

# WELCOME

---

## MID-AMERICA

September 6, 2023

1:00-4:00 PM CT

Minneapolis, MN

Hybrid

# In-Person Regional Registration QR Code

**REMOTE ATTENDEES - DO NOT USE THE QR CODE**



# Remote Meeting Attendance Credit

Before we get started, please sign in.

- 1 Click “Participants” in the box at the top or bottom of your screen.
  - 2 If your full name is not listed, hover next to your name and look for “rename”. Select & sign in.
  - 3 Can’t sign in? Email Angela Churilla at [achurilla@vascularsociety.org](mailto:achurilla@vascularsociety.org) & include identifier you were signed in under (ex – LM7832) or phone number.
- \*NOTE: Credit is NOT given to any attendee or speaker that does not have an ACTIVE PATHWAYS user account.**

# Appreciation and Thanks

---

Thank you to everyone who helped make this event possible:

Ashley Vavra, MD - Regional Medical Director

Andrew Hoel - Regional Associate Medical Director

Tracy Campin - Regional Lead Data Manager

Kaity Sullivan – SVS PSO Analytics Team

Angela Churilla – SVS PSO Education & Quality Program Manager

Jennifer Correa – Marketing Manager

Betsy Wymer- SVS PSO Director of Quality

SVS PSO Staff



# Today's Agenda

---

1:00 pm

Welcome

Regional Data Review-Ashley Vavra, MD, Regional Medical Leader

Learning Objectives:

- Use the VQI regional reports to establish quality improvement goals for the vascular patients (outcomes) and for their center (process).
- Interpret and compare each centers' VQI results to regional and national benchmarked data.
- Learn, through group discussion the VQI regional results to improve the quality of vascular health care by monitoring measurable performance indicators, SVS PSO evidence-based research, and outcomes.
- Identify high performing regional vascular centers to discuss variations in care and clinical practice patterns to improve outcomes and prompt quality improvement recommendations for vascular care patients. Sharing of best practices/pathways of care.

CE Credit

2:00 pm

Regional QI Proposal-Ashley Vavra, MD, Regional Medical Leader

Learning Objectives:

- Use the VQI regional reports to establish quality improvement goals for the vascular patients (outcomes) and for their center (process).
- Interpret and compare each centers' VQI results to regional and national benchmarked data.
- Learn, through group discussion the VQI regional results to improve the quality of vascular health care by monitoring measurable performance indicators, SVS PSO evidence-based research, and outcomes.
- Identify high performing regional vascular centers to discuss variations in care and clinical practice patterns to improve outcomes and prompt quality improvement recommendations for vascular care patients. Sharing of best practices/pathways of care.

CE Credit

# Today's Guest Presentations

---

VQI Project updates: 10 year trends in patients undergoing lower extremity amputation and Gender differences in perioperative medical management for patients undergoing peripheral vascular interventions

Trissa Babrowski, MD

Associate Professor, Vascular Surgery

University of Chicago Pritzker School of Medicine

No CE Credit

# Today's Agenda - Continued

---

3:00 pm National VQI Update-Betsy Wymer, DNP, RN, CV-BC, PSO Director of Quality

CE Credit

Learning Objectives:

- Use the VQI regional reports to establish quality improvement goals for the vascular patients (outcomes) and for their center (process).
- Identify high performing regional vascular centers to discuss variations in care and clinical practice patterns to improve outcomes and prompt quality improvement recommendations for vascular care patients. Sharing of best practices/pathways of care.

3:40 pm Council / Committee Updates

No CE Credit

4:00 pm Open Discussion/Next Meeting/Meeting Evaluation

No CE Credit

# No Disclosures

# Welcome and Introductions

Adventist Medical Center La Grange  
Ascension Alexian Brothers Medical Center  
**Ascension Mercy Hospital - Aurora**  
Ascension Resurrection Medical Center  
Ascension Saint Alexius Medical Center  
Ascension Saint Joseph Hospital - Joliet  
Ascension Via Christi Hospitals Wichita  
Barnes Jewish Hospital  
Bryan Medical Center  
Capital Region Medical Center  
Carle BroMenn Medical Center  
Carle Foundation Hospital  
Carle Health Methodist Hospital  
Centerpoint Medical Center  
CGH Medical Center  
Columbia Surgical Services, Inc.  
Cox Medical Center South  
Decatur Memorial Hospital  
Edward Hospital  
Elmhurst Memorial Hospital  
Faith Regional Health Services  
Flint Hills Heart, Vascular, Vein Clinic, LLC  
Genesis Medical Center, Davenport  
Gottlieb Memorial Hospital  
Great River Medical Center  
Javon Bea Hospital - Riverside Campus  
Kansas Heart Hospital  
Lincoln - CHI Health Nebraska Heart  
Loyola University Medical Center

MacNeal Hospital  
Memorial Hospital Belleville  
Memorial Medical Center  
Menorah Medical Center  
**Mercy Hospital Northwest Arkansas (FKA Mercy Medical Center)**  
Mercy Hospital Springfield  
Mercy Hospital St. Louis  
Mercy Medical Center, Cedar Rapids, Iowa  
MercyOne Des Moines Medical Center  
MercyOne Siouxland Medical Center  
Midwest Aortic & Vascular Institute, P.C.  
Midwest Institute Minimally Invasive Therapies  
Mosaic Life Care  
Nebraska Medicine  
Nebraska Methodist Hospital  
NorthShore Hospital  
Northwest Community Hospital  
Northwestern Medicine Central DuPage Hospital  
Northwestern Medicine Lake Forest Hospital  
Northwestern Memorial Hospital  
Omaha - CHI Health Creighton University Medical Center - Bergan Mercy  
Omaha - CHI Health Immanuel  
OSF Heart of Mary Medical Center  
OSF Saint Anthony Medical Center  
OSF Saint Francis Medical Center  
OSF St. Joseph Medical Center  
Premier Vascular, LLC

Riverside Medical Center  
Rush University Medical Center  
Saint Luke's Episcopal Presbyterian Hospital  
Saint Luke's Hospital of Kansas City  
Southern Illinois University School of Medicine  
SSM Health DePaul Hospital - St. Louis  
SSM Health Good Samaritan - Mount Vernon, IL  
SSM Health Saint Louis University Hospital  
SSM Health St. Clare Hospital - Fenton  
SSM Health St. Joseph Hospital - St. Charles  
St. John's Hospital  
St. Joseph Medical Center  
St. Luke's Methodist Hospital  
St. Mary's Hospital, Decatur, of the Hospital Sisters of the Third Order of St. Francis  
UnityPoint Health Des Moines  
University of Chicago Medical Center  
University of Iowa Hospitals and Clinics  
University of Kansas Hospital Authority  
University of Missouri Medical Center  
Via Christi Hospital Pittsburg

**Total Centers = 76**  
**New = 2**

# Goals

- Support meaningful change to ensure delivery of high quality, high value care
- Biannual meetings:
  - Celebrate wins, identify opportunities for improvement
  - Exchange best practices and models for positive change

# Fall 2023 SVS VQI Regional Report Slides

---

The VQI Regional Quality Report is produced semiannually to provide centers and regions targeted, comparative results and benchmarks for a variety of procedures, process measures, and postoperative outcomes.

**Please note the following updates have been implemented to enhance and improve the report:**

- Ability to Download/Print Dashboard

The dashboard summary can now be downloaded as an Excel file or printed directly using buttons included above the dashboard table. Please note that printing allows you to save as PDF with the “Print to PDF” feature in your browser.

- Interactive Plots

All graphics are now interactive.

# Important Notes

- All results are based on data entered into the VQI as of July 31, 2023. Any subsequent changes or updates to data after that date will not be reflected in this report.
- Only cases submitted as complete in the PATHWAYS platform are reflected in this report.
- Procedure timeframes and inclusion/exclusion criteria are given at the top of each report. Cases are also excluded if outcomes are missing or not enough data was entered to determine whether the case met inclusion/exclusion criteria.
- Regions must have at least 3 centers with included cases for regional results to be displayed in tables and line charts.
- Regions must have at least 3 centers with at least 10 included cases per center for regional results to be displayed in bar charts. It is therefore possible for a region's results to be displayed in tables and line charts, but not in bar charts.
- For risk-adjusted reports, regions must have at least 3 centers with at least 10 *cases with complete data* per center for regional results to be displayed in bar charts. It is therefore possible for a region's results to be displayed in tables and line charts, but not in bar charts.
- In all graphics, a p-value  $<.05$  is considered statistically significant.
- All graphics are interactive. Hover over a plot to view specific values. Select a section to zoom in on using your cursor (double-click to zoom back out). Click on an item in the legend to include/exclude it from the plot and double-click to isolate it. All plots can be downloaded individually using the camera icon in the top right corner of the plot.



# Region Volume Appendix

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

The region must have  $\geq 3$  centers with included cases for comparison to VQI overall

## Risk-adjusted Outcomes

	Included Cases	Centers with Included Cases	Centers with at least 10 Included Cases	Complete Cases	Centers with Complete Cases	Centers with at least 10 Complete Cases
Procedure Volume	9088	67	59			
Procedure Volume, All Years	61967	73	70			
Long-Term Follow-up	6233	56	47			
Discharge Medications	8431	67	57			
Preop Smoking	7084	67	56			
Smoking Cessation	1354	52	29			
TFEM CAS ASYMP: Stroke/Death	206	27	7	185		
TFEM CAS SYMP: Stroke/Death	306	31	10	278		
TCAR ASYMP: Stroke/Death	666	54	25	621		
TCAR SYMP: Stroke/Death	293	43	10	282		
CEA ASYMP: Stroke/Death	747	34	21	694		
CEA ASYMP: Postop LOS>1 Day	742	34	21	689		
CEA SYMP: Stroke/Death	380	31	14	355	30	14
CEA SYMP: Postop LOS>1 Day	376	31	14	351	30	14
EVAR: Postop LOS>2 Days	540	19	17	472	19	16
EVAR: Sac Diameter Reporting	390	17	14			
EVAR: SVS AAA Diameter Guideline	501	19	17			
TEVAR: Sac Diameter Reporting	87	11	1			
OAAA: In-Hospital Mortality	198	13	7	191	13	7
OAAA: SVS Cell-Saver Guideline	223	13	6			
OAAA: SVS Iliac Inflow Guideline	244	13	7			
PVI CLAUD: ABI/Toe Pressure	1762	27	27			
INFRA CLTI: Major Complications	315	14	10			
SUPRA CLTI: Major Complications	41	5	2			
LEAMP: Postop Complications	85	2	2			
HDA: Primary AVF vs. Graft	153	3	3			
HDA: Ultrasound Vein Mapping	191	3	3			
HDA: Postop Complications	191	3	3			
IVCF: Filter Retrieval Reporting	70	2	2			

The region must have at  $\geq 3$  centers with  $\geq 10$  cases for regional comparison between centers

# Dashboard

The dashboard provides a high-level summarization of your center's results for each of 29 reports, and gives both regional and VQI-wide benchmarks for comparison. The "Your Center" column gives the percentage of your center's cases with the noted outcome. Numbers in parentheses give the number of cases with the outcome and the total number of cases meeting the inclusion criteria for that report. The "Your Region" and "VQI Overall" columns give the aggregate percentage of cases with the noted outcome, as well as the 10th, 25th, 50th (median), 75th, and 90th percentiles for centers in your region and VQI, respectively ([10th|25th|50th|75th|90th]). Your center's results are highlighted blue if your center is in the "top" 25th percentile for VQI Overall, and coral if your center is in the "bottom" 25th percentile for VQI Overall.

*The dashboard summary can be downloaded as an Excel file or printed using the buttons below. Note that printing allows you to save as PDF with the "Print to PDF" feature in your browser. For details on a particular report, click on the report name in the table of contents on the left.*



# Dashboard

10<sup>th</sup>/25<sup>th</sup>/50<sup>th</sup>/75<sup>th</sup>/90<sup>th</sup> percentile

Procedure Group	Outcome	Your Region	VQI Overall
All	Procedure Volume	[7   22   52   249   361]	[6   20   68   214   395]
	Procedure Volume, All Years	[27   62   247   833   3164]	[15   58   251   1208   3307]
Multiple	Long-Term Follow-up	75.1% [40   56   75   91   96]	71.3% [0   42   74   89   96]
	Discharge Medications	88.2% [79   86   93   100   100]	87.1% [75   83   91   98   100]
	Preop Smoking	29.1% [14   21   27   35   44]	29.6% [7   18   26   35   44]
	Smoking Cessation	29.1% [1   18   29   40   50]	31.7% [0   19   31   44   67]
TFEM CAS ASYMP	Stroke/Death	1% [0   0   0   0   0]	1.6% [0   0   0   0   2]
TFEM CAS SYMP	Stroke/Death	5.6% [0   0   0   9   20]	4.3% [0   0   0   0   13]
TCAR ASYMP	Stroke/Death	0.9% [0   0   0   0   1]	0.9% [0   0   0   0   2]
TCAR SYMP	Stroke/Death	2.7% [0   0   0   0   9]	2% [0   0   0   0   6]
CEA ASYMP	Stroke/Death	0.7% [0   0   0   0   2]	0.8% [0   0   0   0   3]
	Postop LOS>1 Day	24.5% [0   12   22   39   50]	22.2% [0   12   22   35   50]
CEA SYMP	Stroke/Death	2.1% [0   0   0   1   7]	1.7% [0   0   0   0   6]
	Postop LOS>1 Day	42.6% [0   25   48   50   71]	42.5% [0   25   41   60   80]
EVAR	Postop LOS>2 Days	11.9% [6   8   12   16   25]	15.4% [0   8   14   21   32]
	Sac Diameter Reporting	62.8% [22   40   67   83   100]	58.1% [0   34   63   80   89]
	SVS AAA Diameter Guideline	74.5% [58   64   73   79   91]	75.5% [50   66   75   86   100]
TEVAR	Sac Diameter Reporting	56.3% [0   10   55   71   80]	57% [0   33   59   81   100]
OAAA	In-Hospital Mortality	3% [0   0   0   7   10]	4% [0   0   0   8   17]
	SVS Cell-Saver Guideline	95.1% [87   95   100   100   100]	93.1% [75   89   97   100   100]
	SVS Iliac Inflow Guideline	96.7% [90   99   100   100   100]	98.3% [93   98   100   100   100]
PVI CLAUD	ABI/Toe Pressure	69.6% [19   54   71   87   93]	67.4% [17   50   74   89   100]
INFRA CLTI	Major Complications	7.9% [1   4   9   14   16]	4.8% [0   0   3   7   12]
SUPRA CLTI	Major Complications	9.8% [0   0   0   10   34]	7.3% [0   0   0   12   27]
LEAMP	Postop Complications	NA (<3 centers)	11.8% [0   5   10   16   19]
HDA	Primary AVF vs. Graft	86.9% [79   81   84   89   92]	82% [61   74   83   89   96]
	Ultrasound Vein Mapping	62.8% [47   59   81   84   86]	87.9% [66   83   90   97   100]
	Postop Complications	1% [0   1   1   1   1]	1.4% [0   0   0   2   5]
IVCF	Filter Retrieval Reporting	NA (<3 centers)	49.8% [0   36   50   67   80]

# Procedure Volume

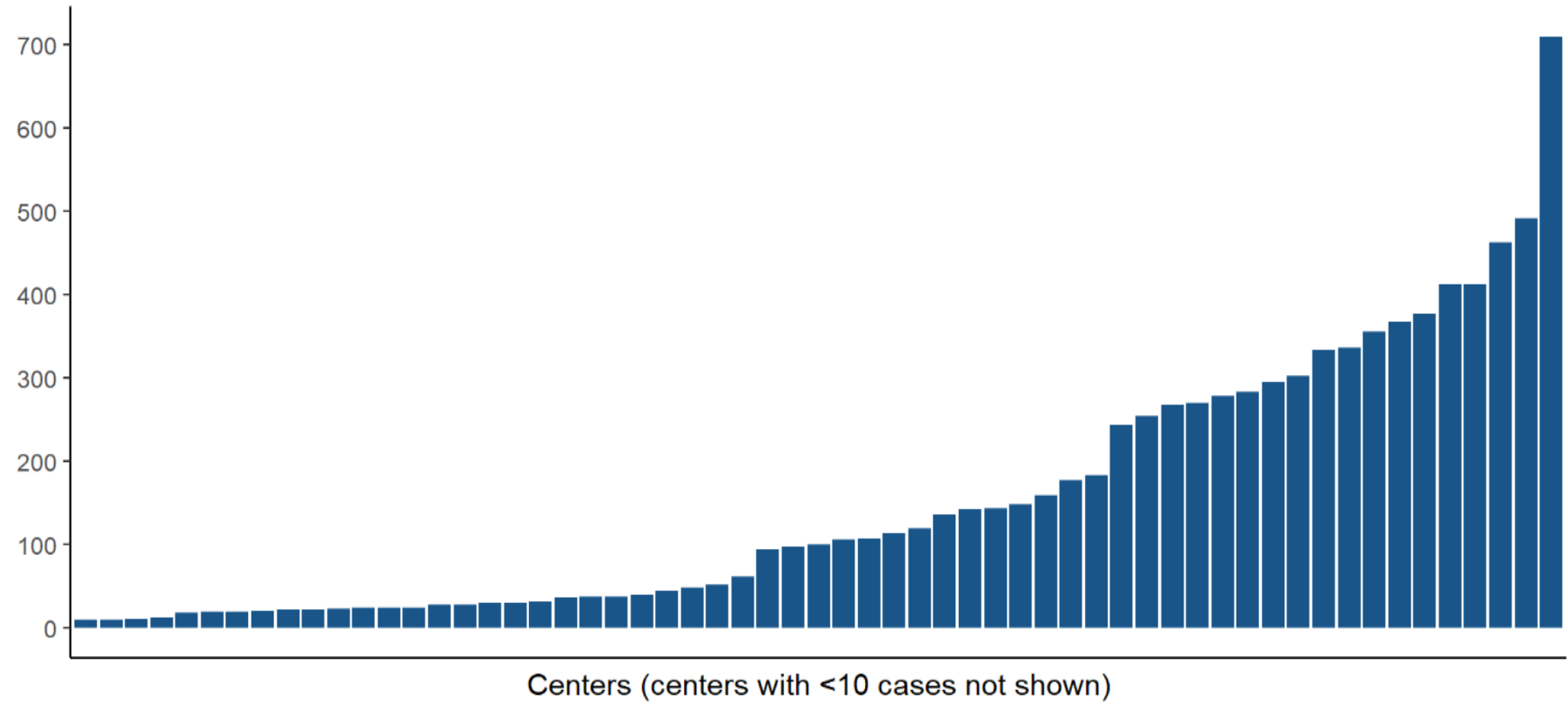
Procedures performed between July 1, 2022 and June 30, 2023

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

	Your Region (N)	VQI Overall (N)
CAS (TFEM CAS & TCAR)	1696	23334
CEA	1347	19076
EVAR	579	8085
HDA	191	5660
INFRA	409	7272
IVCF	NA (<3 centers)	1006
LEAMP	NA (<3 centers)	3670
OAAA	75	1348
PVI	4396	50854
SUPRA	65	2032
TEVAR	245	3849
Varicose Veins	NA (<3 centers)	6196
Overall (July 2022-June 2023)	9088	132382
Overall (July 2021-June 2022)	7769	127080

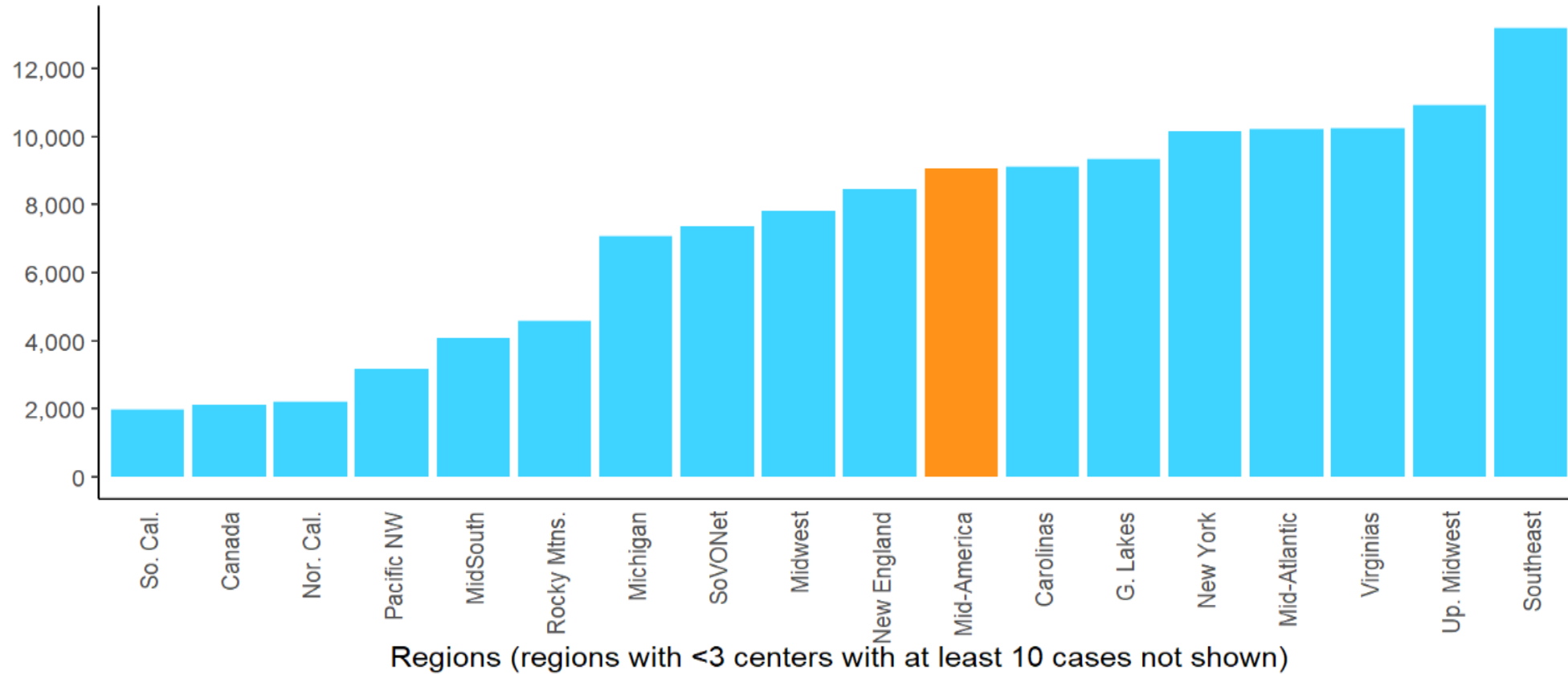
# Procedure Volume

Procedure Volume by Center in Your Region (July 2022-June 2023)



# Procedure Volume

Procedure Volume Across VQI (July 2022-June 2023)



# Procedure Volume, All Years

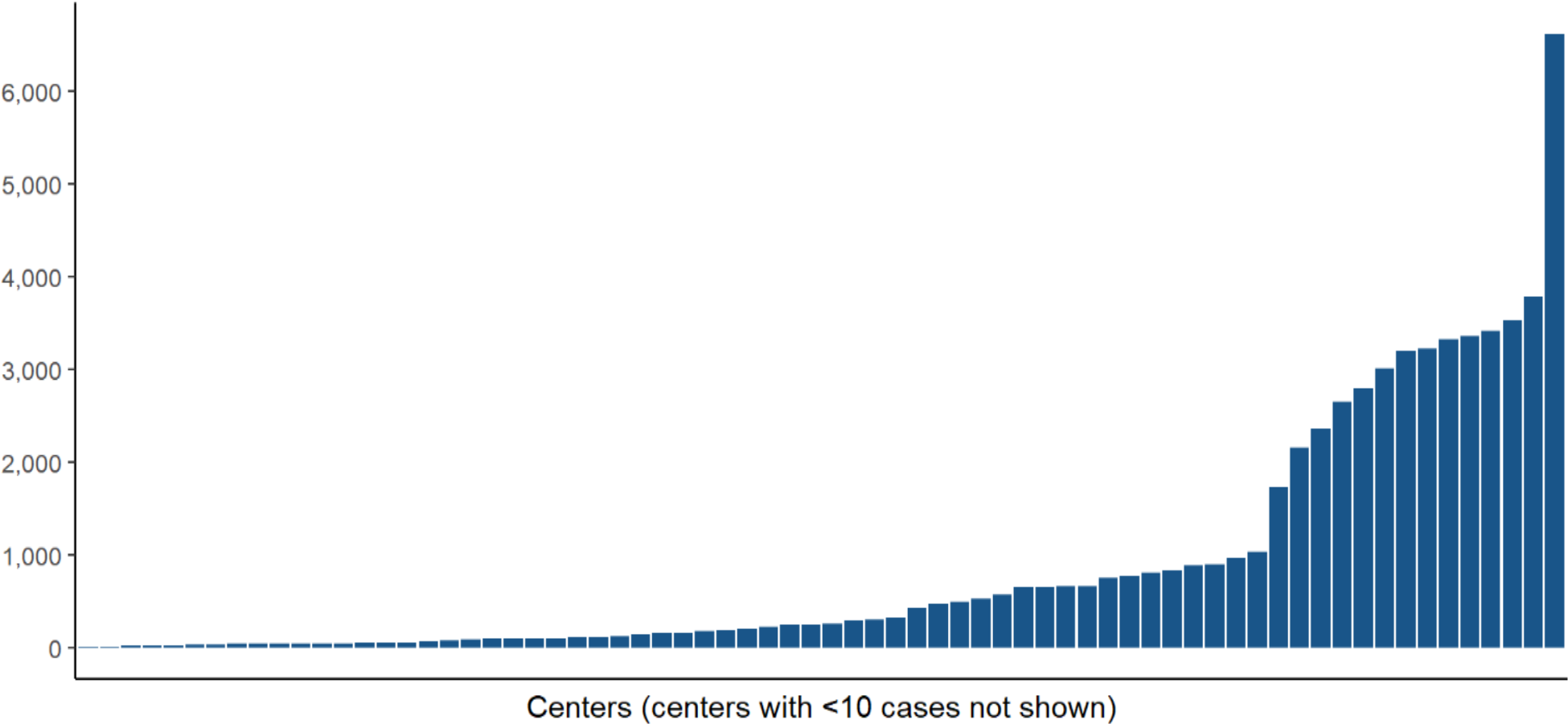
Includes all procedures with procedure date through June 30, 2023

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

	<b>Your Region (N)</b>	<b>VQI Overall (N)</b>
CAS (TFEM CAS & TCAR)	8207	102290
CEA	11246	196769
EVAR	4238	80848
HDA	3735	75884
INFRA	3785	81473
IVCF	942	18296
LEAMP	1024	28881
OAAA	807	17850
PVI	25087	379671
SUPRA	1151	25862
TEVAR	1496	28950
Varicose Veins	NA (<3 centers)	61876
Overall	61967	1098650

# Procedure Volume, All Years

Procedure Volume by Center in Your Region (July 2022-June 2023)

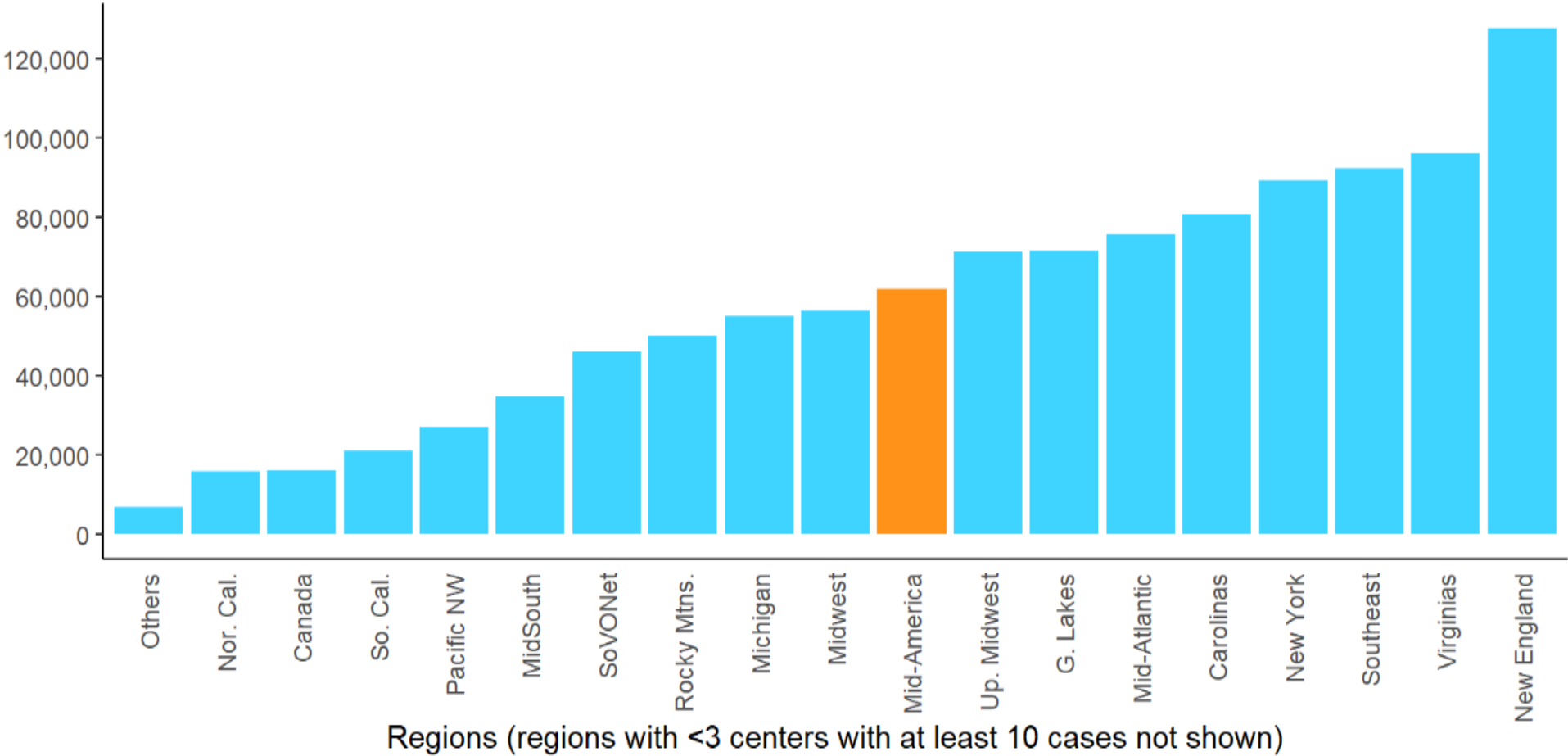


70 of 73 centers displayed



# Procedure Volume, All Years

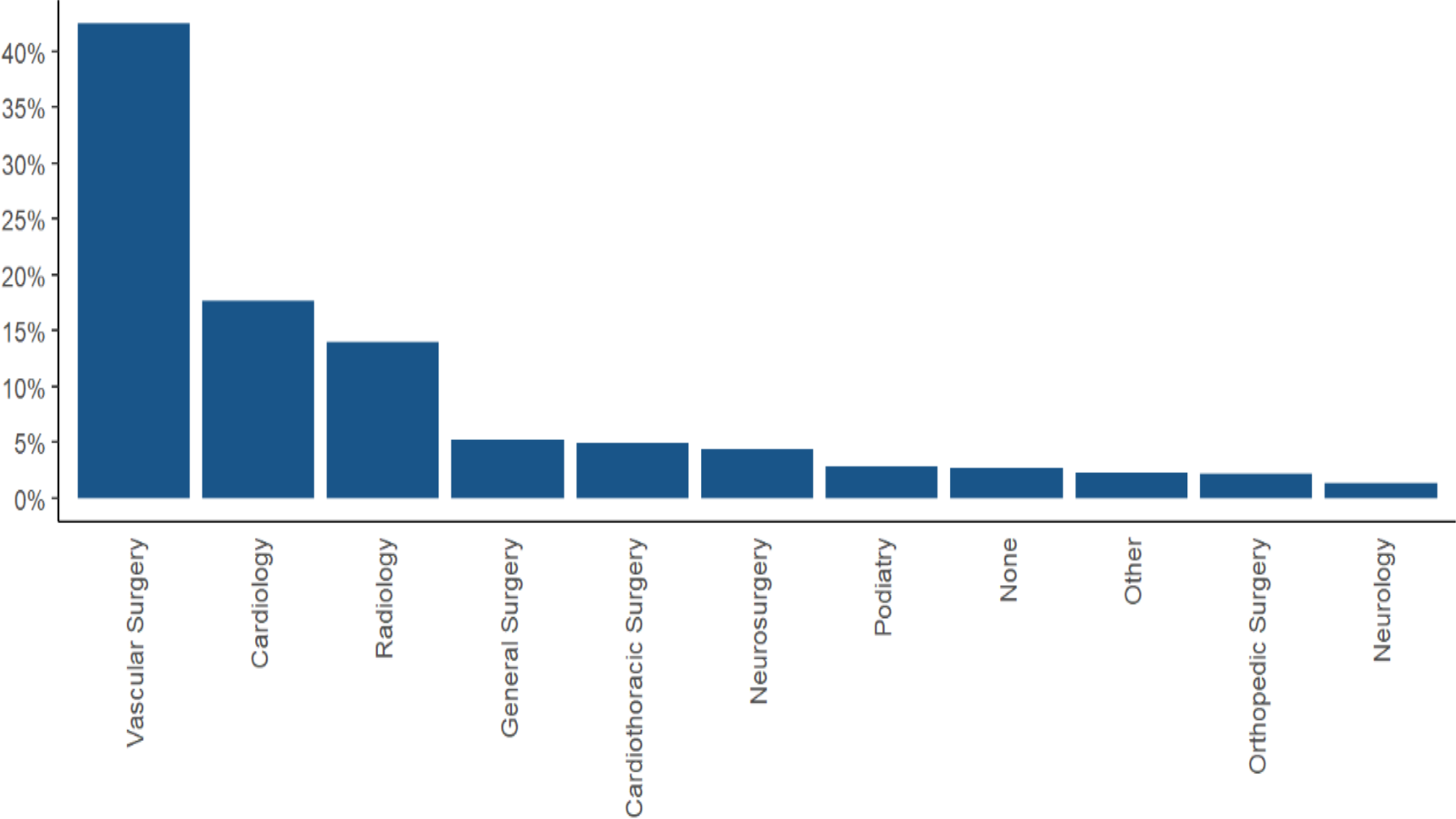
Procedure Volume Across VQI (Through June 2023)



