Virginias Vascular Study Group
Spring Meeting

April 26, 2018
12noon – 4:00pm
Hilton Virginia Beach Oceanfront
Please Sign the Attendance Sheet
## Agenda:

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:00AM – 12:15PM</td>
<td>Joint breakout meetings and Lunch</td>
<td>Executive Committee/Physician Research Meeting</td>
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<tr>
<td></td>
<td></td>
<td>Data Manager Workshop (lead data managers each site)</td>
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<tr>
<td></td>
<td></td>
<td>Review of analytics report M2S webinar for participants</td>
</tr>
<tr>
<td>12:30PM</td>
<td>Welcome</td>
<td>William Robinson, M.D., Medical Director</td>
</tr>
<tr>
<td>12:30PM – 1:00PM</td>
<td>“I’ve improved my quality metrics. Does this mean my patients are getting better care?”</td>
<td>David Dexter, MD</td>
</tr>
<tr>
<td>1:00PM – 1:30PM</td>
<td>Presentations for Quality Projects</td>
<td>Catherine Ratliff, PhD, GNP-BC,CWOCN,CFCN University of Virginia</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Matthew Borkon, M.D. Medical Director Vascular and Endovascular Services</td>
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<td></td>
<td>Winchester Medical Center “CODE RUPTURE- Development of a Multidisciplinary Approach to the Care of This High Risk Population”</td>
</tr>
<tr>
<td>1:30PM – 2:00PM</td>
<td>Updates on Councils</td>
<td>Margaret Tracci, M.D., Albert Mousa, M.D. &amp; David Spinosa, M.D.</td>
</tr>
<tr>
<td>2:00PM – 2:15PM</td>
<td>Break</td>
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</tr>
<tr>
<td>2:15PM – 2:45PM</td>
<td>Medstreaming; one center’s experience</td>
<td>Michael Thompson</td>
</tr>
<tr>
<td>2:45PM – 3:55PM</td>
<td>VVSG and National VQI update and Data Review</td>
<td>William Robinson, M.D., Medical Director, James Wadzinski, SVS PSO General Manager and Chris Sytsma, Regional Data Manager</td>
</tr>
<tr>
<td>3:55PM – 4:00M</td>
<td>Closing Remarks and Adjournment</td>
<td>William Robinson, MD</td>
</tr>
</tbody>
</table>
Welcome and Introductions

- Augusta Health
- Carilion Medical Center - Carilion
- Charleston Area Medical Center
- Chippenham Hospital
- Inova Alexandria Hospital
- Inova Fair Oaks Hospital
- Inova Fairfax Hospital
- Inova Gainesville Vein and Vascular Institute
- Inova Loudoun Hospital
- Inova Mount Vernon Hospital
- Johnston-Willis Hospital
- Lynchburg General Hospital (Centra)
- Mary Washington Hospital
- Sentara Careplex Hospital
- Sentara Leigh Hospital
- Sentara Norfolk General Hospital
- Sentara Northern Virginia Medical
- Sentara Obici Hospital
- Sentara Princess Anne Hospital
- Sentara RMH Medical Center
- Sentara Virginia Beach General Hospital
- Sentara Williamsburg Regional Medical
- St. Mary's Medical Center (WV)
- University of Virginia Health System
- VCU Health System Authority
- West Virginia University Hospital
- Winchester Medical Center
<table>
<thead>
<tr>
<th>Hospital/Center</th>
<th>Contact</th>
<th>Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bon Secours Health-St. Mary's</td>
<td>Dr. Vik Mukherjee</td>
<td>Qualified</td>
</tr>
<tr>
<td>Henrico Doctors Hospital-Prospect</td>
<td>Need Physician Contact</td>
<td>Prospect</td>
</tr>
<tr>
<td>Mountain States Health Alliance-Qualified-Dr. Giovani Ferrante</td>
<td>Dr. Giovani Ferrante</td>
<td>Qualified</td>
</tr>
<tr>
<td>Clinch Valley Medical Center-Qualified</td>
<td>David Cassada</td>
<td>Qualified</td>
</tr>
</tbody>
</table>
Key Note Presentation
Quality Project Presentations

Catherine Ratliff, PhD, GNP-BC,CWOCN,CFCN  University of Virginia

Matthew Borkon, M.D. Medical Director Vascular and Endovascular Services
Winchester Medical Center “CODE RUPTURE- Development of a Multidisciplinary Approach to the Care of This High Risk Population”
Vascular Graft Infection: Incidence and Potential Risk Factors

Catherine R Ratliff, PhD, GNP-BC, CWOCN, CFCN
Division of Vascular and Endovascular Surgery
Department of Surgery
Task Force Members

Dr. Tanya Flohr
David Strider
Danielle Moses
Julie Armatas
Suzanne Fuhrmeister
Jennifer Johnson
Alison Okerlund
Marian Lawson
Mary Baldwin
Catherine Ratliff
Dr. Kenneth Cherry
Dr. Gilbert R. Upchurch
Dr. Margaret Tracci
Purpose

Identify factors that increase risk of vascular graft infections (VGI) in patients following abdominal or lower extremity revascularization surgery.
Methods

• Reviewed medical records of 223 patients who had undergone abdominal or lower extremity revascularization procedures from July 2012 to November 2014 for factors associated with VGI.

• Data abstraction into VQI for supra- and infra-inguinal bypass modules for the timeframe
Results

• 33 cases out of 223 charts, incidence of 15%

• Preoperative factors-
  – Diabetes Mellitus (p=0.002)
  – Hemoglobin A1c (HbA1c >7.0 (p=0.0002))
  – Preoperative Blood Glucose (>180 mg/dl) (p=0.0006))
  – Sequential Procedures (p=0.003)
  – Mobility (e.g. wheelchair bound) (p=0.0097)
Results

• Intraoperative factors:
  – hemostatic agents intraoperatively (P = .003)
  – perioperative hypoxemia (P = .027)

• Postoperative factors:
  – discharge from hospital to skilled nursing facility or acute rehabilitation facility (P = .005)
  – unscheduled clinic visits (P = .008)
Practice Changes implemented as result of study

Referral to Diabetes & Endocrine Clinic
Practice Changes implemented as result of study

