO
V. RAC Update  Cheryl Jackson, SVS PSO
VI. GC Committee Update  Nam Tran, MD
VII. Regional Data Review  Nam Tran, MD
VIII. Regional QI Proposals  Nam Tran, MD
IX. Meeting Evaluation  Nam Tran, MD
WELCOME AND INTRODUCTIONS

Advanced Vascular Therapy, LLC
Asante Rogue Regional Medical Center
Confluence Health
Harborview Medical Center
Harrison Medical Center
Kadlec Regional Medical Center
Legacy Health
McKenzie-Willamette Medical Center
Multicare Deaconess Hospital
Multicare Good Samaritan
Multicare Tacoma General Hospital
Oregon Health & Science University
Oregon Vascular Specialists, LLC
PeaceHealth St. Joseph Medical Center
Providence Alaska Medical Center
Providence Holy Family Hospital
Providence Medford Medical Center
Providence Portland Medical Center
Providence Regional Medical Center Everett
Providence Sacred Heart Medical Center
Providence St. Mary Medical Center
Providence St. Peter Hospital
Providence St. Vincent Medical Center
St. Anthony Hospital-CHI Franciscan Health
St. Charles Health System, Inc.
St. Francis Medical Center-CHI Franciscan Health
St. Joseph Medical Center CHI Franciscan Health
St. Patrick Providence
Straub Clinic & Hospital dba Straub Medical Center
Swedish Cherry Hill-Providence
Swedish Edmonds-Providence
Swedish First Hill-Providence
University of Washington Medical Center-Montlake
University of Washington Medical Center-Northwest Campus
Virginia Mason
National VQI Update: Cheryl Jackson, SVS PSO
676 VQI Centers
675 centers in North America
1 center in Singapore
18 Regional Quality Groups
Total Procedures Captured (as of 5/1/2020) 704,619

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peripheral Vascular Intervention</td>
<td>228,367</td>
</tr>
<tr>
<td>Carotid Endarterectomy</td>
<td>139,636</td>
</tr>
<tr>
<td>Infra-Inguinal Bypass</td>
<td>60,601</td>
</tr>
<tr>
<td>Endovascular AAA Repair</td>
<td>56,244</td>
</tr>
<tr>
<td>Hemodialysis Access</td>
<td>55,787</td>
</tr>
<tr>
<td>Carotid Artery Stent</td>
<td>41,829</td>
</tr>
<tr>
<td>Varicose Vein</td>
<td>38,658</td>
</tr>
<tr>
<td>Supra-Inguinal Bypass</td>
<td>19,945</td>
</tr>
<tr>
<td>Thoracic and Complex EVAR</td>
<td>18,015</td>
</tr>
<tr>
<td>Lower Extremity Amputations</td>
<td>17,759</td>
</tr>
<tr>
<td>IVC Filter</td>
<td>14,135</td>
</tr>
<tr>
<td>Open AAA Repair</td>
<td>13,640</td>
</tr>
</tbody>
</table>

**VQI Total Procedure Volume**

Total Procedure Volume tab reflects net procedures added to the registry for the month.
Cancellation

- Registration refunds or rollover of registration fees please follow the link below:
  - [https://vascular.org/vam](https://vascular.org/vam)
- Virtual Education Programming
- Beginning week of June 22
- Online format
- 1-2 hour sessions
- Over a time range of 6-8 weeks
- All sessions will be recorded for later viewing
COVID-19 ANNOUNCEMENT:

Formal announcement sent 4/9/2020

- Follow up
- Re-deployed personnel case abstraction
- Remote attendance regional meeting credit

VQI will do our best to assure that any temporary workflow disruption will not have a negative impact on SVS VQI work or subsequent participation awards

- Validation: 2019 selected sites will have 2 years to complete the process
### Online VQI@VAM

<table>
<thead>
<tr>
<th>Date/Time (central)</th>
<th>Title/Topic</th>
<th>Presenters</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/23: 12:00 – 1:00</td>
<td>VQI Nation Update</td>
<td>Drs. Jorgensen and Invited Guests</td>
</tr>
<tr>
<td>6/23: 1:00 – 2:00</td>
<td>VQI-DELTA Paclitaxel Device Safety Analysis</td>
<td>Dr. Bertges and Dr. Resnic</td>
</tr>
<tr>
<td>6/30: 12:00 – 1:00</td>
<td>Registry Education: TEVAR</td>
<td>Dr. Beck</td>
</tr>
<tr>
<td>6/30: 1:00 – 2:00</td>
<td>Registry Education: EVAR</td>
<td>Dr. Scali</td>
</tr>
<tr>
<td>7/7: 12:00 – 1:00</td>
<td>Select Quality Improvement Abstracts</td>
<td>A selection of 5 abstracts, taken from quality improvement abstract submissions.</td>
</tr>
<tr>
<td>7/7: 1:00 – 2:00</td>
<td>Using the VQI to Monitor Compliance with Clinical Practice Guidelines</td>
<td>Dr. Jorgensen and invited Guests</td>
</tr>
<tr>
<td>7/14: 12:00 – 1:00</td>
<td>Registry Education: PVI</td>
<td>Dr. Bertges</td>
</tr>
<tr>
<td>7/14: 1:00 – 2:00</td>
<td>Registry Education: TCAR/CAS</td>
<td>Dr. Malas</td>
</tr>
<tr>
<td>7/21: 12:00 – 1:00</td>
<td>Value of VISION and claim-matched data in the VQI - EVAR</td>
<td>Dr. Goodney</td>
</tr>
<tr>
<td>7/21: 1:00 – 2:00</td>
<td>Rapid-Fire Research Session</td>
<td>A selection of 7 abstracts based on VQI data</td>
</tr>
<tr>
<td>7/28: 12:00 – 1:00</td>
<td>Registry Education: Venous Stent</td>
<td>Dr. Passman</td>
</tr>
<tr>
<td>7/28: 1:00 – 2:00</td>
<td>Registry Education: Hemo</td>
<td>Dr. Yuo</td>
</tr>
</tbody>
</table>
Quality Improvement Activities
VQI NATIONAL INITIATIVES:

- EVAR: LTFU Imaging Sac Diameter
  - How do we move the bar?
- Discharge Medications: Statin and Antiplatelet
- Other suggestions for National QI Initiatives?
Thirty seven charters submitted
- LTFU – 9 (EVAR Imaging, IVCF, general LTFU)
- D/C Medications – 20
- Clinical – 3 (LOS, limb salvage)
- Documentation – 5 (ABIs, Frailty project, ABIs – QOL)

Focused phone calls were well attended

Four QI webinars with presentations from five data managers!
2020 Participation Award Criteria

Approved by the SVS PSO Executive Board
No changes

<70% = 0 points
>=70% = 2
>=80% = 4
>=90% = 6

NOTE: Centers having a LTFU rate of less than 50% for two consecutive years are placed on probation. Additionally, the center cannot obtain research datasets or participate in industry studies for the specific registries with an LTFU rate of < 50%.
Current Regional Meeting attendance criteria

- Each regional meeting will be scored on a 0-3 point scale
  - For centers with 3 or more MDs, 1 point for each MD attending, up to a max of 3 points
  - If site has only 2 MDs and 1 attends, 2 points
  - If site has <3 MDs and all attend, 3 points
  - Extra point for support staff attending with an MD (but not if it pushes total for that meeting over 3 points).
  - If no MD attends, 0 points, regardless of support staff attendance.
- If total score for both meetings is < 6 points, the center can receive an additional point if any non-physician staff member attends the Annual VQI meeting at VAM.

Changes/Additions

- Regional physician leaders and regional lead data managers will get one extra point
- The host site will get 1 extra point
- Support staff will receive a maximum of 1 point regardless of MD attendance. Ex – if 1, 3, or 5... support staff at a center attended a meeting, the center will get 1 point.
Scoring on 0 – 6 point scale to keep consistent with other measures

- Initiation of a QI Project, evidenced by submitting a Project Charter
- Presenting a QI/Research Project (presentation or poster) at a Regional VQI, Regional Society Meeting, or Hospital Board Meeting
- Presenting a QI/Research Project (presentation or poster) at the National VQI or Vascular Annual Meeting
- Publish VQI based article in a Peer Reviewed Journal

- 6-point maximum credit for QI even though additional points can be acquired

- Each VQI center submits one QI project per center for the Participation Award
Registry Subscriptions – No changes

- 1-2 registries = 0 points
- 3-5 registries = 2
- 6-8 registries = 4
- ≥ 9 registries = 6

- If the center is a vein-only center (i.e. could only possibly subscribe to 1 registry) = 1 point
Improvement of rates or maintaining excellent performance rates on National QI Initiatives – **No changes**

- Any hospital that shows a statistically significant improvement in either its rate of EVAR LTFU imaging or DC medications from the prior year to the scoring year will receive one point per measure.

- Any hospital that was at or above the 75\(^{th}\) percentile for either measure in the prior year will get one point per measure if it remains at or above the 75\(^{th}\) percentile in either measure in the scoring year, as long as either of its rates has not gotten significantly worse.
Scoring – No changes

- Four categories scored, each on a 0-6 point scale:
  - LTFU (weighted 40%)
  - Meeting attendance (weighted 30%)
  - QI project involvement (weighted 20%)
  - Registry Subscriptions (weighted 10%)

- The final score calculated as follows:
  Total points = 4 x LTFU + 3 x Attendance + 2 x QIP + 1 x registry
Other Criteria

- **NO** star award if no one from a center attends either meeting (Spring and Fall), regardless of total points
- **NO** star award for centers at <50% for LTFU, regardless of total points
MARKETING YOUR PARTICIPATION AWARD

- PSO limitations
  - Not allowed to publicly report any outcomes data, which is the primary reason we have a Participation Award and not a Quality/Outcomes Award
  - The Participation Award is linked to critical activities that show a center’s commitment to quality improvement and patient engagement, but the award is not and cannot be referenced as an indicator directly tied to quality of care
  - Cannot be used for competitive marketing purposes
  - We provide a standard press release when the awards are released
  - Each site now receives a Participation Award certificate for 1, 2, and 3 star recipients. 3 star recipients receive award at regional/national meeting. 1 & 2 start recipients get a PDF file sent to the center’s lead physician and lead data manager.
  - This is a Participation Award and should not be interpreted or positioned as a direct indicator of the Quality of Care provided by your institution
  - Data from the SVS VQI/SVS PSO can never be used for punitive purposes
3 STAR AWARD RECIPIENTS

- Providence Medford Medical Center
For general inquiries about the Participation Awards, please contact Cheryl Jackson at cjackson@svspso.org.