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

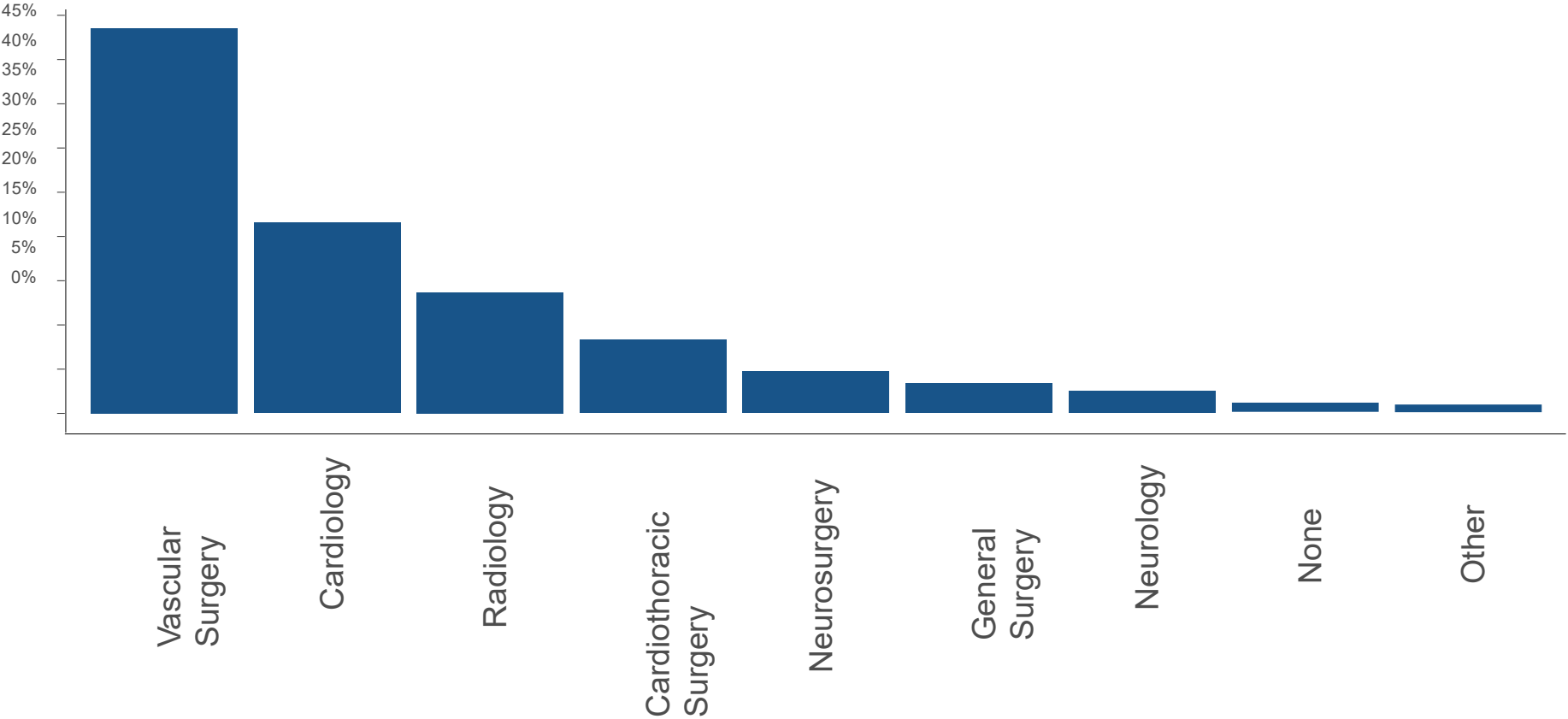
# Physician Specialties

Physician Specialties Across VQI (as of July 31, 2023, N=6880 Physicians)



# Physician Specialties

Physician Specialties Across Your Region (as of July 31, 2023, N=446 Physicians)



# Long-Term Follow-up

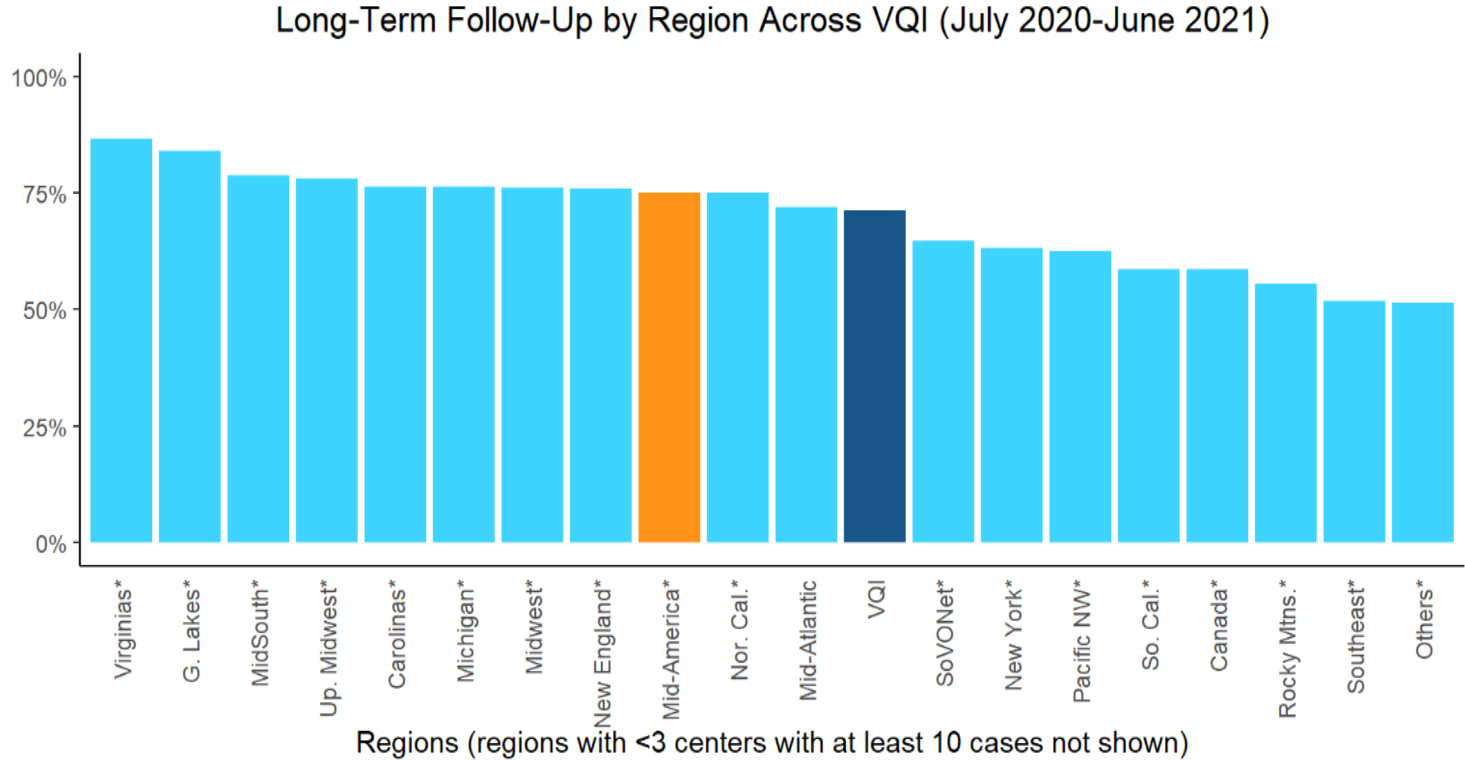
Procedures performed between July 1, 2020 and June 30, 2021

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

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

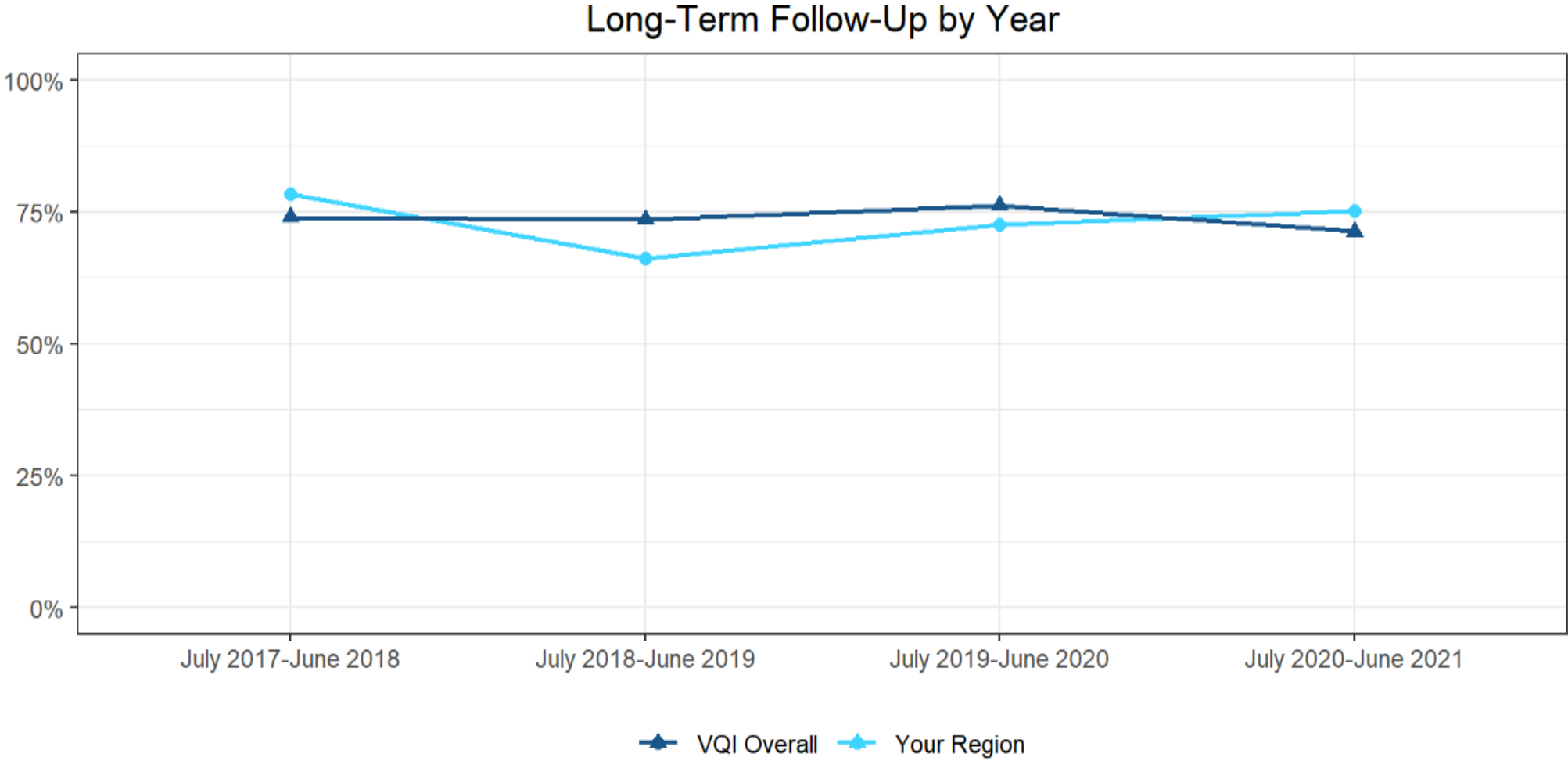
	<b>Your Region</b>	<b>VQI Overall</b>
CAS	1231 (77%)	15193 (70%)
CEA	1245 (75%)	18765 (74%)
EVAR	437 (81%)	7931 (73%)
HDA	285 (54%)	7610 (70%)
INFRA	330 (85%)	7724 (75%)
IVCF	NA (<3 centers)	1587 (74%)
LEAMP	51 (80%)	3303 (70%)
OAAA	64 (73%)	1362 (76%)
PVI	2341 (76%)	45136 (70%)
SUPRA	20 (100%)	2071 (75%)
TEVAR	142 (78%)	3112 (69%)
Overall (July 2020-June 2021)	6233 (75%)	113794 (71%)
Overall (July 2019-June 2020)	6149 (73%)	102251 (76%)

# Long-Term Follow-up



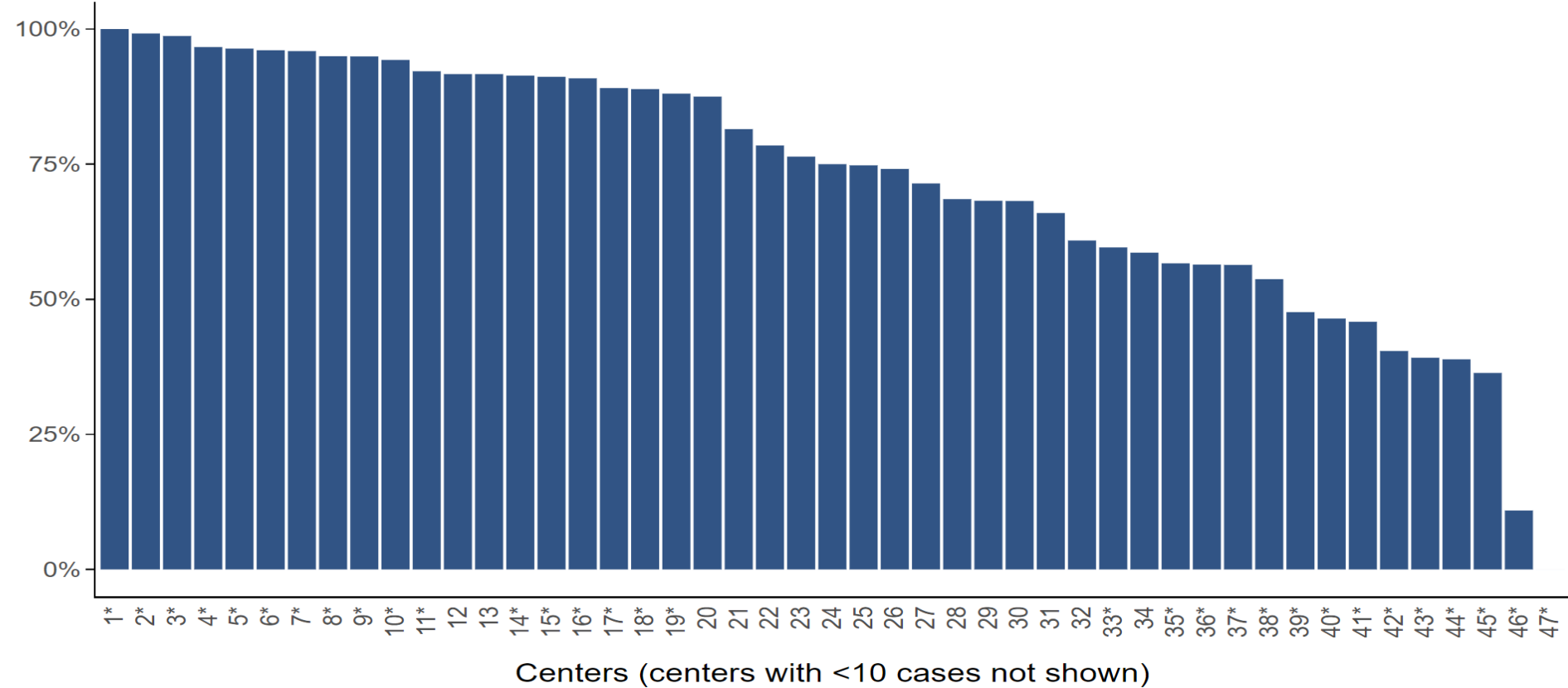
“\*” Indicates region’s rate differs significantly from the VQI rate.

# Long-Term Follow-up



# Long-Term Follow-up

Long-Term Follow-Up by Center in Your Region (July 2020-June 2021)



47 of 56 centers displayed

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

# Long-Term Follow-up

Long-Term Follow-Up Unblinding Legend for Your Region



Index	Medical Center Name
1	Decatur Memorial Hospital
2	Barnes Jewish Hospital
3	MercyOne Des Moines Medical Center
4	MacNeal Hospital
5	Loyola University Medical Center
6	Carle BroMenn Medical Center
7	Saint Luke's Episcopal Presbyterian Hospital
8	OSF St. Joseph Medical Center
9	NorthShore Hospital
10	Mercy Hospital St. Louis
11	Kansas Heart Hospital
12	CGH Medical Center
13	Gottlieb Memorial Hospital
14	Riverside Medical Center
15	OSF Saint Francis Medical Center
16	Saint Luke's Hospital of Kansas City
17	OSF Saint Anthony Medical Center
18	Bryan Medical Center
19	University of Kansas Hospital Authority
20	Adventist Medical Center La Grange
21	MercyOne Siouland Medical Center
22	SSM Health St. Joseph Hospital - St. Charles
23	Carle Foundation Hospital
24	Carle Health Methodist Hospital
25	Northwestern Memorial Hospital

26	SSM Health DePaul Hospital - St. Louis
27	Ascension Alexian Brothers Medical Center
28	Mercy Hospital Springfield
29	SSM Health Saint Louis University Hospital
30	Javon Bea Hospital - Riverside Campus
31	University of Missouri Medical Center
32	Memorial Medical Center
33	University of Chicago Medical Center
34	UnityPoint Health Des Moines
35	Northwestern Medicine Central DuPage Hospital
36	Columbia Surgical Services, Inc.
37	Premier Vascular, LLC
38	Flint Hills Heart, Vascular, Vein Clinic, LLC
39	Nebraska Medicine
40	SSM Health St. Clare Hospital - Fenton
41	Edward Hospital
42	Nebraska Methodist Hospital
43	Ascension Via Christi Hospitals Wichita
44	Elmhurst Memorial Hospital
45	St. John's Hospital
46	Mosaic Life Care
47	Cox Medical Center South



# Discharge Medications

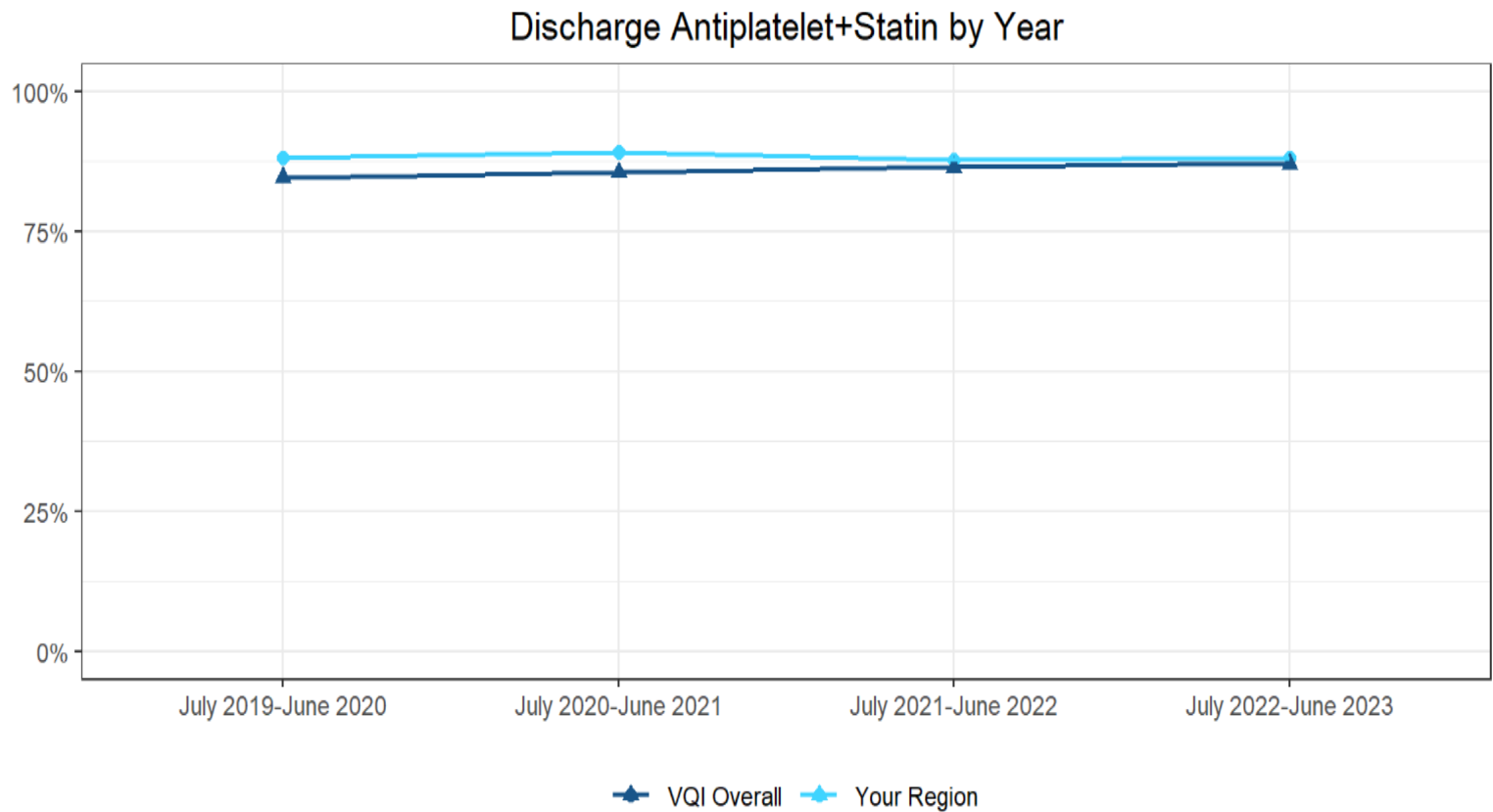
Procedures performed between July 1, 2022 and June 30, 2023

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

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

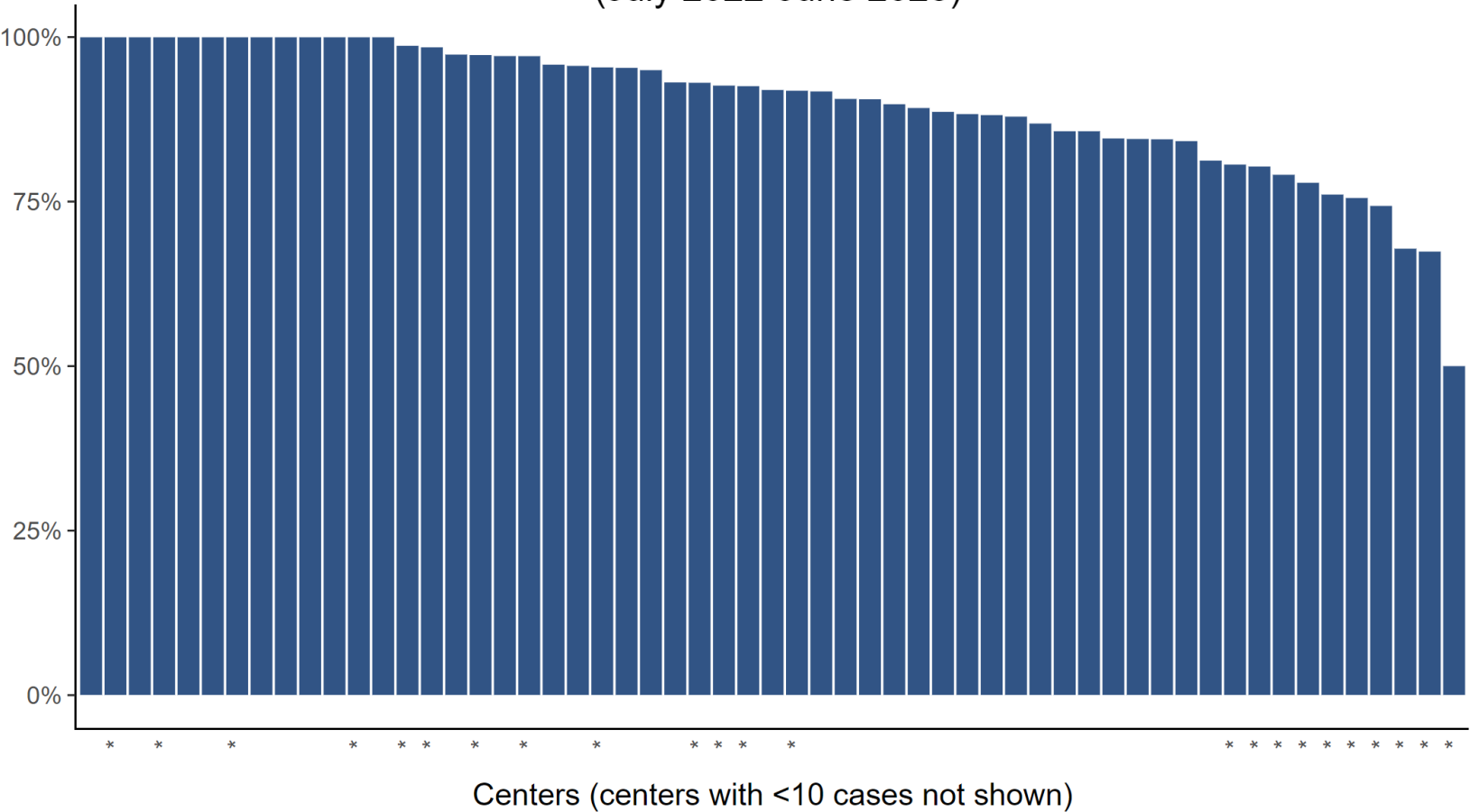
	Number of Procedures	Antiplatelet+Statin	Antiplatelet Only	Statin Only	Neither
Your Region Overall	8431	88%	8%	2%	1%
VQI Overall	112903	87%	8%	3%	2%

# Discharge Medications



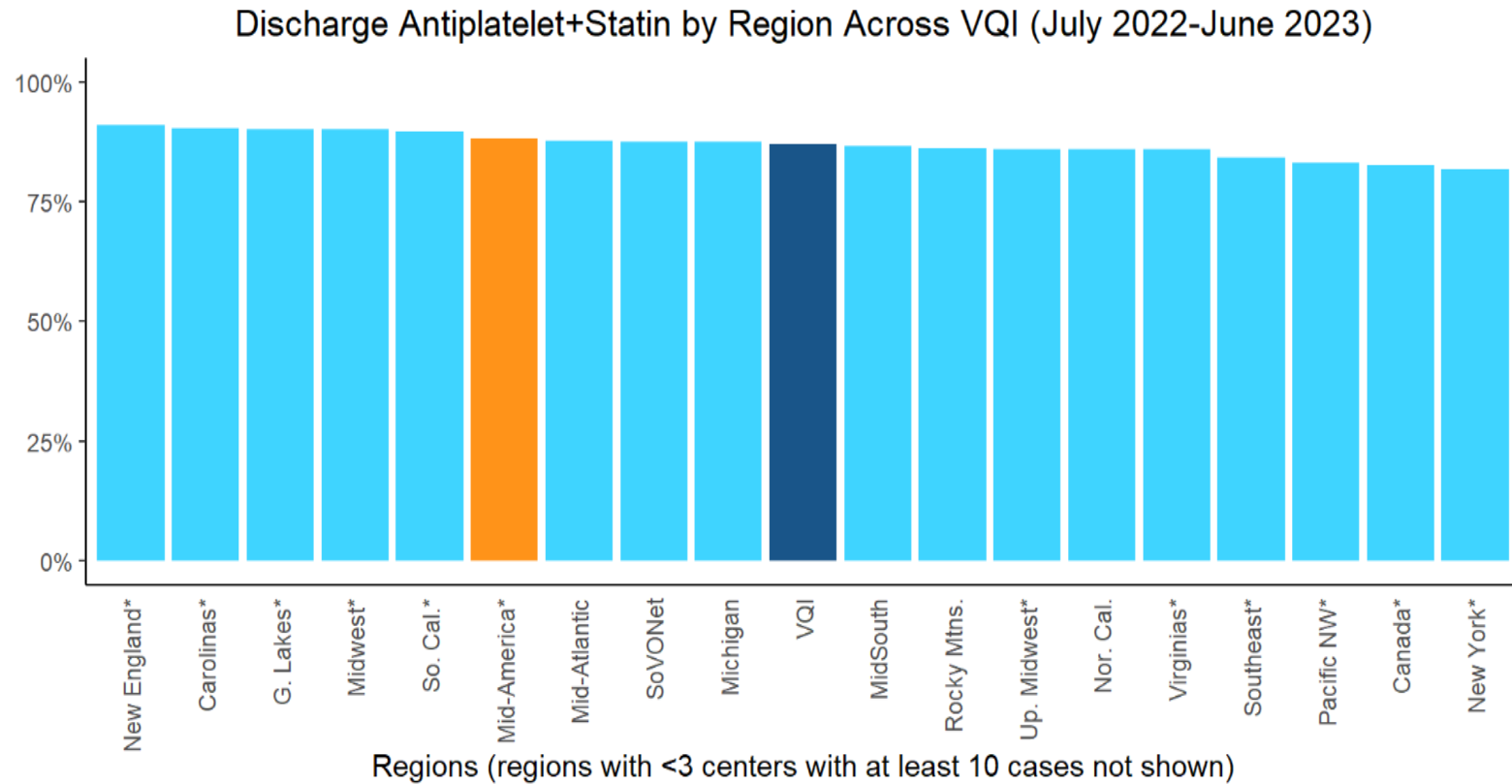
# Discharge Medications

Discharge Antiplatelet+Statin by Center in Your Region  
(July 2022-June 2023)



57 of 67 centers displayed  
“\*” Indicates center’s rate differs significantly from the regional rate.

# Discharge Medications



“\*” Indicates region’s rate differs significantly from the VQI rate.

# Preop Smoking

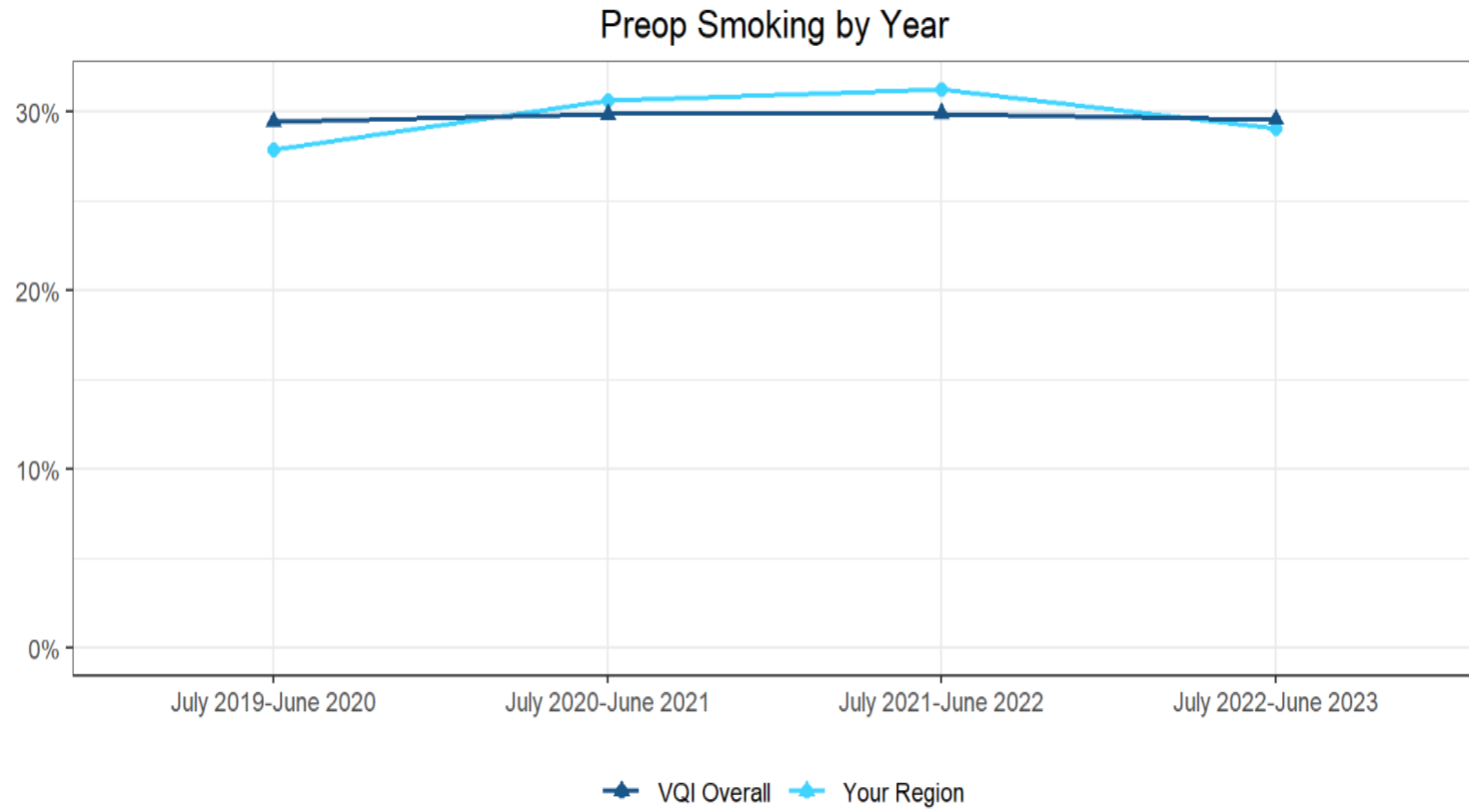
Procedures performed between July 1, 2022 and June 30, 2023

Includes elective CAS (TFEM CAS and TCAR), CEA, EVAR, INFRA, LEAMP, OAAA, PVI, SUPRA, and TEVAR procedures only.

The table below gives the number of procedures meeting the inclusion criteria, and the percentage of those procedures where the patient was still smoking within one month of the procedure.

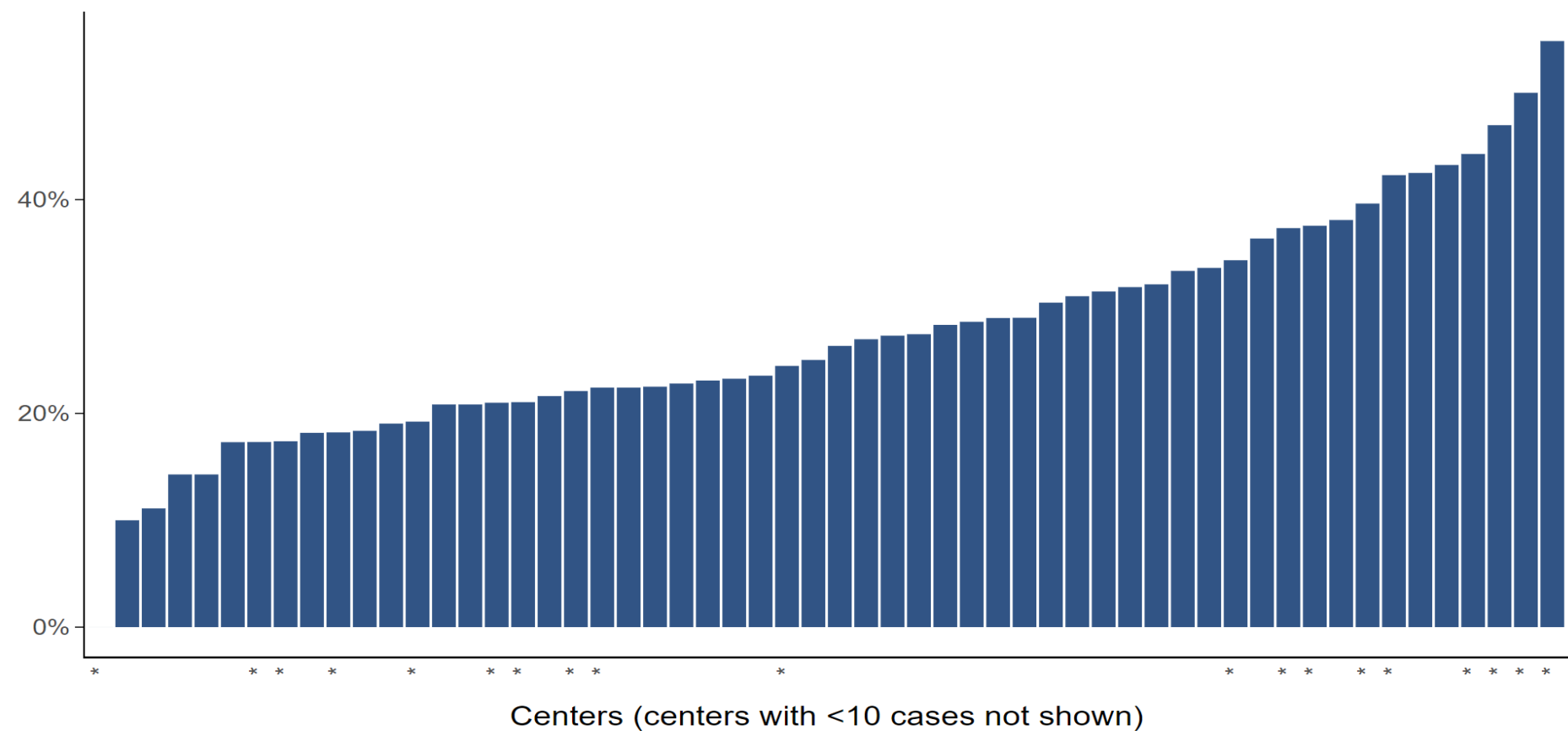
	<b>Your Region VQI Overall</b>	
CAS	1352 (22%)	18540 (23%)
CEA	1173 (25%)	16116 (24%)
EVAR	507 (31%)	6749 (32%)
INFRA	309 (38%)	5487 (39%)
LEAMP	NA (<3 centers)	1545 (26%)
OAAA	50 (40%)	981 (43%)
PVI	3438 (32%)	39806 (32%)
SUPRA	49 (41%)	1526 (53%)
TEVAR	168 (28%)	2720 (29%)
Overall (July 2022-June 2023)	7084 (29%)	93470 (30%)

# Preop Smoking



# Preop Smoking

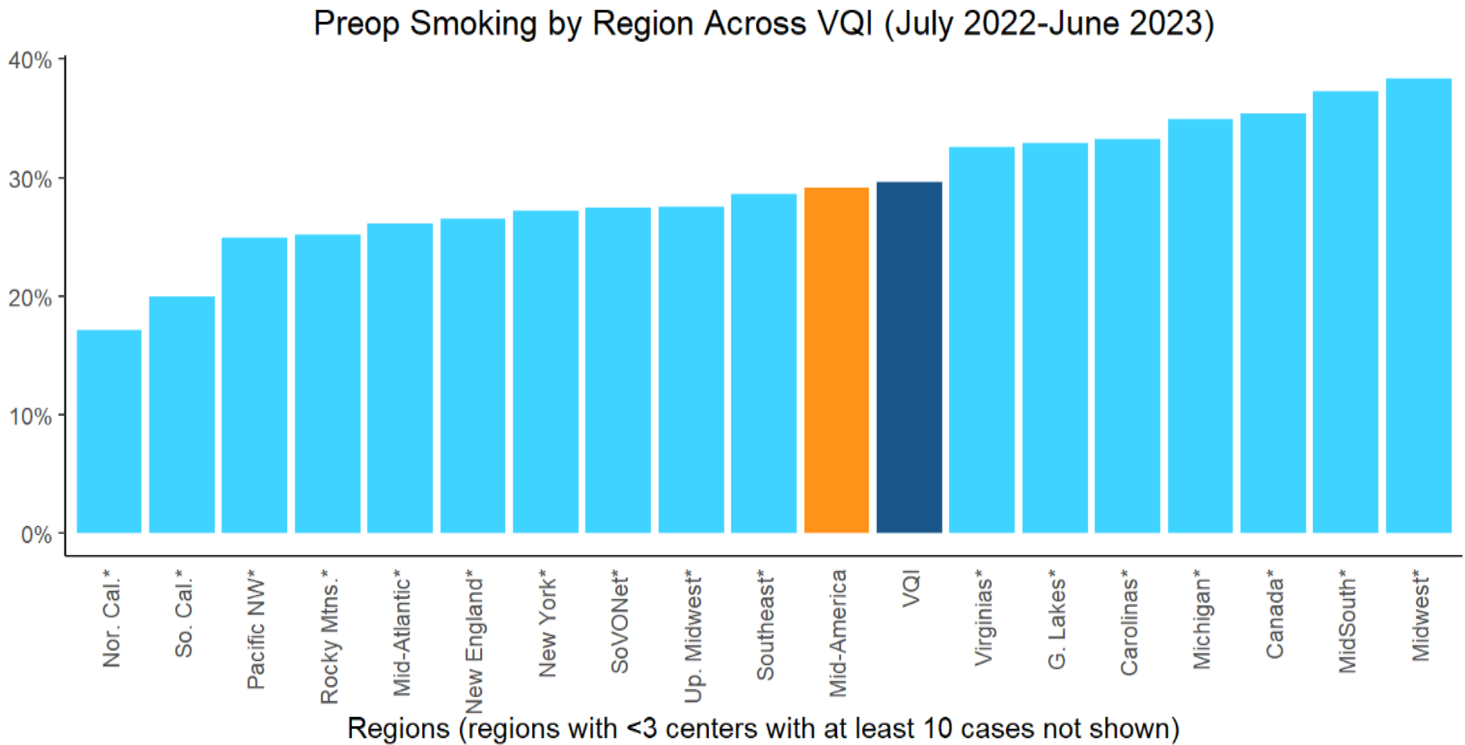
Preop Smoking by Center in Your Region (July 2022-June 2023)



56 of 67 centers displayed

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

# Preop Smoking



“\*” Indicates region’s rate differs significantly from the VQI rate.