➢ Vigilant diabetic management
➢ CHG scrubs pre-op
➢ Smoking cessation teaching
➢ Follow-up phone calls 72 hours after discharge from the hospital
➢ Follow-up appointment in 1 to 2 weeks to have groin incisions assessed for any signs of wound infection
➢ Interview patients once admitted to see if preventable or unpreventable readmission
Risk Stratification

- >2 admissions within last 12 months
- Multiple Comorbidities
- No support at home
- Verbalized financial concerns
- Verbalized low level of self-management confidence
# READMISSION QUESTIONNAIRE

<table>
<thead>
<tr>
<th>Initial Hospitalization Date of Discharge</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Date of Surgery Type of procedure</td>
<td></td>
</tr>
<tr>
<td>Readmission Date</td>
<td></td>
</tr>
<tr>
<td>Primary reason for readmission</td>
<td></td>
</tr>
<tr>
<td>What contributed to your readmission to hospital? (Choose all that apply)</td>
<td>Medications</td>
</tr>
<tr>
<td>Unable to reach MD</td>
<td>Unable to reach HH</td>
</tr>
<tr>
<td>What was your living situation prior to readmission? (Choose all that apply)</td>
<td>Home alone, no support</td>
</tr>
<tr>
<td>Assisted Living Facility</td>
<td>Hospice</td>
</tr>
</tbody>
</table>
Interventions implemented as result of study

❖ **LACE score**-identifies patients that are at risk for readmission or death within 30 days of discharge
  - **L**- length of stay of index admission.
  - **A**- acuity of admission. If patient is admitted through Emergency Department vs. elective admission.
  - **C**- co-morbidities, incorporating Charlson Co-Morbidity Index.
  - **E**- number of Emergency Department visits within last 6 months

❖ **LACE scores from 1-19 score of ≥ 10 = High risk of readmission**
LACE Index Scoring Tool for Risk Assessment of Hospital Readmission

Step 1. Length of Stay
Length of stay (including day of admission and discharge): _______ days

<table>
<thead>
<tr>
<th>Length of stay (days)</th>
<th>Score (circle as appropriate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4-6</td>
<td>4</td>
</tr>
<tr>
<td>7-13</td>
<td>5</td>
</tr>
<tr>
<td>14 or more</td>
<td>7</td>
</tr>
</tbody>
</table>

Step 2. Acuity of Admission
Was the patient admitted to hospital via the emergency department? If yes, enter "3" in Box A, otherwise enter "0" in Box A.

Step 3. Comorbidities

<table>
<thead>
<tr>
<th>Condition (definitions and notes on reverse)</th>
<th>Score (circle as appropriate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous myocardial infarction</td>
<td>+1</td>
</tr>
<tr>
<td>Cerebrovascular disease</td>
<td>+1</td>
</tr>
<tr>
<td>Peripheral vascular disease</td>
<td>+1</td>
</tr>
<tr>
<td>Diabetes without complications</td>
<td>+1</td>
</tr>
<tr>
<td>Congestive heart failure</td>
<td>+2</td>
</tr>
<tr>
<td>Diabetes with end organ damage</td>
<td>+2</td>
</tr>
<tr>
<td>Chronic pulmonary disease</td>
<td>+2</td>
</tr>
<tr>
<td>Mild liver or renal disease</td>
<td>+2</td>
</tr>
<tr>
<td>Any tumor (including lymphoma or leukemia)</td>
<td>+2</td>
</tr>
<tr>
<td>Dementia</td>
<td>+3</td>
</tr>
<tr>
<td>Connective tissue disease</td>
<td>+3</td>
</tr>
<tr>
<td>AIDS</td>
<td>+4</td>
</tr>
<tr>
<td>Moderate or severe liver or renal disease</td>
<td>+4</td>
</tr>
<tr>
<td>Metastatic solid tumor</td>
<td>+6</td>
</tr>
</tbody>
</table>

TOTAL

If the TOTAL score is between 0 and 3 enter the score into Box C. If the score is 4 or higher, enter 5 into Box C.

Step 4. Emergency department visits
How many times has the patient visited an emergency department in the six months prior to admission (not including the emergency department visit immediately preceding the current admission)? Enter this number or 4 (whichever is smaller) in Box E.

Add numbers in Box L, Box A, Box C, Box E to generate LACE score and enter into box below.

LACE Score Risk of Readmission: ≥ 10 High Risk
30 Day post-discharge readmissions

- Trends in Readmissions – unplanned re-admits down by almost 3% from same time last yr.
- Almost 50% of vascular re-admits come through clinic with most re-admits occurring on week 1 or week 3 postoperatively
- 11% incidence of readmissions vs 13% in study
Reference

Questions???
Ruptured AAA Quality Improvement Project

Matthew J. Borkon, MD, RPVI, FACS
Valley Health Vascular Surgery
Winchester Medical Center
Winchester, VA
SVS VQI VVSG – Virginia Beach, VA 4/26/2018
Disclosure

• Nothing to disclose
Problem Statement

• No protocols or processes in place at WMC for patients who present with ruptured AAAs
  • Mortality Rate – 50% (Jan 2017-March 2018: n=10)
    • 7 endovascular and 3 open
  • Diagnosis to intervention time not measured
Goal

• Establish structured and streamlined protocols
  • Reduce mortality (<30%)
  • Decrease mean LOS
  • Diagnosis to intervention time < 90 minutes
    • >75% over 1st year and 100% after 2nd year
Suspected Ruptured Abdominal Aortic Aneurysm (rAAA) Algorithm

The Society for Vascular Surgery

Elliot L. Chaikof, M.D.,
W. Anthony Lee, M.D.,
M. Hassan Murad,
Madhukar S. Pate
t
Rochester, Minn.