Submit Project Charters and supporting documentation for presentations and posters to QI@SVSPSO.ORG or cjackson@svspso.org.

Visit the VQI Members Only Website for webinars and presentations on VQI Quality Improvement Projects. www.vqi.org
## 2020 PUSH REPORT SCHEDULE:

<table>
<thead>
<tr>
<th>Deliverable</th>
<th>Data Cut</th>
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</thead>
<tbody>
<tr>
<td><strong>Regional Reports</strong></td>
<td></td>
</tr>
<tr>
<td>Spring 2020</td>
<td>1-Feb-20</td>
</tr>
<tr>
<td>Fall 2020</td>
<td>1-Jul-20</td>
</tr>
<tr>
<td><strong>Center Dashboards</strong></td>
<td></td>
</tr>
<tr>
<td>Fall 2019</td>
<td>1-Sep-19</td>
</tr>
<tr>
<td>Winter 2019</td>
<td>1-Dec-19</td>
</tr>
<tr>
<td>Cumulative</td>
<td>1-Dec-19</td>
</tr>
<tr>
<td>Spring 2020</td>
<td>1-Mar-20</td>
</tr>
<tr>
<td>Summer 2020</td>
<td>1-Jun-20</td>
</tr>
<tr>
<td>Fall 2020</td>
<td>1-Sep-20</td>
</tr>
<tr>
<td><strong>Quarterly QI Reports (DC meds/EVAR Imaging)</strong></td>
<td></td>
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<tr>
<td>2019, Report 3</td>
<td>1-Oct-19</td>
</tr>
<tr>
<td>2020, Report 1</td>
<td>1-Apr-20</td>
</tr>
<tr>
<td>2020, Report 2</td>
<td>1-Jul-20</td>
</tr>
<tr>
<td>2020, Report 3</td>
<td>1-Oct-20</td>
</tr>
<tr>
<td><strong>Participation Awards</strong></td>
<td>1-Feb-20</td>
</tr>
</tbody>
</table>
RELEASE OF REGISTRY UPDATES:

- **Hemodialysis Access Revisions:** Q3 2019
- **NEW Venous Stent Registry:** Q3 2019
- **Varicose Vein:** Released in Q1 2020
- **NEW Vascular Medicine Registry:** Q1 2020 (collaboration with SVM and AHA)
- **2020 Planned Revisions:**
  - Infra, Supra
  - Open AAA (adding thoracoabominal)
December, 2018 - Katsanos meta-analysis reported increased mortality with Paclitaxel devices at 2-5 years

VQI used Data Extraction and Longitudinal Trend Analysis (DELTA), a risk adjusted software application designed for signal detection in clinical registries, to evaluate mortality of Paclitaxel devices in PVI registry
SCIENTIFIC OVERSIGHT COMMITTEE-UPDATED

- Jens Eldrup-Jorgensen, MD  Maine Medical
- Daniel Bertges, MD  UVMMC
- Fred Resnic, MD  Lahey
- Michel Matheny, MD, MS, MPH  Vanderbilt
- Misti Malone, PhD  US FDA
- Danica Maric-Dabic, MD, PhD, MMSc  US FDA
- Aaron Lottes, PhD, MBA  Cook Medical
- Joshua Smale, BS  BD Bard

Daniel Bertges, MD, Jens Eldrup-Jorgensen, MD, Fred Resnic, MD, et.al.

Full details about the study are available at clinicaltrials.gov under the identifier NCT04110288.
Authors: Daniel Bertges, MD, Jens Eldrup-Jorgensen, MD, Fred Resnic, MD, et.al.

In December, 2018, a meta-analysis of randomized trials of paclitaxel devices for the treatment of femoral-popliteal disease reported higher 2 and 5 year mortality in patients treated with paclitaxel devices.1 These findings were subsequently validated by an FDA analysis – a potentially concerning signal of increased long-term mortality in study subjects treated with paclitaxel-coated products compared to patients treated with uncoated devices prompting 3 letters of notification to providers. For further information please see the 3 prior FDA communications and the executive summary of the June 2019 Circulatory System Devices Panel Meeting.2-5

In response to this mortality signal, the Society for Vascular Surgery Patient Safety Organization has conducted surveillance of mortality in the Vascular Quality Initiative Peripheral Vascular Intervention registry. The analysis was conducted in collaboration with Dr. Fred Resnic at the Lahey Clinic using Data Extraction and Longitudinal Trend Analysis (DELTA), a risk adjusted software application designed for signal detection in clinical registries. Full details about the study are available at clinicaltrials.gov under the identifier NCT04110288.
NO DIFFERENCE MORTALITY IN VQI– BALLOON vs DCB

Figure 1. Kaplan-Meier Survival Plot for estimated two-year freedom from death due to any cause for paclitaxel drug coated balloon (green) as compared with plain balloon treatment (blue).
Figure 2. Kaplan-Meier Survival Plot for estimated two-year freedom from death due to any cause for paclitaxel eluting stent (green) as compared with bare metal stent treatment (blue).
PACLITAXEL ON-GOING WORK:

- In conjunction with RAPID
  - MDEpiNet Registry Assessment of Peripheral Interventional Devices
- Two additional studies planned
  - Lead by Dr. Bertges and Dr. Jorgensen
  - Prospective DELTA analysis
    - Lahey Clinic Data Extraction and Longitudinal Trend Analysis
    - Active surveillance for early signal detection
  - VISION Medicare claims match analysis
    - MDEpiNet Vascular Implant Surveillance and Interventional Outcomes Network
    - Claims linkage allows long term follow up
PROFESSIONAL GUIDELINES -

• Are they being followed?
• Do they impact outcomes?
OBJECTIVES: SVS AAA Guidelines

- Use Vascular Quality Initiative (VQI) registry to assess compliance
- And impact on outcomes
GRADE Grading of Recommendations, Assessment, Development, Evaluation

- **Strength of Recommendation**
  - 1 – Strong – “We recommend”
  - 2 – Weak – “We suggest”

- **Level of Evidence**
  - A – High
  - B – Moderate
  - C – Low

- **Good practice statement - Ungraded**
Antibiotic (1A) – Compliance
EVAR – 94% (27-100%)     OAAA 93%(60-100%)
Antibiotic (1A) – Compliance
EVAR – 94% (27-100%)  OAAA 93% (60-100%)
Antibiotic (1A) – Compliance
EVAR – 94% (27-100%)  OAAA 93% (60-100%)

Room for improvement
Cell Salvage (1B) – Compliance
OAAA 92% (25-100%)
Cell Salvage (1B) – Decreased one year mortality
OAAA 92% (25-100%)

Focus for QI efforts
Tobacco cessation (1C) – Compliance
EVAR 55% (13-100%)  OAAA 40% (0-83%)
Tobacco cessation (1C) – Compliance
EVAR 55% (13-100%)        OAAA 40% (0-83%)
Tobacco cessation (1C) – Compliance
EVAR 55% (13-100%)  OAAA 40% (0-83%)

Decreased respiratory complications and decreased in-hospital and one year mortality
Decreased respiratory complications and decreased one year mortality
Tobacco cessation (1C) – Compliance
EVAR 55% (13-100%)     OAAA 40% (0-83%)

Room for improvement
SUMMARY:

- Compliance was measurable using VQI registries
- Compliance was quite variable – even guidelines with 97% centers with compliance that ranged 51-100%
- **Compliance** with guidelines (especially high quality) was associated with improved patient outcomes
Antibiotic – EVAR – Decreased SSI, MACE, and in-hospital mortality

Internal Iliac Artery – OAAA – Marginally decreased in-hospital and one year mortality

Cell Salvage – OAAA – Decreased one year mortality

Tobacco cessation – EVAR – Decreased respiratory complications and in-hospital and one year mortality

Tobacco cessation – OAAA - Decreased respiratory complications and one year mortality
CONCLUSIONS:

- The degree and impact of compliance with AAA guidelines is dependent on the grade of evidence.
- Registry assessment may confirm value of a guideline and help inform guideline writing committees.
- Guidelines may also be used to inform content of clinical registries.
Registry participation provides an objective assessment of compliance and performance

Registry reports may be used as a focus for quality improvement efforts

Claudication Guidelines Work Group currently working on gap analysis with VQI data

On-going work with SVS Clinical Practice Guidelines Committee to align with VQI data collection
Research Advisory Council
Cheryl Jackson, SVS PSO
CHANCE IN RAC POLICIES!

- Policy on RAC Requests Related to Industry Studies
- Policy on Product Identification for approved RAC Requests
- Conflict of Interest Policies Revised based on these new Policies
- All posted on the VQI Web Site
Proposal Submissions

June 2020
Call for Proposals: April 14, 2020
Due Date: May 18, 2020
Meeting: June 8, 2020
Notification Sent: June 12, 2020

August 2020
Call for Proposals: June 9, 2020
Due Date: July 20, 2020
Meeting: August 10, 2020
Notification Sent: August 14, 2020
No Restriction of data release based on similar projects; collaboration is encouraged

Only 1 refresh of data within 24 months of initial approval

Industry related projects need to collaborate with the steering committee/s (i.e. TCAR)
  – Review policy and industry charters on the web

Product Identification Policy: review on the web before submitting proposal
Check Approved Project List
https://www.vqi.org/data-analysis/rac-approved-project-search/

To submit a proposal to be considered for the National RAC, please follow the link below:
http://abstracts123.com/svs1/meetinglogin
Arterial Quality Council:
Nam Tran, MD
Opioid Workgroup is formed and charged with putting forth recommendations on how the VQI can be used to track, monitor and benchmark opioid utilization. Pilot planned with Infra.