# Smoking Cessation

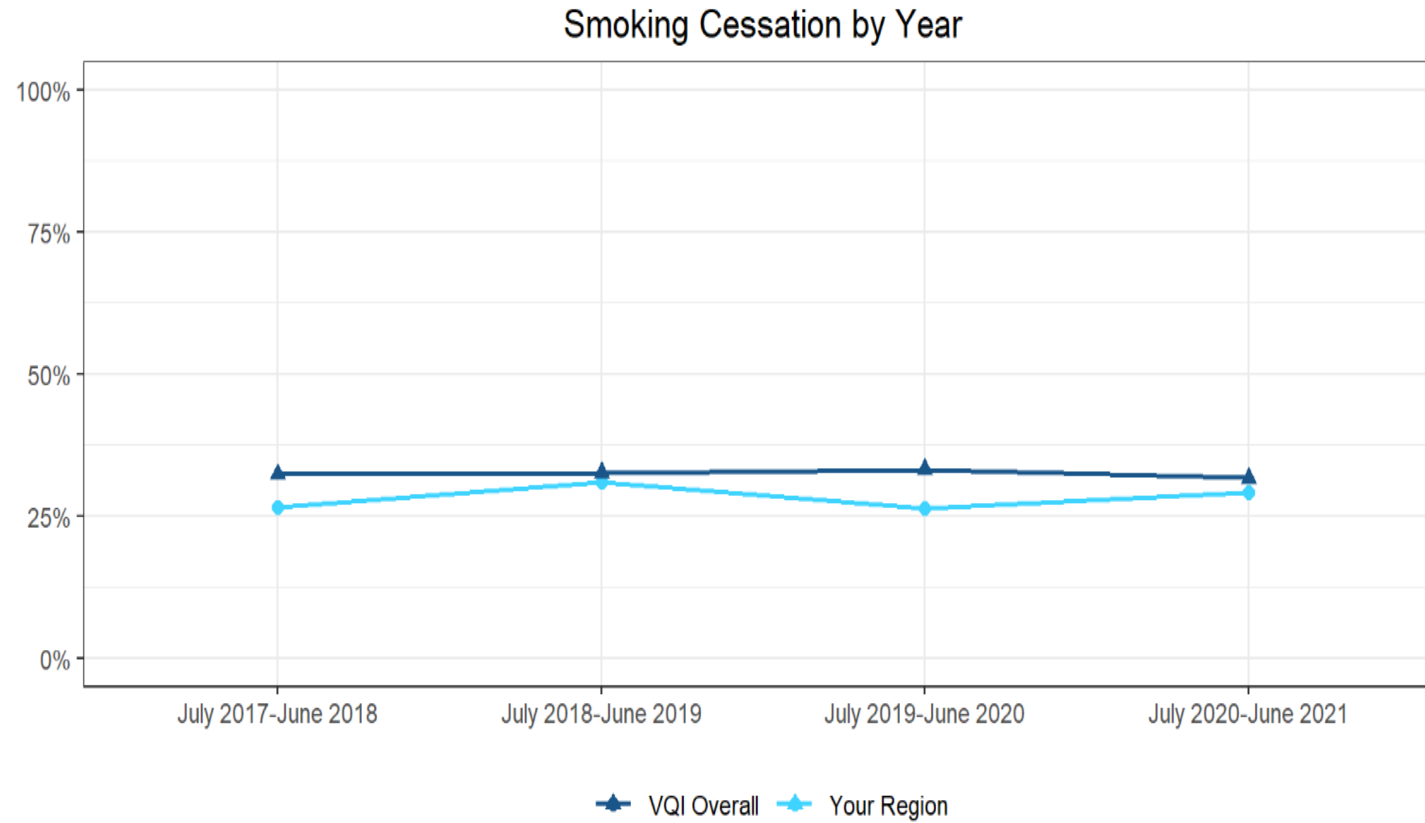
Procedures performed between July 1, 2020 and June 30, 2021

Includes CAS (TFEM CAS and TCAR), CEA, EVAR, HDA, INFRA, LEAMP, OAAA, PVI, SUPRA, and TEVAR procedures performed on patients still smoking within one month of the procedure. Excludes procedures that do not have at least one long-term follow-up record where the patient's follow-up smoking status was recorded.

The table below gives the number of procedures meeting the inclusion criteria, and the percentage of those procedures where the patient was not smoking within one month on follow-up for *all* long-term follow-up records where the patient's follow-up smoking status was recorded.

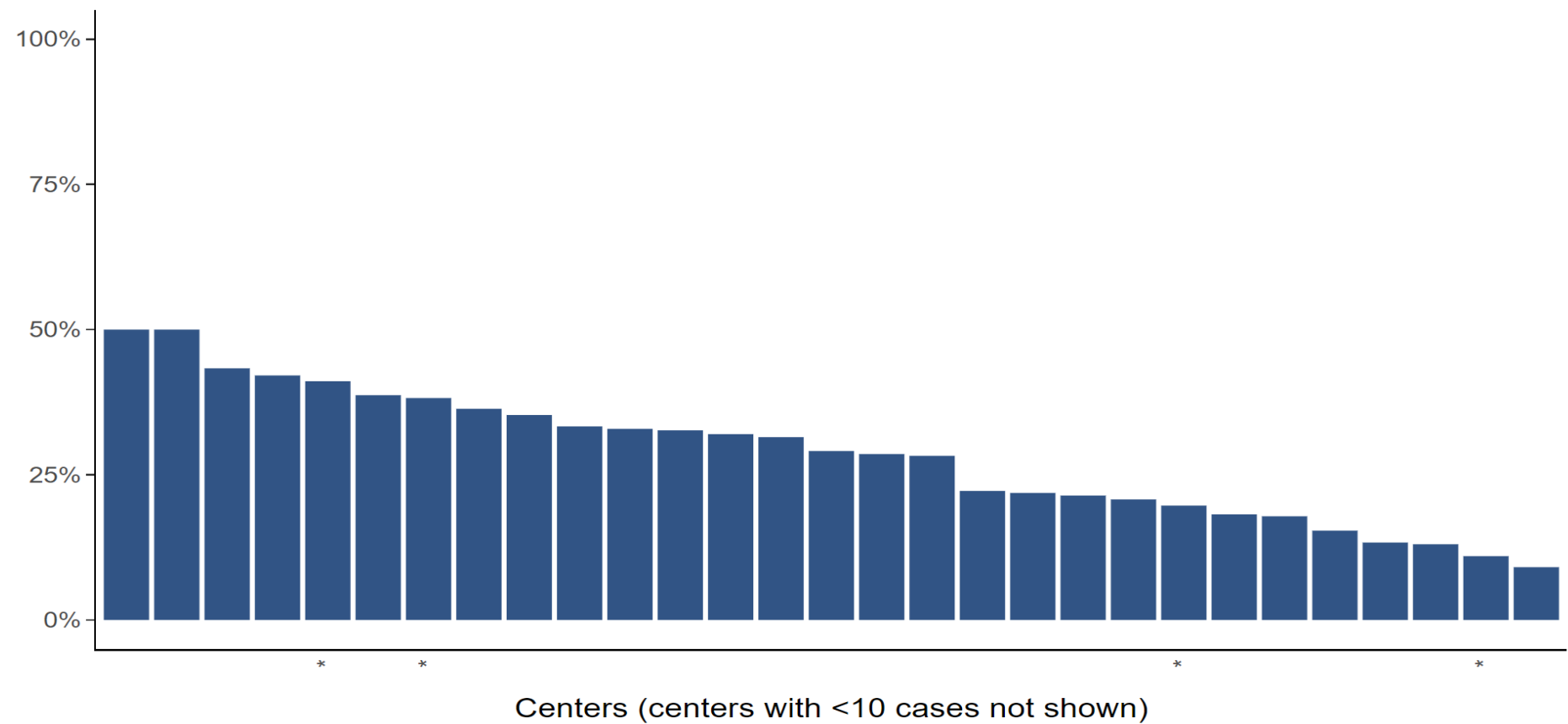
	<b>Your Region VQI Overall</b>	
CAS	225 (32%)	2437 (34%)
CEA	252 (33%)	3400 (31%)
EVAR	108 (24%)	1746 (29%)
HDA	18 (11%)	582 (32%)
INFRA	116 (35%)	2241 (35%)
LEAMP	10 (60%)	466 (33%)
OAAA	16 (38%)	431 (39%)
PVI	563 (26%)	9090 (29%)
SUPRA	9 (11%)	787 (34%)
TEVAR	37 (30%)	593 (43%)
Overall (July 2020-June 2021)	1354 (29%)	21773 (32%)

# Smoking Cessation



# Smoking Cessation

Smoking Cessation by Center in Your Region (July 2020-June 2021)

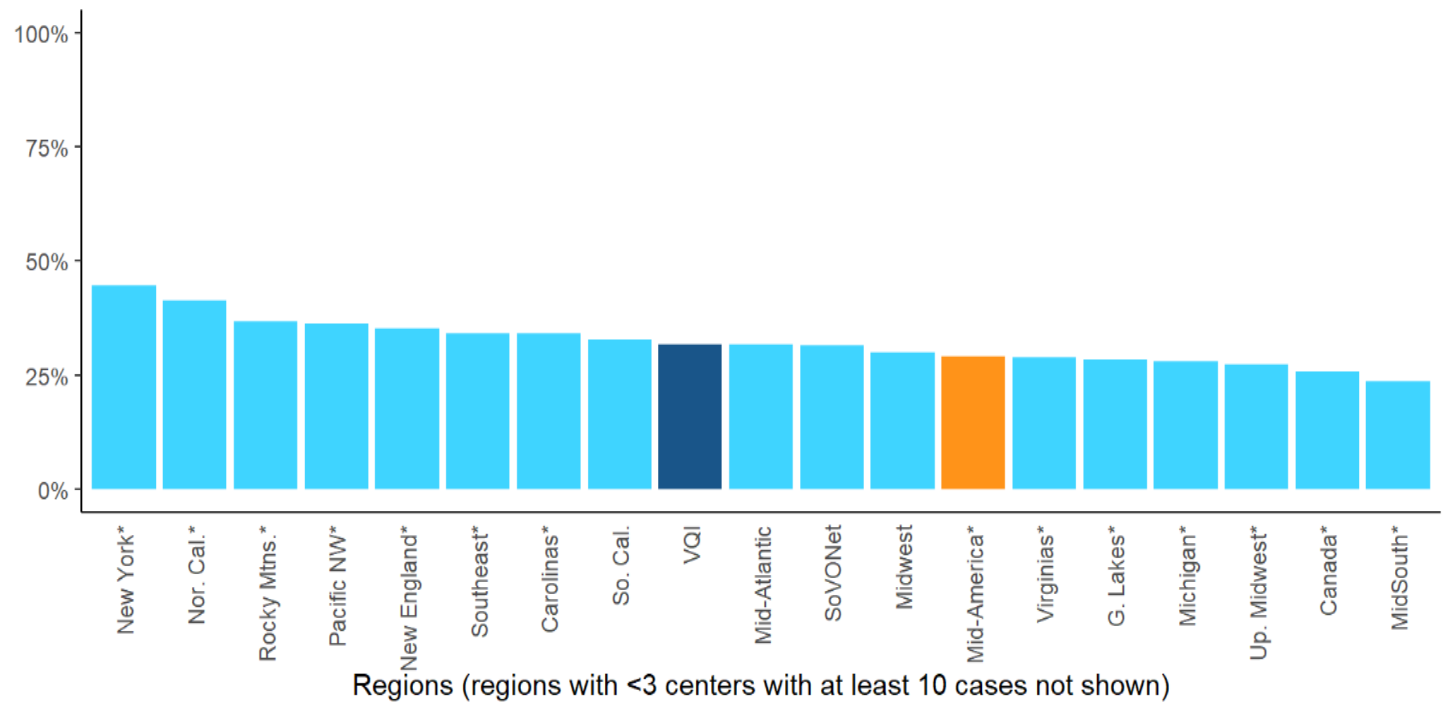


29 of 52 centers displayed

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

# Smoking Cessation

Smoking Cessation by Region Across VQI (July 2020-June 2021)



“\*\*” Indicates region’s rate differs significantly from the VQI rate.

# TFEM CAS ASYMP: Stroke/Death

Procedures performed between July 1, 2022 and June 30, 2023

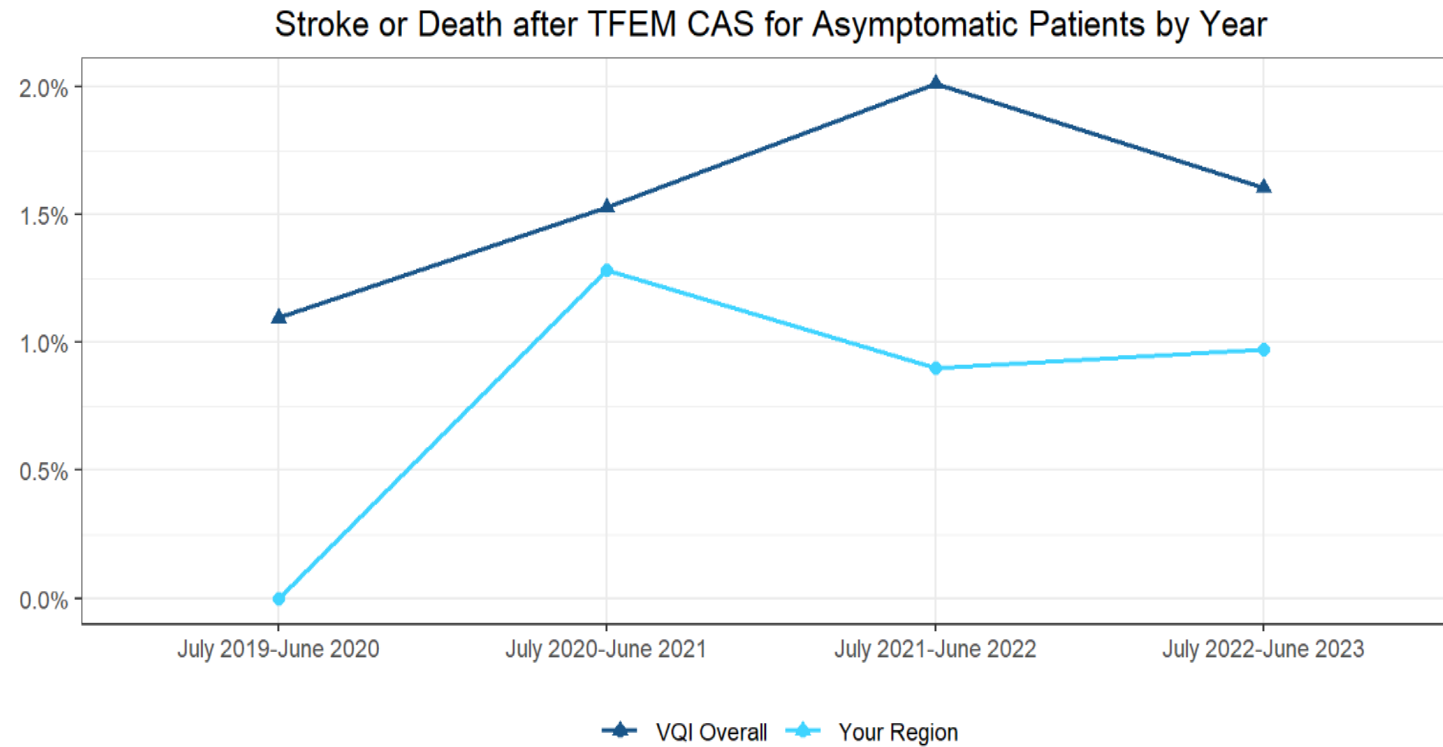
Includes Transfemoral Carotid Artery Stenting (TFEM CAS) procedures performed on asymptomatic patients. Asymptomatic patients are patients with no ipsilateral or contralateral retinal or cortical TIA or stroke within 180 days prior to surgery. Includes procedures utilizing a femoral, brachial, or radial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

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

	Your Region VQI Overall	
Number of TFEM CAS procedures meeting inclusion criteria	206	2742
Observed rate of stroke or death among procedures meeting inclusion criteria	1%	1.6%
Number of procedures with complete data*	185	2483
Observed rate of stroke or death among cases with complete data	<u>O</u> 0.5%	1.6%
Expected Rate of stroke or death among cases with complete data	E 1.9%	NA
P-value for comparison of observed and expected rates	P value 0.27	NA

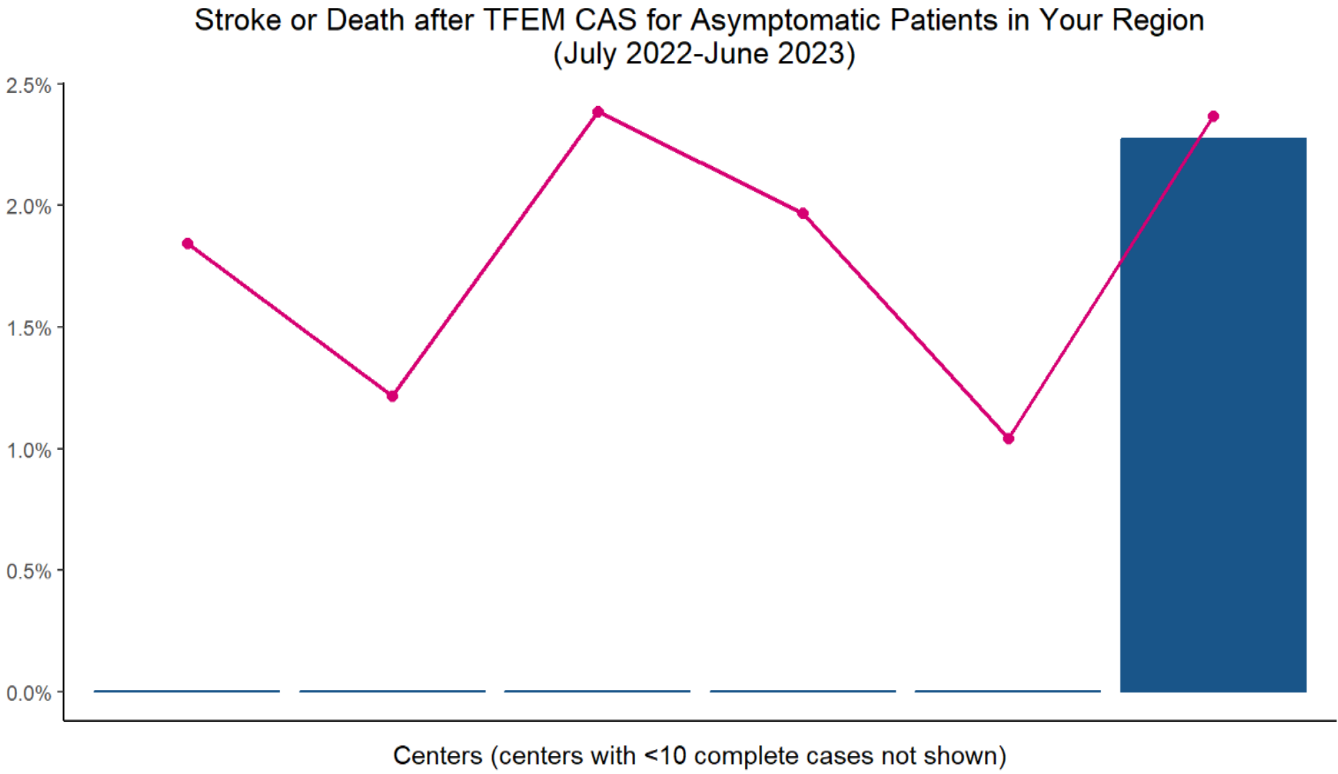
\*“Expected rate” is the rate estimated by a statistical model that accounts for patient characteristics, including age, gender, race, BMI, comorbidities, medication and stroke and vascular history. “Cases with complete data” include patients who have data on all of those factors.

# TFEM CAS ASYMP: Stroke/Death



Rates shown are observed rates among cases meeting inclusion criteria.

# TFEM CAS ASYMP: Stroke/Death



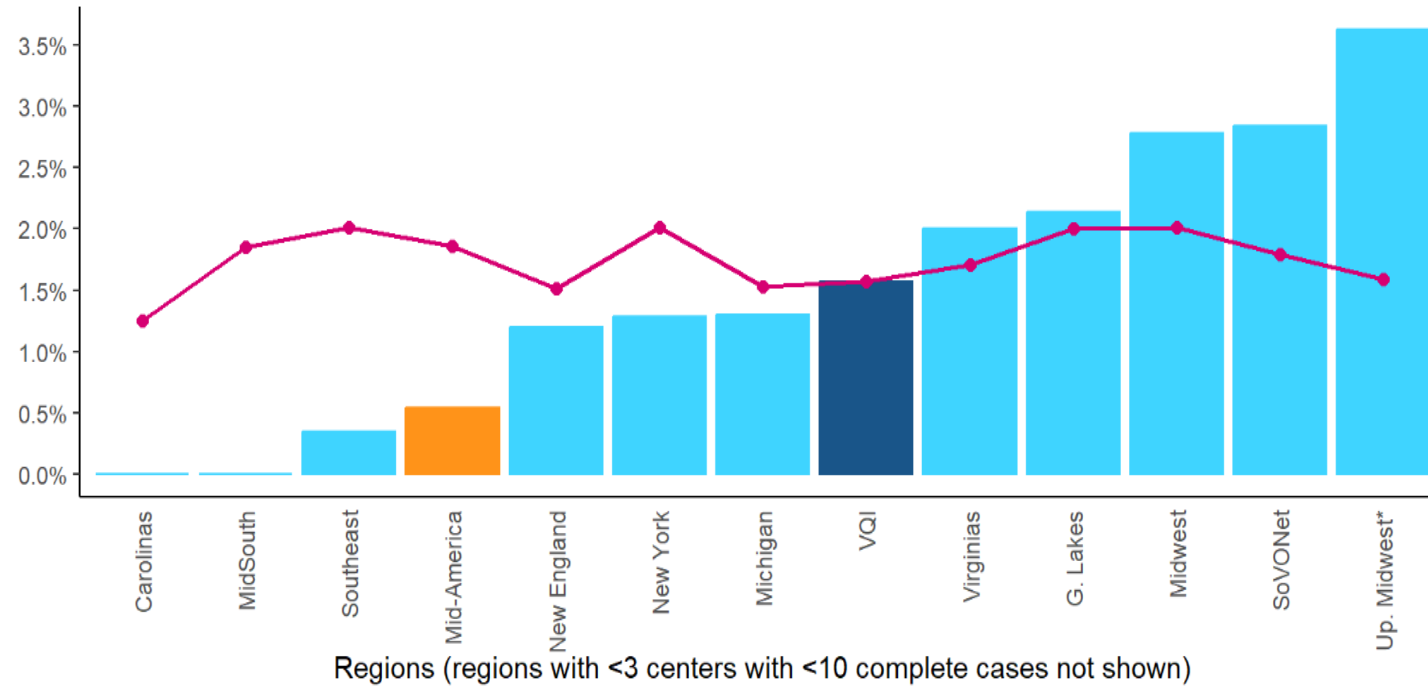
6 of 27 centers displayed

Rates shown are among cases with complete data.

“\*” Indicates center’s observed rate differs significantly from its expected rate

# TFEM CAS ASYMP: Stroke/Death

Stroke or Death after TFEM CAS for Asymptomatic Patients by Region Across VQI  
(July 2022-June 2023)



Rates shown are among cases with complete data.

“\*” Indicates region’s observed rate differs significantly from its expected rate



# TFEM CAS SYMP: Stroke/Death

Procedures performed between July 1, 2022 and June 30, 2023

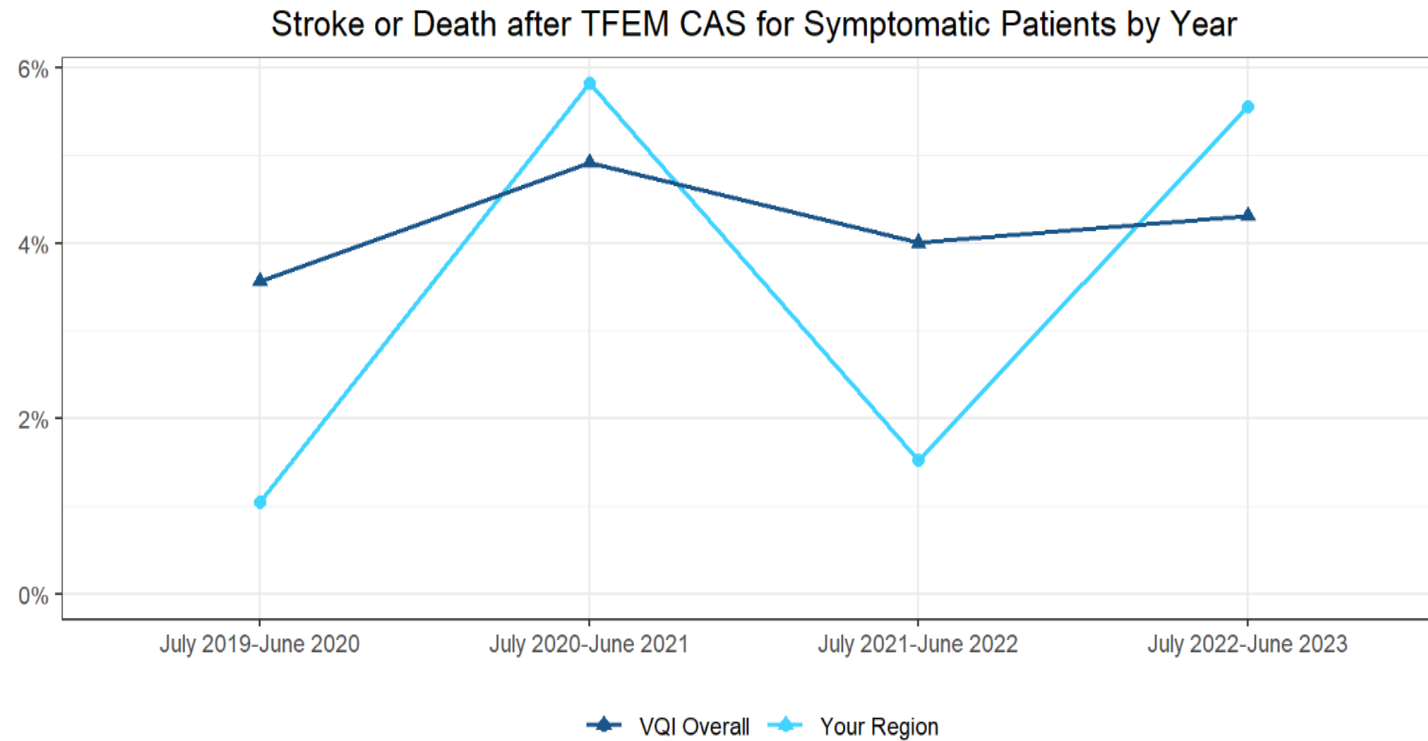
Includes Transfemoral Carotid Artery Stenting (TFEM CAS) procedures performed on symptomatic patients. Symptomatic patients are patients with an ipsilateral or contralateral retinal or cortical TIA or stroke within 180 days prior to surgery. Includes procedures utilizing a femoral, brachial, or radial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

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

	Your Region	VQI Overall
Number of TFEM CAS procedures meeting inclusion criteria	306	2923
Observed rate of stroke or death among procedures meeting inclusion criteria	5.6%	4.3%
Number of procedures with complete data*	278	2698
Observed rate of stroke or death among cases with complete data	<u>O</u> 5.8%	4%
Expected Rate of stroke or death among cases with complete data	E 4.1%	NA
P-value for comparison of observed and expected rates	P value 0.17	NA

\*“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.

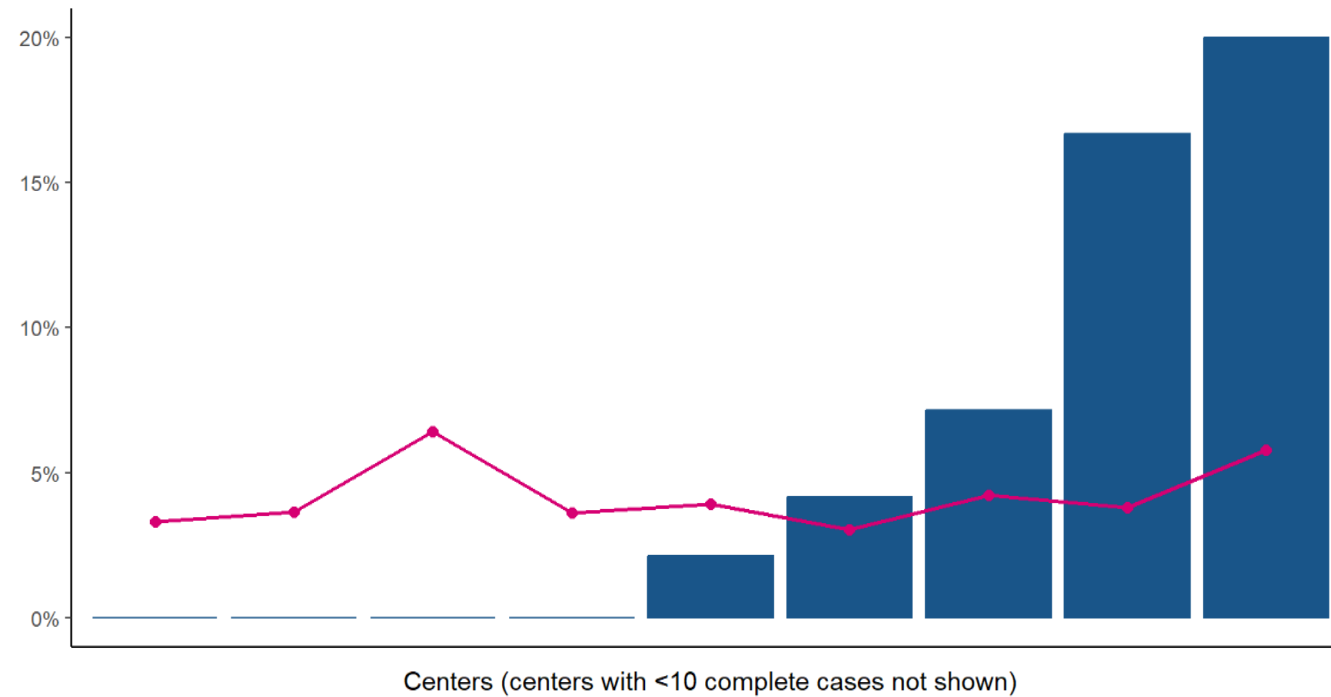
# TFEM CAS SYMP: Stroke/Death



Rates shown are observed rates among cases meeting inclusion criteria.

# TFEM CAS SYMP: Stroke/Death

Stroke or Death after TFEM CAS for Symptomatic Patients in Your Region  
(July 2022-June 2023)



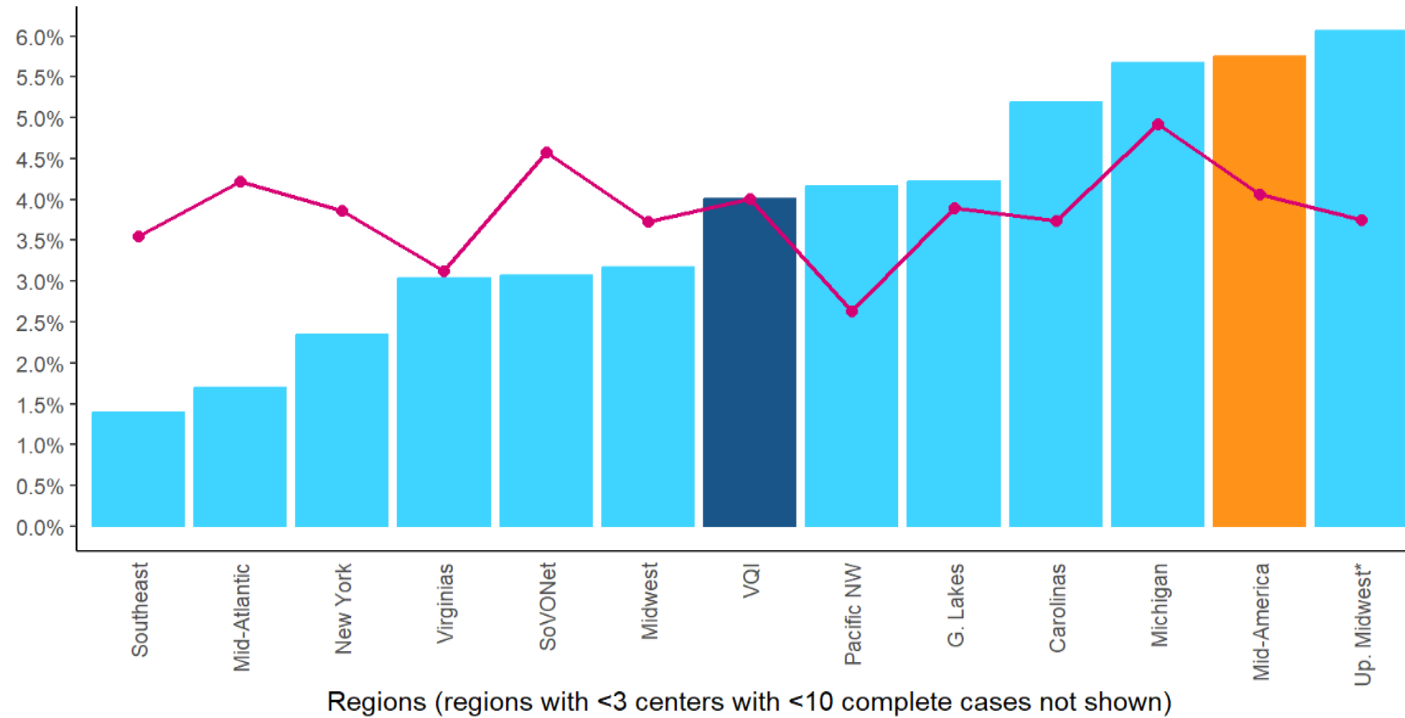
9 of 31 centers displayed

Rates shown are among cases with complete data.