Fig 5. Algorithm for management of the patient with a suspected or confirmed ruptured abdominal aortic aneurysm (AAA). CT, Computed tomography; I.V.s, intravenous lines.
Scope

- ED/Referring Facilities
  - Transfer Center
  - EMS/Life Flight
- Radiology
- OR/IR staff
- Blood bank
- Anesthesia
- ICU
Introduction, Initiation, and Maintenance

• Committee Meetings
  • Vascular Clinic Council (VCC)
    • Vascular Surgery/Cardiology/IR
    • OR and IR staff
    • Service line administration
  • Cardiovascular Oversight Committee (CVOC)
    • Service line administration (6 individual committees)
  • Anesthesia Department
  • Emergency Room Department
  • Critical Care Committee
Protocol Building

- Permissive hypotension
- Massive transfusion protocol
- Rapid transportation (ED→+/-CT→Hybrid OR)
- OR planning (endovascular first)
  - Hybrid OR
  - Rapid team activation
    - “Code Rupture” Team
    - Knowledge and skill building
- Creation of endovascular rupture kit
Code Rupture Team

- Team Paging Alert (controlled by Vascular Surgeons)
  - OR Charge Nurse
  - On call OR and IR staff (perfusion)
  - On call Anesthesia
  - On call Vascular Surgery PA
  - ICU Nursing Supervisor
In process

- Dedicated CV anesthesia and OR/IR staff
- Development and training – Hybrid OR staff
- Establish dedicated CV intensivist staffing in ICU
Goal

- Establish structured and streamlined protocols
  - Reduce mortality (<30%)
  - Decrease mean LOS
  - Diagnosis to intervention time < 90 minutes
    - >75% over 1st year and 100% after 2nd year
Future Focus and Work

- Continual process evaluation and improvement
  - Monthly debriefing sessions
- Bed status to allow universal acceptance from OSH
  - Rapid transfer of patient
  - Rapid image sharing
- Provide education for outlying referral centers
  - EMS/Life Flight
- Expand code activations
  - Code Dissection
Arterial Quality Council Update: Margaret Tracci, MD
AQC:

- Finalizing Common Variable select options and helptext amongst registries where applicable
- Completing all “missing helptext”
- Clinically reviewing all helptext to site scientific support where applicable
- 30 day variables for all registries are being reviewed
- LTFU required fields are complete and M2S is in the process of development for 2018 release
2018 Special Reports

• **Physician and Center Dashboards**: Physician and center stats on critical outcomes by registry over the past year, including regional and VQI benchmarks. First physician reports delivered in February and will be updated in fall. Center-level dashboards planned for June.

• **Comparative COPI Reports**: We will update prior COPI reports with new data to check centers’ improvement. EVAR LOS planned for May, INFRA LOS for August and INFRA SSI in September.

• **National QI Initiative Updates**: Reports will be issued quarterly starting in March tracking centers’ progress on Discharge Medications and Follow-Up Imaging After EVAR.
Research Advisory Council Update
Albeir Mousa, MD
Check Approved Project List:

**Approved Project List – National – 2.15.18** (Searchable Excel format)

To submit a proposal to be considered for the National RAC, please follow the link below:

[http://abstracts123.com/svs1/meetinglogin](http://abstracts123.com/svs1/meetinglogin)
## National Research Process

**Proposal Submissions**

- **April 2018**
  - Call for Proposals: February 13, 2018
  - Due Date: March 19, 2018
  - Meeting: April 9, 2018
  - Notification Sent: April 10, 2018

- **June 2018**
  - Call for Proposals: April 10, 2018
  - Due Date: May 21, 2018
  - Meeting: June 11, 2018
  - Notifications Sent: June 12, 2018

- **August 2018**
  - Call for Proposals: June 12, 2018
  - Due Date: TBD
  - Meeting: August 13, 2018
  - Notifications Sent: August 14, 2018
Regional Research Projects:

• Any new ideas?
Venous Quality Council Update
David Spinosa, MD
Venous Quality Committee

Varicose Vein Registry
  Discussion addressed:
  Integrity of data
  Problems with data entry
  Source data verification
  Focused audits
  Low venous registry sign up
  ?Shorten forms for Varicose veins

Vascular Center
  ?Accreditation as part of registry

Venous Stent Registry
  Creating Data Fields
  Funding from industry

IVC filter Registry
  Development of APP to help notify clinicians of need to address optional filter plans.
Varicose Vein Appropriateness Project:

• Drs. Almeida and Osborne are analyzing VQI and Claims data to identify trends in the number of procedures being performed on the same patient in a single year.

• Dr. Osborne presented at American Venous Forum (AVF) on how the VQI can be used to monitor appropriateness through appropriateness “CAPI” (Center Appropriateness Performance Improvement) reports.

• Workgroups are determining how to present payors with data so they can make informed payment decisions, based on appropriateness.
Venous Quality Council

Venous Stent Registry: release 2018

Clinical Workgroup:
Marc Passman, MD (chair), William Marston MD, Tony Gasparis MD, Rabith Chaer MD, BK Lal MD, Lowell Kabnick MD

Industry and FDA Collaboration:
Bard, Cook, Gore, Medtronic, Veniti
Governing Council Update
William Robinson, MD
Blinded datasets audits have been completed. No major issues were identified.

- M2S is instituting new and additional data checks
- PSO will be initiating statistical auditing and random audits

GC members were asked to go back to their regions and encourage participation in the Bard and Medtronic PVI studies
The VQI continues to work with the FDA and Industry on the Registry Assessment of Peripheral Interventional Devices “RAPID” project.

- Core PVI data elements were identified and incorporated into VQI in 2016. NCDR will not be ready until 2019.
- Desire to create a multivariable objective performance criteria based on this data, to be funded by industry.
- Potential to lead to many new device evaluation projects for the VQI.

New work has begun with Cerner on data integration. A pilot group is being formed to create standardized Op notes and utilize natural Language Processing to automate abstraction.