Continued refinement to Global Unique Device Identification Database (GUDID) integration in PVI

Initiating Future Registry Updates
  – Harmonizing Common Variables across all registries
  – Updating Infra/Supra Registries
  – Updating OAAA
InSights EVAR LTFU REPORT:

- Tested by selected sites
- To be rolled out to all sites soon
- Over time LTFU reports to be created for all registries

<table>
<thead>
<tr>
<th>Follow-up</th>
<th>My Region (Patients = 52)</th>
<th>*P &lt;= vs. Region (Patients = 511)</th>
<th>All VQI (Patients = 7113)</th>
<th>*P &lt;=.1 (vs. AllVQI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cases with any follow-up</td>
<td>0 %</td>
<td>13.9 % (71/511)</td>
<td>0.008</td>
<td>0.003</td>
</tr>
<tr>
<td>Cases with LTFU &gt;= 9 months</td>
<td>0 %</td>
<td>0.2 % (1/511)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Cases with LTFU &gt;= 9 months and imaging</td>
<td>0 %</td>
<td>0.2 % (1/511)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Survival</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freedom from Death (1yr K/M)</td>
<td>-</td>
<td>-</td>
<td>0.496</td>
<td>0.033</td>
</tr>
</tbody>
</table>
## InSights EVAR LTFU REPORT:

### Status at most recent follow-up

<table>
<thead>
<tr>
<th>Living Status</th>
<th>0 %</th>
<th>98.5 % (64/65)</th>
<th>&lt; 0.001</th>
<th>98.2 % (1083/1103)</th>
<th>&lt; 0.001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>0 %</td>
<td>98.5 % (64/65)</td>
<td>&lt; 0.001</td>
<td>98.2 % (1083/1103)</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Homeless</td>
<td>0 %</td>
<td>0 %</td>
<td>1.7 % (19/1103)</td>
<td>1.4 % (15/1103)</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Nursing Home</td>
<td>0 %</td>
<td>1.5 % (1/65)</td>
<td>1.7 % (19/1103)</td>
<td>1.4 % (15/1103)</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>New Nursing Home</td>
<td>0 %</td>
<td>1.5 % (1/65)</td>
<td>1.7 % (19/1103)</td>
<td>1.4 % (15/1103)</td>
<td>&lt; 0.001</td>
</tr>
</tbody>
</table>

### Functional Status

| Full                   | 0 % | 100.0 % (4/4) | 0.046 | 58.6 % (109/186) | < 0.001 |
| Light Work             | 0 % | 0 %           | 0.046 | 30.1 % (56/186) | < 0.001 |
| Self-care              | 0 % | 0 %           | 0.046 | 5.9 % (11/186) | < 0.001 |
| Assisted Care          | 0 % | 0 %           | 0.046 | 5.4 % (10/186) | < 0.001 |
| Bed Bound              | 0 % | 0 %           | 0.046 | 0 %              | < 0.001 |

### Smoking

| Prior                  | 0 % | 75.0 % (3/4)  | < 0.001 | 55.2 % (106/192) | < 0.001 |
| Current                | 0 % | 0 %           | 0.046 | 31.2 % (60/192) | < 0.001 |
| Never                  | 0 % | 25.0 % (1/4)  | < 0.001 | 13.5 % (26/192) | < 0.001 |
| Quit Since Procedure   | 0 % | 25.0 % (1/4)  | < 0.001 | 7.3 % (14/192) | < 0.001 |
| Started Since Procedure| 0 % | 0 %           | 0.046 | 1.6 % (3/192) | < 0.001 |

### Renal Function

| New Onset Dialysis     | 0 % | 0 % | 0.046 | 1.6 % (3/191) | < 0.001 |
| Creatinine increase > 0.5 mg/dl | 0 % | 0 % | 0.317 | 2.7 % (2/74) | < 0.001 |
## InSights EVAR LTFU REPORT:

<table>
<thead>
<tr>
<th>Medication</th>
<th>0 %</th>
<th>75.0 % (3/4)</th>
<th>–</th>
<th>81.3 % (157/193)</th>
<th>–</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antiplatelet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statin</td>
<td>0 %</td>
<td>50.0 % (2/4)</td>
<td>–</td>
<td>74.1 % (143/193)</td>
<td>–</td>
</tr>
<tr>
<td>Anticoagulant</td>
<td>0 %</td>
<td>25.0 % (1/4)</td>
<td>–</td>
<td>17.7 % (34/192)</td>
<td>–</td>
</tr>
</tbody>
</table>

### Imaging at most recent follow-up

<table>
<thead>
<tr>
<th>None</th>
<th>100.0 % (18/18)</th>
<th>86.1 % (440/511)</th>
<th>0.178</th>
<th>83.7 % (5945/7105)</th>
<th>0.12</th>
</tr>
</thead>
</table>

#### Among Patients having f/u

<table>
<thead>
<tr>
<th>None</th>
<th>0 %</th>
<th>25.0 % (1/4)</th>
<th>–</th>
<th>47.2 % (91/193)</th>
<th>–</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT/CTA</td>
<td>0 %</td>
<td>50.0 % (2/4)</td>
<td>–</td>
<td>42.5 % (82/193)</td>
<td>–</td>
</tr>
<tr>
<td>Duplex</td>
<td>0 %</td>
<td>25.0 % (1/4)</td>
<td>–</td>
<td>13.0 % (25/193)</td>
<td>–</td>
</tr>
<tr>
<td>MR/MRA</td>
<td>0 %</td>
<td>0 %</td>
<td>0.046</td>
<td>0.5 % (1/193)</td>
<td>–</td>
</tr>
<tr>
<td>Angio</td>
<td>0 %</td>
<td>0 %</td>
<td>0.046</td>
<td>0.5 % (1/193)</td>
<td>–</td>
</tr>
<tr>
<td>Plain film</td>
<td>0 %</td>
<td>0 %</td>
<td>0.046</td>
<td>0 %</td>
<td>&lt; 0.001</td>
</tr>
</tbody>
</table>

### Max AAA Diameter

| Shrinkage >= 5mm | 0 % | 0 % | 0.157 | 27.0 % (27/100) | – |
| No Change >= 5mm | 0 % | 100.0 % (2/2) | 0.157 | 64.0 % (64/100) | – |
| Expansion >= 5mm | 0 % | 0 % | 0.157 | 9.0 % (9/100) | – |
## InSights EVAR LTFU REPORT:

### Complications

<table>
<thead>
<tr>
<th>Access Site</th>
<th>0 %</th>
<th>100.0 % (4/4)</th>
<th>0.046</th>
<th>97.4 % (186/191)</th>
<th>2.1 % (4/191)</th>
<th>&lt; 0.001</th>
<th>0.5 % (1/191)</th>
<th>0.046</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pseudoaneurysm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stenosis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Occlusion</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</table>

### Access Complication Treatment Required

<table>
<thead>
<tr>
<th>None</th>
<th>0 %</th>
<th>0 %</th>
<th>–</th>
<th>0 %</th>
<th>0.025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical</td>
<td>0 %</td>
<td>0 %</td>
<td>–</td>
<td>100.0 % (5/5)</td>
<td>0.025</td>
</tr>
<tr>
<td>Interventional</td>
<td>0 %</td>
<td>0 %</td>
<td>–</td>
<td>0 %</td>
<td>0.025</td>
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<tr>
<td>Surgical</td>
<td>0 %</td>
<td>0 %</td>
<td>–</td>
<td>0 %</td>
<td>0.025</td>
</tr>
</tbody>
</table>

### Graft Limb Occlusion

<table>
<thead>
<tr>
<th>None</th>
<th>0 %</th>
<th>100.0 % (3/3)</th>
<th>0.083</th>
<th>95.1 % (97/102)</th>
<th>4.9 % (5/102)</th>
<th>&lt; 0.001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unilateral</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bilateral</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## InSights EVAR LTFU REPORT:

### Renal Artery Encroachment

<table>
<thead>
<tr>
<th>Condition</th>
<th>0 %</th>
<th>100.0 % (3/3)</th>
<th>0.083</th>
<th>98.0 % (100/102)</th>
<th>–</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>0 %</td>
<td>100.0 % (3/3)</td>
<td>0.083</td>
<td>98.0 % (100/102)</td>
<td>–</td>
</tr>
<tr>
<td>Stenosis</td>
<td>0 %</td>
<td>0 %</td>
<td>0.083</td>
<td>2.0 % (2/102)</td>
<td>–</td>
</tr>
<tr>
<td>Occlusion</td>
<td>0 %</td>
<td>0 %</td>
<td>0.083</td>
<td>0 %</td>
<td>&lt; 0.001</td>
</tr>
</tbody>
</table>

### Endoleak, current

<table>
<thead>
<tr>
<th>Condition</th>
<th>0 %</th>
<th>66.7 % (2/3)</th>
<th>–</th>
<th>83.2 % (84/101)</th>
<th>–</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>0 %</td>
<td>66.7 % (2/3)</td>
<td>–</td>
<td>83.2 % (84/101)</td>
<td>–</td>
</tr>
<tr>
<td>Type Ia</td>
<td>0 %</td>
<td>33.3 % (1/3)</td>
<td>–</td>
<td>1.0 % (1/101)</td>
<td>–</td>
</tr>
<tr>
<td>Type Ib</td>
<td>0 %</td>
<td>0 %</td>
<td>0.083</td>
<td>1.0 % (1/101)</td>
<td>–</td>
</tr>
<tr>
<td>Type II</td>
<td>0 %</td>
<td>0 %</td>
<td>0.083</td>
<td>13.9 % (14/101)</td>
<td>–</td>
</tr>
<tr>
<td>Type IIIa</td>
<td>0 %</td>
<td>0 %</td>
<td>0.083</td>
<td>0 %</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Type IIIb</td>
<td>0 %</td>
<td>0 %</td>
<td>0.083</td>
<td>0 %</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Indeterminate</td>
<td>0 %</td>
<td>0 %</td>
<td>0.083</td>
<td>1.0 % (1/101)</td>
<td>–</td>
</tr>
</tbody>
</table>