“\*” Indicates center’s observed rate differs significantly from its expected rate

# TFEM CAS SYMP: Stroke/Death

Stroke or Death after TFEM CAS for Symptomatic Patients by Region Across VQI  
(July 2022-June 2023)



Rates shown are among cases with complete data.

“\*” Indicates region’s observed rate differs significantly from its expected rate



# TCAR ASYMP: Stroke/Death

Procedures performed between July 1, 2022 and June 30, 2023

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

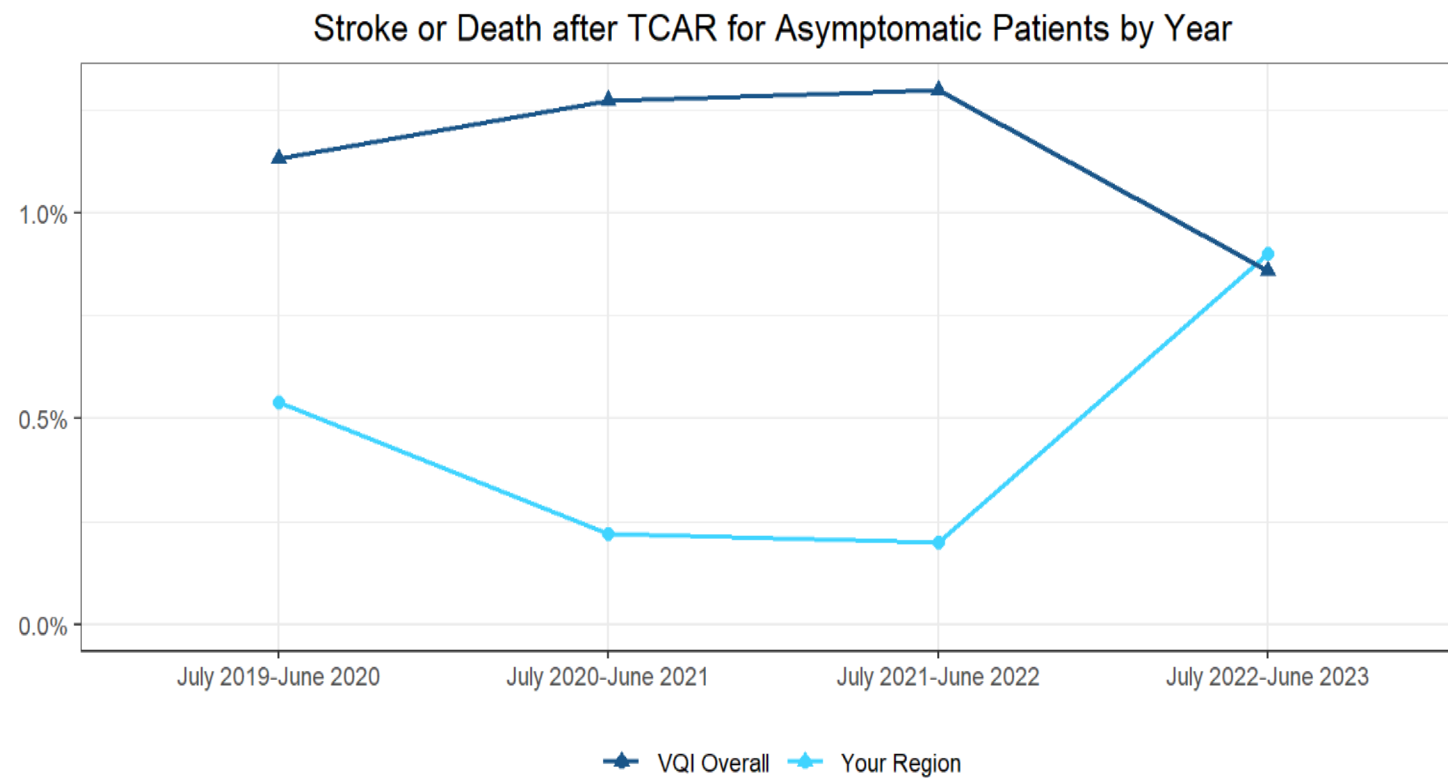
The table below gives the number of TCAR procedures (performed on asymptomatic patients) meeting the inclusion criteria, and the observed and expected rates of in-hospital stroke or death for those cases.

	Your Region	VQI Overall
Number of TCAR procedures meeting inclusion criteria	666	9313
Observed rate of stroke or death among procedures meeting inclusion criteria	0.9%	0.9%
Number of procedures with complete data*	621	8681
Observed rate of stroke or death among cases with complete data	<u>Q</u> 0.8%	0.9%
Expected Rate of stroke or death among cases with complete data	E 0.9%	NA
P-value for comparison of observed and expected rates	P value 1	NA

\*“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.



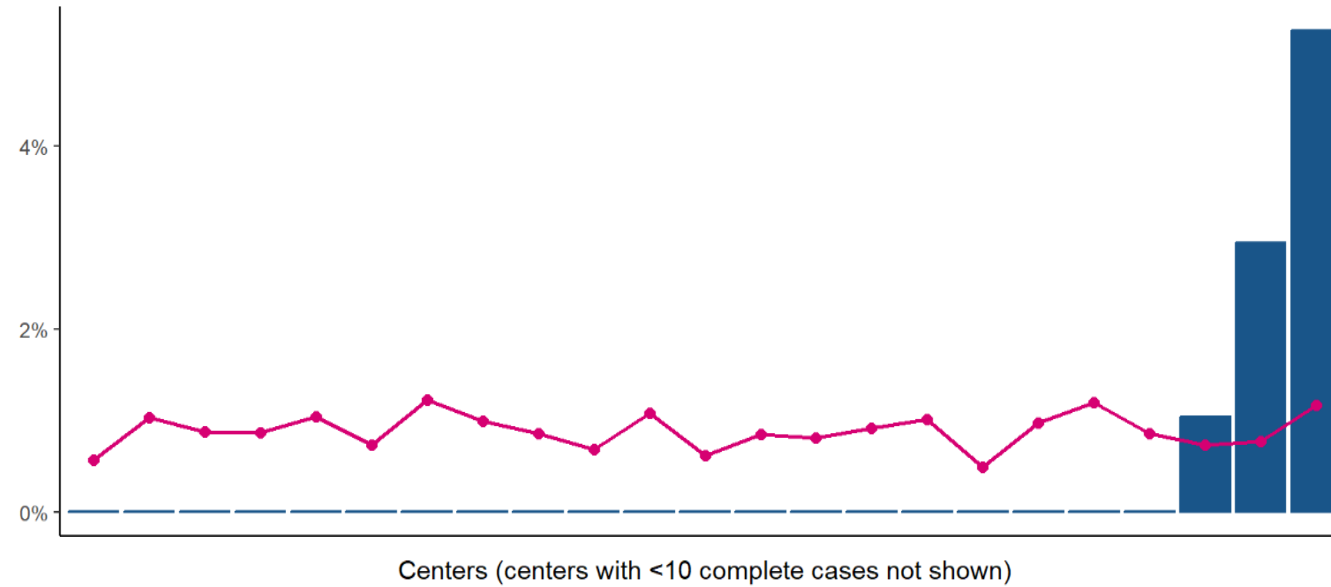
# TCAR ASYMP: Stroke/Death



Rates shown are observed rates among cases meeting inclusion criteria.

# TCAR ASYMP: Stroke/Death

Stroke or Death after TCAR for Asymptomatic Patients in Your Region  
(July 2022-June 2023)

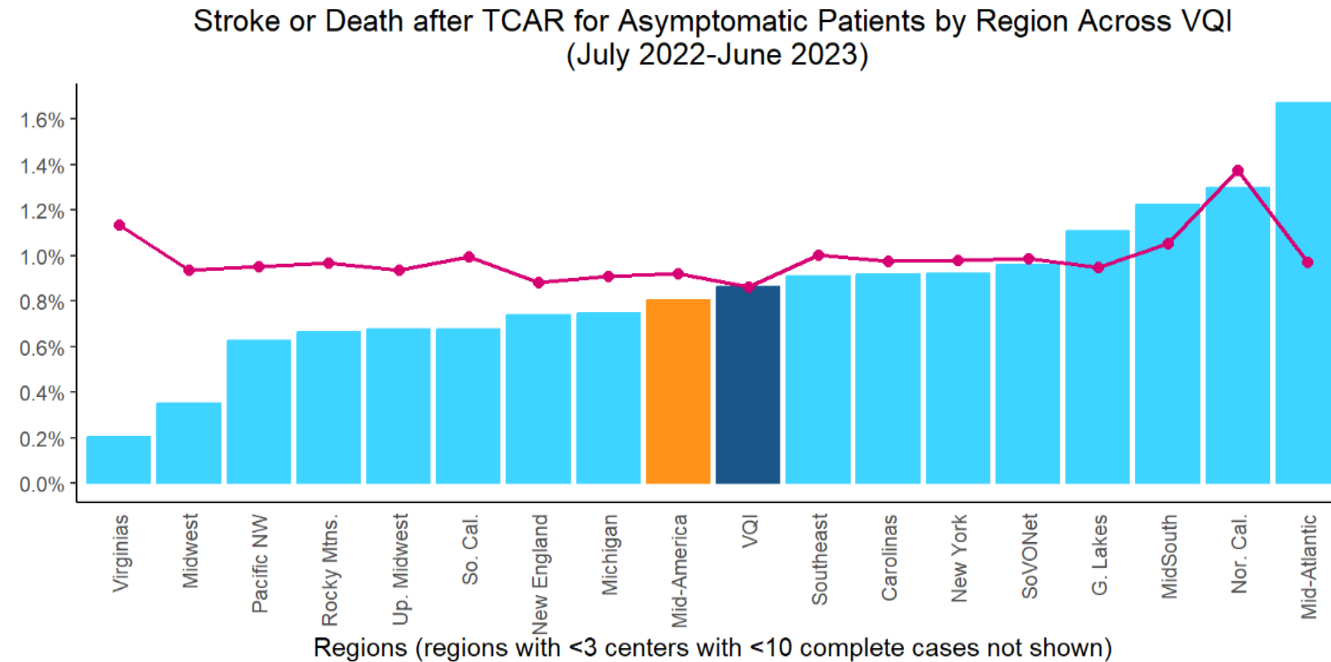


23 of 54 centers displayed

Rates shown are among cases with complete data.

“\*\*” Indicates center’s observed rate differs significantly from its expected rate

# TCAR ASYMP: Stroke/Death



Rates shown are among cases with complete data.

“\*” Indicates region’s observed rate differs significantly from its expected rate



# TCAR SYMP: Stroke/Death

Procedures performed between July 1, 2022 and June 30, 2023

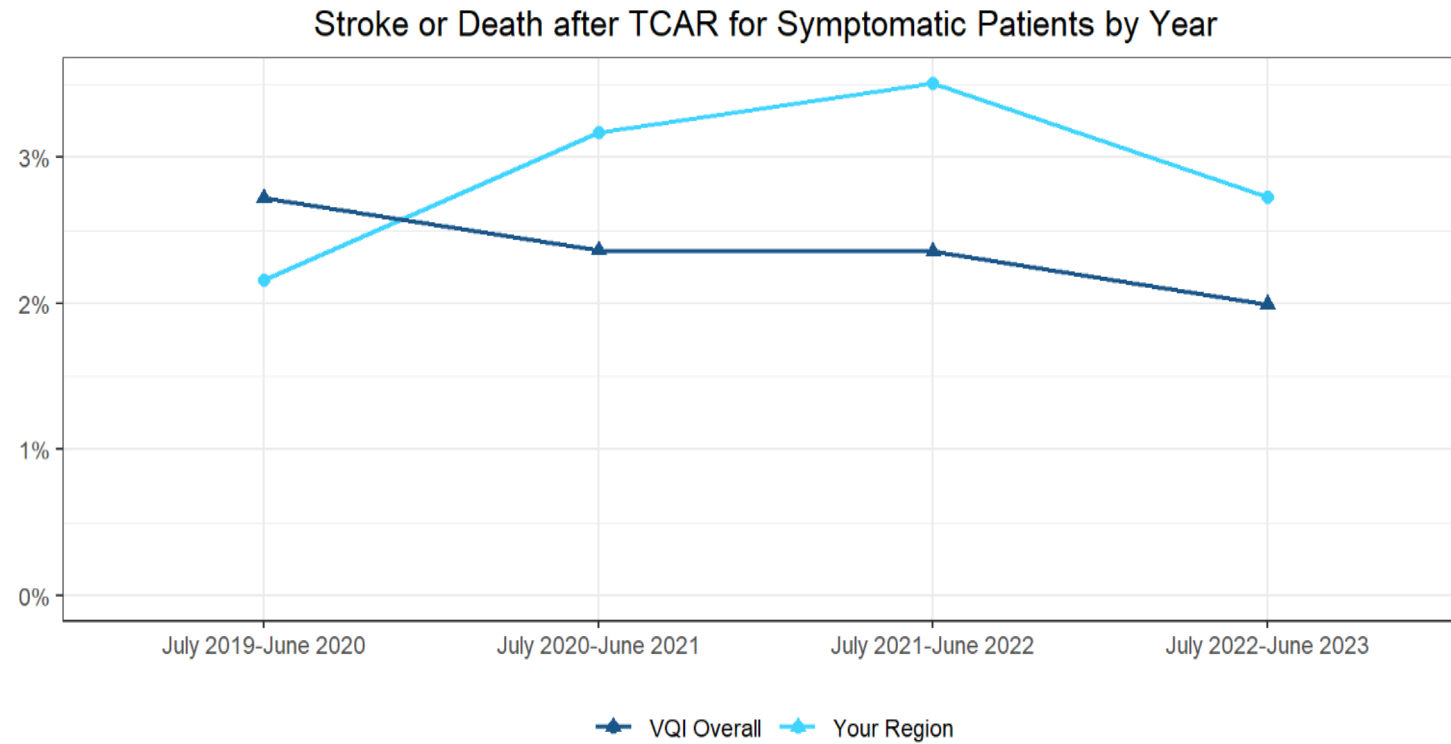
Includes TransCarotid Artery Revascularization (TCAR) procedures performed on symptomatic patients. Symptomatic patients are patients with an ipsilateral or contralateral retinal or cortical TIA or stroke within 180 days prior to surgery. Excludes any patient with prior vertebrobasilar TIA or stroke,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

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

	Your Region	VQI Overall
Number of TCAR procedures meeting inclusion criteria	293	4412
Observed rate of stroke or death among procedures meeting inclusion criteria	2.7%	2%
Number of procedures with complete data*	282	4153
Observed rate of stroke or death among cases with complete data	<u>O</u> 2.1%	2%
Expected Rate of stroke or death among cases with complete data	E 2%	NA
P-value for comparison of observed and expected rates	P value 0.83	NA

\*“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.

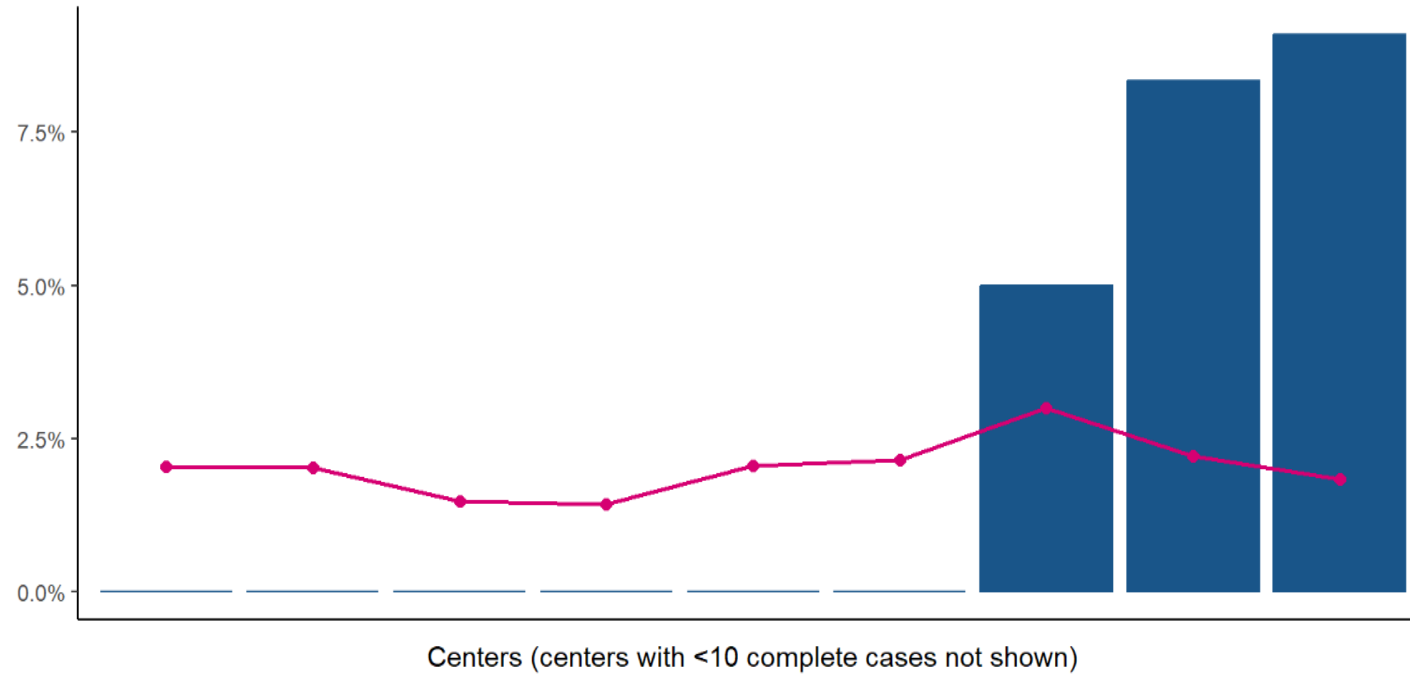
# TCAR SYMP: Stroke/Death



Rates shown are observed rates among cases meeting inclusion criteria.

# TCAR SYMP: Stroke/Death

Stroke or Death after TCAR for Symptomatic Patients in Your Region (July 2022-June 2023)



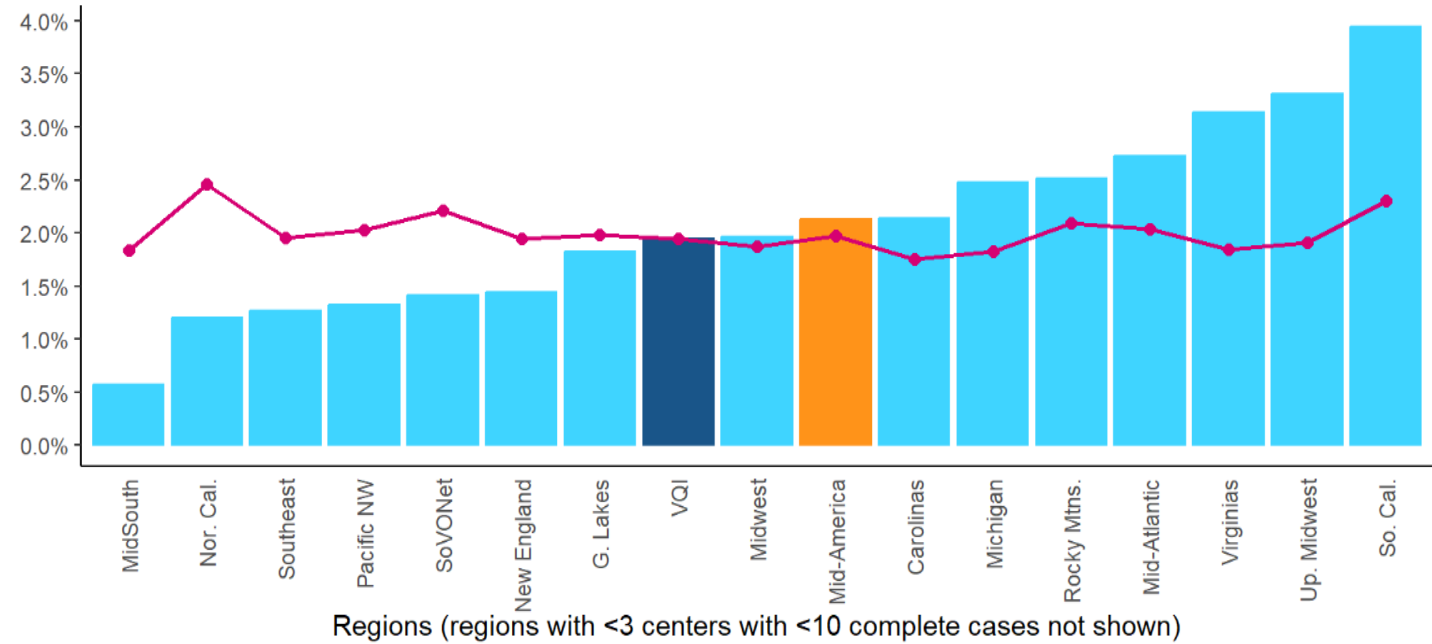
9 of 43 centers displayed

Rates shown are among cases with complete data.

“\*” Indicates center’s observed rate differs significantly from its expected rate

# TCAR SYMP: Stroke/Death

Stroke or Death after TCAR for Symptomatic Patients by Region Across VQI  
(July 2022-June 2023)



Rates shown are among cases with complete data.

“\*” Indicates region’s observed rate differs significantly from its expected rate

# CEA ASYMP: Stroke/Death

Procedures performed between July 1, 2022 and June 30, 2023

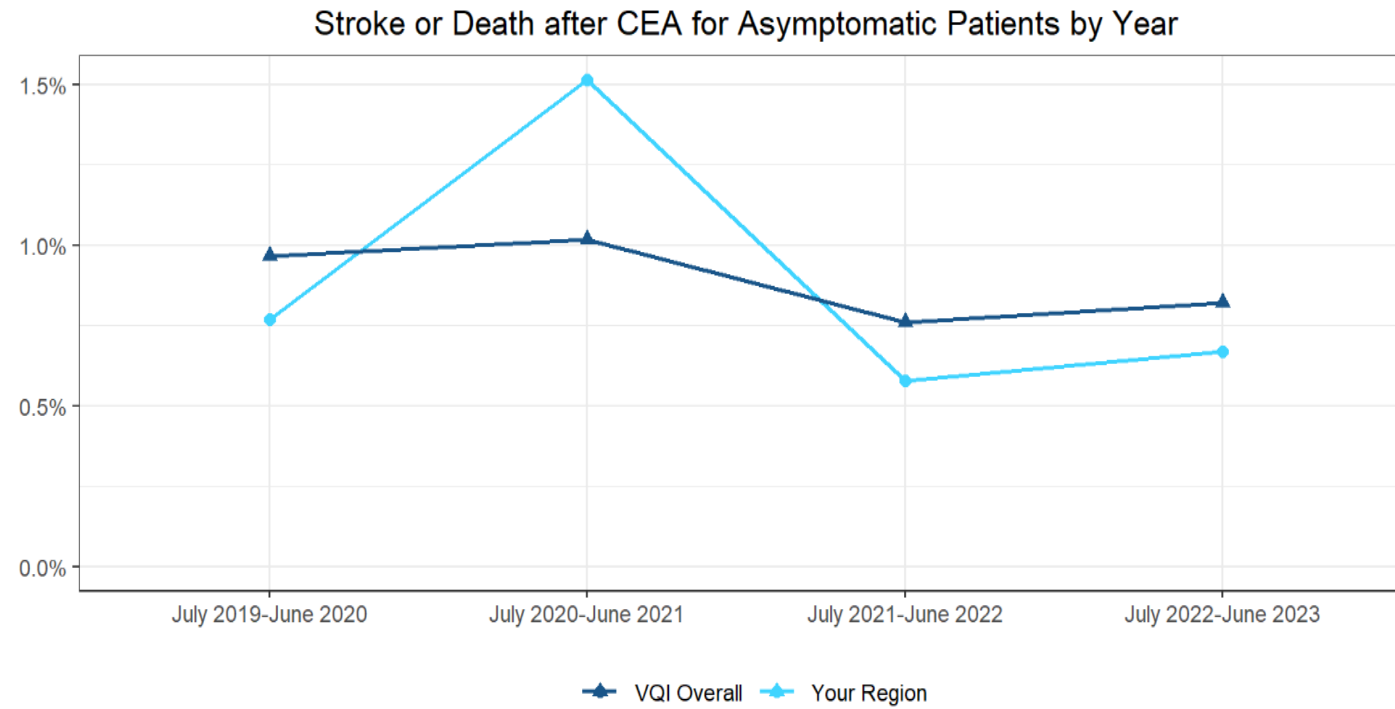
Includes Carotid Endarterectomy (CEA) procedures performed on asymptomatic patients. Asymptomatic patients are patients with no ipsilateral retinal or cortical TIA or stroke within 180 days prior to surgery. Excludes any patient with prior vertebrobasilar or non-specific TIA or stroke, prior ipsilateral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

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

	Your Region	VQI Overall
Number of CEA procedures meeting inclusion criteria	747	11194
Observed rate of stroke or death among procedures meeting inclusion criteria	0.7%	0.8%
Number of procedures with complete data*	694	10450
Observed rate of stroke or death among cases with complete data	<u>0</u>	0.8%
Expected Rate of stroke or death among cases with complete data	E	NA
P-value for comparison of observed and expected rates	P value	NA

\*“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.

# CEAASYMP: Stroke/Death



Rates shown are observed rates among cases meeting inclusion criteria.

# CEAASYMP: Stroke/Death

Stroke or Death after CEA for Asymptomatic Patients in Your Region (July 2022-June 2023)



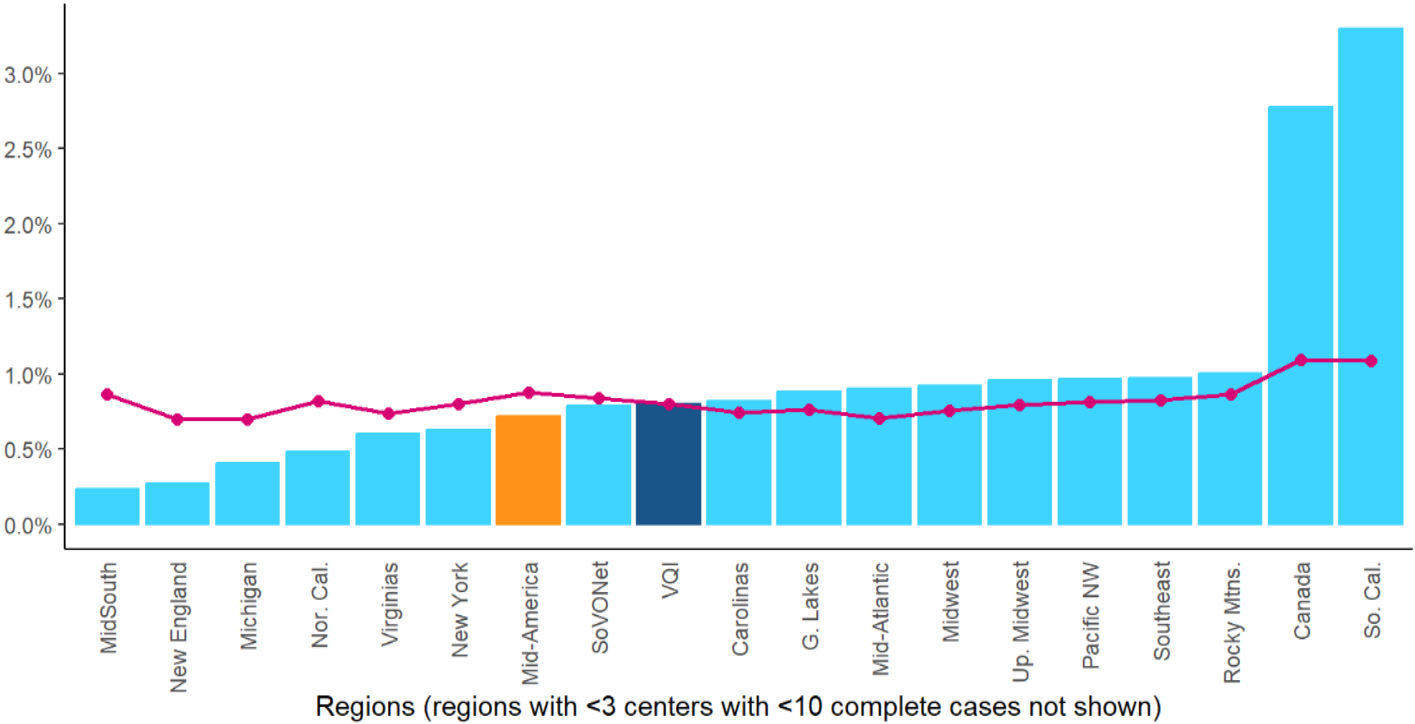
20 of 34 centers displayed

Rates shown are among cases with complete data.

“\*” Indicates center’s observed rate differs significantly from its expected rate

# CEAASYMP: Stroke/Death

Stroke or Death after CEA for Asymptomatic Patients by Region Across VQI  
(July 2022-June 2023)



Rates shown are among cases with complete data.

“\*” Indicates region’s observed rate differs significantly from its expected rate



# CEA ASYMP: Postop LOS>1 Day

Procedures performed between July 1, 2022 and June 30, 2023

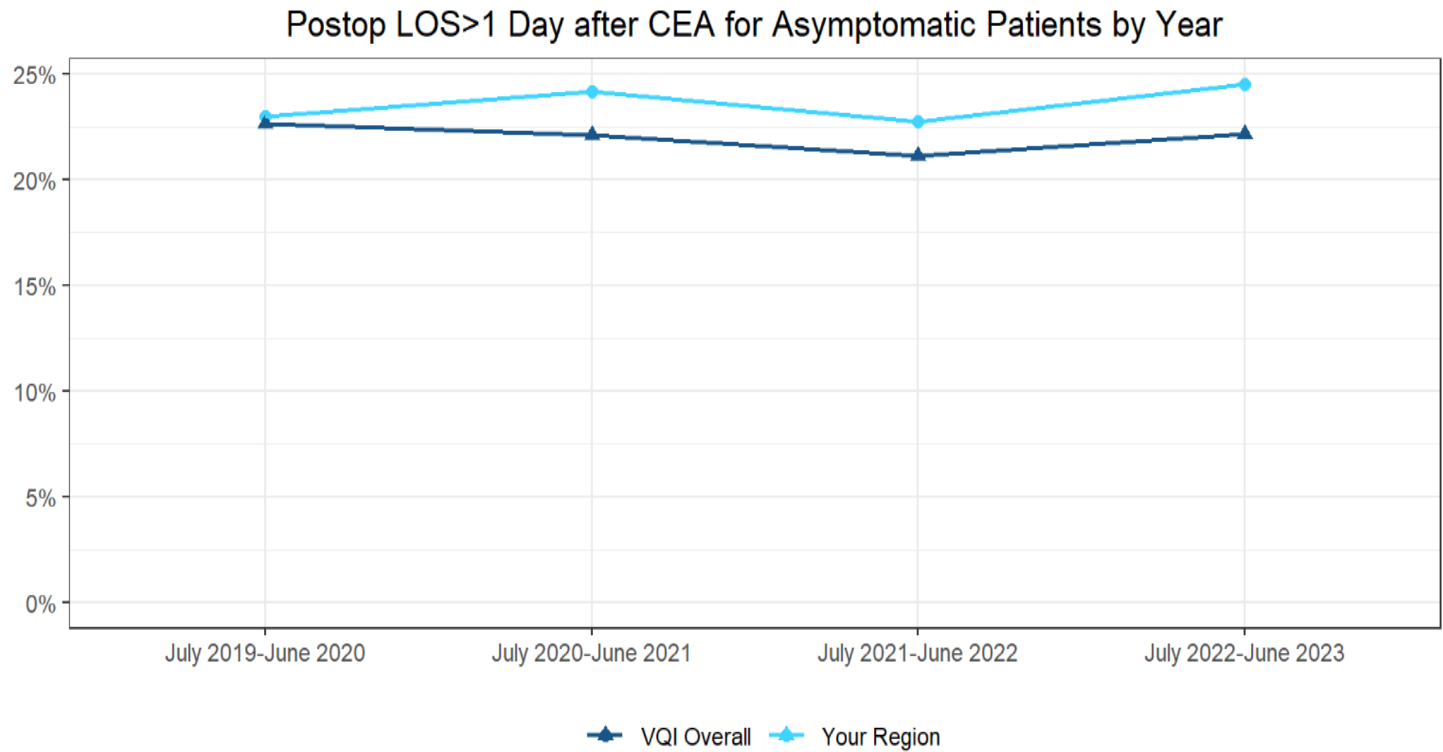
Includes Carotid Endarterectomy (CEA) procedures performed on asymptomatic patients. Asymptomatic patients are patients with no ipsilateral retinal or cortical TIA or stroke within 180 days prior to surgery. Excludes any patient with prior vertebrobasilar or non-specific TIA or stroke, prior ipsilateral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

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

	Your Region VQI Overall	
Number of CEA procedures meeting inclusion criteria	742	11142
Observed rate of LOS>1 day among procedures meeting inclusion criteria	24.5%	22.2%
Number of procedures with complete data*	689	10402
Observed rate of LOS>1 day among cases with complete data	<u>O</u> 24.5%	21.7%
Expected Rate of LOS>1 day among cases with complete data	<u>E</u> 21.4%	NA
P-value for comparison of observed and expected rates	<u>P value</u> 0.05	NA

\*“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.