Two Regions are making changes to their bylaws requiring attendance to be linked to right to voting and the ability to serve as Regional officers.
Notes:
1) In all reports, regional data are not shown for regions with <3 centers participating in the applicable registry.
2) In “by Center” bar charts, unless noted, data are not shown for centers with <10 cases.
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 1, 2018.
Please Sign the Attendance Sheet
National VQI Update:
Jim Wadzinski, SVS PSO
18 Regional Quality Groups

- Canadian Vascular Quality Initiative
- Upper Midwest Vascular Network
- Pacific NW Vascular Study Group
- Northern California Vascular Study Group
- Southern California Vascular Outcomes Improvement Collaborative
- Rocky Mountain Vascular Quality Initiative
- Southern Vascular Outcomes Network
- Mid-America Vascular Study Group
- Southeastern Vascular Outcomes Network
- Michigan Vascular Study Group
- Vascular Study Group of New England
- Vascular Study Group of Greater New York
- Mid-Atlantic Vascular Study Group
- Great Lakes Vascular Study Group
- Virginias Vascular Study Group
- Midwest Vascular Collaborative
- Carolinas Vascular Quality Group
- MidSouth Vascular Study Group
### Total Procedures Captured (as of 2/1/2018)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peripheral Vascular Intervention</td>
<td>141,135</td>
</tr>
<tr>
<td>Carotid Endarterectomy</td>
<td>95,970</td>
</tr>
<tr>
<td>Infra-Inguinal Bypass</td>
<td>42,977</td>
</tr>
<tr>
<td>Endovascular AAA Repair</td>
<td>38,655</td>
</tr>
<tr>
<td>Hemodialysis Access</td>
<td>36,925</td>
</tr>
<tr>
<td>Carotid Artery Stent</td>
<td>19,506</td>
</tr>
<tr>
<td>Varicose Vein</td>
<td>18,518</td>
</tr>
<tr>
<td>Supra-Inguinal Bypass</td>
<td>14,465</td>
</tr>
<tr>
<td>Thoracic and Complex EVAR</td>
<td>10,623</td>
</tr>
<tr>
<td>Open AAA Repair</td>
<td>10,549</td>
</tr>
<tr>
<td>Lower Extremity Amputations</td>
<td>9,774</td>
</tr>
<tr>
<td>IVC Filter</td>
<td>9,438</td>
</tr>
</tbody>
</table>

### VQI Total Procedure Volume

Total Procedure Volume tab reflects net procedures added to the registry for the month.
Date: Wednesday, June 20, through Thursday, June 21, 2018
Place: Hynes Convention Center, Boston, MA

The Society for Vascular Surgery Patient Safety Organization (SVS PSO) has scheduled a full day of programming for physicians and data managers from 8 a.m. to 5 p.m. Wednesday, June 20, during the third annual VQI@VAM.

Poster presentations and a networking reception will immediately follow at 5 p.m. There will be an additional half-day meeting for data managers from 8 a.m. to noon on Thursday, June 21. A complete agenda will be available later. The VQI registration fee is $250.
VQI Approved by CMS as a 2018 Qualified Clinical Data Registry (QCDR)

- MIPS Quality Component is 50% of the total MIPS score
- VQI QCDR offers 25 measures

View VQI QCDR Press Release
View VQI QCDR Measures
View VQI QCDR Non-QPP Measures

Reminder: Physicians must enroll with M2S annually to participate in the QCDR
For more information, contact PATHWAYSSupport@m2s.com or go to www.M2S.com
• **Inter-rater reliability exercise:** We asked for volunteers to abstract identical cases for selected registries to see how often they agree/disagree. This will let us identify problem data elements that we can improve with better help text and/or training.

• **Random Center Audits:** we plan to audit random cases at selected centers in order to 1) estimate the overall VQI data-element error rate, and 2) identify areas for improvement. Details to come!

• **New PSO-Center Communication Tool for Data Cleanup:** We will use our new web-based “Audit Tool” to ask centers to verify/correct suspicious data entries (out of range, improbable or impossible values in specific records).
2018 Participation Award:

- There will be 4 categories scored, each on a 0-6 point scale:
  - LTFU
  - Meeting attendance
  - QI project involvement
  - Number of registry subscriptions
2018 Participation Award:

• Scores for the categories will be weighted 40%, 30%, 20%, 10% for LTFU, meeting attendance, QI projects, and # of registry subscriptions, respectively. Therefore, the final score will be calculated as follows:

• Total points = 4 x LTFU score + 3 x Attendance score + 2 x QI project score + 1 x Registry score
2018 Participation Award:

• **QI Project Charter Initiation:** A center may submit a project charter to the SVS PSO that documents a 2018 quality improvement project. It is up to the site to determine what the project will be, but the SVS PSO asks that it is a new activity, initiated in 2018. If a site is looking to identify a potential QI project, we recommend that the site refer to its semi-annual reports to identify areas of opportunity. PSO staff are available to assist with selection of QI projects. Sites are also encouraged to initiate improvement activities around the two VQI national quality initiatives, “Discharge Medications” and “EVAR Imaging LFTU.” Information on the VQI National Quality Initiatives can be found in the Members Only area of the VQI website at www.vqi.org/national-data.
2018 Participation Award:

• Charters for your 2018 QI Projects were due by March 13, 2018.

• In order to support you in your 2018 QI Project, the VQI will offer assistance through:
  – A bi-monthly quality focused newsletter
  – Focused group webinars
  – Review of QI tools (PDSA, DMAIC, cause and effect diagrams, charts)
  – Group discussions in the “Members Forums” on the VQI website https://www.vqi.org/forums/
February: Merit-Based Incentive Payment System (MIPS) for your Vascular Team
February: Starting a QI project
March: TEVAR difficult case abstraction
April: Analytic Engine and Reporting
May: Quality Improvement (TBD)
June: VQI@VAM
Registry Updates:

- **Hemodialysis Access:** Under major revision with release in 2018 (TBD)
- **Vascular Medicine Registry:** Finalizing changes for release in 2018 (TBD)
- **30-day Follow-up Measures**
- **Varicose Vein:** Under revisions to only collect data on treated leg (shorten the form)
- **Venous Stent Registry:** Under development
- **PVI short form:** Under development
Having the SSN in the record allows us to:

- Match patients with the Social Security Death Index which allows accurate assessment of mortality following vascular procedures.
- Match patients in VQI to their respective Medicare claims to assess long term outcomes which greatly enhances the length of follow up without requiring data entry.

M2S has designed its security and privacy protocols to ensure PHI is safeguarded in accordance with HIPAA and HITECH. PHI is encrypted both while being transmitted and when data is at rest.