### Endoleak, any time since treatment

<table>
<thead>
<tr>
<th>Condition</th>
<th>0 %</th>
<th>66.7 % (2/3)</th>
<th>–</th>
<th>83.2 % (84/101)</th>
<th>–</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>0 %</td>
<td>66.7 % (2/3)</td>
<td>–</td>
<td>83.2 % (84/101)</td>
<td>–</td>
</tr>
<tr>
<td>Type Ia</td>
<td>0 %</td>
<td>33.3 % (1/3)</td>
<td>–</td>
<td>1.0 % (1/101)</td>
<td>–</td>
</tr>
<tr>
<td>Type Ib</td>
<td>0 %</td>
<td>0 %</td>
<td>0.083</td>
<td>1.0 % (1/101)</td>
<td>–</td>
</tr>
<tr>
<td>Type II</td>
<td>0 %</td>
<td>0 %</td>
<td>0.083</td>
<td>13.9 % (14/101)</td>
<td>–</td>
</tr>
<tr>
<td>Type IIIa</td>
<td>0 %</td>
<td>0 %</td>
<td>0.083</td>
<td>0 %</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Type IIIb</td>
<td>0 %</td>
<td>0 %</td>
<td>0.083</td>
<td>0 %</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Indeterminate</td>
<td>0 %</td>
<td>0 %</td>
<td>0.083</td>
<td>1.0 % (1/101)</td>
<td>–</td>
</tr>
</tbody>
</table>
### Re-intervention

<table>
<thead>
<tr>
<th>Re-intervention required</th>
<th>0%</th>
<th>2.8% (2/71)</th>
<th>–</th>
<th>1.3% (15/1163)</th>
<th>–</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freedom from Re-intervention (1yr K/M)</td>
<td>–</td>
<td>–</td>
<td>1</td>
<td>86.1% ± 4.8%</td>
<td>0.263</td>
</tr>
<tr>
<td><strong>Indication</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sac growth</td>
<td>0%</td>
<td>0%</td>
<td>0.157</td>
<td>7.1% (1/14)</td>
<td>–</td>
</tr>
<tr>
<td>Endoleak</td>
<td>0%</td>
<td>100.0% (2/2)</td>
<td>0.157</td>
<td>28.6% (4/14)</td>
<td>–</td>
</tr>
<tr>
<td>Migration</td>
<td>0%</td>
<td>0%</td>
<td>0.157</td>
<td>0%</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Occlusion</td>
<td>0%</td>
<td>0%</td>
<td>0.157</td>
<td>42.9% (6/14)</td>
<td>–</td>
</tr>
<tr>
<td>Stenosis</td>
<td>0%</td>
<td>0%</td>
<td>0.157</td>
<td>0%</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Rupture</td>
<td>0%</td>
<td>0%</td>
<td>0.157</td>
<td>0%</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Graft infection</td>
<td>0%</td>
<td>0%</td>
<td>0.157</td>
<td>7.1% (1/14)</td>
<td>–</td>
</tr>
<tr>
<td>Other</td>
<td>0%</td>
<td>0%</td>
<td>0.157</td>
<td>21.4% (3/14)</td>
<td>–</td>
</tr>
</tbody>
</table>

### Re-intervention Type

<table>
<thead>
<tr>
<th>Re-intervention Type</th>
<th>0%</th>
<th>50.0% (1/2)</th>
<th>–</th>
<th>62.5% (5/8)</th>
<th>–</th>
</tr>
</thead>
<tbody>
<tr>
<td>New graft/stent</td>
<td>0%</td>
<td>50.0% (1/2)</td>
<td>–</td>
<td>62.5% (5/8)</td>
<td>–</td>
</tr>
<tr>
<td>Balloon existing device</td>
<td>0%</td>
<td>0%</td>
<td>0.157</td>
<td>12.5% (1/8)</td>
<td>–</td>
</tr>
<tr>
<td>Embolization</td>
<td>0%</td>
<td>0%</td>
<td>0.157</td>
<td>25.0% (2/8)</td>
<td>–</td>
</tr>
<tr>
<td>Anchors</td>
<td>0%</td>
<td>50.0% (1/2)</td>
<td>–</td>
<td>12.5% (1/8)</td>
<td>–</td>
</tr>
<tr>
<td>Bypass</td>
<td>0%</td>
<td>0%</td>
<td>0.157</td>
<td>0%</td>
<td>0.005</td>
</tr>
<tr>
<td>Abdominal surgery</td>
<td>0%</td>
<td>0%</td>
<td>0.157</td>
<td>0%</td>
<td>0.005</td>
</tr>
<tr>
<td>Other</td>
<td>0%</td>
<td>50.0% (1/2)</td>
<td>–</td>
<td>12.5% (1/8)</td>
<td>–</td>
</tr>
</tbody>
</table>
Structured Notes: use the structured note as a standard for all providers, hospitals, EMR's, societies, registries to be used as a template

- Collaborative Workgroup: SVS, STS, SNIS, ACS, Vascunet, SVS document oversight committee, SVS clinical practice council SVS, EPIC, Cerner, Medstreaming/M2S - technology partner

- Pilot Project: brief operative note for carotid endarterectomy
Patient reported outcomes for PAD increasingly recognized as a valuable measure of our patient care

VQI developing a plan to provide patient reported data to members

VQI and SVS committees have recommended Vascu-Qol 6 (VQ6) and EQ5D

Exploring options for PAD PRO implementation

- Least burdensome
- Ideally direct from patient
- Multi-modal collection (mobile, PC)
Venous Quality Council
Cheryl Jackson – SVS PSO

This position is vacant – Nominations and self nominations can be made now. Also, an email will be sent out for nominations.
Council Transition
  – Dr. Marc Passman new Chair for 2020

Continued Interest from United Healthcare on collaborating on Appropriateness for Ablations. Could eliminate the need for pre-authorizations.
FORMATION OF THE VENOUS RAC:

- Nicholas Osborne, MD – Chair

- Regional Members:
  - Pacific Northwest: Mark H Meissner, MD
  - Michigan: Judith C Lin, MD, MBA
  - SoCal: NavYash Gupta, MD
  - New York: Mikel Sadek, MD
  - Great Lakes: Fedor Lurie, MD, PhD, RPVI, RVT
  - VSGNE: Anahita Dua, MD
  - Southeastern: Jaime Benaroch-Gampel, MD, MS
  - Virginia’s: David J. Dexter, II, MD

- AVF Appointed members:
  - Jose A Diaz, MD
  - Faisal Aziz, MD

- Two at large appointments
  - Jose Almeida, MD
  - Marc Passman, MD
Venous Quality Council:

- Venous Stent Registry Launched October 2019
- Contact VQI@M2S.com to join the registry!
Stakeholders:
- Society for Vascular Surgery (SVS) Vascular Quality Initiative (VQI)
- American Venous Forum (AVF)
- American Vein & Lymphatic Society (AVLS) Patient Reported Outcome (PRO)
- MDEpiNet
- FDA
- Venous Industry Partners

Objectives:
- Combine resources, talent and information of VQI and AVLS PRO registries to promote better understanding of optimal treatment of superficial venous disease by harmonizing data elements for interoperability
Governing Council
Nam Tran, MD
Approved New RAC Policies

- DUA updated: data can only be shared with individuals directly accountable to the Primary Investigator
- Non-VQI members cannot have access to VQI BDS
- Expedited RAC review process
  - Score $\geq 2.7$ w/o special requests automatically approved
  - Score $\leq 1.7$ automatically rejected or requests for modifications
Regional RAC Policies:

- SVS PSO staff will review to ensure all regional studies have at least 3 centers with greater than 10 procedures
- Regions cannot apply for product identification; only considered at National RAC
ASSOCIATE MEDICAL DIRECTORS:

- Technical Associate Medical Director
  – Leila Mureebe, MD
- Quality Improvement Associate Medical Director
  – Gary Lemmon, MD
- Report to current SVS PSO Medical Director
  – Jens Jorgensen, MD
- 2 year term, as of April 2020 – can be renewed for 1 additional year
Vascular Quality Initiative Regional Quality Report

Notes:
1) In all reports, regional data are not shown if the region does not have at least 3 centers with at least 10 cases meeting inclusion criteria for each outcome in the applicable registry.
2) In “by Center” bar charts, unless noted, data are not shown for centers with <10 cases and for regions with <3 centers.
3) In all graphics, “*” indicates a p-value <.05.
4) This report includes all data that had been entered into the VQI as of January 31, 2020.
Dashboard

The table below summarizes your center’s results as presented in each of the subsequent reports and provides regional and national benchmarks for comparison. In the “Your Center” column, percentages represent the rate of cases with the noted outcome. Numbers in parentheses are the number of cases with the outcome/the total number of cases meeting the exclusion criteria (see the full report for details). In the “Region” and “VQI” columns, the numbers represent the 25th, 50th (median) and 75th percentiles for centers in your region and across all centers in the VQI.