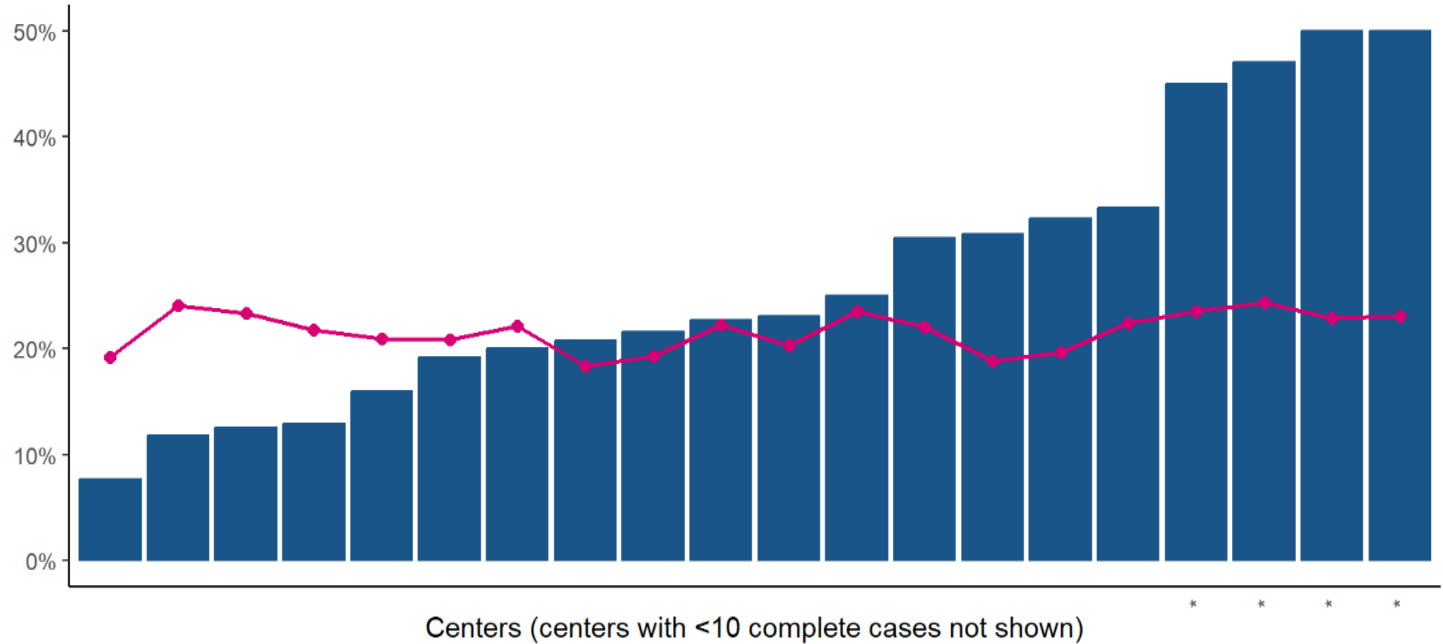
# CEAASYMP: Postop LOS>1 Day



Rates shown are observed rates among cases meeting inclusion criteria.

# CEAASYMP: Postop LOS>1 Day

Postop LOS>1 Day after CEA for Asymptomatic Patients in Your Region  
(July 2022-June 2023)



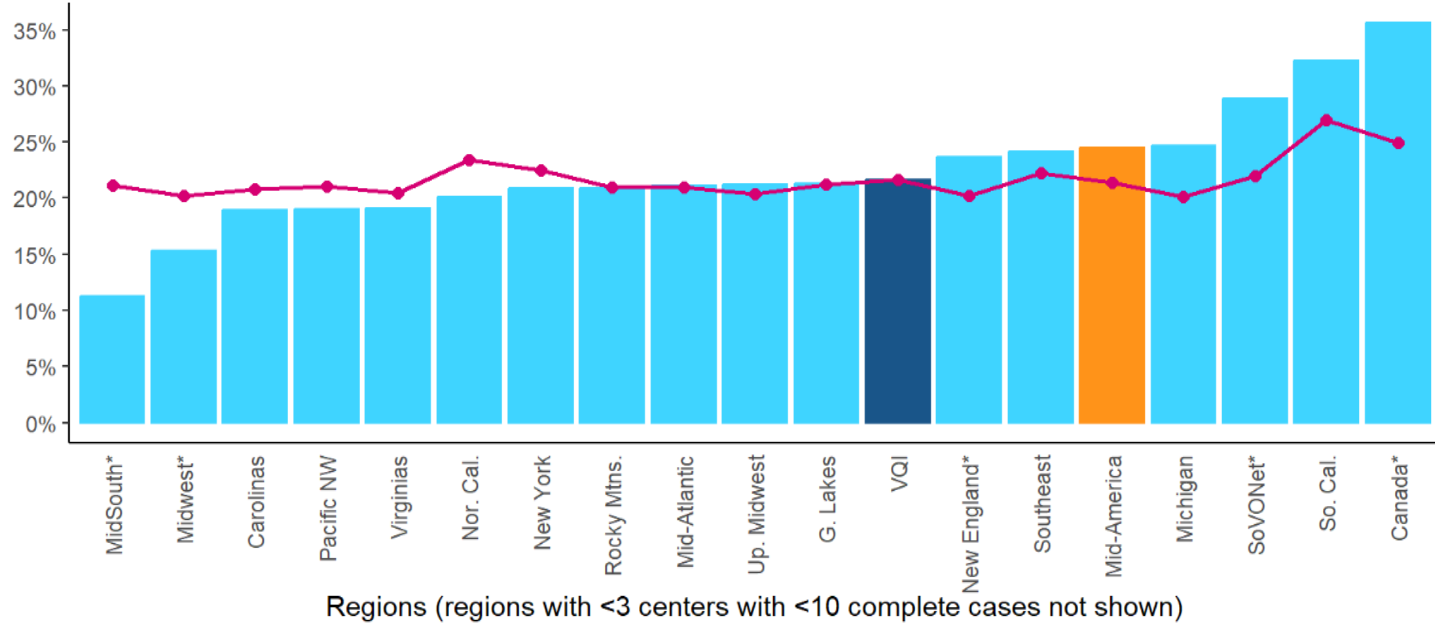
20 of 34 centers displayed

Rates shown are among cases with complete data.

“\*” Indicates center’s observed rate differs significantly from its expected rate

# CEAASYMP: Postop LOS>1 Day

Postop LOS>1 Day after CEA for Asymptomatic Patients by Region Across VQI  
(July 2022-June 2023)



Rates shown are among cases with complete data.

“\*\*” Indicates region’s observed rate differs significantly from its expected rate

# CEA SYMP: Stroke/Death

Procedures performed between July 1, 2022 and June 30, 2023

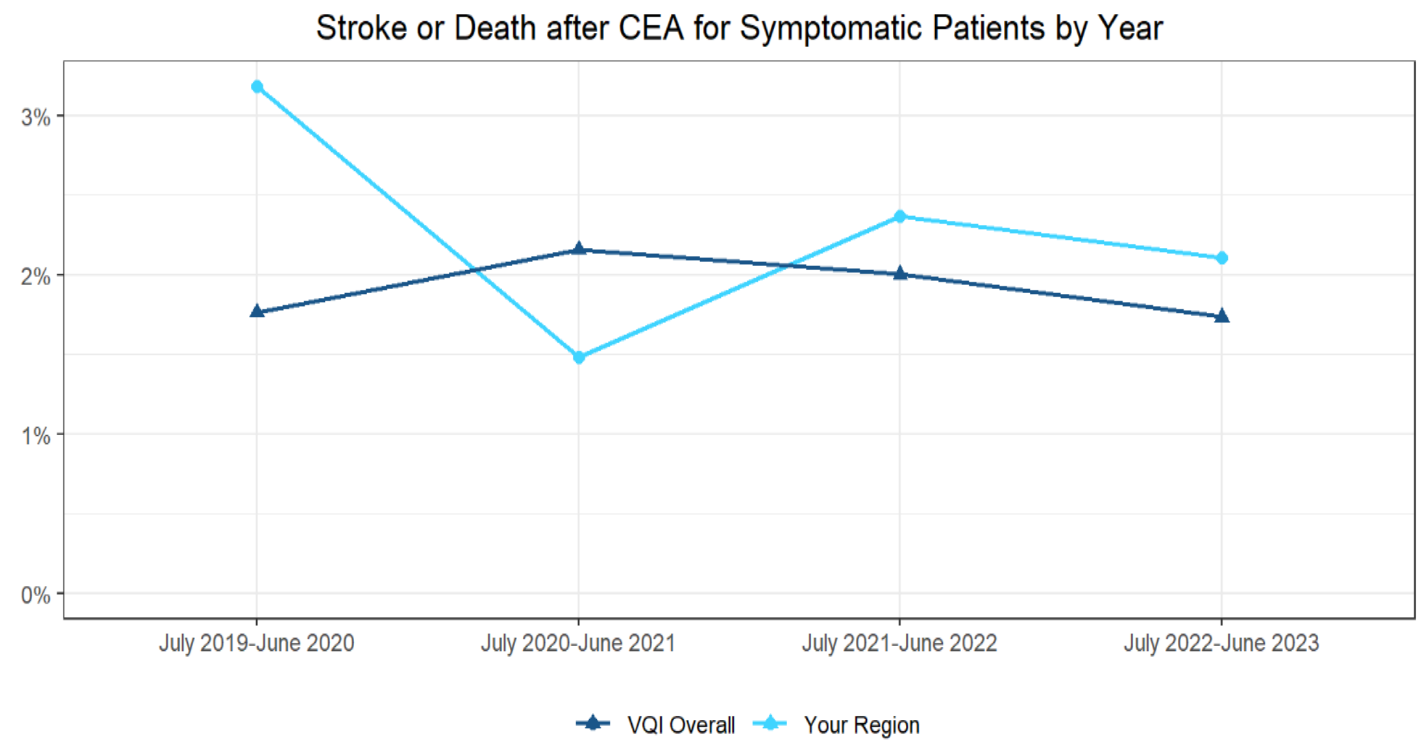
Includes Carotid Endarterectomy (CEA) procedures performed on symptomatic patients. Symptomatic patients are patients with an ipsilateral retinal or cortical TIA or stroke within 180 days prior to surgery. Excludes any patient with prior vertebrobasilar or non-specific TIA or stroke, prior ipsilateral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

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

	Your Region	VQI Overall
Number of CEA procedures meeting inclusion criteria	380	5245
Observed rate of stroke or death among procedures meeting inclusion criteria	2.1%	1.7%
Number of procedures with complete data*	355	4994
Observed rate of stroke or death among cases with complete data	<u>Q</u> 1.7%	1.8%
Expected Rate of stroke or death among cases with complete data	E 2.1%	NA
P-value for comparison of observed and expected rates	P value 0.85	NA

\*“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.

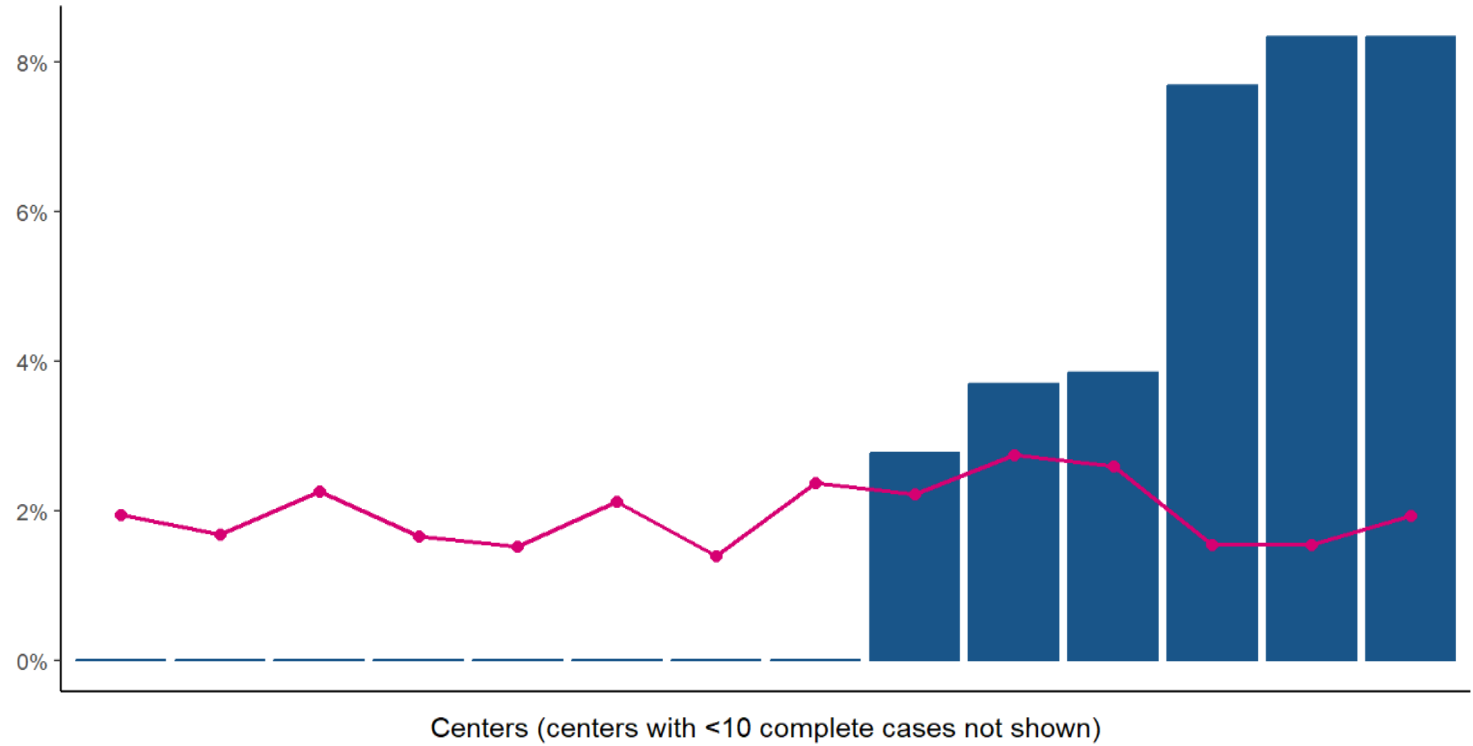
# CEA SYMP: Stroke/Death



Rates shown are observed rates among cases meeting inclusion criteria.

# CEA SYMP: Stroke/Death

Stroke or Death after CEA for Symptomatic Patients in Your Region (July 2022-June 2023)



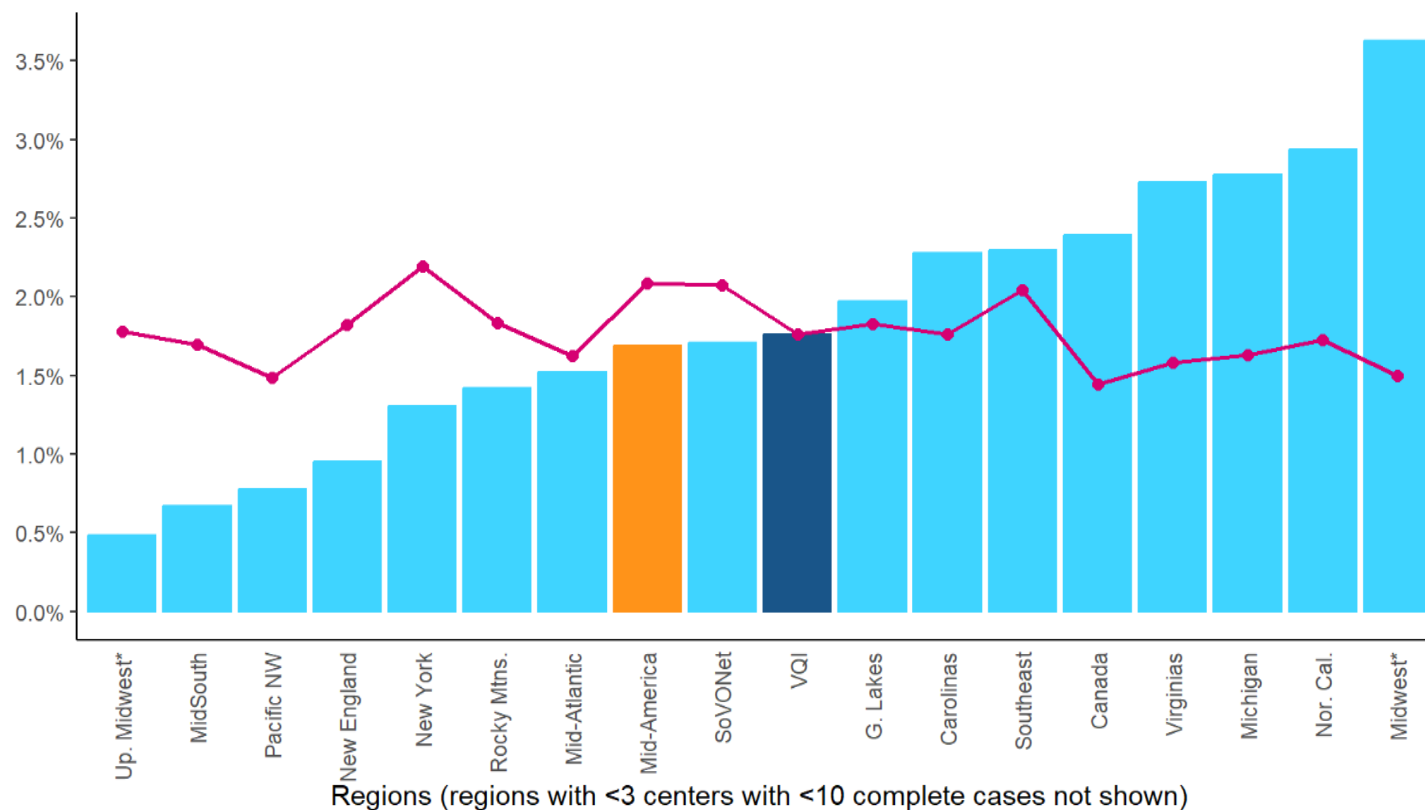
14 of 31 centers displayed

Rates shown are among cases with complete data.

“\*” Indicates center’s observed rate differs significantly from its expected rate

# CEA SYMP: Stroke/Death

Stroke or Death after CEA for Symptomatic Patients by Region Across VQI  
(July 2022-June 2023)



Rates shown are among cases with complete data.

“\*” Indicates region’s observed rate differs significantly from its expected rate



# CEA SYMP: Postop LOS>1 Day

Procedures performed between July 1, 2022 and June 30, 2023

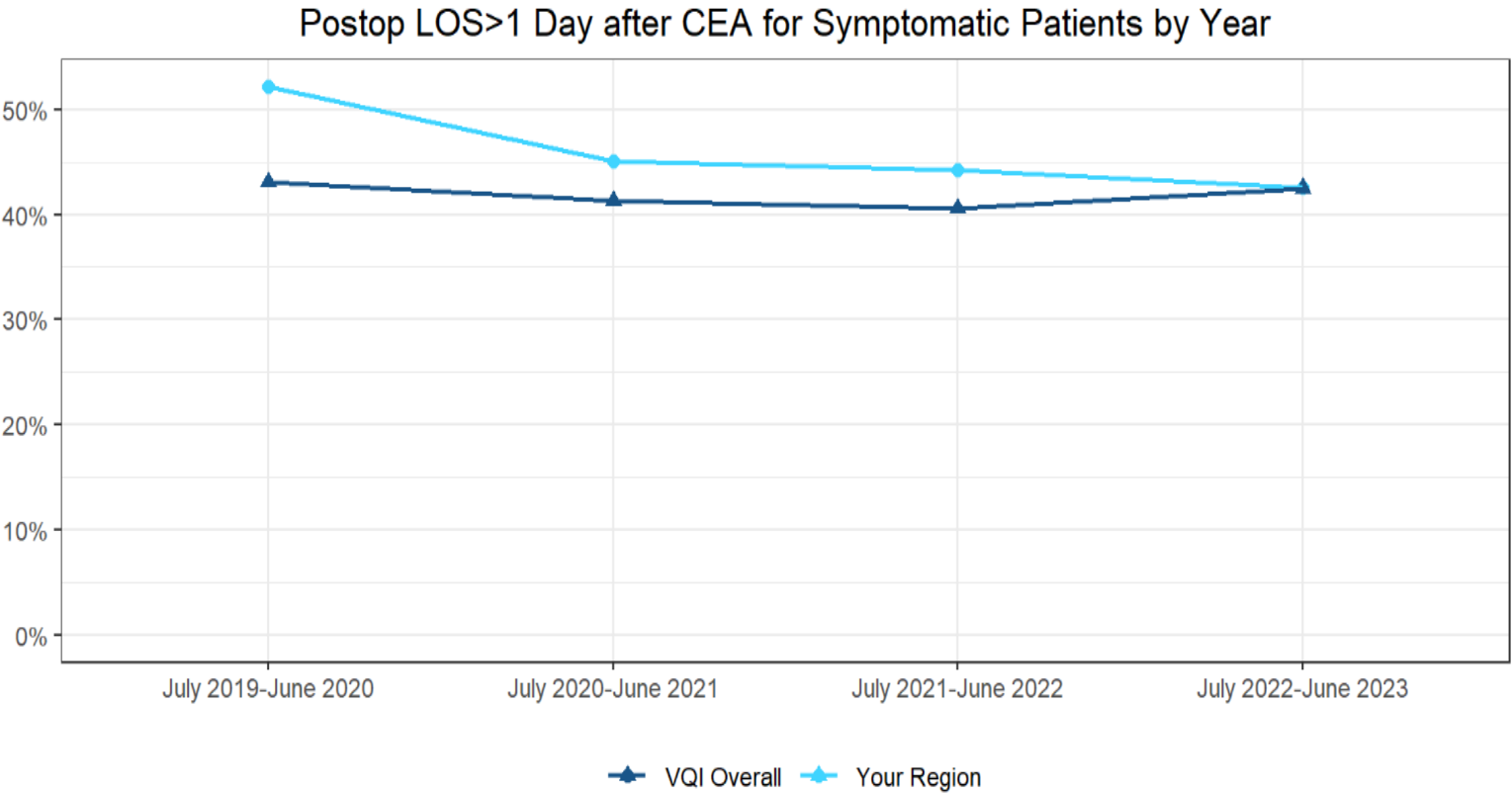
Includes Carotid Endarterectomy (CEA) procedures performed on symptomatic patients. Symptomatic patients are patients with an ipsilateral retinal or cortical TIA or stroke within 180 days prior to surgery. Excludes any patient with prior vertebrobasilar or non-specific TIA or stroke, prior ipsilateral CEA or CAS, or any procedure with a concomitant CABG, proximal endovascular, distal endovascular, or “Other” arterial procedure. Procedures where in-hospital death occurred with postoperative LOS≤1 day, or procedures with an unrelated return to the OR, are also excluded. Postoperative LOS is based on the midnight rule used for hospital billing.

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

	Your Region VQI Overall	
Number of CEA procedures meeting inclusion criteria	376	5212
Observed rate of LOS>1 day among procedures meeting inclusion criteria	42.6%	42.5%
Number of procedures with complete data*	351	4961
Observed rate of LOS>1 day among cases with complete data	<u>O</u> 41.6%	42.3%
Expected Rate of LOS>1 day among cases with complete data	E 41.1%	NA
P-value for comparison of observed and expected rates	P value 0.87	NA

\*“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.

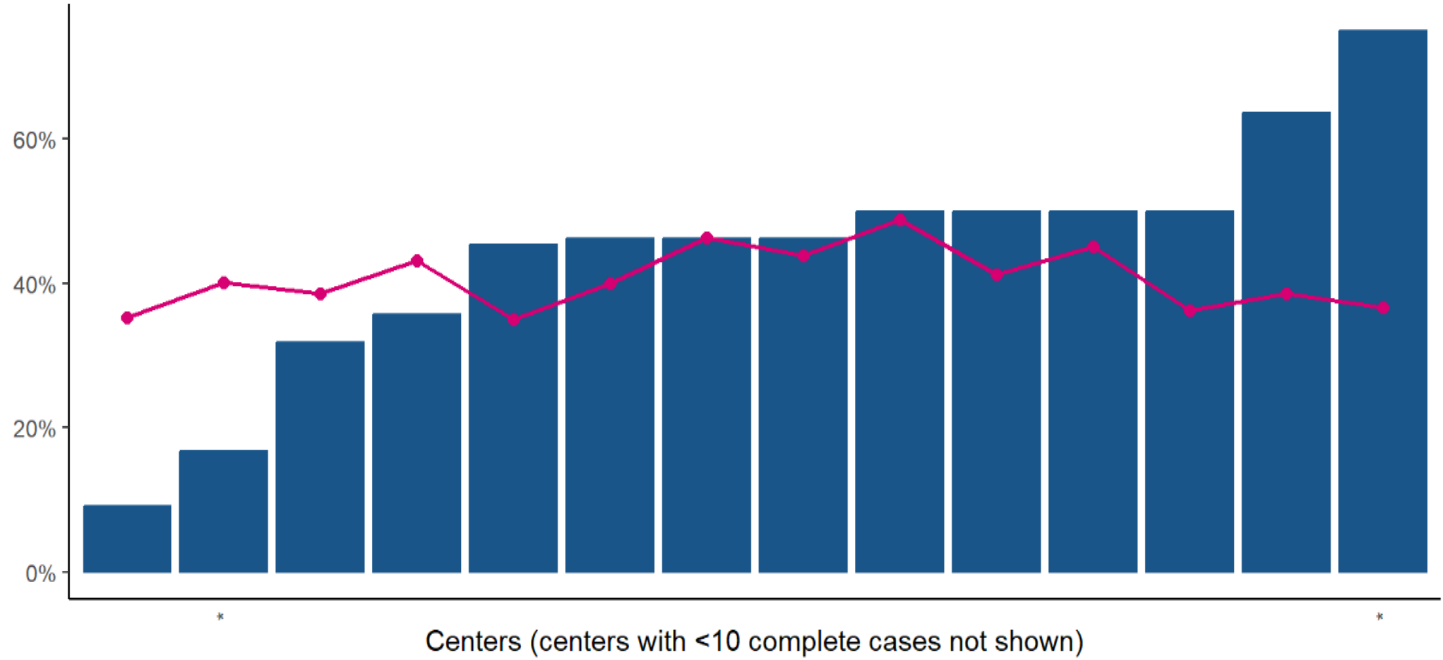
# CEA SYMP: Postop LOS>1 Day



Rates shown are observed rates among cases meeting inclusion criteria.

# CEA SYMP: Postop LOS>1 Day

Postop LOS>1 Day after CEA for Symptomatic Patients in Your Region  
(July 2022-June 2023)



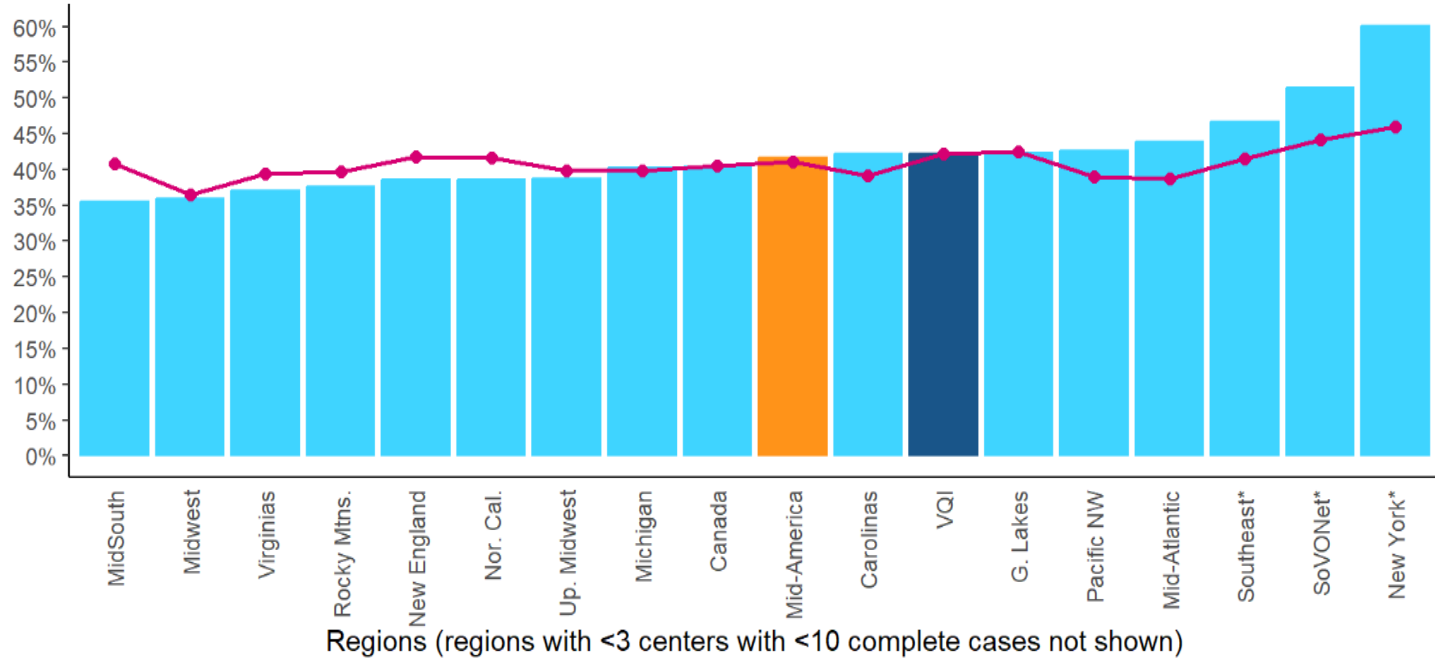
14 of 31 centers displayed

Rates shown are among cases with complete data.

“\*” Indicates center’s observed rate differs significantly from its expected rate

# CEA SYMP: Postop LOS>1 Day

Postop LOS>1 Day after CEA for Symptomatic Patients by Region Across VQI  
(July 2022-June 2023)



Rates shown are among cases with complete data.

“\*” Indicates region’s observed rate differs significantly from its expected rate

## EVAR: Postop LOS>2 Days

Procedures performed between July 1, 2022 and June 30, 2023

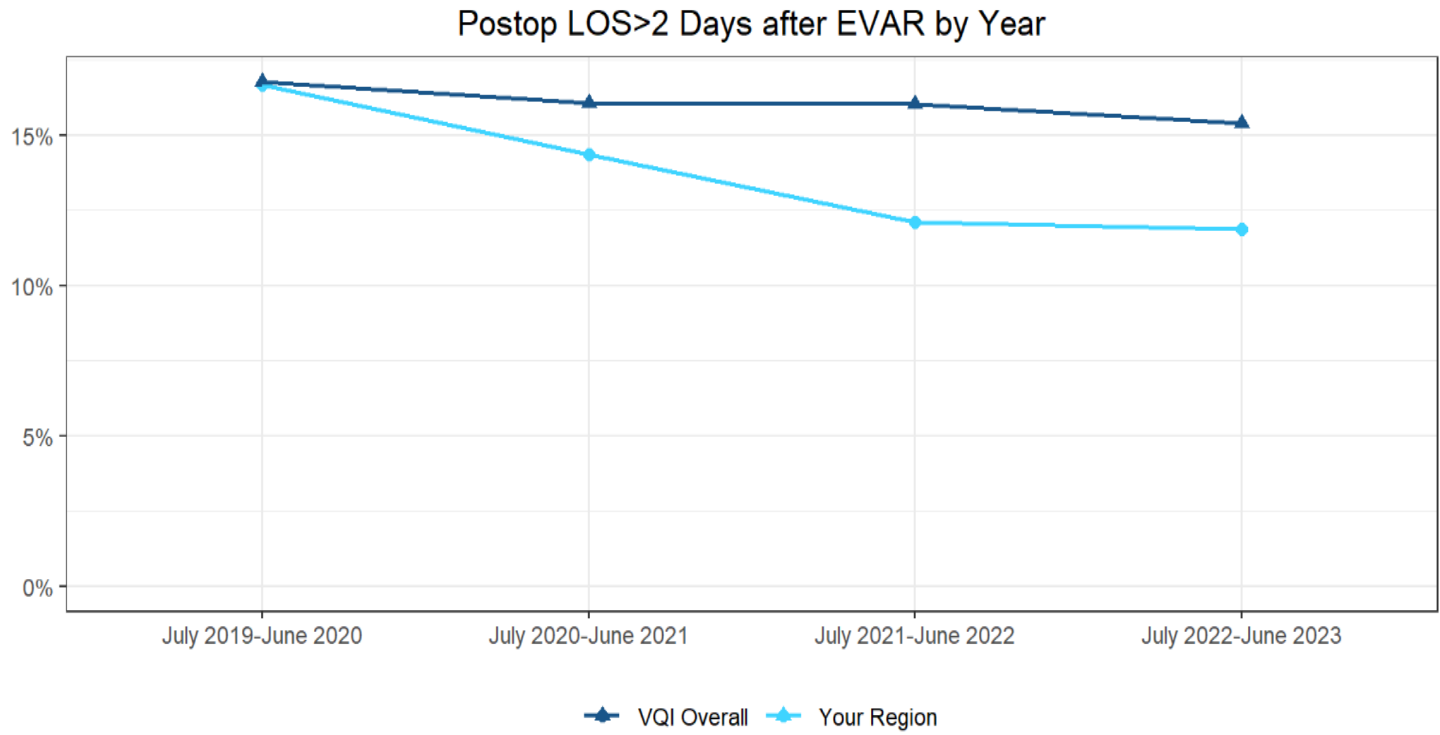
Includes Endovascular AAA Repair (EVAR) procedures. Excludes any procedure with ruptured aneurysm. Procedures where in-hospital death occurred with postoperative LOS $\leq$ 2 days are also excluded. Postoperative LOS is based on the midnight rule used for hospital billing.

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

	Your Region VQI Overall	
Number of EVAR procedures meeting inclusion criteria	540	7516
Observed rate of LOS>2 days among procedures meeting inclusion criteria	11.9%	15.4%
Number of procedures with complete data*	472	6862
Observed rate of LOS>2 days among cases with complete data	<u>O</u> 12.5%	15.4%
Expected Rate of LOS>2 days among cases with complete data	E 13.6%	NA
P-value for comparison of observed and expected rates	P value 0.5	NA

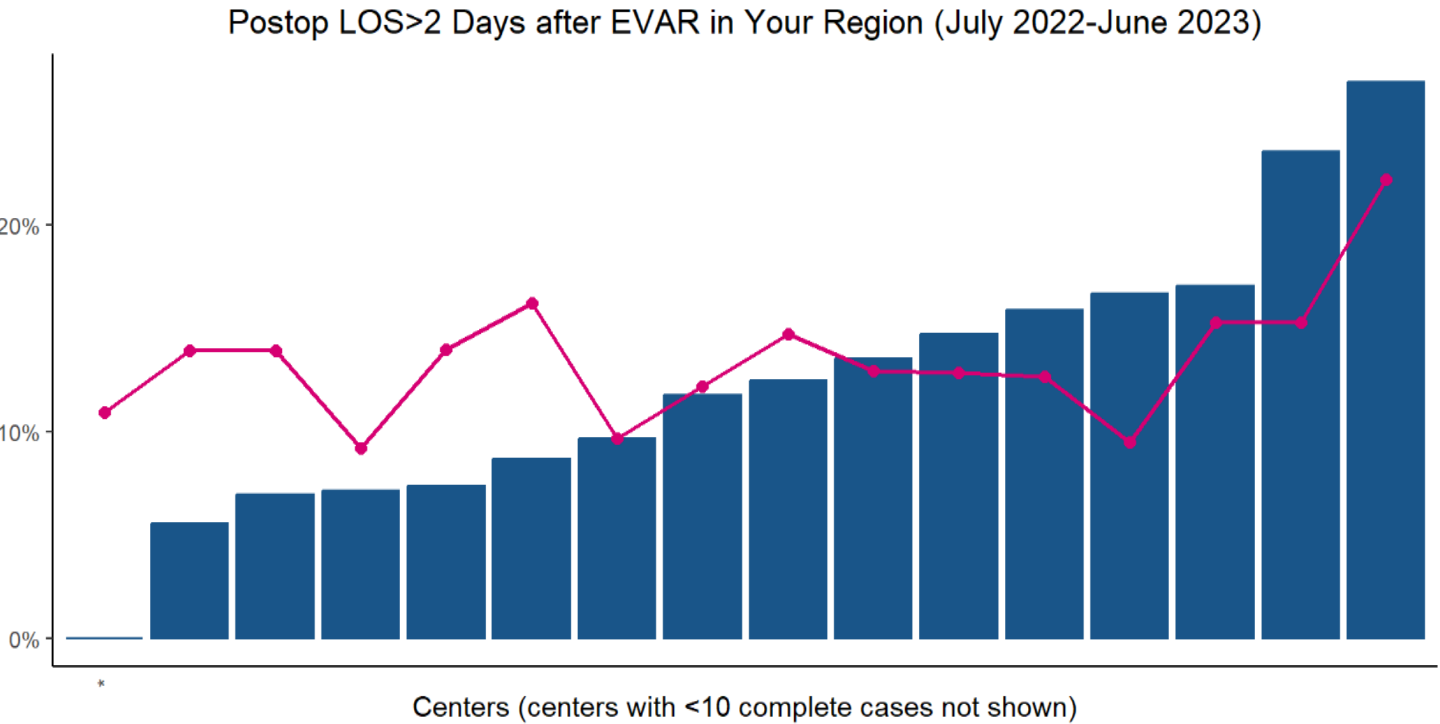
\*“Expected rate” is the rate estimated by a statistical model that accounts for patient characteristics, including age, gender, race, BMI, comorbidities, medication and stroke and vascular history. “Cases with complete data” include patients who have data on all of those factors.