VQI is organized under the legal structure of a patient safety organization (PSO) which has greater data protection than most!!
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) | Region [25p|50p|75p] | VQI [25p|50p|75p] |
|---------------|----------------------------------------------|----------------------|-------------------------|-------------------|
| All           | Total Procedure Volume                       | [137 | 214 | 469]               | [37 | 141 | 322]          |
| Multiple (2015)| Long-Term Follow-Up                          | [44% | 52% | 59%]               | [46% | 73% | 87%]          |
| Multiple      | Discharge Medications                         | [66% | 74% | 78%]               | [73% | 81% | 89%]          |
| AVACCESS      | Primary AVF vs. Graft                         | [76% | 85% | 91%]               | [76% | 83% | 89%]          |
| CAS           | In-Hospital Stroke/Death                      | [5% | 2% | 0%]                 | [0% | 0% | 0%]            |
| CEA           | In-Hospital Stroke/Death                      | [1% | 0% | 0%]                 | [2% | 0% | 0%]            |
| CEA           | LOS>1 Day                                     | [36% | 23% | 14%]               | [33% | 24% | 14%]          |
| EVAR          | LOS>2 Days                                    | [24% | 14% | 10%]               | [20% | 12% | 5%]           |
| EVAR (2015)   | Sac Diameter at LTFU                          | [20% | 36% | 48%]               | [35% | 56% | 69%]          |
| INFRA         | Chlorhexidine Skin Prep                       | [88% | 96% | 100%]              | [87% | 96% | 100%]         |
| INFRA         | Major Complications                           | [9% | 2% | 0%]                 | [7% | 1% | 0%]            |
| IVCF (2015-16)| Filter Retrieval                              | [5% | 22% | 37%]               | [5% | 26% | 57%]          |
| LEAMP         | Postop Complications                          | [21% | 15% | 7%]                | [24% | 17% | 9%]           |
| OAAA          | In-Hospital Mortality                         | [0% | 0% | 0%]                 | [0% | 0% | 0%]            |
| PVI           | Ultrasound Guidance                           | [89% | 95% | 98%]               | [69% | 92% | 99%]          |
| PVI           | ABI/TBI Reported                              | [73% | 80% | 90%]               | [63% | 83% | 94%]          |
| SUPRA         | Postop Complications                          | [27% | 16% | 9%]                | [38% | 25% | 10%]          |
| TEVAR         | Sac Diameter at LTFU                          | [19% | 28% | 53%]               | [18% | 38% | 55%]          |
| VV (2015-16)  | PROMs at LTFU                                 | NA (<3 centers)       | [77% | 100% | 100%]          |
## Total Procedure Volume, All Years (2003-Dec 2017)
Includes all procedures entered in VQI as of Jan. 31, 2018

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Your Region (N)</th>
<th>VQI (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVACCESS</td>
<td>7216</td>
<td>34874</td>
</tr>
<tr>
<td>CAS</td>
<td>1625</td>
<td>18822</td>
</tr>
<tr>
<td>CEA</td>
<td>6611</td>
<td>93968</td>
</tr>
<tr>
<td>EVAR</td>
<td>2517</td>
<td>36774</td>
</tr>
<tr>
<td>INFRA</td>
<td>2792</td>
<td>41223</td>
</tr>
<tr>
<td>IVCF</td>
<td>2555</td>
<td>9008</td>
</tr>
<tr>
<td>LEAMP</td>
<td>2066</td>
<td>9347</td>
</tr>
<tr>
<td>OAAA</td>
<td>352</td>
<td>10115</td>
</tr>
<tr>
<td>PVI</td>
<td>13120</td>
<td>133567</td>
</tr>
<tr>
<td>SUPRA</td>
<td>879</td>
<td>13666</td>
</tr>
<tr>
<td>TEVAR</td>
<td>718</td>
<td>9705</td>
</tr>
<tr>
<td>Varicose Veins</td>
<td>NA (&lt;3 centers)</td>
<td>17232</td>
</tr>
<tr>
<td>Overall</td>
<td>40957</td>
<td>428301</td>
</tr>
</tbody>
</table>
"Others" indicates centers that do not belong to a regional group.
Physician Specialties Across VQI (as of Dec. 31, 2017, N=3072 Physicians)
Percentage of Procedures With 9 Months or Greater Follow-Up (Jan. 1, 2015-Dec. 31, 2015)

<table>
<thead>
<tr>
<th>Your Region</th>
<th></th>
<th>VQI</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVACCESS</td>
<td>1426 (47%)</td>
<td>6955 (64%)</td>
</tr>
<tr>
<td>CAS</td>
<td>232 (49%)</td>
<td>2973 (65%)</td>
</tr>
<tr>
<td>CEA</td>
<td>1229 (62%)</td>
<td>15581 (72%)</td>
</tr>
<tr>
<td>EVAR</td>
<td>483 (54%)</td>
<td>6211 (75%)</td>
</tr>
<tr>
<td>INFRA</td>
<td>506 (72%)</td>
<td>6195 (76%)</td>
</tr>
<tr>
<td>IVCF</td>
<td>656 (67%)</td>
<td>2360 (71%)</td>
</tr>
<tr>
<td>LEAMP</td>
<td>453 (61%)</td>
<td>2033 (73%)</td>
</tr>
<tr>
<td>OAAA</td>
<td>65 (55%)</td>
<td>1343 (73%)</td>
</tr>
<tr>
<td>PVI</td>
<td>2384 (71%)</td>
<td>22950 (72%)</td>
</tr>
<tr>
<td>SUPRA</td>
<td>153 (62%)</td>
<td>2102 (74%)</td>
</tr>
<tr>
<td>TEVAR</td>
<td>116 (62%)</td>
<td>1937 (69%)</td>
</tr>
<tr>
<td>2015 overall</td>
<td>7703 (62%)</td>
<td>70640 (71%)</td>
</tr>
<tr>
<td>2014 overall</td>
<td>7345 (56%)</td>
<td>62882 (72%)</td>
</tr>
</tbody>
</table>
Long-Term Follow-Up by Center in Your Region (Jan-Dec 2015)

- Other centers in your region
- Your center

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

Long-Term Follow-Up by Region Across VQI (Jan-Dec 2015)

- Others
- New York
- Southeast
- Virginias
- New England
- So. Cal
- Nor. Cal
- SOVONET
- Midwest
- Rocky Mtns
- VQI
- Pacific NW
- MidSouth
- Mid-Atlantic
- Carolinas
- Michigan
- Mid-America
- G. Lakes
- Up. Midwest

"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 Jan. 1 and Dec. 31, 2017

Excludes patients who died in hospital and patients who were not treated for medical reason or non-compliant. Data for this report include all cases with surgery date between Jan. 1 and Dec. 31, 2017, that had been entered into the VQI as of Jan. 31, 2018.