Your center’s results are highlighted in green if your center is at or above the top 25th percentile nationally, in yellow if your center is among the middle 50% of centers, and in red if at or below the bottom 25th percentile.
| Registry               | Outcome                                      | Your Center % (n/N) | Your Region [25p|50p|75p] | VQI Overall [25p|50p|75p] |
|-----------------------|----------------------------------------------|---------------------|-----------------------------|----------------------------|
| All                   | Total Procedure Volume                       |                     | [16| 79| 118]                 | [25 | 105 | 268]                   |
| Multiple (Jan-Dec 2017)| Long-Term Follow-Up                          |                     | [2%| 33%| 85%]                   | [47% | 73% | 88%]                   |
| Multiple              | Discharge Medications                        |                     | [84%| 91%| 98%]                 | [79% | 87% | 95%]                   |
| AVACCESS              | Primary AVF vs. Graft                         | NA (<3 centers)     | [0%| 0%| 0%]                   | [0% | 0% | 0%]                   |
| Transfemoral CAS      | Stroke/Death in Hospital                     | NA (<3 centers)     | [0%| 0%| 0%]                   | [0% | 0% | 0%]                   |
| TCAR                  | Stroke/Death in Hospital                     |                     | [0%| 0%| 0%]                   | [0% | 0% | 0%]                   |
| CEA                   | Asymptomatic Stroke/Death in Hospital        |                     | [0%| 0%| 0%]                   | [0% | 0% | 0%]                   |
| CEA                   | Symptomatic Stroke/Death in Hospital         |                     | [2%| 0%| 0%]                   | [2% | 0% | 0%]                   |
| CEA                   | Asymptomatic LOS>1 Day                       |                     | [40%| 24%| 16%]                 | [30% | 19% | 11%]                   |
| CEA                   | Symptomatic LOS>1 Day                        |                     | [32%| 17%| 6%]                   | [40% | 25% | 12%]                   |
| EVAR                  | LOS>2 Days                                    |                     | [11%| 5%| 0%]                   | [16% | 9% | 0%]                   |
| EVAR (Jan-Dec 2017)   | Sac Diameter Reported at LTFU                |                     | [0%| 28%| 74%]                   | [37% | 66% | 79%]                   |
| INFRA                 | Major Complications                           |                     | [4%| 4%| 0%]                   | [7% | 2% | 0%]                   |
| IVCF (Jul 2018-Jun 2019)| Filter Retrieval                           | NA (<3 centers)     | [0%| 7%| 42%]                   | [0% | 7% | 42%]                   |
| LEAMP                 | Postop Complications                          | NA (<3 centers)     | [16%| 10%| 5%]                   | [16% | 10% | 5%]                   |
| OAAA                  | In-Hospital Mortality                         | NA (<3 centers)     | [6%| 0%| 0%]                   | [6% | 0% | 0%]                   |
| PVI                   | ABI/Toe Pressure Reported                    | NA (<3 centers)     | [67%| 85%| 94%]                 | [67% | 85% | 94%]                   |
| SUPRA                 | Postop Complications                          | NA (<3 centers)     | [5%| 0%| 0%]                   | [5% | 0% | 0%]                   |
| TEVAR (Jan-Dec 2017)  | Sac Diameter Reported at LTFU                | NA (<3 centers)     | [28%| 60%| 77%]                   | [28% | 60% | 77%]                   |
| EVAR                  | SVS Sac Size Guideline                       | [70%| 75%| 82%]         | [62% | 71% | 83%]                   |
| OAAA                  | Cell-Saver Guideline                         | NA (<3 centers)     | [95%| 100%| 100%]                 | [95% | 100% | 100%]                  |
| OAAA                  | Iliac Inflow Guideline                       | NA (<3 centers)     | [100%| 100%| 100%]                 | [100% | 100% | 100%]                  |
## Total Procedure Volume, All Years

Includes all procedures with surgery date through December 31, 2019.

<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>AVACCESS</td>
<td>NA (&lt;3 centers)</td>
<td></td>
<td>51328</td>
</tr>
<tr>
<td>CAS</td>
<td>1597</td>
<td></td>
<td>37113</td>
</tr>
<tr>
<td>CEA</td>
<td>4529</td>
<td></td>
<td>133761</td>
</tr>
<tr>
<td>EVAR</td>
<td>1929</td>
<td></td>
<td>52772</td>
</tr>
<tr>
<td>INFRA</td>
<td>1258</td>
<td></td>
<td>56834</td>
</tr>
<tr>
<td>IVCF</td>
<td>NA (&lt;3 centers)</td>
<td></td>
<td>13425</td>
</tr>
<tr>
<td>LEAMP</td>
<td>NA (&lt;3 centers)</td>
<td></td>
<td>16216</td>
</tr>
<tr>
<td>OAAA</td>
<td>316</td>
<td></td>
<td>13039</td>
</tr>
<tr>
<td>PVI</td>
<td>3796</td>
<td></td>
<td>211916</td>
</tr>
<tr>
<td>SUPRA</td>
<td>NA (&lt;3 centers)</td>
<td></td>
<td>18661</td>
</tr>
<tr>
<td>TEVAR</td>
<td>467</td>
<td></td>
<td>16002</td>
</tr>
<tr>
<td>Varicose Veins</td>
<td>NA (&lt;3 centers)</td>
<td></td>
<td>37051</td>
</tr>
<tr>
<td>Overall</td>
<td>15450</td>
<td></td>
<td>658118</td>
</tr>
</tbody>
</table>
Procedure Volume by Center in Your Region (Jan-Dec 2019)

- Other centers in your region
- Your center

Centers (centers with <10 cases not shown)

Procedure Volume Across VQI (Jan-Dec 2019)

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 by Region

Physician Specialties Across VQI (as of January 31, 2020, N=8051 Physicians)
Physician Specialties Across Your Region (as of January 31, 2020, N=301 Physicians)
# Percentage of Procedures With Follow-Up Within 9-21 Months

Procedures performed between January 1 and December 31, 2017

Data for this report include all cases with surgery date between January 1 and December 31, 2017, that had been entered into the VQI as of January 31, 2020. The table below shows the number of procedures in the VQI, and the percentage of those procedures with long-term follow-up.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVACCESS</td>
<td>NA (&lt;3 centers)</td>
<td>7940 (58%)</td>
<td></td>
</tr>
<tr>
<td>CAS</td>
<td>304 (66%)</td>
<td>5307 (65%)</td>
<td></td>
</tr>
<tr>
<td>CEA</td>
<td>874 (56%)</td>
<td>18275 (72%)</td>
<td></td>
</tr>
<tr>
<td>EVAR</td>
<td>377 (54%)</td>
<td>7199 (72%)</td>
<td></td>
</tr>
<tr>
<td>INFRA</td>
<td>254 (83%)</td>
<td>7643 (72%)</td>
<td></td>
</tr>
<tr>
<td>IVCF</td>
<td>NA (&lt;3 centers)</td>
<td>2362 (69%)</td>
<td></td>
</tr>
<tr>
<td>LEAMP</td>
<td>NA (&lt;3 centers)</td>
<td>2607 (59%)</td>
<td></td>
</tr>
<tr>
<td>OAAA</td>
<td>NA (&lt;3 centers)</td>
<td>1277 (74%)</td>
<td></td>
</tr>
<tr>
<td>PVI</td>
<td>437 (61%)</td>
<td>29157 (74%)</td>
<td></td>
</tr>
<tr>
<td>SUPRA</td>
<td>NA (&lt;3 centers)</td>
<td>2352 (69%)</td>
<td></td>
</tr>
<tr>
<td>TEVAR</td>
<td>NA (&lt;3 centers)</td>
<td>2418 (66%)</td>
<td></td>
</tr>
<tr>
<td>Overall (Jan-Dec 2017)</td>
<td>2430 (61%)</td>
<td>86737 (70%)</td>
<td></td>
</tr>
<tr>
<td>Overall (Jan-Dec 2016)</td>
<td>1826 (54%)</td>
<td>75316 (73%)</td>
<td></td>
</tr>
</tbody>
</table>
Regional data are not shown for the region with <3 centers with at least 10 cases.
Long-Term Follow-Up by Center in Your Region (Jan-Dec 2017)

- Other centers in your region
- Your center

Centers (centers with <10 cases not shown)

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

Long-Term Follow-Up by Region Across VQI (Jan-Dec 2017)

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

"Others" indicates centers that do not belong to a regional group. "*" indicates region's rate differs significantly from the VQI rate.
**Discharge Medications**

Procedures performed between January 1 and December 31, 2019

Excludes patients who died in hospital and patients who were not treated for medical reason. “Antiplatelet” is defined as ASA or P2Y12 inhibitor.

Data for this report include all cases with surgery date between January 1 and December 31, 2019, that had been entered into the VQI as of January 31, 2020. The table below shows the number of procedures in the VQI, and the percentage of patients receiving discharge medications.

<table>
<thead>
<tr>
<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>
</tr>
<tr>
<td>CEA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EVAR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INFRA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEAMP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OAAA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PVI</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUPRA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TEVAR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Your Center Overall</strong></td>
<td>2416</td>
<td>87%</td>
<td>8%</td>
<td>3%</td>
</tr>
<tr>
<td><strong>Your Region Overall</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>VQI Overall</strong></td>
<td>82204</td>
<td>85%</td>
<td>9%</td>
<td>4%</td>
</tr>
</tbody>
</table>
Regional data are not shown for the region with <3 centers with at least 10 cases.
Discharge Antiplatelet+Statin Rate by Center in Your Region (Jan-Dec 2019)

Other centers in your region  Your center

Centers (centers with <10 cases not shown)

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

Discharge Antiplatelet+Statin Rate by Region Across VQI (Jan-Dec 2019)


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

“Others” indicates centers that do not belong to a regional group. "***" indicates region’s rate differs significantly from the VQI rate.
Transfemoral Carotid Artery Stent: Stroke or Death in Hospital

Procedures performed between January 1 and December 31, 2019

Asymptomatic admissions, excluding prior ipsilateral CAS, CAS for intracranial treatment and dissection, trauma and “other” lesion types. Asymptomatic patients are those who had no ipsilateral or contralateral TIA or stroke within 120 days prior to surgery. Procedures with an approach other than “Femoral” are also excluded.

Data for this report include all cases with surgery date between January 1 and December 31, 2019, that had been entered into the VQI as of January 31, 2020. The table below shows the number of Transfemoral CAS procedures meeting the inclusion criteria in the VQI, and the observed and expected rates of stroke or death in hospital for those cases. Cases with missing data elements necessary for the construction of inclusion/exclusion criteria are not included in the table.