# EVAR: Postop LOS>2 Days



Rates shown are observed rates among cases meeting inclusion criteria.

# EVAR: Postop LOS>2 Days



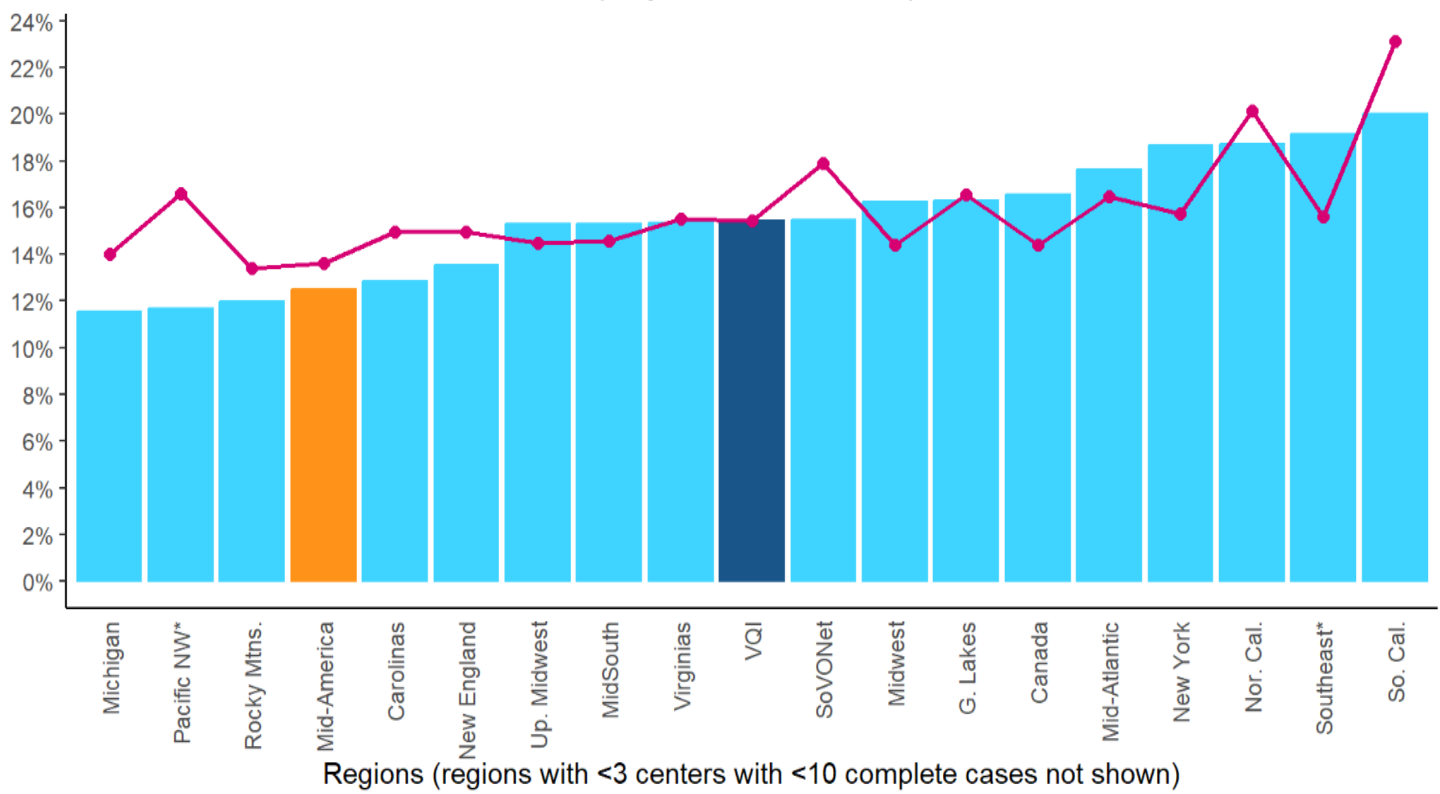
16 of 19 centers displayed

Rates shown are among cases with complete data.

“\*” Indicates center’s observed rate differs significantly from its expected rate

# EVAR: Postop LOS>2 Days

Postop LOS>2 Days after EVAR by Region Across VQI  
(July 2022-June 2023)



Rates shown are among cases with complete data.

“\*” Indicates region’s observed rate differs significantly from its expected rate



## EVAR: Sac Diameter Reporting

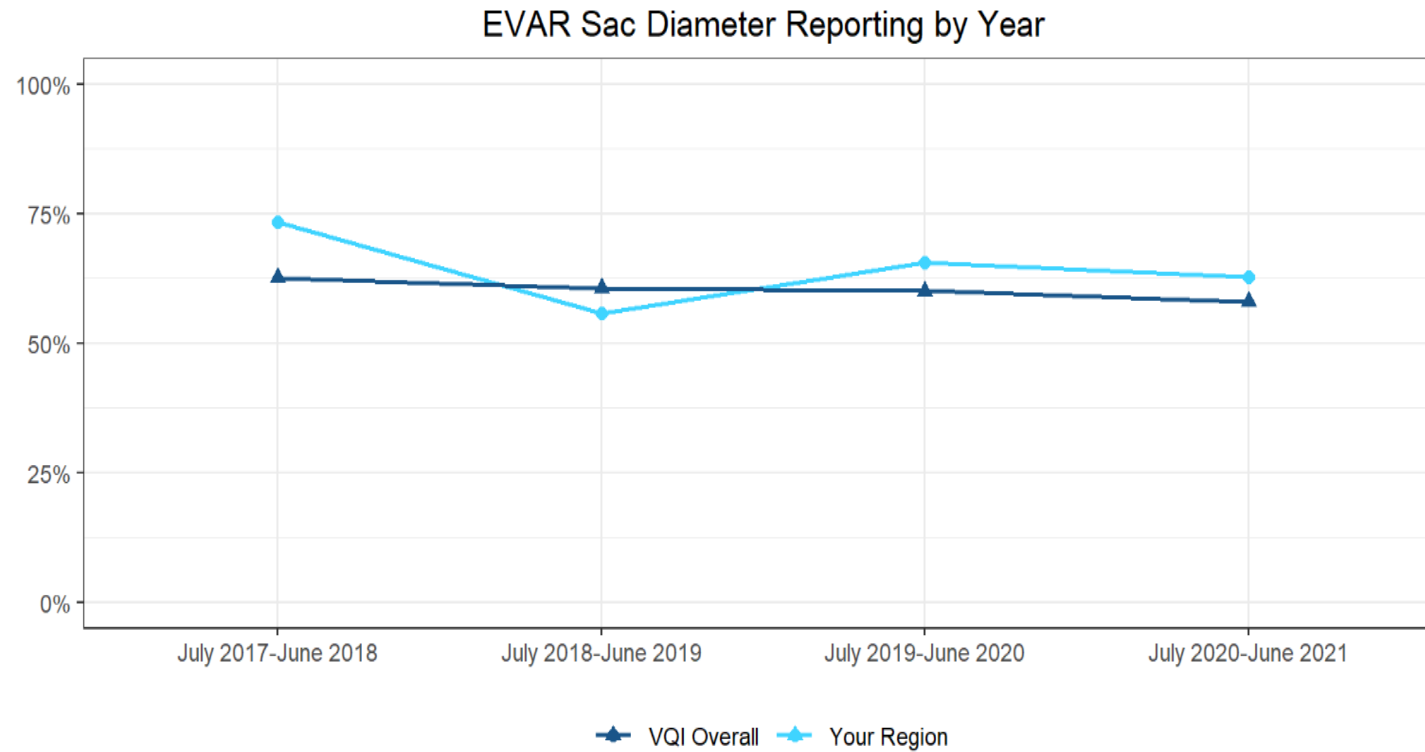
Procedures performed between July 1, 2020 and June 30, 2021

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

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

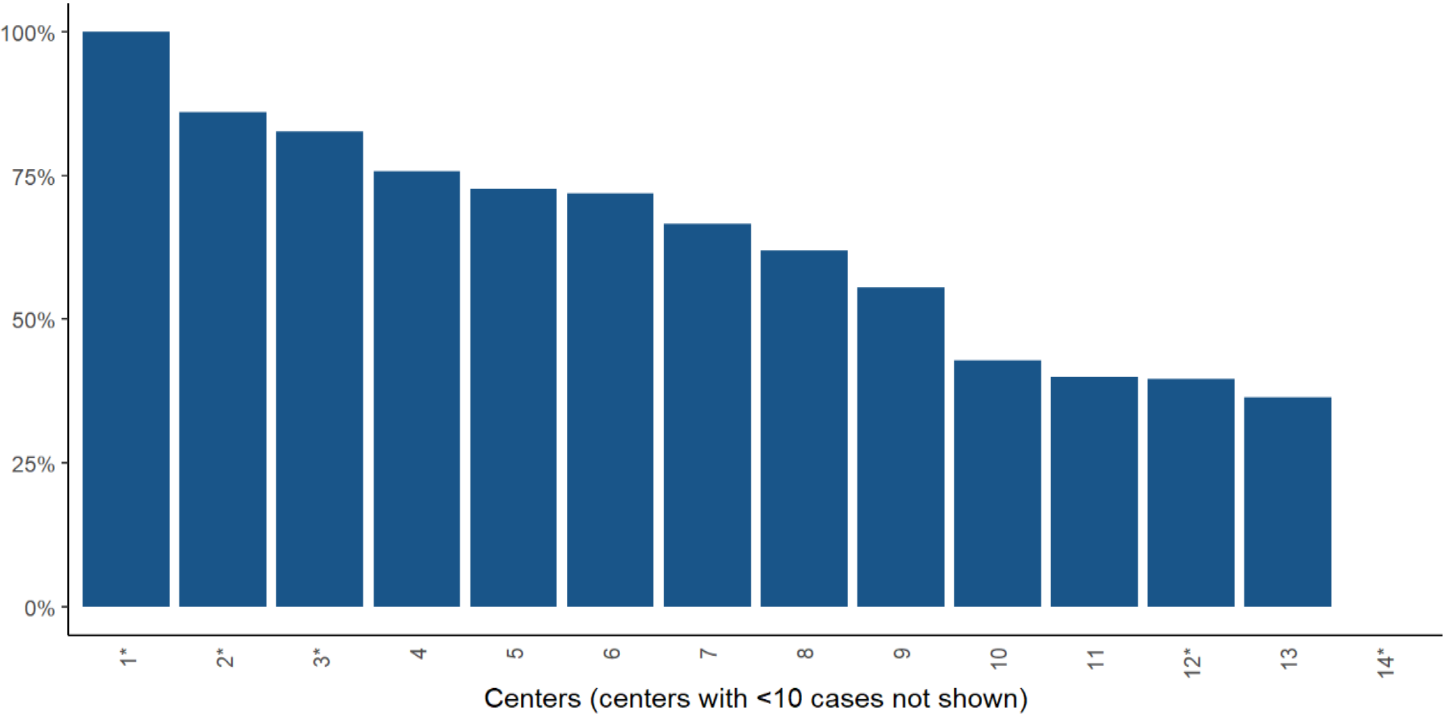
	<b>Your Region</b>	<b>VQI Overall</b>
Number of EVAR procedures meeting inclusion criteria	390	7264
Percentage with sac diameter reported between 9 and 21 months post-procedure	62.8%	58.1%

# EVAR: Sac Diameter Reporting



# EVAR: Sac Diameter Reporting

EVAR Sac Diameter Reporting in Your Region  
(July 2020-June 2021)



14 of 17 centers displayed

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

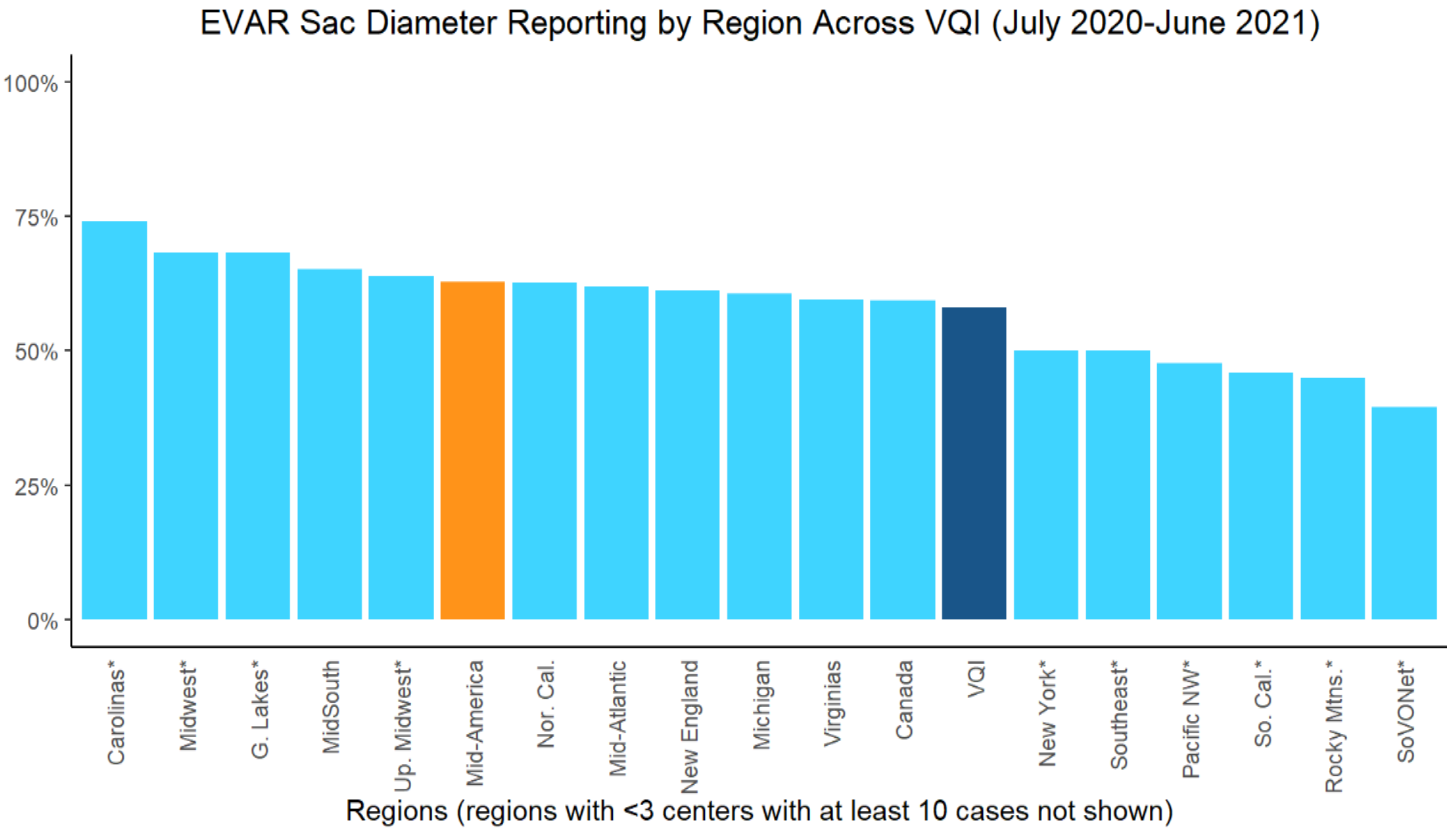
# EVAR: Sac Diameter Reporting



## IndexMedical Center Name

- 1 Loyola University Medical Center
- 2 OSF Saint Francis Medical Center
- 3 NorthShore Hospital
- 4 Saint Luke's Hospital of Kansas City
- 5 MercyOne Des Moines Medical Center
- 6 University of Kansas Hospital Authority
- 7 Northwestern Memorial Hospital
- 8 Northwestern Medicine Central DuPage Hospital
- 9 Carle Foundation Hospital
- 10 University of Missouri Medical Center
- 11 SSM Health St. Joseph Hospital - St. Charles
- 12 Nebraska Medicine
- 13 OSF Saint Anthony Medical Center
- 14 Ascension Via Christi Hospitals Wichita

# EVAR: Sac Diameter Reporting



“\*\*” Indicates region’s rate differs significantly from the VQI rate.

# EVAR: SVS AAA Diameter Guideline

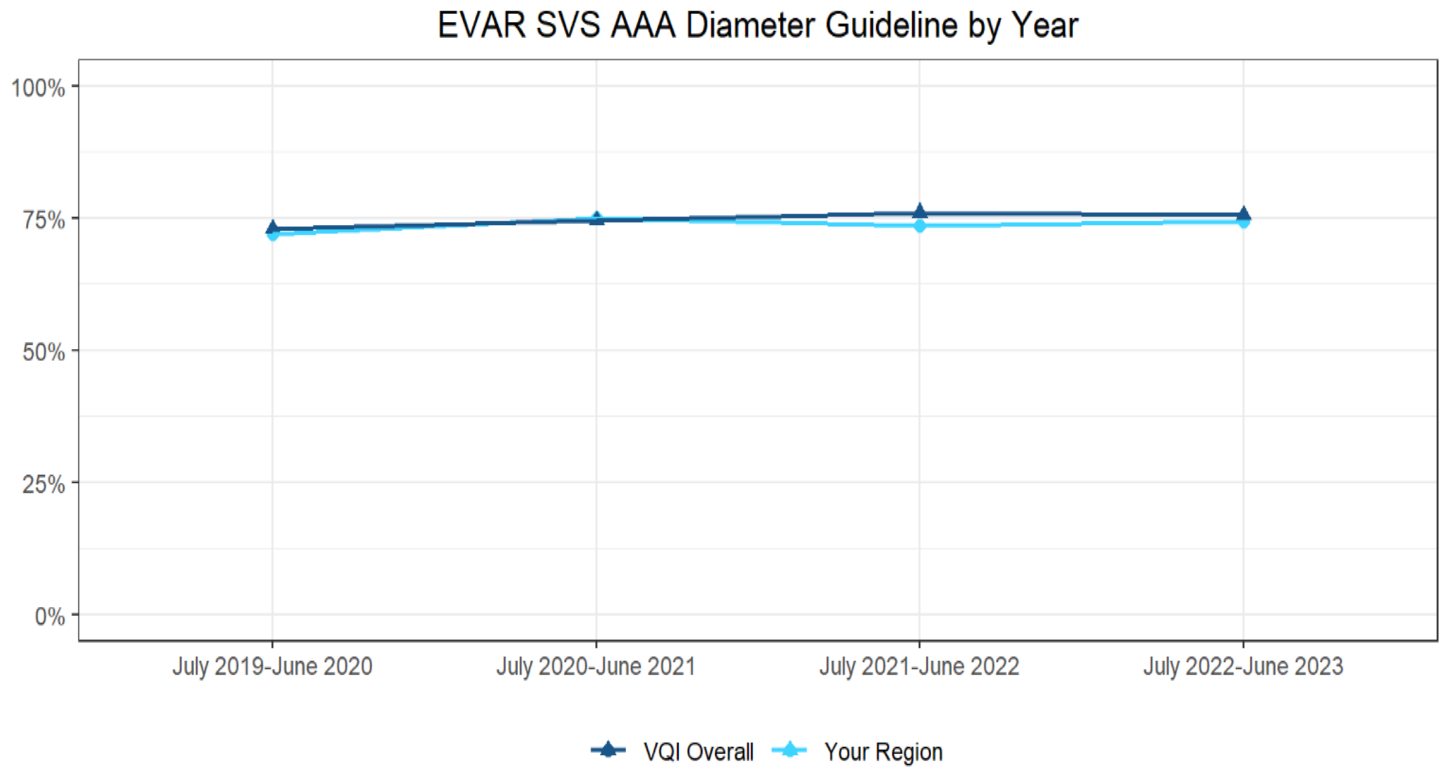
Procedures performed between July 1, 2022 and June 30, 2023

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

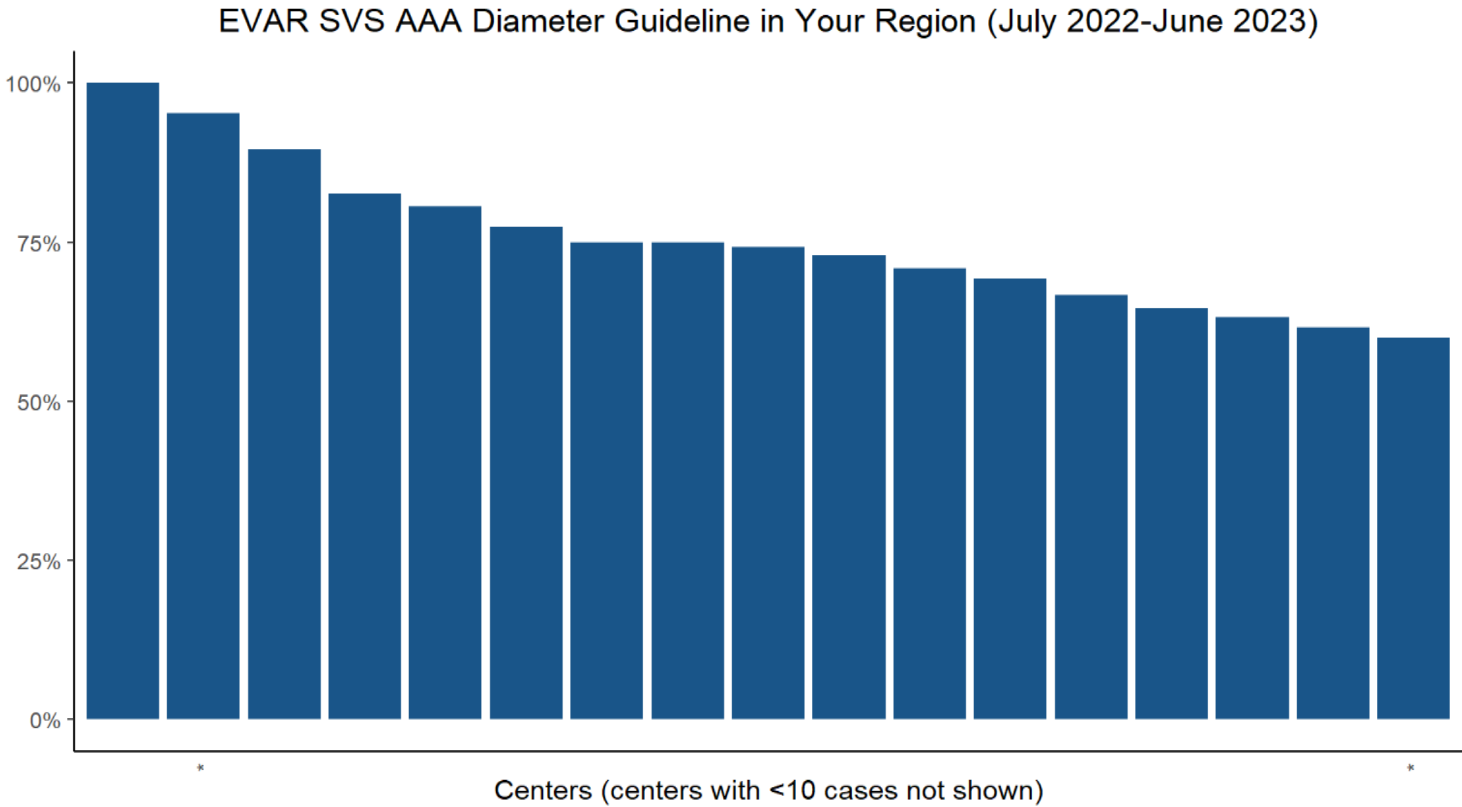
The table below gives the number of EVAR procedures meeting the inclusion criteria, and the percentage of those procedures meeting the SVS AAA diameter guideline.

	Your Region	VQI Overall
Number of EVAR procedures meeting inclusion criteria	501	6684
Percentage meeting SVS AAA diameter guideline	74.5%	75.5%

# EVAR: SVS AAA Diameter Guideline



# EVAR: SVS AAA Diameter Guideline

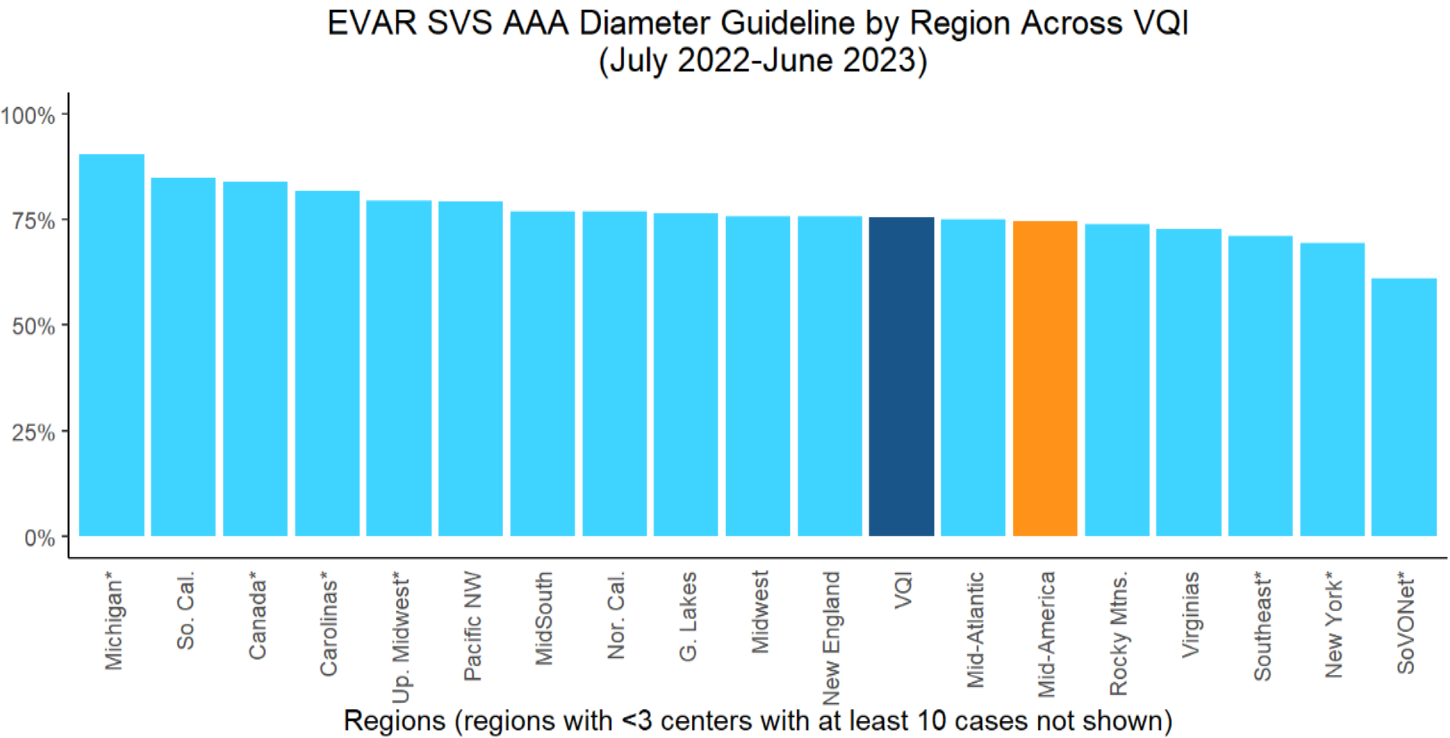


17 of 19 centers displayed

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



# EVAR: SVS AAA Diameter Guideline



“\*” Indicates region's rate differs significantly from the VQI rate.

# TEVAR: Sac Diameter Reporting

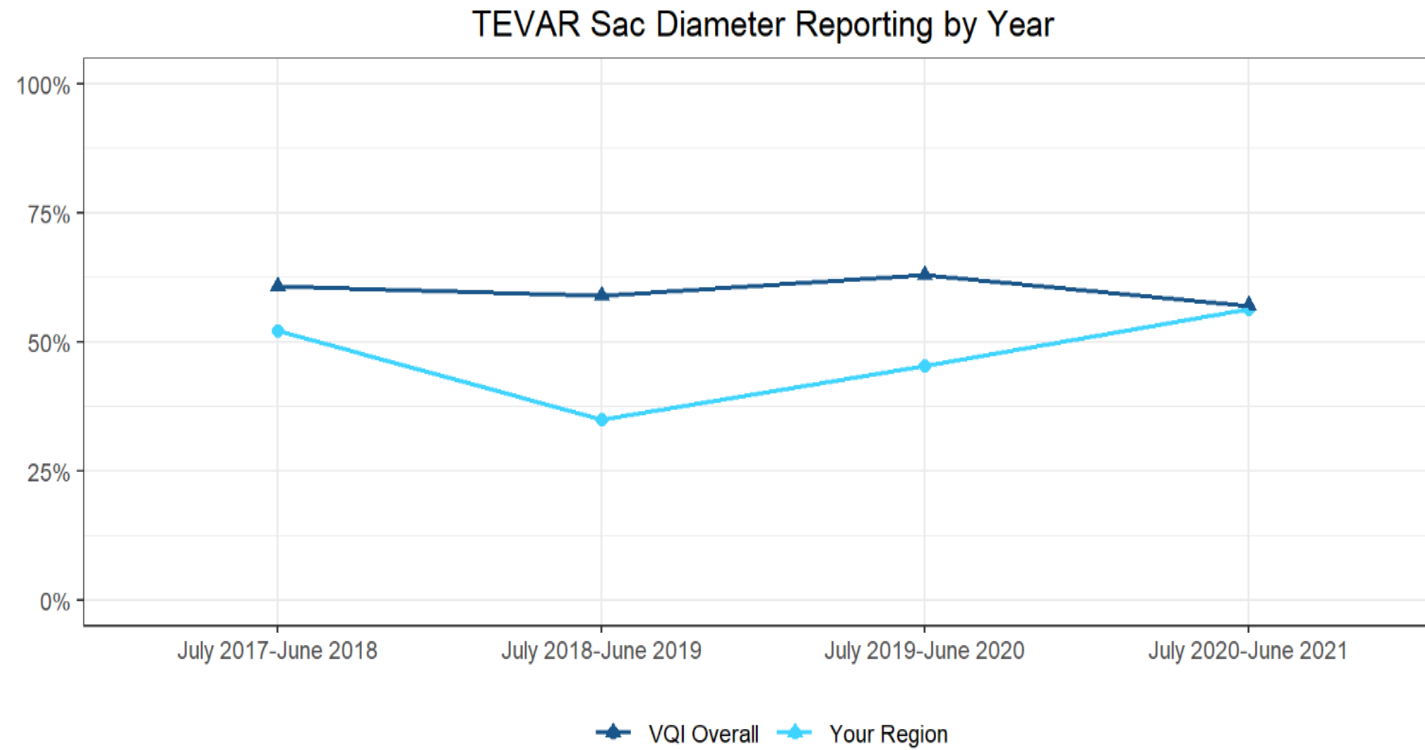
Procedures performed between July 1, 2020 and June 30, 2021

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

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

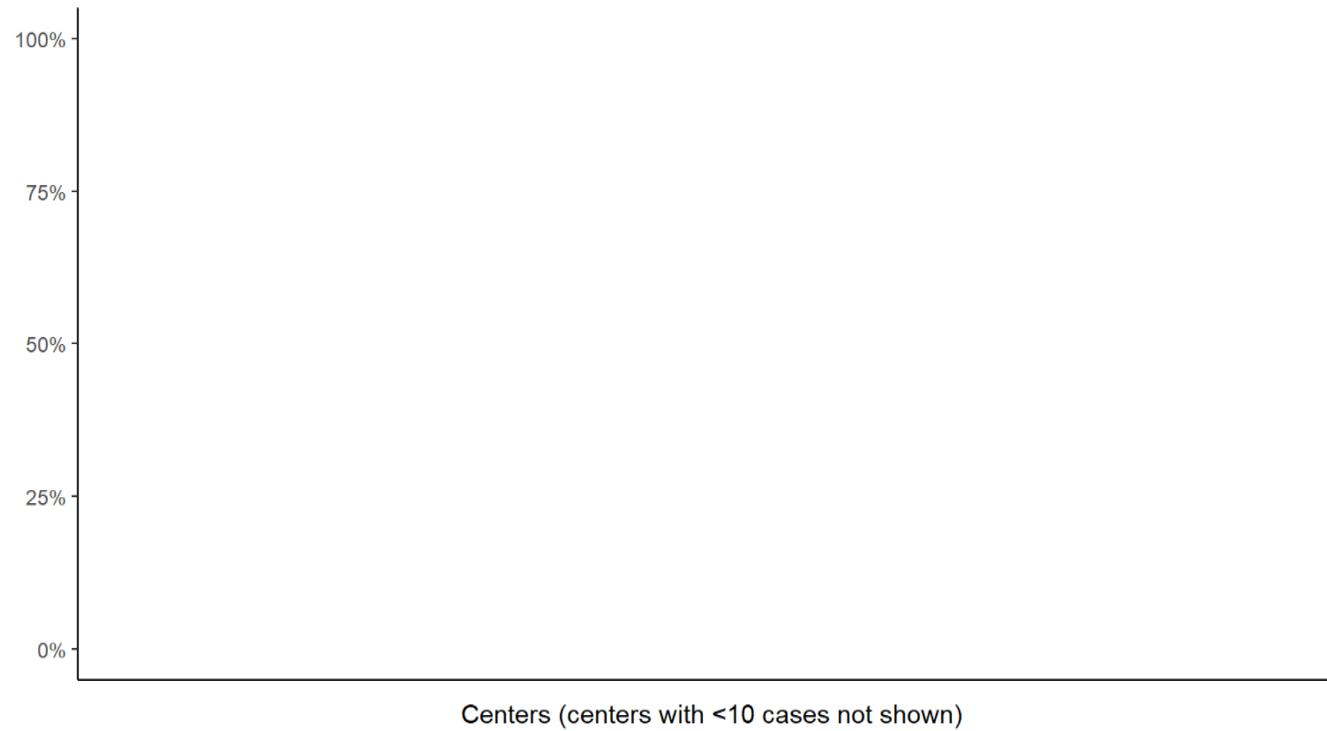
	Your Region	VQI Overall
Number of TEVAR procedures meeting inclusion criteria	87	1582
Percentage with sac diameter reported between 9 and 21 months post-procedure	56.3%	57%

# TEVAR: Sac Diameter Reporting



# TEVAR: Sac Diameter Reporting

TEVAR Sac Diameter Reporting in Your Region (July 2020-June 2021)

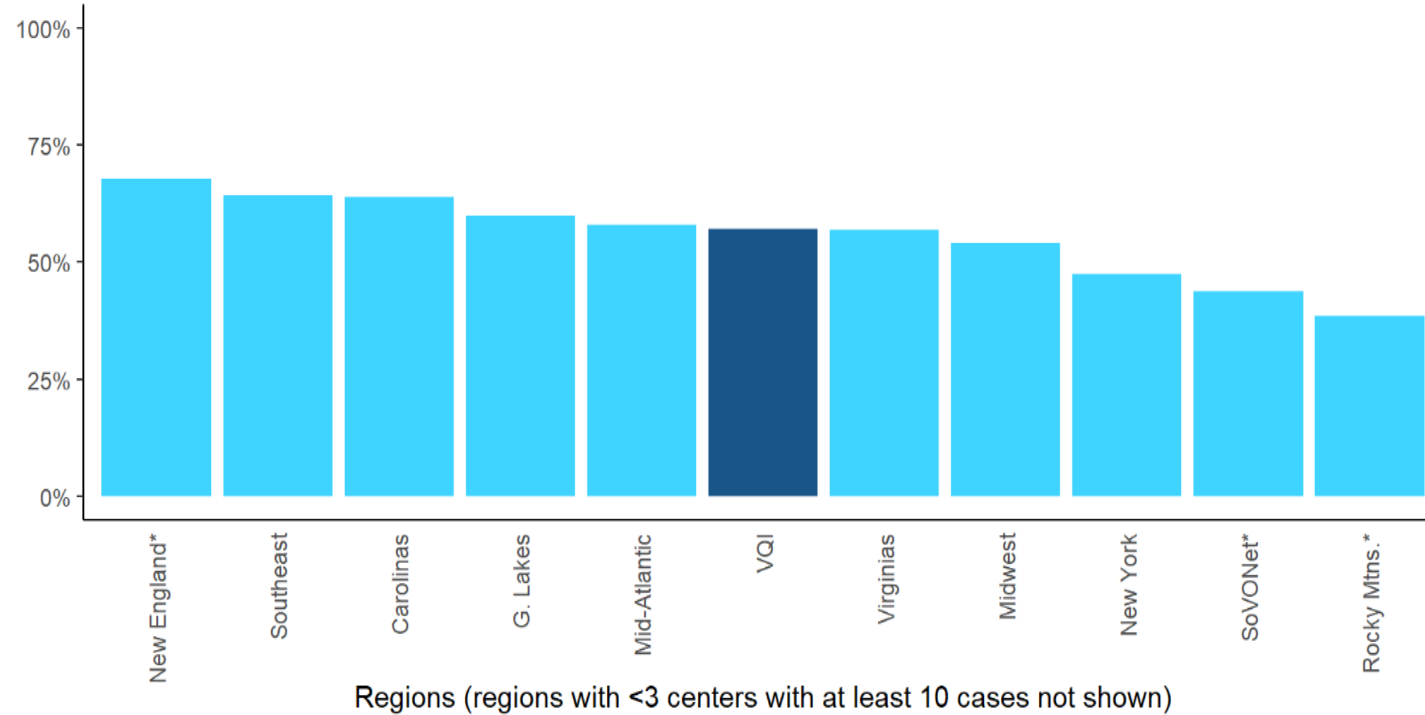


0 of 11 centers displayed

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

# TEVAR: Sac Diameter Reporting

TEVAR Sac Diameter Reporting by Region Across VQI (July 2020-June 2021)



“\*” Indicates region’s rate differs significantly from the VQI rate.