Discharge Antiplatelet+Statin Rate by Center in Your Region (Jan-Dec 2017)

Discharge Antiplatelet+Statin Rate by Region Across VQI (Jan-Dec 2017)

"Others" indicates centers that do not belong to a regional group. "**" indicates region's rate differs significantly from the VQI rate.
Excludes patients who died in hospital and patients who were not treated for medical reason or non-compliant. Data for this report include all cases with surgery date between Jan. 1 and Dec. 31, 2017, that had been entered into the VQI as of Jan. 31, 2018.
Hemodialysis Access: Percentage of Primary AVF vs. Graft: Procedures performed between Jan. 1 and Dec. 31, 2017

Excludes patients with previous access procedure in the same arm. Data for this report include all cases with surgery date between Jan. 1 and Dec. 31, 2017, that had been entered into the VQI as of Jan. 31, 2018.

<table>
<thead>
<tr>
<th>Number of access procedures meeting inclusion criteria</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage with primary AVF</td>
<td>1071</td>
<td>5655</td>
</tr>
<tr>
<td></td>
<td>84%</td>
<td>81%</td>
</tr>
</tbody>
</table>
Rate of Primary AVF Access 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 Primary AVF Access by Region Across VQI (Jan-Dec 2017)

- So. Cal.
- Mid-America
- Michigan
- Southeast
- Mid-Atlantic
- Rocky Mtns.
- VQI
- Carolinas
- Virginias
- Midwest
- New York
- MidSouth
- New England

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

Elective procedures, excluding prior ipsilateral CAS, and dissection, trauma and “other” lesion types

The table below shows the number of CAS procedures meeting the inclusion criteria that were in the VQI as of Jan. 31, 2018, 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 CAS procedures meeting inclusion criteria</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among procedures meeting inclusion criteria</td>
<td>4.9%</td>
<td>1.7%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among cases with complete data</td>
<td>4.6%</td>
<td>1.6%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of stroke or death among cases with complete data*</td>
<td>1.9%</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>0.01</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 CAS in Your Region (Jan-Dec 2017)

- Other centers in your region
- Your center
- Observed vs. 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 CAS by Region Across VQI (Jan-Dec 2017)

- Observed vs. Expected

Michigan, Midwest, So. Cal., SOVONET, New England, Southeast, Pacific NW, Mid-America, MidSouth, Up. Midwest, VQI, G. Lakes, Mid-Atlantic, Rocky Mtns., New York, Carolinas, Nor. Cal., Virginias*

"Others" indicates centers that do not belong to a regional group. *** indicates region's observed rate differs significantly from its expected rate.
Rate of In-Hospital Stroke or Death After CAS by Year

2014 2015 2016 2017

Your Center

Your region

VQI Overall

0% 1% 2% 3% 4% 5% 6% 7%
Carotid Endarterectomy: Stroke or Death in Hospital
Procedures performed between Jan. 1 and Dec. 31, 2017

Elective procedures, excluding prior ipsilateral CEA and concomitant CABG, endovascular or other arterial procedure. Data for this report include all cases with surgery date between Jan. 1 and Dec. 31, 2017, that had been entered into the VQI as of Jan. 31, 2018.

<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>988</td>
<td>13967</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among procedures meeting inclusion criteria</td>
<td>1.7%</td>
<td>1.1%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>918</td>
<td>13234</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among cases with complete data</td>
<td>1.9%</td>
<td>1.1%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of stroke or death among cases with complete data*</td>
<td>1.2%</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>0.1</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 CEA in Your Region (Jan-Dec 2017)

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 CEA by Region Across VQI (Jan-Dec 2017)

"Others" indicates centers that do not belong to a regional group. *** indicates region's observed rate differs significantly from its expected rate.
Carotid Endarterectomy: Percentage of Patients with LOS>1 Day (Jan. 1, 2017-Dec. 31, 2017)

Elective procedures, 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. Data for this report include all cases with surgery date between Jan. 1 and Dec. 31, 2017, that had been entered into the VQI as of Jan. 31, 2018.

<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>865</td>
<td>12564</td>
<td></td>
</tr>
<tr>
<td>Observed rate of LOS&gt;1 day among procedures meeting inclusion criteria</td>
<td>23%</td>
<td>25%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>809</td>
<td>12037</td>
<td></td>
</tr>
<tr>
<td>Observed rate of LOS&gt;1 among cases with complete data</td>
<td>23%</td>
<td>24%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of LOS&gt;1 among cases with complete data*</td>
<td>25%</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>0.24</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 Patients With LOS>1 Day in Your Region (Jan-Dec 2017)

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

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

Rate of CEA Patients With LOS>1 Day by Region Across VQI (Jan-Dec 2017)

- Observed
- Expected

"Others" indicates centers that do not belong to a regional group. "***" indicates region's observed rate differs significantly from its expected rate.
Endovascular AAA Repair: Percentage of Patients with LOS>2 Days (Jan. 1, 2017-Dec 31, 2017)

Excludes ruptured aneurysms and in-hospital deaths with LOS<=2 days, patients with prior aortic surgery, procedures not done on day of admission and weekend procedures. Data for this report include all cases with surgery date between Jan. 1 and Dec. 31, 2017, that had been entered into the VQI as of Jan. 31, 2018.

<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>363</td>
<td>5175</td>
<td></td>
</tr>
<tr>
<td>Observed rate of LOS&gt;2 days among procedures meeting inclusion criteria</td>
<td>17%</td>
<td>14%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>337</td>
<td>4907</td>
<td></td>
</tr>
<tr>
<td>Observed rate of LOS&gt;2 among cases with complete data</td>
<td>16%</td>
<td>14%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of LOS&gt;2 among cases with complete data*</td>
<td>14%</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>0.31</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 in Your Region (Jan-Dec 2017)

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 2017)

"Others" indicates centers that do not belong to a regional group. "**" indicates region’s observed rate differs significantly from its expected rate.
EVAR: Rate of Sac Diameter Reporting at Long-Term Follow-Up (Jan. 1, 2015-Dec. 31, 2015)

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. Data for this report include all cases with surgery date between Jan. 1 and Dec. 31, 2015, that had been entered into the VQI as of Jan. 31, 2018.