<table>
<thead>
<tr>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Transfemoral CAS procedures meeting inclusion criteria</td>
<td>NA (&lt;3 centers)</td>
<td>1504</td>
</tr>
<tr>
<td>Observed rate of stroke or death among procedures meeting inclusion criteria</td>
<td>1.6%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>1394</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among cases with complete data</td>
<td>1.5%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of stroke or death among cases with complete data*</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</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.
Rate of In-Hospital Stroke or Death After Transfemoral CAS by Year

Regional data are not shown for the region with <3 centers with at least 10 cases.
Rate of In-Hospital Stroke or Death After Transfemoral CAS in Your Region (Jan-Dec 2019)

Other centers in your region  Your center  Observed  Expected

Centers (centers with <10 cases not shown)

** indicates center’s observed rate differs significantly from its expected rate.

Rate of In-Hospital Stroke or Death After Transfemoral CAS by Region Across VQI (Jan-Dec 2019)

Observed  Expected

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

** indicates region’s observed rate differs significantly from its expected rate.
TransCarotid Artery Revascularization: Stroke or Death in Hospital

Procedures performed between January 1 and December 31, 2019

Asymptomatic admissions, excluding prior ipsilateral CAS, CAS for intracranial treatment and dissection, trauma and “other” lesion types. Asymptomatic patients are those who had no ipsilateral or contralateral TIA or stroke within 120 days prior to surgery.

Data for this report include all cases with surgery date between January 1 and December 31, 2019, that had been entered into the VQI as of January 31, 2020. The table below shows the number of TCAR procedures meeting the inclusion criteria in the VQI, and the observed and expected rates of stroke or death in hospital for those cases. Cases with missing data elements necessary for the construction of inclusion/exclusion criteria are not included in the table.

<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></td>
<td>200</td>
<td>3543</td>
</tr>
<tr>
<td>Observed rate of stroke or death among procedures meeting inclusion criteria</td>
<td>0.5%</td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>193</td>
<td>3358</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among cases with complete data</td>
<td>0.5%</td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of stroke or death among cases with complete data*</td>
<td>0.9%</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.**
Rate of In-Hospital Stroke or Death After TCAR by Year

Regional data are not shown for the region with <3 centers with at least 10 cases.
Rate of In-Hospital Stroke or Death After TCAR in Your Region (Jan-Dec 2019)

Centers (centers with <10 cases not shown)

*** indicates center’s observed rate differs significantly from its expected rate.

Rate of In-Hospital Stroke or Death After TCAR by Region Across VQI (Jan-Dec 2019)

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

*** indicates region’s observed rate differs significantly from its expected rate.
**Carotid Endarterectomy: Asymptomatic Stroke or Death in Hospital**

Procedures performed between January 1 and December 31, 2019

Asymptomatic admissions, excluding prior ipsilateral CEA and concomitant CABG, endovascular or other arterial procedure. Asymptomatic patients are those who had no ipsilateral or contralateral TIA or stroke within 120 days prior to surgery.

Data for this report include all cases with surgery date between January 1 and December 31, 2019, that had been entered into the VQI as of January 31, 2020. The table below shows the number of CEA Asymptomatic procedures meeting the inclusion criteria in the VQI, and the observed and expected rates of stroke or death in hospital for those cases. Cases with missing data elements necessary for the construction of inclusion/exclusion criteria are not included in the table.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Asymptomatic CEA procedures meeting inclusion criteria</td>
<td>479</td>
<td>10775</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among procedures meeting inclusion criteria</td>
<td>0.8%</td>
<td>0.8%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>471</td>
<td>10302</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among cases with complete data</td>
<td>0.8%</td>
<td>0.8%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of stroke or death among cases with complete data*</td>
<td>0.9%</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.
Rate of Asymptomatic Stroke or Death in Hospital After CEA by Year

Regional data are not shown for the region with <3 centers with at least 10 cases.
Rate of Asymptomatic Stroke or Death in Hospital After CEA in Your Region (Jan-Dec 2019)

Centers (centers with <10 cases not shown)

*** indicates center’s observed rate differs significantly from its expected rate.

Rate of Asymptomatic Stroke or Death in Hospital After CEA by Region Across VQI (Jan-Dec 2019)

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

*** indicates region’s observed rate differs significantly from its expected rate.
**Carotid Endarterectomy: Symptomatic Stroke or Death in Hospital**

Procedures performed between January 1 and December 31, 2019

Symptomatic admissions, excluding prior ipsilateral CEA and concomitant CABG, endovascular or other arterial procedure. Symptomatic patients are those who had an ipsilateral or contralateral TIA or stroke within 120 days prior to surgery.

Data for this report include all cases with surgery date between January 1 and December 31, 2019, that had been entered into the VQI as of January 31, 2020. The table below shows the number of CEA Symptomatic procedures meeting the inclusion criteria in the VQI, and the observed and expected rates of stroke or death in hospital for those cases. Cases with missing data elements necessary for the construction of inclusion/exclusion criteria are not included in the table.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Symptomatic CEA procedures meeting inclusion criteria</td>
<td>408</td>
<td>6268</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among procedures meeting inclusion criteria</td>
<td>2%</td>
<td>1.9%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>399</td>
<td>6046</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among cases with complete data</td>
<td>2%</td>
<td>1.9%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of stroke or death among cases with complete data*</td>
<td>2.1%</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.**
Rate of Symptomatic Stroke or Death in Hospital After CEA by Year

Regional data are not shown for the region with <3 centers with at least 10 cases.
Rate of Symptomatic Stroke or Death in Hospital After CEA in Your Region (Jan-Dec 2019)

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

Centers (centers with <10 cases not shown)

** indicates center’s observed rate differs significantly from its expected rate.

Rate of Symptomatic Stroke or Death in Hospital After CEA by Region Across VQI (Jan-Dec 2019)

- Observed
- Expected

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

** indicates region’s observed rate differs significantly from its expected rate.
Carotid Endarterectomy: Percentage of Asymptomatic Patients With LOS>1 Day

Procedures performed between January 1 and December 31, 2019

Asymptomatic admissions, excluding prior ipsilateral CEA, concomitant CABG, proximal endovascular or other arterial operation, in-hospital death with LOS<=1 day, procedures done on weekends or not done on admission day. LOS is based on the midnight rule used for hospital billing. Asymptomatic patients are those who had no ipsilateral or contralateral TIA or stroke within 120 days prior to surgery.

Data for this report include all cases with surgery date between January 1 and December 31, 2019, that had been entered into the VQI as of January 31, 2020. The table below shows the number of CEA Asymptomatic procedures meeting inclusion criteria in the VQI, and the observed and expected rates of those cases with LOS>1 Day. Cases with missing data elements necessary for the construction of inclusion/exclusion criteria are not included in the table.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Asymptomatic CEA procedures meeting inclusion criteria</td>
<td>457</td>
<td>10113</td>
<td></td>
</tr>
<tr>
<td>Observed rate of LOS&gt;1 day among procedures meeting inclusion criteria</td>
<td>25%</td>
<td>22%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>451</td>
<td>9747</td>
<td></td>
</tr>
<tr>
<td>Observed rate of LOS&gt;1 day among cases with complete data</td>
<td>25%</td>
<td>21%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of LOS&gt;1 day among cases with complete data*</td>
<td>22%</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>0.08</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.
Rate of CEA Asymptomatic Patients With LOS>1 Day by Year

Regional data are not shown for the region with <3 centers with at least 10 cases.
Rate of CEA Asymptomatic Patients With LOS>1 Day in Your Region (Jan-Dec 2019)

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

Centers (centers with <10 cases not shown)

*** indicates center’s observed rate differs significantly from its expected rate.

Rate of CEA Asymptomatic Patients With LOS>1 Day by Region Across VQI (Jan-Dec 2019)

- Observed
- Expected

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

*** indicates region’s observed rate differs significantly from its expected rate.
Carotid Endarterectomy: Percentage of Symptomatic Patients With LOS>1 Day

Procedures performed between January 1 and December 31, 2019

Symptomatic admissions, excluding prior ipsilateral CEA, concomitant CABG, proximal endovascular or other arterial operation, in-hospital death with LOS<=1 day, procedures done on weekends or not done on admission day, LOS is based on the midnight rule used for hospital billing. Symptomatic patients are those who had an ipsilateral or contralateral TIA or stroke within 120 days prior to surgery.

Data for this report include all cases with surgery date between January 1 and December 31, 2019, that had been entered into the VQI as of January 31, 2020. The table below shows the number of CEA Symptomatic procedures meeting inclusion criteria in the VQI, and the observed and expected rates of those cases with LOS>1 Day. Cases with missing data elements necessary for the construction of inclusion/exclusion criteria are not included in the table.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Symptomatic CEA procedures meeting inclusion criteria</td>
<td>234</td>
<td>3463</td>
<td></td>
</tr>
<tr>
<td>Observed rate of LOS&gt;1 day among procedures meeting inclusion criteria</td>
<td>23%</td>
<td>26%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>229</td>
<td>3354</td>
<td></td>
</tr>
<tr>
<td>Observed rate of LOS&gt;1 day among cases with complete data</td>
<td>23%</td>
<td>26%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of LOS&gt;1 day among cases with complete data*</td>
<td>28%</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>0.14</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.
Rate of CEA Symptomatic Patients With LOS>1 Day by Year

Regional data are not shown for the region with <3 centers with at least 10 cases.
Rate of CEA Symptomatic Patients With LOS>1 Day in Your Region (Jan-Dec 2019)

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

Centers (centers with <10 cases not shown)

*** indicates center’s observed rate differs significantly from its expected rate.

Rate of CEA Symptomatic Patients with LOS>1 Day by Region Across VQI (Jan-Dec 2019)

- Observed
- Expected

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

*** indicates region’s observed rate differs significantly from its expected rate.
Endovascular AAA Repair: Percentage of Patients With LOS>2 Days

Procedures performed between January 1 and December 31, 2019

Excludes ruptured aneurysms and in-hospital deaths with LOS≤2 days, patients with prior aortic surgery, patients transferred from another hospital, procedures not done on day of admission and weekend procedures. LOS is based on the midnight rule used for hospital billing.

Data for this report include all cases with surgery date between January 1 and December 31, 2019, that had been entered into the VQI as of January 31, 2020. The table below shows the number of EVAR procedures meeting the inclusion criteria and the observed and expected rates of those cases with LOS>2 Days.