# OAAA: In-Hospital Mortality

Procedures performed between July 1, 2019 and June 30, 2023

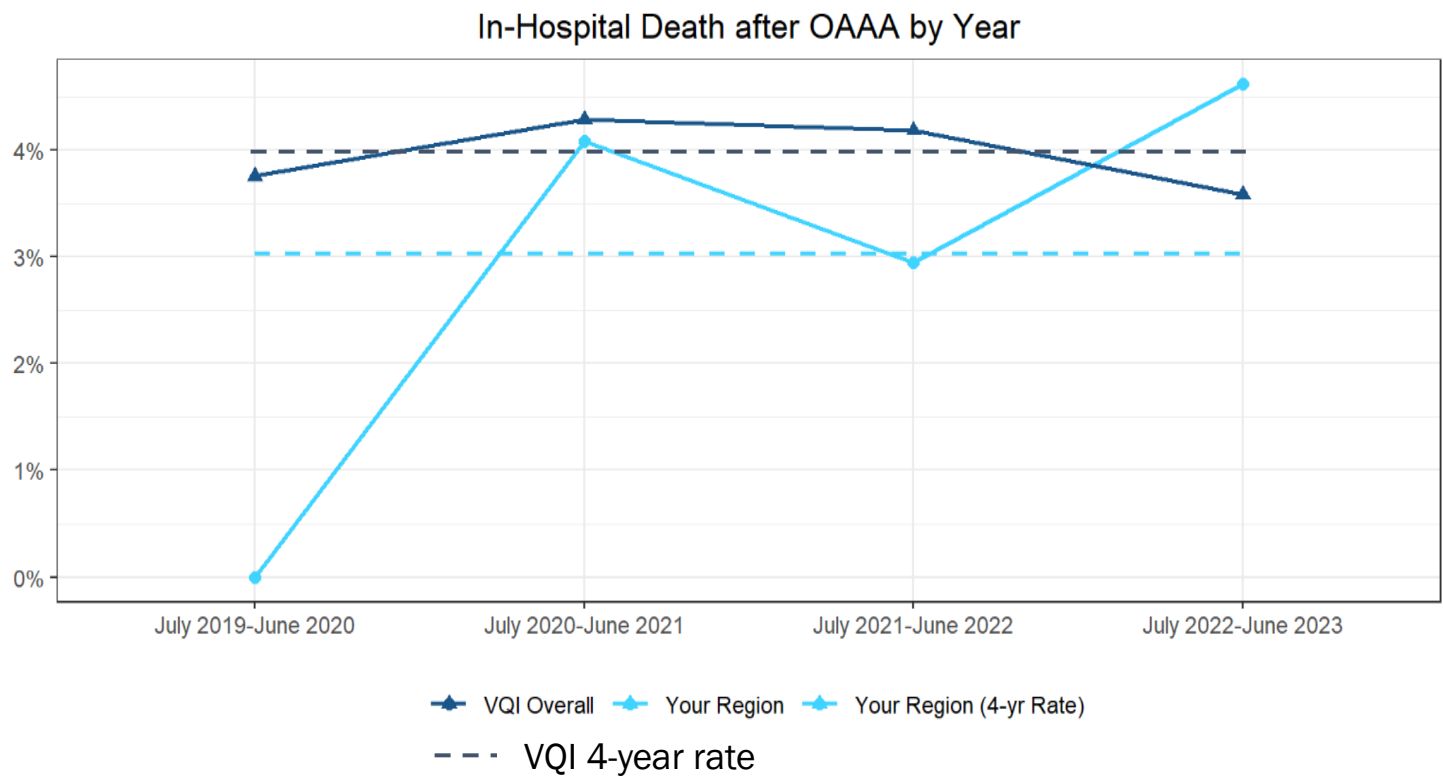
Includes Open AAA (OAAA) procedures. Excludes any patient with a ruptured aneurysm.

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

	Your Region	VQI Overall
Number of OAAA procedures meeting inclusion criteria	198	4763
Observed rate of In-Hospital Mortality among procedures meeting inclusion criteria	3%	4%
Number of procedures with complete data*	191	4470
Observed rate of In-Hospital Mortality among cases with complete data	<u>O</u> 3.1%	3.7%
Expected Rate of In-Hospital Mortality among cases with complete data	E 3.5%	NA
P-value for comparison of observed and expected rates	P value 1	NA

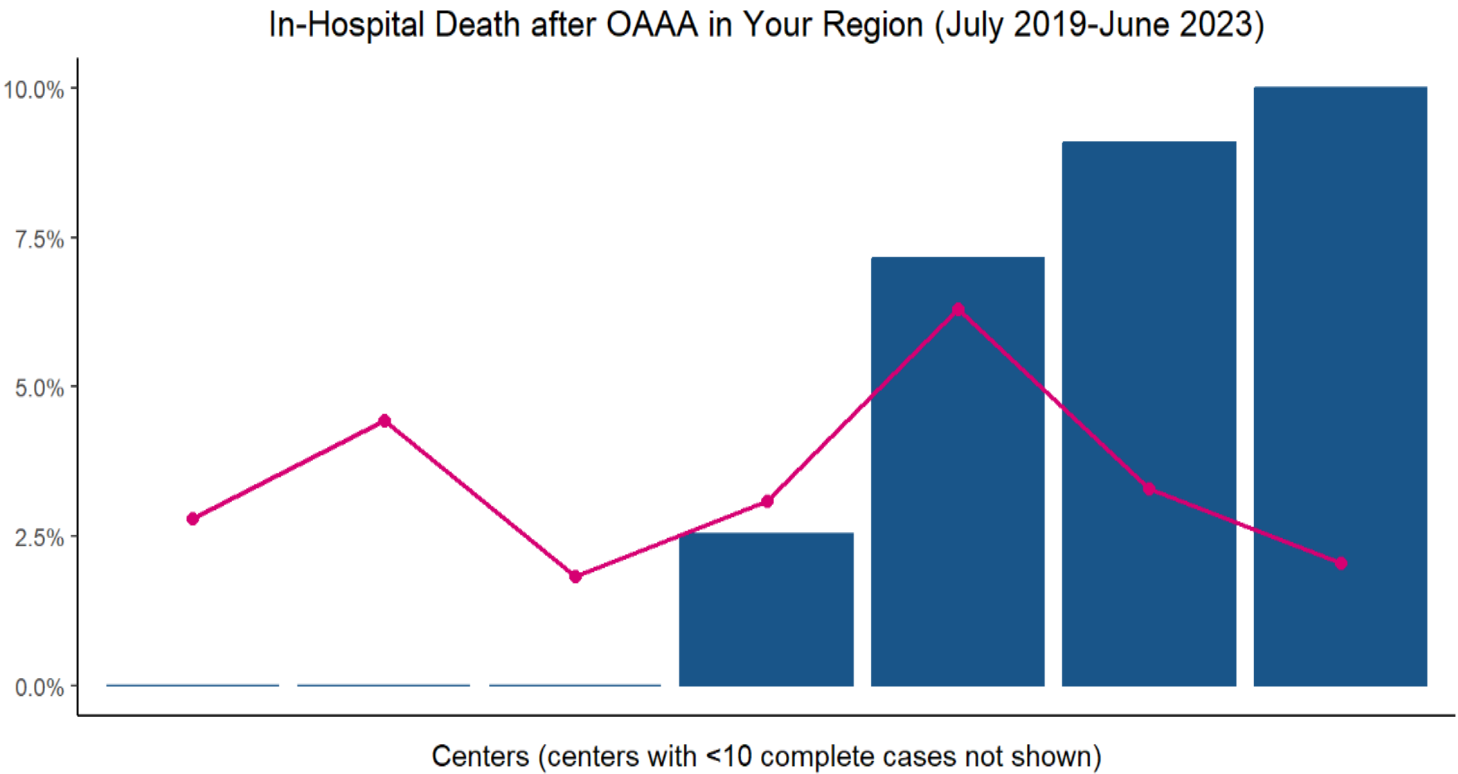
\*“Expected rate” is the rate estimated by a statistical model that accounts for patient characteristics, including age, gender, race, BMI, comorbidities, medication and stroke and vascular history. “Cases with complete data” include patients who have data on all of those factors.

# OAAA: In-Hospital Mortality



Rates shown are observed rates among cases meeting inclusion criteria.

# OAAA: In-Hospital Mortality



7 of 13 centers displayed

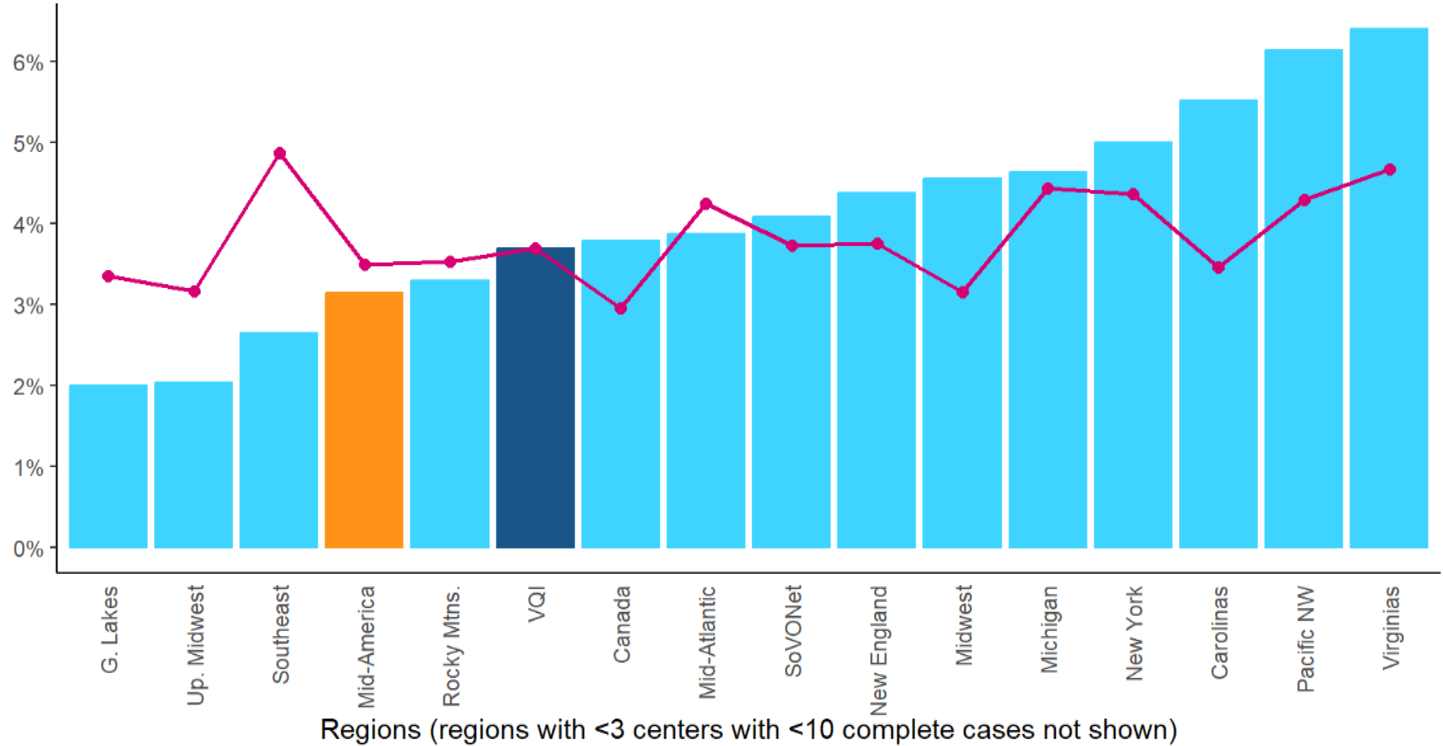
Rates shown are among cases with complete data.

“\*” Indicates center’s observed rate differs significantly from its expected rate



# OAAA: In-Hospital Mortality

In-Hospital Death after OAAA by Region Across VQI  
(July 2019-June 2023)



Rates shown are among cases with complete data.

“\*” Indicates region’s observed rate differs significantly from its expected rate

# OAAA: SVS Cell-Saver Guideline

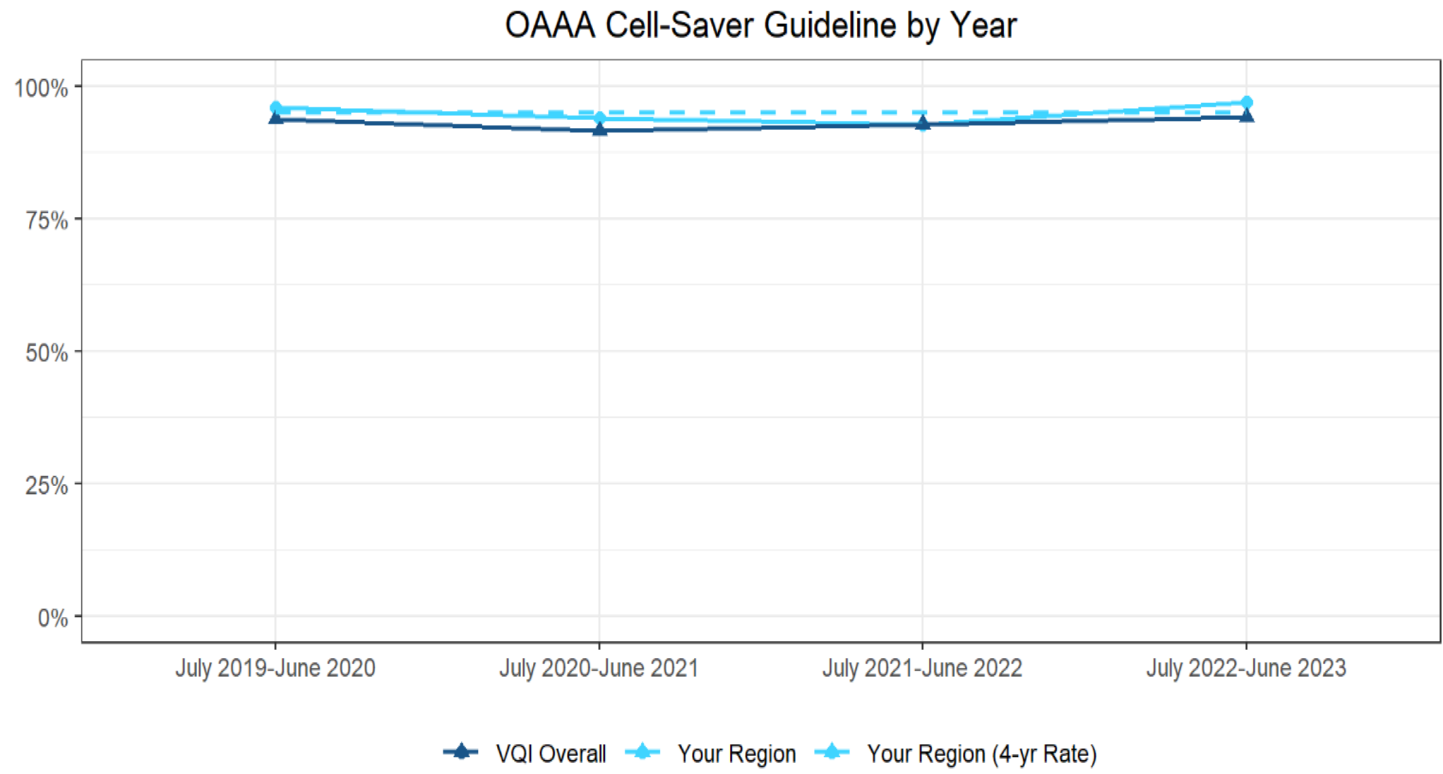
Procedures performed between July 1, 2019 and June 30, 2023

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

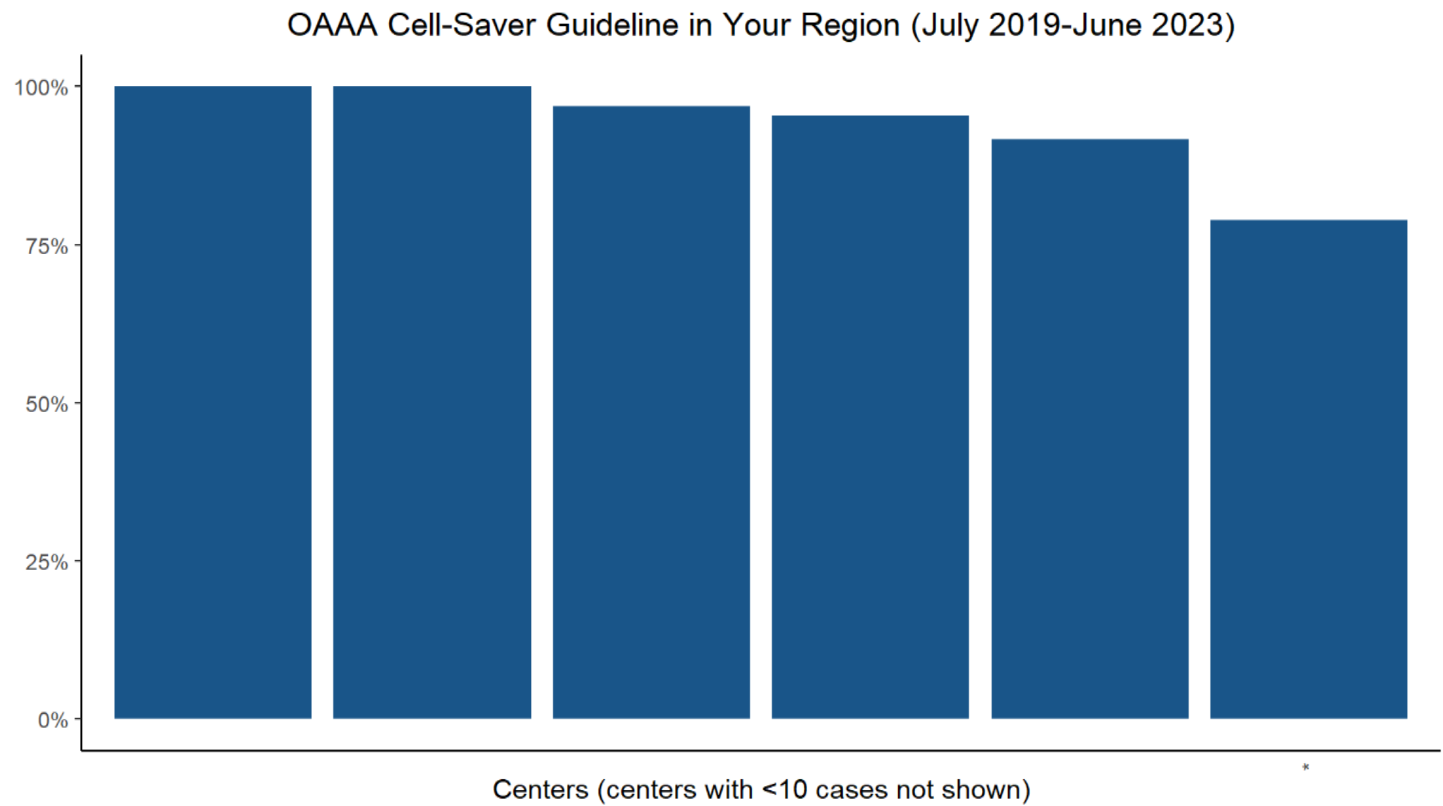
The table below gives the number of OAAA procedures meeting the inclusion criteria, and the percentage of those procedures meeting the SVS cell-saver guideline.

	Your Region	VQI Overall
Number of OAAA procedures meeting inclusion criteria	223	4782
Percentage meeting SVS cell-saver guideline	95.1%	93.1%

# OAAA: SVS Cell-Saver Guideline



# OAAA: SVS Cell-Saver Guideline

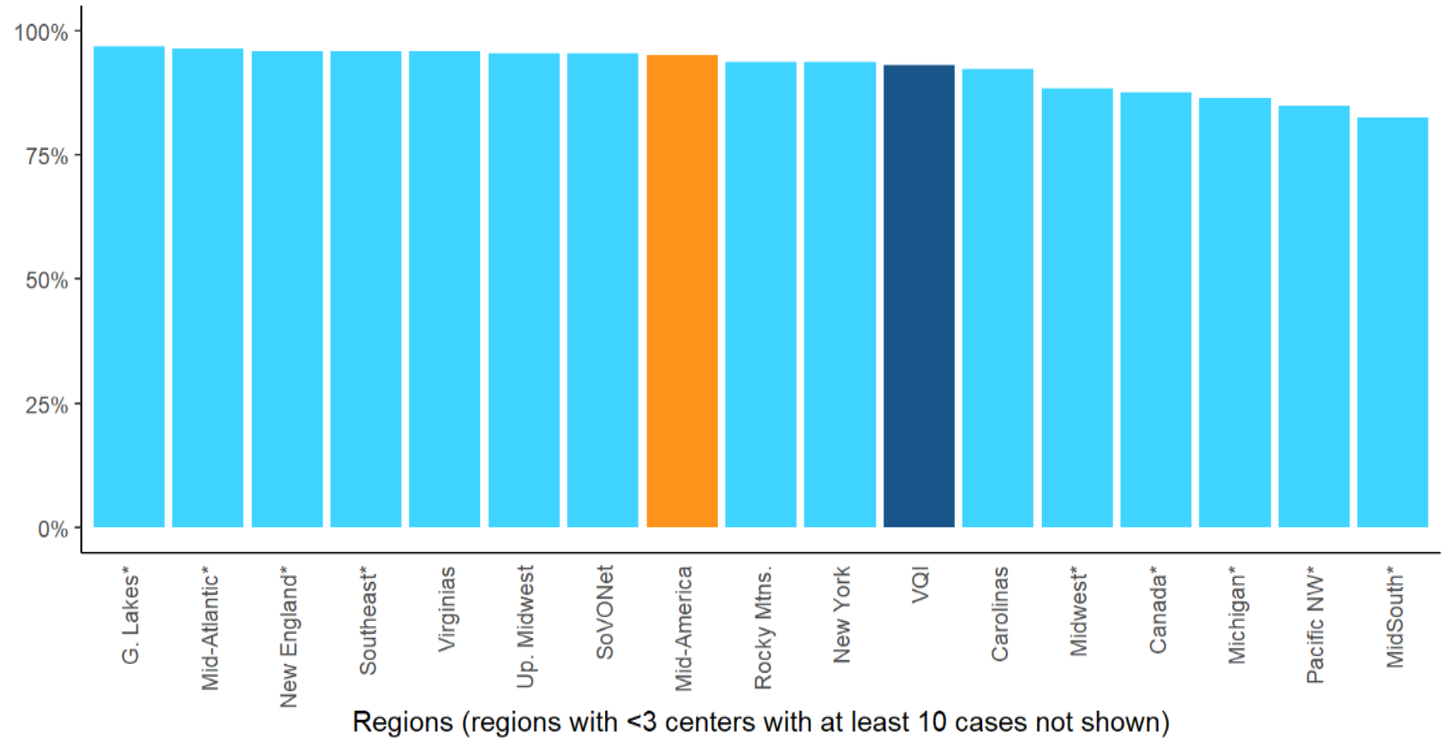


6 of 13 centers displayed

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

# OAAA: SVS Cell-Saver Guideline

OAAA Cell-Saver Guideline by Region Across VQI  
(July 2019-June 2023)



“\*” Indicates region’s rate differs significantly from the VQI rate.

## OAAA: SVS Iliac Inflow Guideline

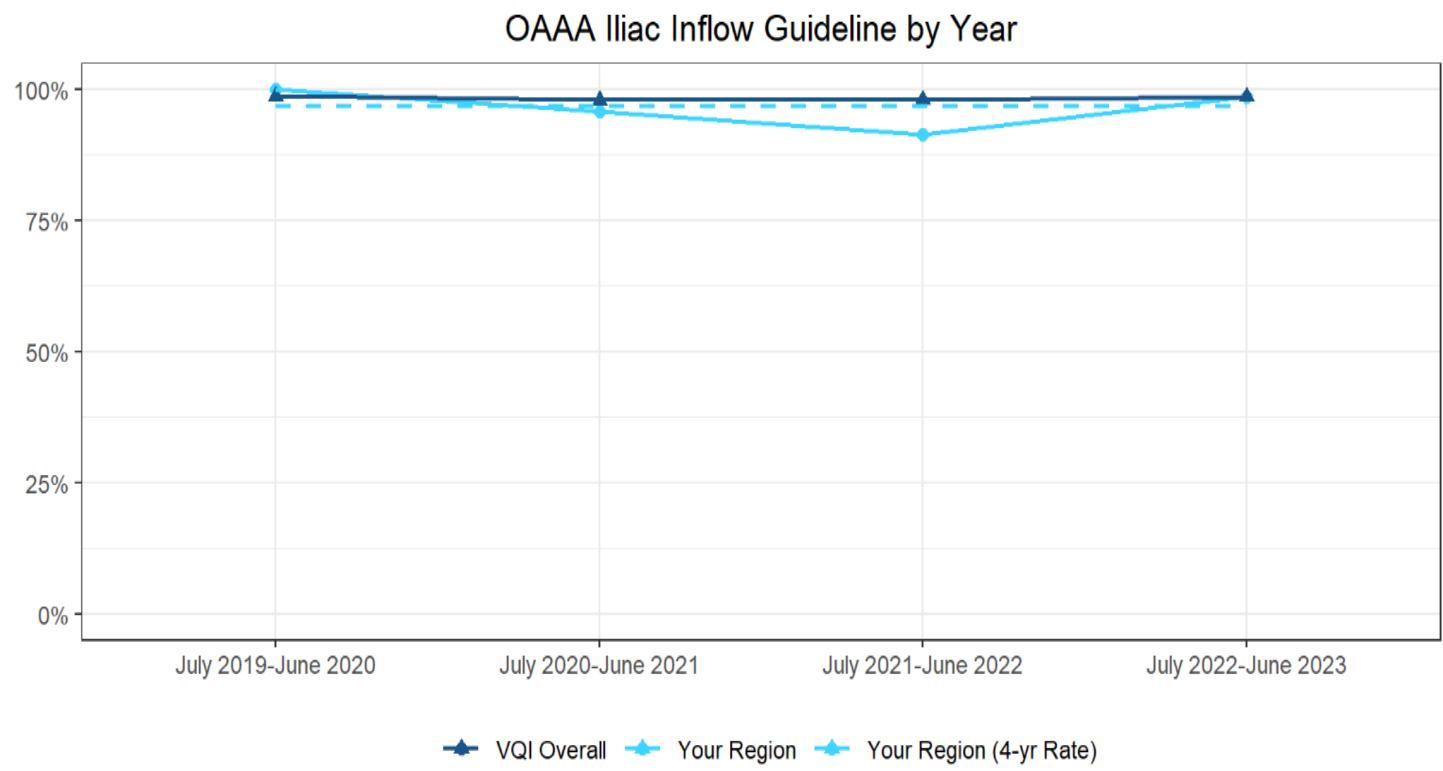
Procedures performed between July 1, 2019 and June 30, 2023

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

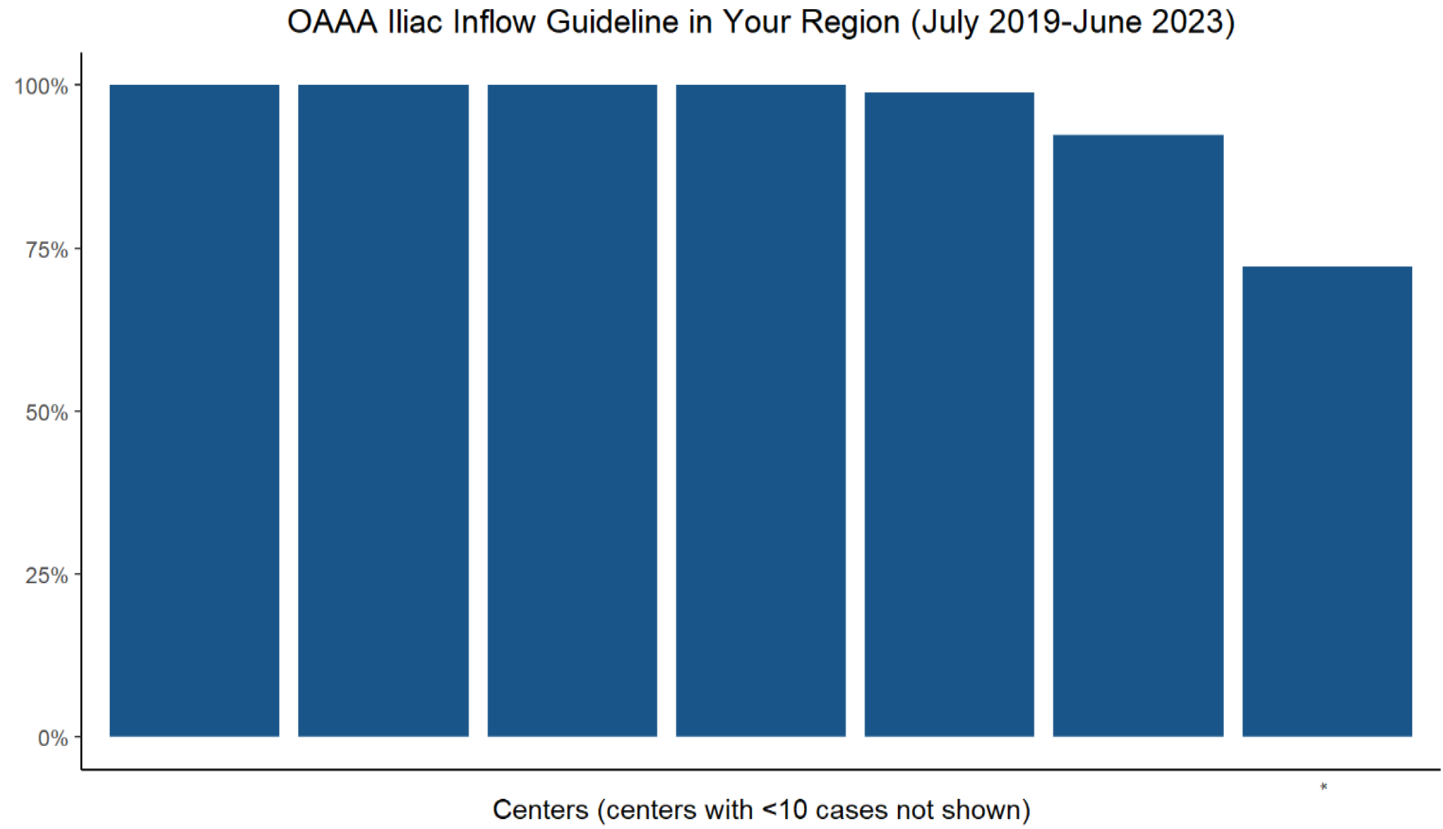
The table below gives the number of OAAA procedures meeting the inclusion criteria, and the percentage of those procedures meeting the SVS iliac inflow guideline.

	<b>Your Region</b>	<b>VQI Overall</b>
Number of OAAA procedures meeting inclusion criteria	244	5389
Percentage meeting SVS iliac inflow guideline	96.7%	98.3%

# OAAA: SVS Iliac Inflow Guideline



# OAAA: SVS Iliac Inflow Guideline

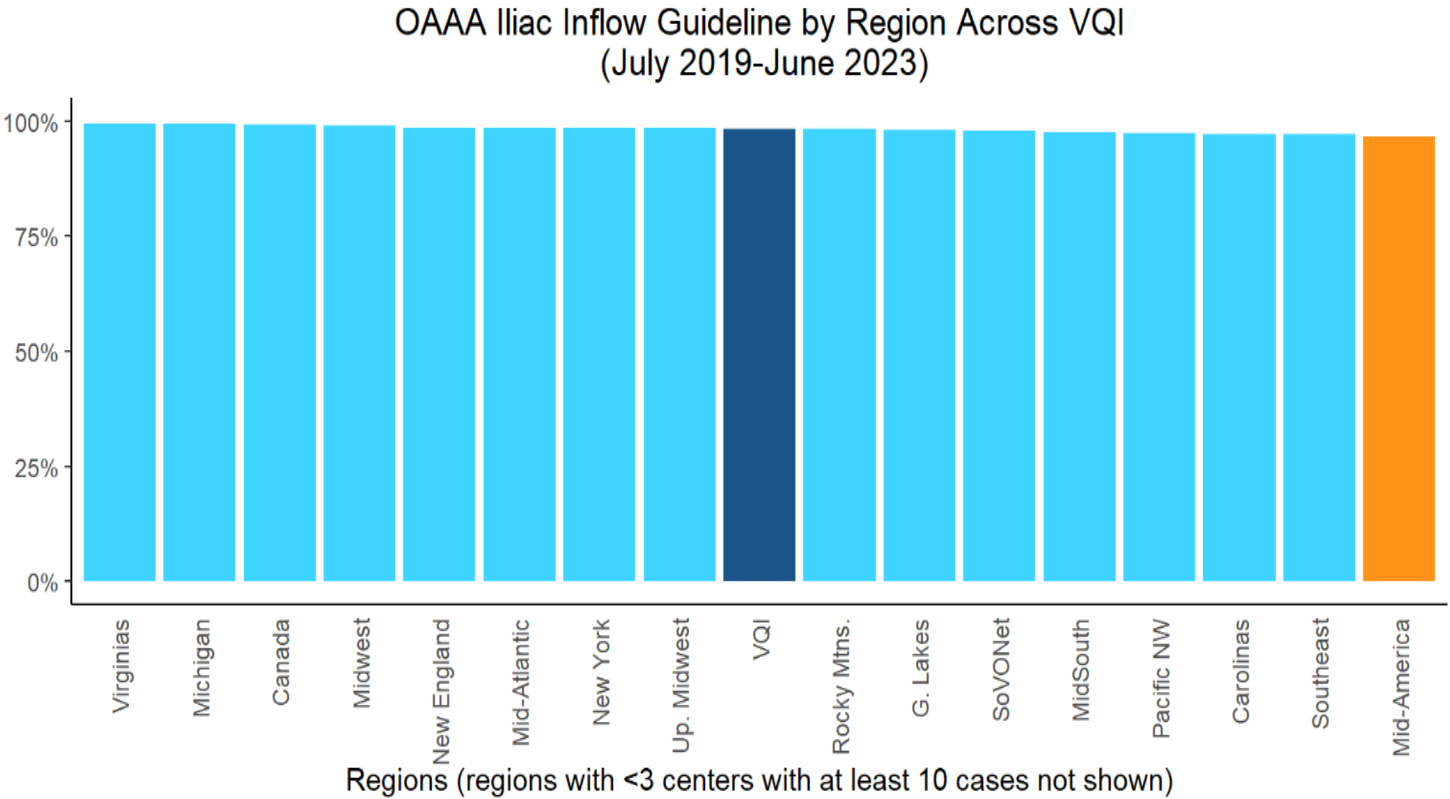


7 of 13 centers displayed

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



# OAAA: SVS Iliac Inflow Guideline



“\*\*” Indicates region’s rate differs significantly from the VQI rate.