<table>
<thead>
<tr>
<th>您的中心</th>
<th>您的区域</th>
<th>VQI总体</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of EVAR procedures</td>
<td>483</td>
<td>6211</td>
</tr>
<tr>
<td>Percentage with sac diameter recorded at follow-up</td>
<td>37%</td>
<td>55%</td>
</tr>
</tbody>
</table>
Rate of LTFU Sac Diameter Reporting in Your Region (Jan-Dec 2015)

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

Rate of LTFU Sac Diameter Reporting by Region Across VQI (Jan-Dec 2015)

"Others" indicates centers that do not belong to a regional group. "**" indicates region's rate differs significantly from the VQI rate.
Rate of LTFU Sac Diameter Reporting by Year

- Your Center
- Your region
- VQI Overall
Infrainguinal Bypass: Percentage of Procedures with Chlorhexidine or Chlorhexidine+Alcohol Skin Prep (Jan. 1, 2017-Dec. 31, 2017)

In VQI patients, chlorhexidine and chlorhexidine+alcohol skin preps have been shown to reduce the surgical-site infection rate by 50% compared to iodine-based skin prep. Data for this report include all cases with surgery date between Jan. 1 and Dec. 31, 2017, that had been entered into the VQI as of Jan. 31, 2018.

<table>
<thead>
<tr>
<th></th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of procedures</td>
<td>546</td>
<td>6885</td>
</tr>
<tr>
<td>Rate of chlorhexidine or chlorhexidine+alcohol skin prep</td>
<td>92%</td>
<td>87%</td>
</tr>
<tr>
<td>Rate of chlorhexidine+iodine or chlorhexidine+iodine+alcohol prep</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Rate of in-hospital surgical-site infection</td>
<td>2.6%</td>
<td>2.6%</td>
</tr>
</tbody>
</table>
“***” indicates center’s rate differs significantly from the regional rate.

“Others” indicates centers that do not belong to a regional group. “**” indicates region’s rate differs significantly from the VQI rate.
Percentage With Chlorhexidine or Chlorhexidine+Alcohol Skin Prep by Year

- Your Center
- Your region
- VQI Overall
Infrainguinal Bypass: Rate of Major Complications
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 Jan. 1 and Dec. 31, 2017, that had been entered into the VQI as of Jan. 31, 2018.

<table>
<thead>
<tr>
<th></th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of access procedures meeting inclusion criteria</td>
<td>280</td>
<td>4042</td>
</tr>
<tr>
<td>Percentage with major complications after INFRA</td>
<td>5%</td>
<td>4.1%</td>
</tr>
</tbody>
</table>
Rate of Major Complications After INFRA in Your Region (Jan-Dec 2017)

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 2017)

"Others" indicates centers that do not belong to a regional group. **"** indicates region’s rate differs significantly from the VQI rate.
Rate of Major Complications After INFRA by Year

- Your Center
- Your region
- VQI Overall
IVCF: Percentage of Temporary Filters With Retrieval or Attempt at Retrieval
Excludes patients with permanent filters and patients who have died since discharge

<table>
<thead>
<tr>
<th></th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of procedures meeting inclusion criteria</td>
<td>351</td>
<td>1378</td>
</tr>
<tr>
<td>Percentage with filter retrieval, or attempt at retrieval</td>
<td>19%</td>
<td>39%</td>
</tr>
<tr>
<td>Percentage not retrieved because not clinically indicated</td>
<td>11%</td>
<td>6%</td>
</tr>
<tr>
<td>Percentage not retrieved because patient declined</td>
<td>1%</td>
<td>1%</td>
</tr>
</tbody>
</table>
Rate of IVCF Retrieval in Your Region (July 2016-June 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 IVCF Retrieval by Region Across VQI (July 2016-June 2017)

Southeast*, Virginias*, G. Lakes, VQI, New York*, Mid-America*

“Others” indicates centers that do not belong to a regional group. *** indicates region’s rate differs significantly from the VQI rate.
Lower-Extremity Amputation: Rate of Post-op Complications

Complications are defined as myocardial infarction, dysrhythmia, congestive heart failure, surgical site infection, reperfusion symptoms and/or amputation-related reoperation. Data for this report include all cases with surgery date between Jan. 1 and Dec. 31, 2017, that had been entered into the VQI as of Jan. 31, 2018.

<table>
<thead>
<tr>
<th></th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of amputation procedures</td>
<td>557</td>
<td>2602</td>
</tr>
<tr>
<td>Percentage with complications after LEAMP</td>
<td>14%</td>
<td>19%</td>
</tr>
</tbody>
</table>
**Rate of Complications After LEAMP in Your Region (Jan-Dec 2017)**

- **Other centers in your region**
- **Your center**

---

**Rate of Complications After LEAMP by Region Across VQI (Jan-Dec 2017)**

- **Virginias**
- **Midwest**
- **Carolinas**
- **Southeast**
- **VQI**
- **Up Midwest**
- **New England**
- **Mid America**
- **New York**

---

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

"Others" indicates centers that do not belong to a regional group. "**" indicates region's rate differs significantly from the VQI rate.
Rate of Complications After LEAMP by Year

- Your Center
- Your region
- VQI Overall
Non-Ruptured Open AAA: In-Hospital Mortality

Excludes ruptured aneurysms

Data for this report include all cases with surgery date between Jan. 1 and Dec. 31, 2017, that had been entered into the VQI as of Jan. 31, 2018.

(Virginias did not have at least 3 centers with 10 procedures)
Rate of In-Hospital Death After OAAA by Year

- Your Center
- Your region
- VQI Overall

Excludes cut-down access guidance

Data for this report include all cases with surgery date between Jan. 1 and Dec. 31, 2017, that had been entered into the VQI as of Jan. 31, 2018.