<table>
<thead>
<tr>
<th>Description</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>309</td>
<td>5549</td>
<td></td>
</tr>
<tr>
<td>Observed rate of LOS&gt;2 days among procedures meeting inclusion criteria</td>
<td>7%</td>
<td>11%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>289</td>
<td>5107</td>
<td></td>
</tr>
<tr>
<td>Observed rate of LOS&gt;2 days among cases with complete data</td>
<td>8%</td>
<td>11%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of LOS&gt;2 days among cases with complete data*</td>
<td>11%</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>0.13</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.
Rate of EVAR Patients With LOS>2 Days by Year

Regional data are not shown for the region with <3 centers with at least 10 cases.
Rate of EVAR Patients With LOS>2 Days in Your Region (Jan-Dec 2019)

Centers (centers with <10 cases not shown)

"***" indicates center's observed rate differs significantly from its expected rate.

Rate of EVAR Patients With LOS>2 Days by Region Across VQI (Jan-Dec 2019)

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

"***" indicates region's observed rate differs significantly from its expected rate.
EVAR: Rate of Sac Diameter Reporting at Long-Term Follow-Up

Procedures performed between January 1 and December 31, 2017
Excludes patients who were converted to open or died within 21 months of surgery.

Data for this report include all cases with surgery date between January 1 and December 31, 2017, that had been entered into the VQI as of January 31, 2020. The table below shows the number of EVAR procedures in the VQI, and the percentage of those cases in which the patient had a follow-up visit between 9 and 21 months post-surgery at which a sac diameter was recorded.

<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</td>
<td>364</td>
<td>6707</td>
<td></td>
</tr>
<tr>
<td>Percentage with sac diameter recorded at follow-up</td>
<td>46%</td>
<td>60%</td>
<td></td>
</tr>
</tbody>
</table>
Regional data are not shown for the region with <3 centers with at least 10 cases.
Rate of LTFU Sac Diameter Reporting in Your Region (Jan-Dec 2017)

- Other centers in your region
- Your center

Centers (centers with <10 cases not shown)

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

Rate of LTFU Sac Diameter Reporting by Region Across VQI (Jan-Dec 2017)

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

"***" indicates region’s rate differs significantly from the VQI rate.
Infrainguinal Bypass: Rate of Major Complications

Procedures performed between January 1 and December 31, 2019

Includes only patients with indication of rest pain or tissue loss. Major complications are defined as in-hospital death, ipsilateral BK or AK amputation or graft occlusion.

Data for this report include all cases with surgery date between January 1 and December 31, 2019, that had been entered into the VQI as of January 31, 2020. The table below shows the number of INFRA cases with indication of rest pain or tissue loss in the VQI, and the percentage of those cases that resulted in in-hospital death, ipsilateral 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>184</td>
<td>4129</td>
<td></td>
</tr>
<tr>
<td>Percentage with major complications after INFRA</td>
<td>3.8%</td>
<td>4.5%</td>
<td></td>
</tr>
</tbody>
</table>
Rate of Major Complications After INFRA by Year

Regional data are not shown for the region with <3 centers with at least 10 cases.
Rate of Major Complications After INFRA in Your Region (Jan-Dec 2019)

- Other centers in your region
- Your center

Centers (centers with <10 cases not shown)

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

Rate of Major Complications After INFRA 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: Percentage of Elective Patients With AAA Diameter Within SVS Guideline (≥5.5cm for Men; ≥5 cm for Women)

Procedures performed between January 1 and December 31, 2019

Excludes non-elective procedures. If the patient has any iliac aneurysm, the guideline is considered to have been met regardless of AAA diameter.

Data for this report include all cases with surgery date between January 1 and December 31, 2019, that had been entered into the VQI as of January 31, 2020. The table below shows the number of elective EVAR procedures in the VQI, and the percentage of those cases meeting the SVS sac size 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 elective EVAR procedures</td>
<td></td>
<td>319</td>
<td>5875</td>
</tr>
<tr>
<td>Percentage meeting SVS sac size guideline</td>
<td></td>
<td>75%</td>
<td>72%</td>
</tr>
</tbody>
</table>
Rate of EVAR Cases Meeting Sac Size Guideline by Year

Regional data are not shown for the region with <3 centers with at least 10 cases.
Rate of EVAR Cases Meeting Sac Size Guideline in Your Region (Jan-Dec 2019)

Centers (centers with <10 cases not shown)

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

Rate of EVAR Cases Meeting Sac Size Guideline 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.
Hemodialysis Access: Percentage of Primary AVF vs. Graft

Procedures performed between January 1 and December 31, 2019

Excludes patients with previous access procedure in the same arm.

Data for this report include all cases with surgery date between January 1 and December 31, 2019, that had been entered into the VQI as of January 31, 2020. The table below shows the number of access procedures meeting the inclusion criteria in the VQI, and the percentage of those cases that were AVF vs. graft. Cases with missing data elements necessary for the construction of inclusion/exclusion criteria are not included in the table.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of access procedures meeting inclusion criteria</td>
<td></td>
<td>NA (&lt;3 centers)</td>
<td>5411</td>
</tr>
<tr>
<td>Percentage with primary AVF</td>
<td></td>
<td></td>
<td>84%</td>
</tr>
</tbody>
</table>
Regional data are not shown for the region with <3 centers with at least 10 cases.
Rate of Primary AVF Access in Your Region (Jan-Dec 2019)

Centers (centers with <10 cases not shown)

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

Rate of Primary AVF Access 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.
**IVCF: Percentage of Temporary Filters With Retrieval or Attempt at Retrieval**

Procedures performed between July 1, 2018 and June 30, 2019

Excludes patients with permanent filters and patients who have died since discharge.

Data for this report include all cases with surgery date between July 1, 2018 and June 30, 2019, that had been entered into the VQI as of January 31, 2020. The table below shows the number of IVCF procedures meeting the inclusion criteria in the VQI, and the percentage of those cases in which the filter was retrieved, or an attempt was made to retrieve it, at any time 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 procedures meeting inclusion criteria</td>
<td></td>
<td>NA (&lt;3 centers)</td>
<td>1403</td>
</tr>
<tr>
<td>Percentage with filter retrieval, or attempt at retrieval</td>
<td></td>
<td></td>
<td>30%</td>
</tr>
<tr>
<td>Percentage not retrieved because not clinically indicated</td>
<td></td>
<td></td>
<td>5%</td>
</tr>
<tr>
<td>Percentage not retrieved because patient declined</td>
<td></td>
<td></td>
<td>1%</td>
</tr>
<tr>
<td>Percentage not retrieved because lost to follow-up</td>
<td></td>
<td></td>
<td>0%</td>
</tr>
<tr>
<td>Percentage not retrieved because deemed too late for removal</td>
<td></td>
<td></td>
<td>0%</td>
</tr>
<tr>
<td>Percentage not retrieved because planned later removal</td>
<td></td>
<td></td>
<td>1%</td>
</tr>
</tbody>
</table>
Rate of IVCF Retrieval by Year

Regional data are not shown for the region with <3 centers with at least 10 cases.
Rate of IVCF Retrieval in Your Region (July 2018-June 2019)

- Other centers in your region
- Your center

Centers (centers with <10 cases not shown)

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

Rate of IVCF Retrieval by Region Across VQI (July 2018-June 2019)

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

*** indicates region’s rate differs significantly from the VQI rate.
Lower-Extremity Amputation: Rate of Postop Complications

Procedures performed between January 1 and December 31, 2019

Complications are defined as myocardial infarction, dysrhythmia, congestive heart failure, surgical site infection, renal and/or respiratory complication.

Data for this report include all cases with surgery date between January 1 and December 31, 2019, that had been entered into the VQI as of January 31, 2020. The table below shows the number of LEAMP cases in the VQI, and the percentage of those cases that resulted in 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 amputation procedures</td>
<td></td>
<td>NA (&lt;3 centers)</td>
<td>2969</td>
</tr>
<tr>
<td>Percentage with complications after LEAMP</td>
<td></td>
<td></td>
<td>11%</td>
</tr>
</tbody>
</table>
Rate of Complications After LEAMP by Year

Regional data are not shown for the region with <3 centers with at least 10 cases.
Rate of Complications After LEAMP in Your Region (Jan-Dec 2019)

- Other centers in your region
- Your center

Centers (centers with <10 cases not shown)

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

Rate of Complications After LEAMP by Region Across VQI (Jan-Dec 2019)

Rate: 0% to 15%

- Carolinas*
- Southeast*
- New York
- VQI
- Up. Midwest
- Virgini[a]*
- Mid-America
- New England*

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

*** indicates region’s rate differs significantly from the VQI rate.
Non-Ruptured Open AAA: In-Hospital Mortality

Procedures performed between January 1 and December 31, 2019
Excludes ruptured aneurysms.

Data for this report include all cases with surgery date between January 1 and December 31, 2019, that had been entered into the VQI as of January 31, 2020. The table below shows the number of OAAA procedures meeting the inclusion criteria in the VQI, and the observed and expected rates of in-hospital death for those cases.

<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>NA (&lt;3 centers)</td>
<td>1003</td>
</tr>
<tr>
<td>Observed rate of in-hospital death among procedures meeting inclusion criteria</td>
<td>4.2%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>952</td>
<td></td>
</tr>
<tr>
<td>Observed rate of in-hospital death among cases with complete data</td>
<td>4.2%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of in-hospital death among cases with complete data*</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Observed rate of in-hospital death among procedures with infrarenal proximal clamp</td>
<td>2.6%</td>
<td></td>
</tr>
<tr>
<td>Observed rate of in-hospital death among procedures with suprarenal proximal clamp</td>
<td>5.8%</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.
Regional data are not shown for the region with <3 centers with at least 10 cases.
Rate of In-Hospital Death After OAAA in Your Region (Jan-Dec 2019)

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

Centers (centers with <10 cases not shown)

*** indicates center’s observed rate differs significantly from its expected rate.

Rate of In-Hospital Death After OAAA by Region Across VQI (Jan-Dec 2019)

- Observed
- Expected

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

*** indicates region’s observed rate differs significantly from its expected rate.
PVI: Percentage of Claudicants With ABI/Toe Pressure Reported Before Procedure

Procedures performed between January 1 and December 31, 2019

“ABI or toe pressure reported” indicates at least one measure was recorded for the side of the operation, or on both sides for bilateral and aortic procedures.