<table>
<thead>
<tr>
<th></th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of percutaneous femoral access sites</td>
<td>1904</td>
<td>21425</td>
</tr>
<tr>
<td>Rate of ultrasound access guidance</td>
<td>86%</td>
<td>74%</td>
</tr>
<tr>
<td>Rate of closure device usage</td>
<td>68%</td>
<td>67%</td>
</tr>
<tr>
<td>Rate of any hematoma (minor, moderate or major)</td>
<td>1.9%</td>
<td>2%</td>
</tr>
<tr>
<td>Rate of moderate or major hematoma</td>
<td>0.5%</td>
<td>0.6%</td>
</tr>
</tbody>
</table>
Rate of Ultrasound Access Guidance in Your Region (Jan-Dec 2017)

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

Rate of Ultrasound Access Guidance by Region Across VQI (Jan-Dec 2017)

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

“ABI or TBI 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 Jan. 1 and Dec. 31, 2017, that had been entered into the VQI as of Jan. 31, 2018.

<table>
<thead>
<tr>
<th></th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of PVI procedures with indication of claudication</td>
<td>1000</td>
<td>10986</td>
</tr>
<tr>
<td>Percentage with ABI/TBI recorded before procedure</td>
<td>79%</td>
<td>76%</td>
</tr>
</tbody>
</table>
“**” indicates center’s rate differs significantly from the regional rate.

“Others” indicates centers that do not belong to a regional group. “**” indicates region’s rate differs significantly from the VQI rate.
Supra-Inguinal Bypass: Rate of Postop Complications
Procedures performed between Jan. 1 and Dec. 31, 2017

Complications are defined as myocardial infarction, dysrhythmia, congestive heart failure, respiratory complications, renal complications, surgical site infection, graft infection, leg ischemia/emboli, reoperation, amputation and/or stroke. Data for this report include all cases with surgery date between Jan. 1 and Dec. 31, 2017, that had been entered into the VQI as of Jan. 31, 2018.

<table>
<thead>
<tr>
<th></th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of SUPRA procedures</td>
<td>126</td>
<td>2120</td>
</tr>
<tr>
<td>Percentage with complications after SUPRA</td>
<td>23%</td>
<td>26%</td>
</tr>
</tbody>
</table>
Rate of Complications After SUPRA 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 Complications After SUPRA by Region Across VQI (Jan-Dec 2017)

“Others” indicates centers that do not belong to a regional group. *** indicates region’s rate differs significantly from the VQI rate.
Rate of Complications After SUPRA by Year

- Your Center
- Your region
- VQI Overall
Varicose Veins: Percentage of Procedures With Complete Patient-Reported Outcome Measures Recorded at Follow-Up

Includes only patients with any follow-up visit recorded. All regional data omitted because most regions have <3 centers. Patient-reported outcomes measures (PROMs) include heaviness, achiness, swelling, throbbing, itching, appearance and impact on work in side of operation.

"**" indicates center's rate differs significantly from the overall VQI rate.
• Please see attached listing.
• Automated IVC Filter retrieval email reminders
  – Released on **12/14/2017**
  – Develop a new user interface for users to manage/configure automated email reminders
    • Enable/disable email reminder
    • Specify reminder frequency
    • Edit email address
Technology Released in Q3 2017

- NPI Validation
  - Released on 9/14/2017

Luhn “mod 10” checksum algorithm
Technology Released in Q1 2018

- Center Characteristics Data Collection
  - Released on 1/4/2018
  - Add variables including email addresses for Lead Physician, Quality Officer, Financial Officer, and Department Chair
  - Allow Hospital Manager users to edit/maintain to keep the information up to date.

- Add EVAR follow-up Imaging Date
  - Released on 1/4/2018

- PVI Registry revision III
  - Released on 2/1/2018
  - GUDID import for PVI stent/stent graft: 5 new manufacturers and 1617 new devices added
Development in Q1 & Q2 2018

- Re-design of Procedure Requiring Follow-up report
- Procedure Requiring Follow-up reminder
- Revise LTF completion rate report with IVC, HDAccess, VVR specific rules
- Remove "Heart Rate" fields (for INFRA, SUPRA, OPEN, AMP, and CEA)
- PVI Short Form
- 30-day Follow-up Form(s)
- Patient/procedure search by primprocID
- New Vascular Medicine Registry
- Mandatory Fields for LTFU Forms for CAS, PVI, HDAccess, EVAR, TEVAR, VVR
## VQI Registry Projects

<table>
<thead>
<tr>
<th>Title</th>
<th>Registry</th>
<th>Enrolling</th>
<th>Targets</th>
<th>Follow-Up</th>
<th>Typical $ Per Patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCAR Surveillance Project</td>
<td>CAS</td>
<td>Yes</td>
<td>-</td>
<td>1 yr</td>
<td>NCD</td>
</tr>
<tr>
<td>Bard® LifeStent® Popliteal Artery Stent Project</td>
<td>PVI</td>
<td>Yes</td>
<td>74 pts 30 sites</td>
<td>1, 2 yr</td>
<td>$1400</td>
</tr>
<tr>
<td>Medtronic IN.PACT® Admiral® DCB ISR Project</td>
<td>PVI</td>
<td>Yes</td>
<td>300 pts 50 sites</td>
<td>1, 2, 3 yr</td>
<td>$1950</td>
</tr>
<tr>
<td>CREST 2 Registry</td>
<td>CAS</td>
<td>Yes</td>
<td>-</td>
<td>1 yr</td>
<td>-</td>
</tr>
<tr>
<td>TEVAR Dissection Surveillance Project</td>
<td>TEVAR</td>
<td>No*</td>
<td>600 pts 50 sites</td>
<td>30 day</td>
<td>$4000</td>
</tr>
<tr>
<td>Lombard Aorfix Surveillance Project</td>
<td>EVAR</td>
<td>No</td>
<td>234 pts 50 sites</td>
<td>30 day</td>
<td>$4000</td>
</tr>
</tbody>
</table>

*Expect enrollment to re-open in late 2018*

For more information, contact PATHWAYSsupport@m2s.com
VQI QCDR 2018

• MIPS Quality Component is 50% of the total MIPS score
• VQI QCDR offers 25 measures
• An invitation to enroll for 2018 will be sent by PATHWAYS Support in Q1
  – Reminder:
    • Physicians must enroll with M2S annually
• More information:
  – PATHWAYSSupport@m2s.com
  – www.M2S.com
Meeting Evaluation

• What did you like about this meeting?
• What can we do better?
• Next meeting location:
Please Sign the Attendance Sheet