Data for this report include all cases with surgery date between January 1 and December 31, 2019, that had been entered into the VQI as of January 31, 2020. The table below shows the number of PVI procedures with indication of claudication in the VQI, and the percentage of those cases in which ABI or toe pressure was recorded.

<table>
<thead>
<tr>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of PVI procedures with indication of claudication</td>
<td>NA (&lt;3 centers)</td>
<td>13917</td>
</tr>
<tr>
<td>Percentage with ABI/toe pressure recorded before procedure</td>
<td></td>
<td>76%</td>
</tr>
<tr>
<td>Percentage who were current smokers</td>
<td></td>
<td>38%</td>
</tr>
</tbody>
</table>
Rate of ABI/Toe Pressure Assessment Before PVI by Year

Regional data are not shown for the region with <3 centers with at least 10 cases.
Rate of ABI/Toe Pressure Assessment Before PVI in Your Region (Jan-Dec 2019)

Other centers in your region ■ Your center

Centers (centers with <10 cases not shown)

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

Rate of ABI/Toe Pressure Assessment Before PVI 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.
Suprainguinal Bypass: Rate of Major Complications

Procedures performed between January 1 and December 31, 2019

Includes only patients with indication of rest pain or tissue loss. Major complications are defined as in-hospital death, ipsilateral BK or AK amputation or graft occlusion.

Data for this report include all cases with surgery date between January 1 and December 31, 2019, that had been entered into the VQI as of January 31, 2020. The table below shows the number of SUPRA cases in the VQI, and the percentage of those cases that resulted in 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 SUPRA procedures</td>
<td></td>
<td>NA (&lt;3 centers)</td>
<td>848</td>
</tr>
<tr>
<td>Percentage with major complications after SUPRA</td>
<td></td>
<td></td>
<td>6%</td>
</tr>
</tbody>
</table>
Rate of Major Complications After SUPRA by Year

Regional data are not shown for the region with <3 centers with at least 10 cases.
Rate of Major Complications After SUPRA in Your Region (Jan-Dec 2019)

- Other centers in your region
- Your center

Centers (centers with <10 cases not shown)

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

Rate of Major Complications After SUPRA by Region Across VQI (Jan-Dec 2019)

- Carolinas*
- New England
- VQI
- G. Lakes

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

**** indicates region’s rate differs significantly from the VQI rate.
TEVAR: Rate of Sac Diameter Reporting at Long-Term Follow-Up

Procedures performed between January 1 and December 31, 2017

Includes only patients with Pathology=aneurysm or aneurysm from dissection. Excludes patients who died within 21 months of surgery.

Data for this report include all cases with surgery date between January 1 and December 31, 2017, that had been entered into the VQI as of January 31, 2020. The table below shows the number of TEVAR procedures in the VQI, and the percentage of those cases in which the patient had a follow-up visit between 9 and 21 months post-surgery at which a sac diameter was recorded.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of TEVAR procedures</td>
<td></td>
<td>NA (&lt;3 centers)</td>
<td>1338</td>
</tr>
<tr>
<td>Percentage with sac diameter recorded at follow-up</td>
<td></td>
<td></td>
<td>57%</td>
</tr>
</tbody>
</table>
Regional data are not shown for the region with <3 centers with at least 10 cases.
Rate of LTFU Sac Diameter Reporting in Your Region (Jan-Dec 2017)

- Other centers in your region
- Your center

Centers (centers with <10 cases not shown)

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

Rate of LTFU Sac Diameter Reporting by Region Across VQI (Jan-Dec 2017)

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

*** Indicates region's rate differs significantly from the VQI rate.
OAAA: Percentage of Patients Meeting SVS Cell-Saver Guideline (Cell Salvage or Ultrafiltration Device Used if EBL>500 ml)

Procedures performed between January 1 and December 31, 2019

Excludes patients with EBL≤500 ml.

Data for this report include all cases with surgery date between January 1 and December 31, 2019, that had been entered into the VQI as of January 31, 2020. The table below shows the number of OAAA procedures with EBL>500 ml in the VQI, and the percentage of those cases 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>NA (&lt;3 centers)</td>
<td>1035</td>
</tr>
<tr>
<td>Percentage meeting cell-saver guideline</td>
<td></td>
<td></td>
<td>93%</td>
</tr>
</tbody>
</table>
Regional data are not shown for the region with <3 centers with at least 10 cases.
Rate of OAAA Cases Meeting Cell-Saver Guideline in Your Region (Jan-Dec 2019)

- Other centers in your region
- Your center

Centers (centers with <10 cases not shown)

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

Rate of OAAA Cases Meeting Cell-Saver Guideline 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: Percentage of Procedures Meeting SVS Internal Iliac Inflow Guideline (Preservation of Flow Maintained to at Least One Internal Iliac Artery)

Procedures performed between January 1 and December 31, 2019

Data for this report include all cases with surgery date between January 1 and December 31, 2019, that had been entered into the VQI as of January 31, 2020. The table below shows the number of OAAA procedures in the VQI, and the percentage of those cases meeting the SVS iliac inflow 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</td>
<td></td>
<td>NA (&lt;3 centers)</td>
<td>1171</td>
</tr>
<tr>
<td>Percentage meeting iliac inflow guideline</td>
<td></td>
<td></td>
<td>97%</td>
</tr>
</tbody>
</table>
Rate of OAAA Cases Meeting Iliac Inflow Guideline by Year

Regional data are not shown for the region with <3 centers with at least 10 cases.
Rate of OAAA Cases Meeting Iliac Inflow Guideline in Your Region (Jan-Dec 2019)

- Other centers in your region
- Your center

Centers (centers with <10 cases not shown)

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

Rate of OAAA Cases Meeting Iliac Inflow Guideline 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.
Nam Tran, MD
VQI Technology Updates
Technology Released in Q4 2019

- EVAR Registry Revision II
  - Released on 12/12/2019
  - Added fields that collect closure device details for right/left access
    - Largest Sheath Size (Fr) Right/Left
    - Number of Closure Devices Right/Left
    - Closure Device Type Right/Left
    - Specify Other Closure Device Type Right/Left
  - Changed post-op complications fields to be access side specific
    - Access Site Hematoma/Pseudoaneurysm Right/Left
    - Access Site Occlusion Right/Left
    - Access Site Infection Right/Left
• INFRA Registry Revision II
  – Released on **12/12/2019**
  – Added fields related to groin incision to capture more granular information about the incision
    • Closure
    • Dressing
    • Negative Pressure Device
    • Specify Other (Negative Pressure Device)
Technology Released in Q1 2020

- Drildown Feature for Follow-up Completion Rate report
  - Released on 1/15/2020
Technology Released in Q1 2020

- Drilldown Feature for Follow-up Completion Rate report

**LTF Numerator:**
- Y = one or more follow-up records exist that meet LTF requirement.
- N = no follow-ups are submitted or submitted follow-up(s) fail to meet LTF requirements (e.g., no follow-up possible).

**LTF Denominator:**
- Y = procedure/treatment record is included in LTF calculation.
- N = procedure/treatment record is excluded from LTF calculation (e.g., in-hospital death).

Interpretation of Numerator and Denominator

Expected Window for Follow-up Completion

Report filtered for physician users to include only those records where they are selected as the primary physician for the procedure/treatment record.
Projects in Progress

- Hemodialysis Access minor revision (changes since Q4 2019 release)
- Multi-registry revision
  - Hypertension Harmonization
  - Antibiotics Harmonization
  - Add "Other" free text field to device fields
- TEVAR Registry Revision to collect closure device details and change post-op complications fields to be access side specific
- Add PVI Procedure Context variables to Follow-up data download file
Registry 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 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

Re-Opening in 2019

- Project will include newly approved Cook device
- TEVAR centers will be invited to participate

For more information, please contact: tevarproject@m2s.com or Anita Duxbury at 603-239-3245
For More Information Contact:

The Bard® LifeStent® Popliteal Artery Stent Project
Charlotte Stirewalt
BardLifeStent@m2s.com
PATHWAYS Support
Customer Experience

- Support Team is utilizing our Customer Support System to track our communication and analyze support metrics
- Range of inquiries per month is 450-650

Support Tips

- Please update your Center details on the Center Characteristics Page
- Now posting an “Abstractor Tip of the Month” using PATHWAYS notifications
Fall Survey Questionnaire

- Which location would be best to host the next Regional Meeting?
  - Seattle
  - Location in conjunction with the PNWVS Meeting (Portland for 2020)
  - At a VQI site
  - Rotation among different VQI site
  - Remote via teleconference

- If you did not attend the Fall/Spring meeting- what is/are the reasons?
  - Location
  - Date/Time
  - Interference with clinical work
  - Not relevance to my practice
  - Not relevance to my participation in VQI
  - Other – please elaborate

- How long should each meeting be?
  - One hour
  - Two hours
  - Three hours
  - Four hours

- Do you or your representative plan on attending a meeting in the next year?
- Are you getting meeting notifications?
- What should be done to improve our semi-annual meeting?
- What do you use VQI for currently in your practice?
  - Quality Assurance
  - Requirement for participation in clinical trials, etc.
  - Requirement for TCAR
  - Other – please list

- What suggestions do you have to increase participation?
- What are areas of opportunity that you would like to learn about from other sites?
- What would you like to change re: our region VQI?
MEETING EVALUATION:

- What did you like about this meeting?
- What can we do better?
- Next meeting location?
PSO would like to compile and share “words of wisdom”, innovative ideas, and regional projects from each regional meeting this year to all members at the end of the year.

– What would you like to share from this meeting?
PARTICIPATION AWARD CREDIT!!!

PLEASE ELECTRONICALLY SIGN IN FOR PARTICIPATION POINTS!