# HDA: Postop Complications

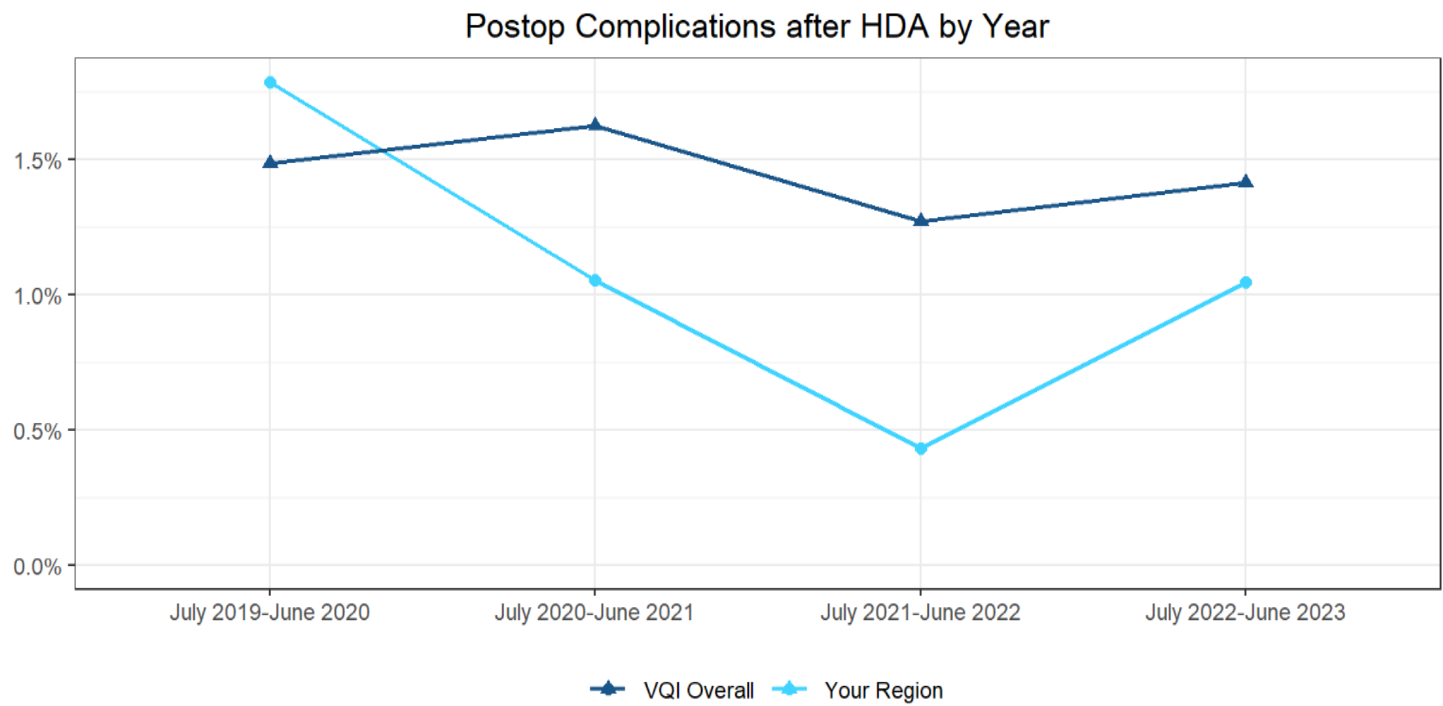
Procedures performed between July 1, 2022 and June 30, 2023

Includes Hemodialysis Access (HDA) procedures.

The table below gives the number of HDA procedures meeting the inclusion criteria, and the percentage of those procedures that resulted in an immediate postoperative complication. Postoperative complications are defined as bleeding, ischemic steal, ischemic monomelic neuropathy, access thrombosis, or other complication requiring reoperation.

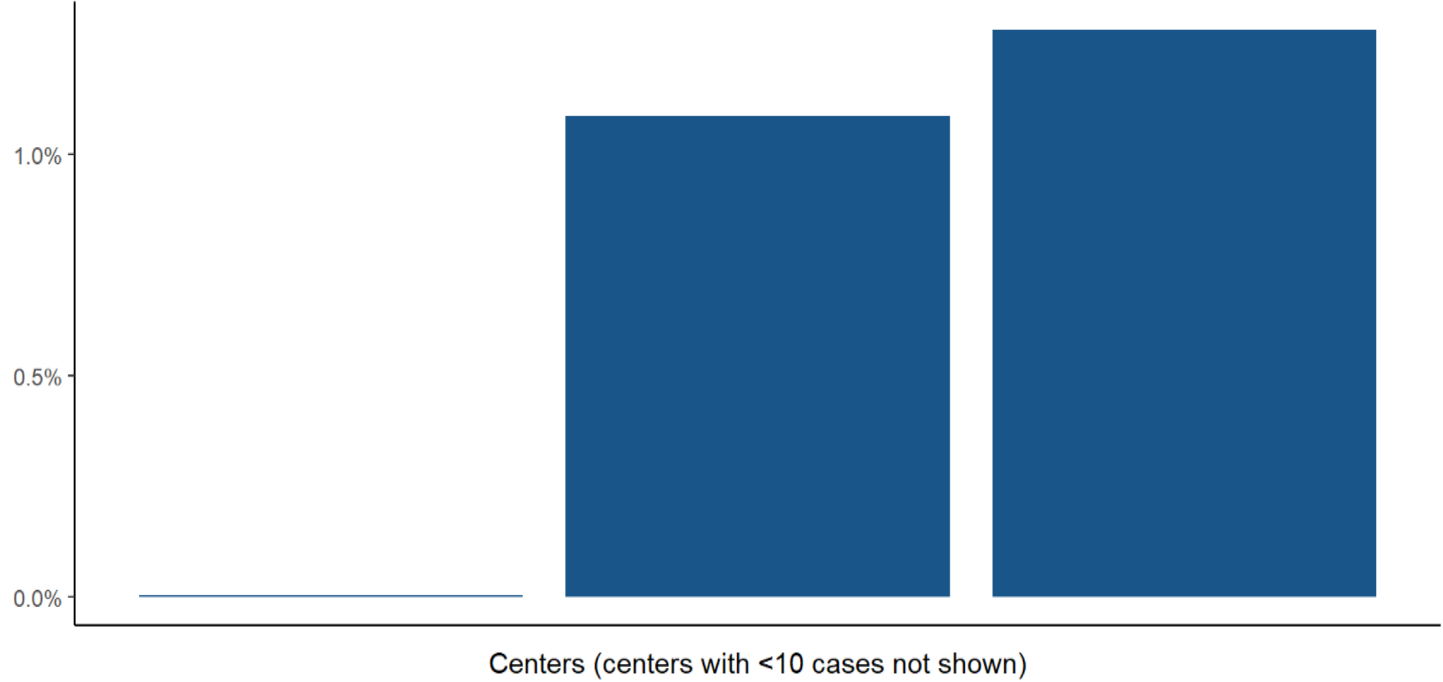
	Your Region	VQI Overall
Number of HDA procedures meeting inclusion criteria	191	5656
Percentage with immediate postoperative complications	1%	1.4%

# HDA: Postop Complications



# HDA: Postop Complications

Postop Complications after HDA in Your Region (July 2022-June 2023)

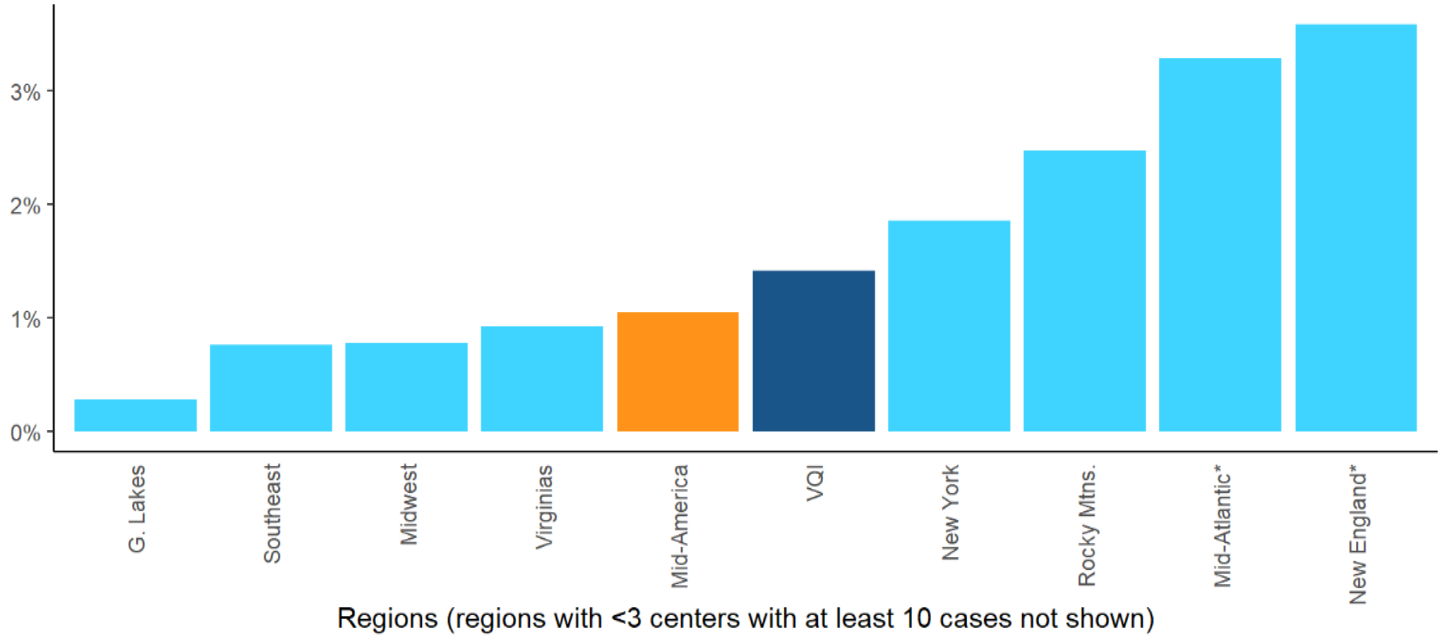


3 of 3 centers displayed

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

# HDA: Postop Complications

Postop Complications after HDA by Region Across VQI  
(July 2022-June 2023)



“\*” Indicates region’s rate differs significantly from the VQI rate.

# HDA: Primary AVF vs. Graft

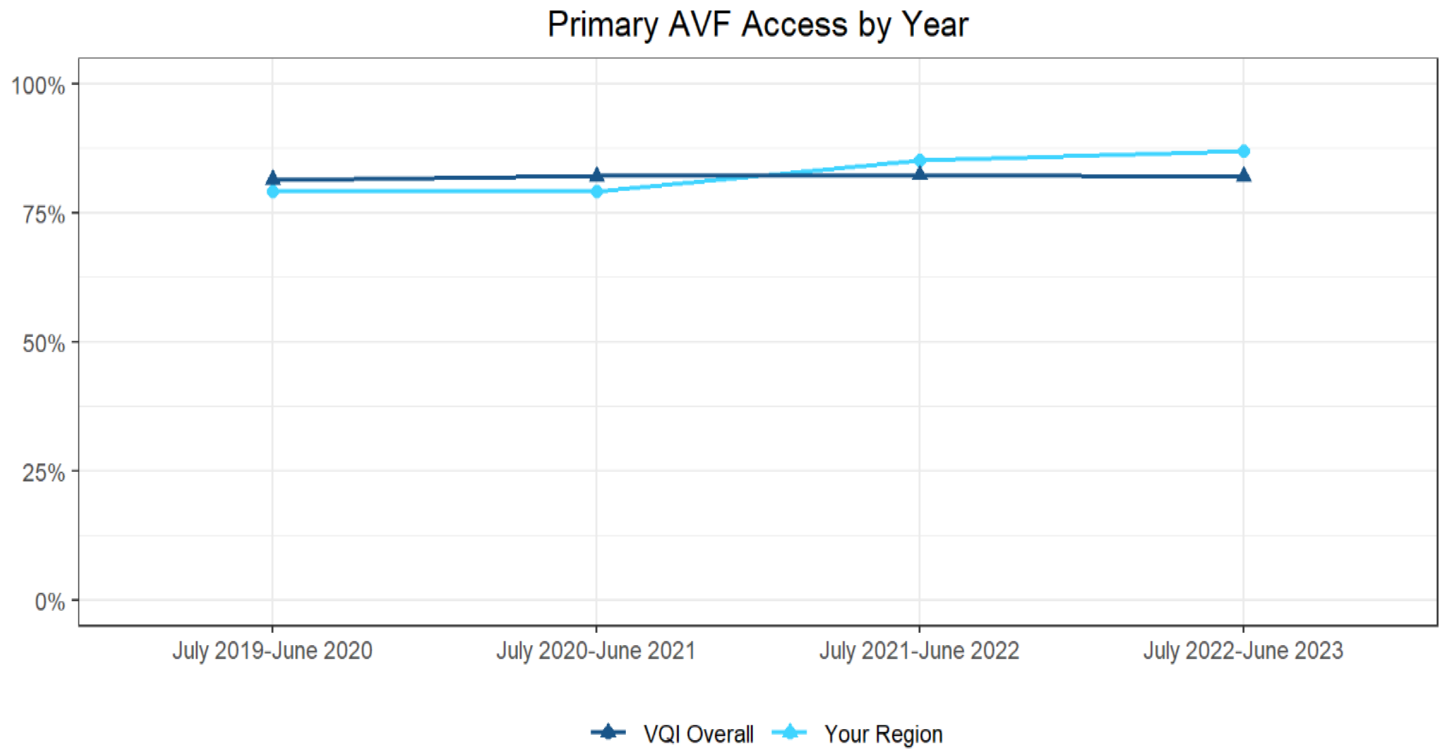
Procedures performed between July 1, 2022 and June 30, 2023

Includes Hemodialysis Access (HDA) procedures. Excludes procedures where Access Type = Endo AVF or patients with a previous access procedure in the same arm.

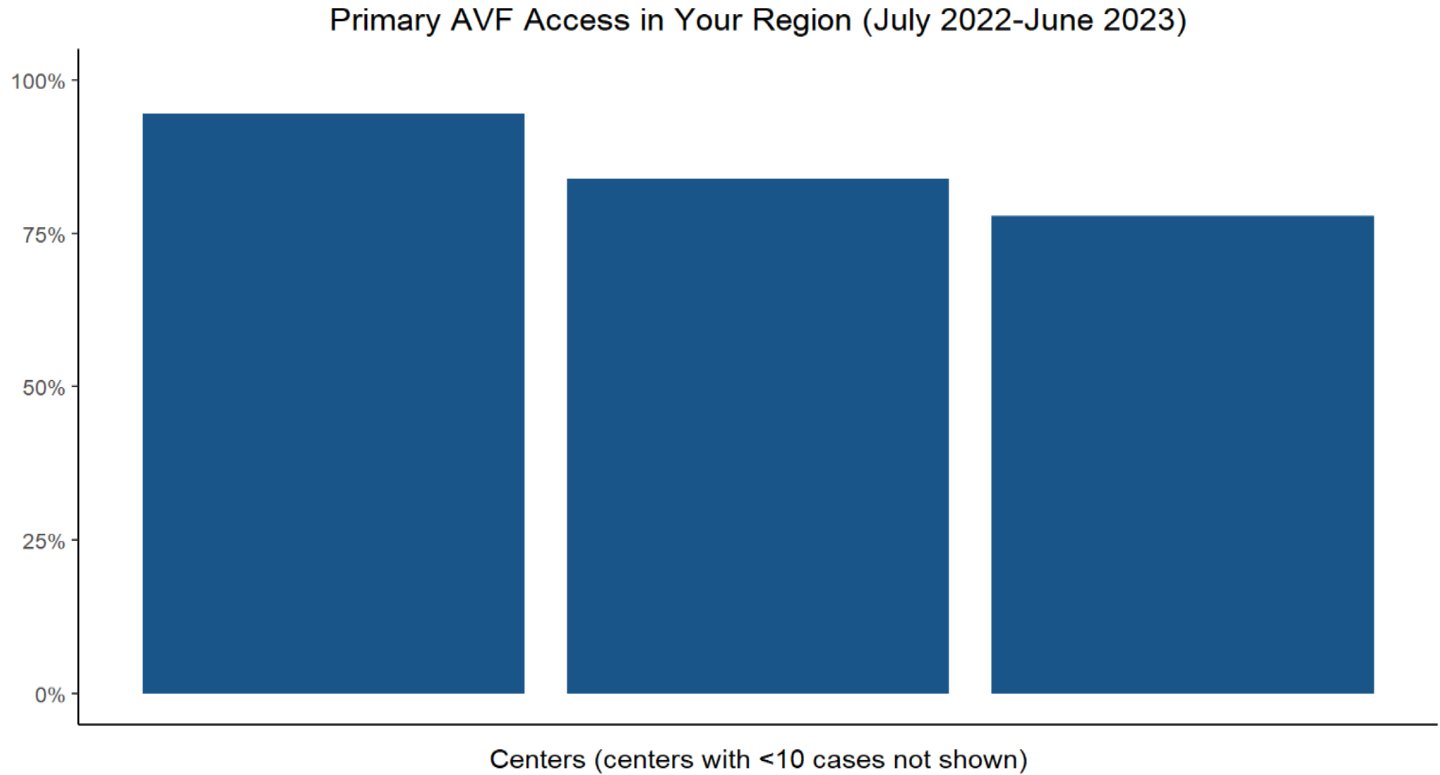
The table below gives the number of HDA procedures meeting the inclusion criteria, and the percentage of those procedures that were primary AVF.

	Your Region	VQI Overall
Number of HDA procedures meeting inclusion criteria	153	4612
Percentage with primary AVF	86.9%	82%

# HDA: Primary AVF vs. Graft



# HDA: Primary AVF vs. Graft

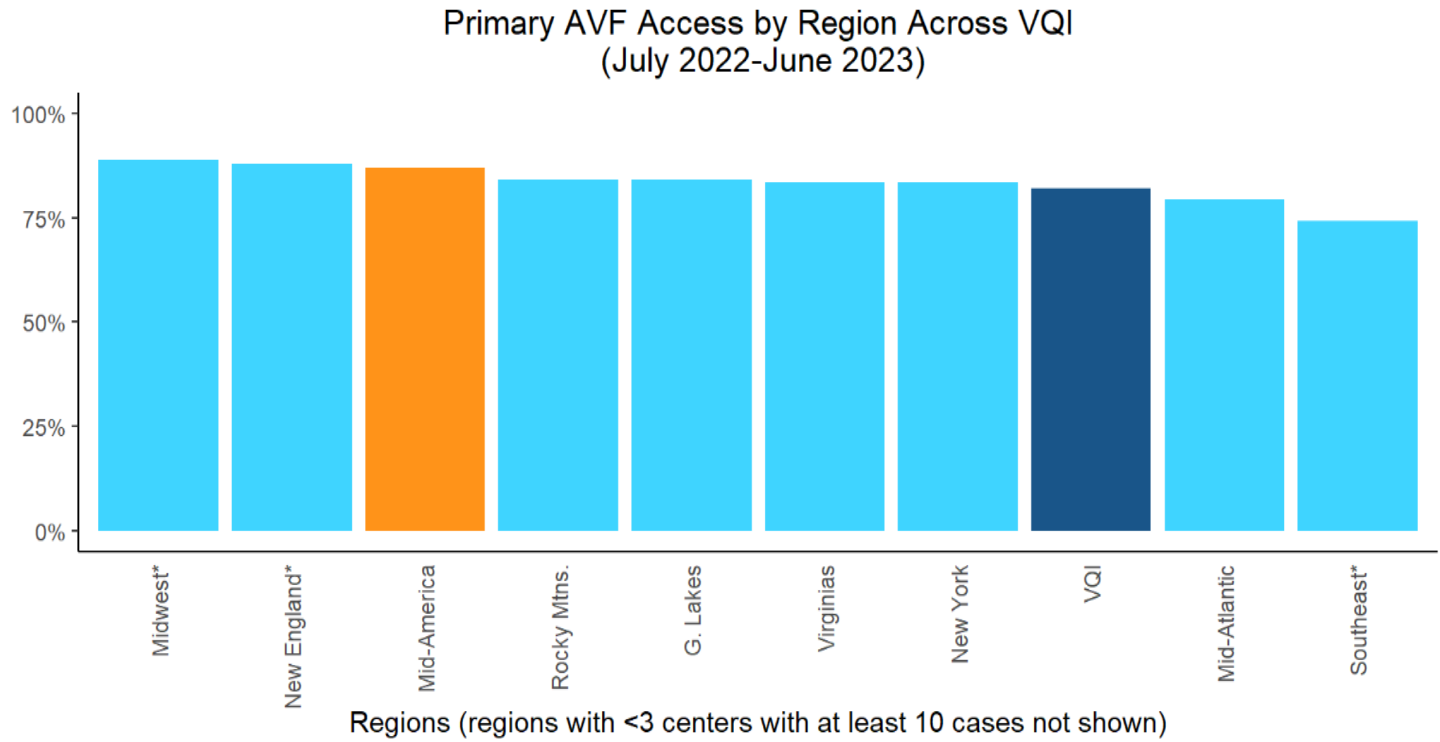


3 of 3 centers displayed

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



# HDA: Primary AVF vs. Graft



“\*” Indicates region’s rate differs significantly from the VQI rate.

# HDA: Ultrasound Vein Mapping

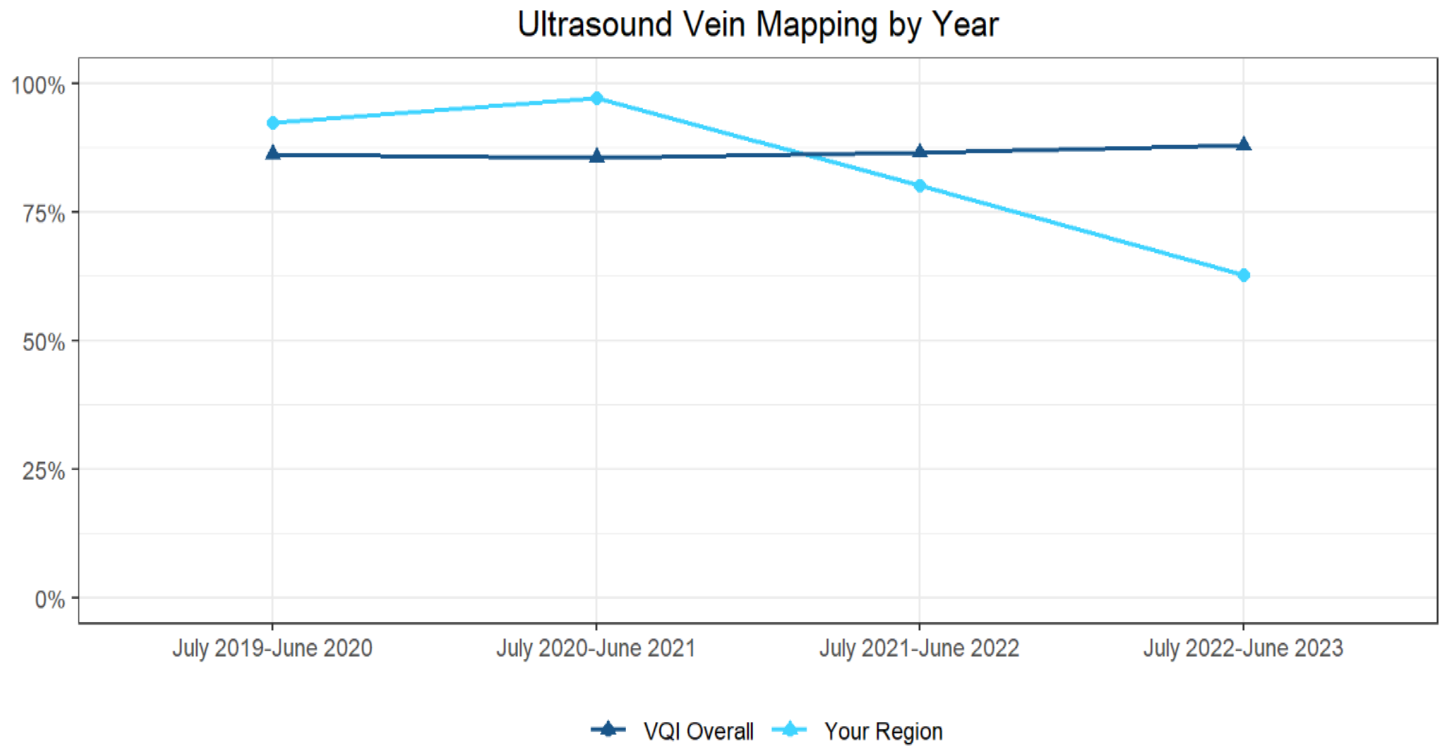
Procedures performed between July 1, 2022 and June 30, 2023

Includes Hemodialysis Access (HDA) procedures.

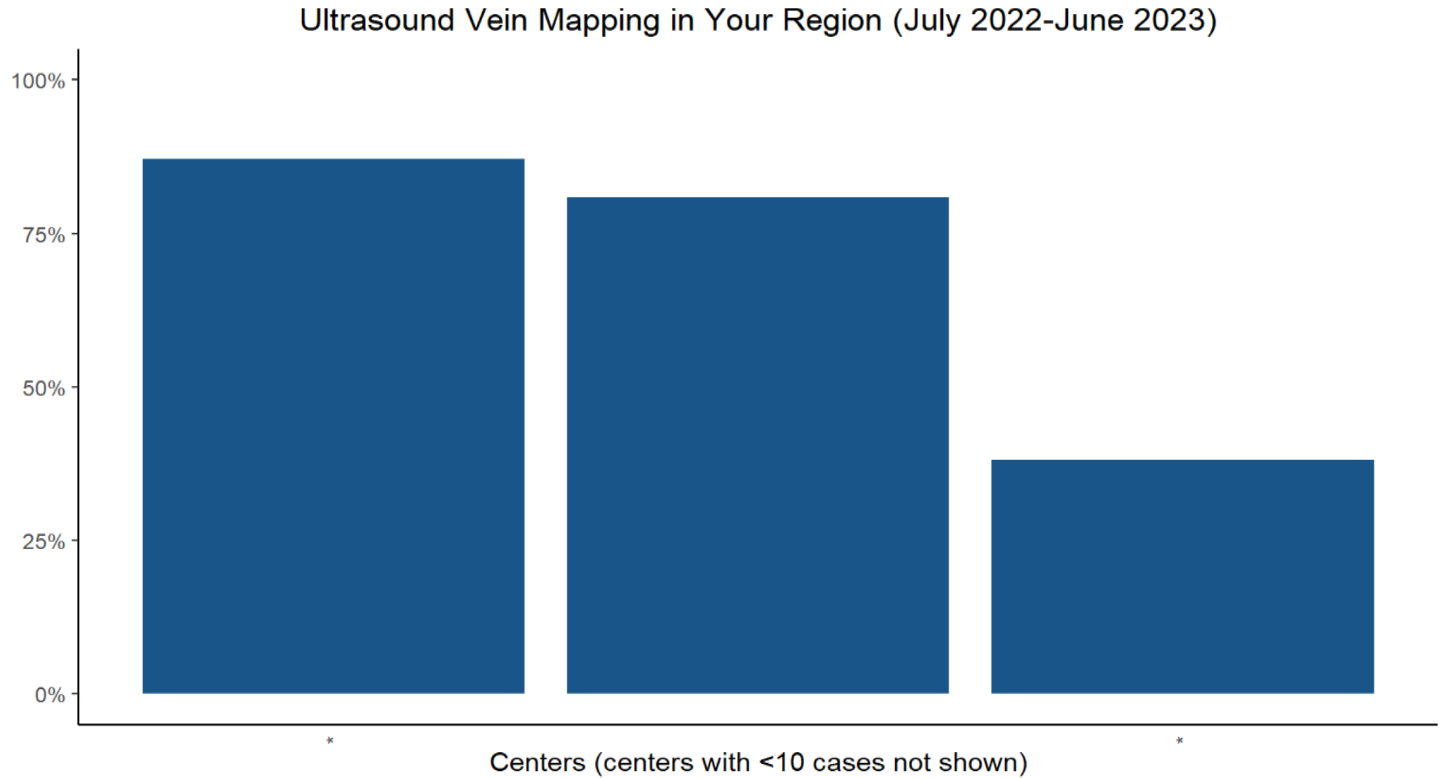
The table below gives the number of HDA procedures meeting the inclusion criteria, and the percentage of those procedures with preoperative ultrasound vein mapping.

	Your Region	VQI Overall
Number of HDA procedures meeting inclusion criteria	191	5656
Percentage with preoperative ultrasound vein mapping	62.8%	87.9%

# HDA: Ultrasound Vein Mapping



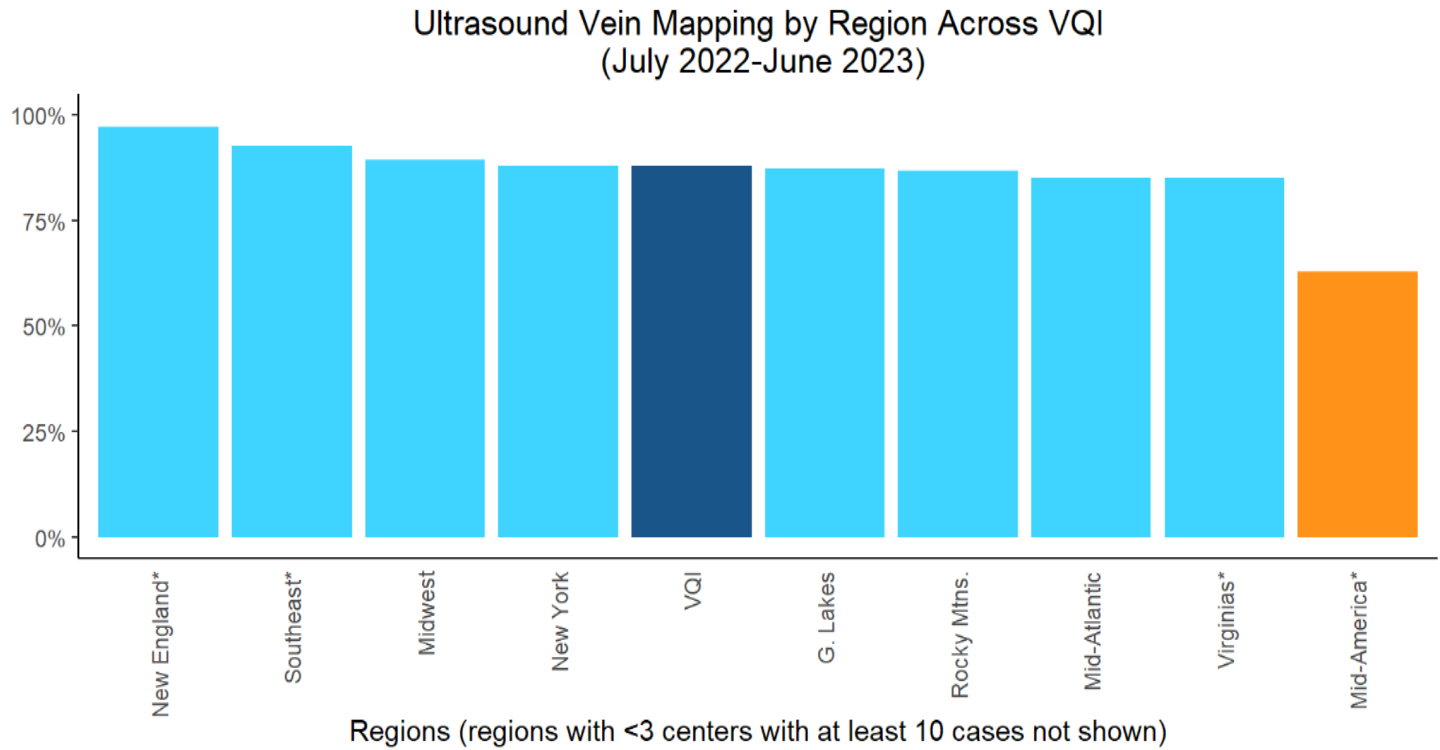
# HDA: Ultrasound Vein Mapping



3 of 3 centers displayed

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

# HDA: Ultrasound Vein Mapping



“\*” Indicates region’s rate differs significantly from the VQI rate.

# PVI CLAUD: ABI/Toe Pressure

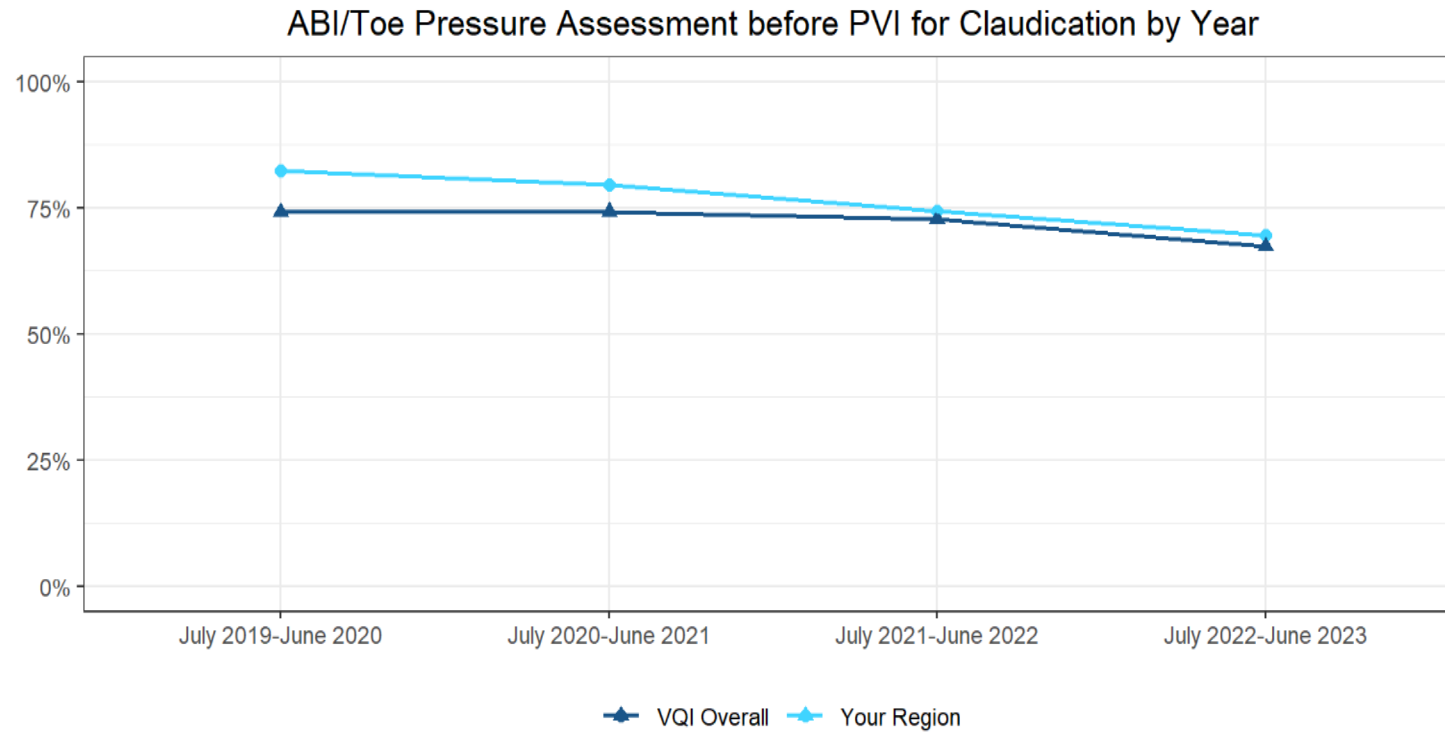
Procedures performed between July 1, 2022 and June 30, 2023

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

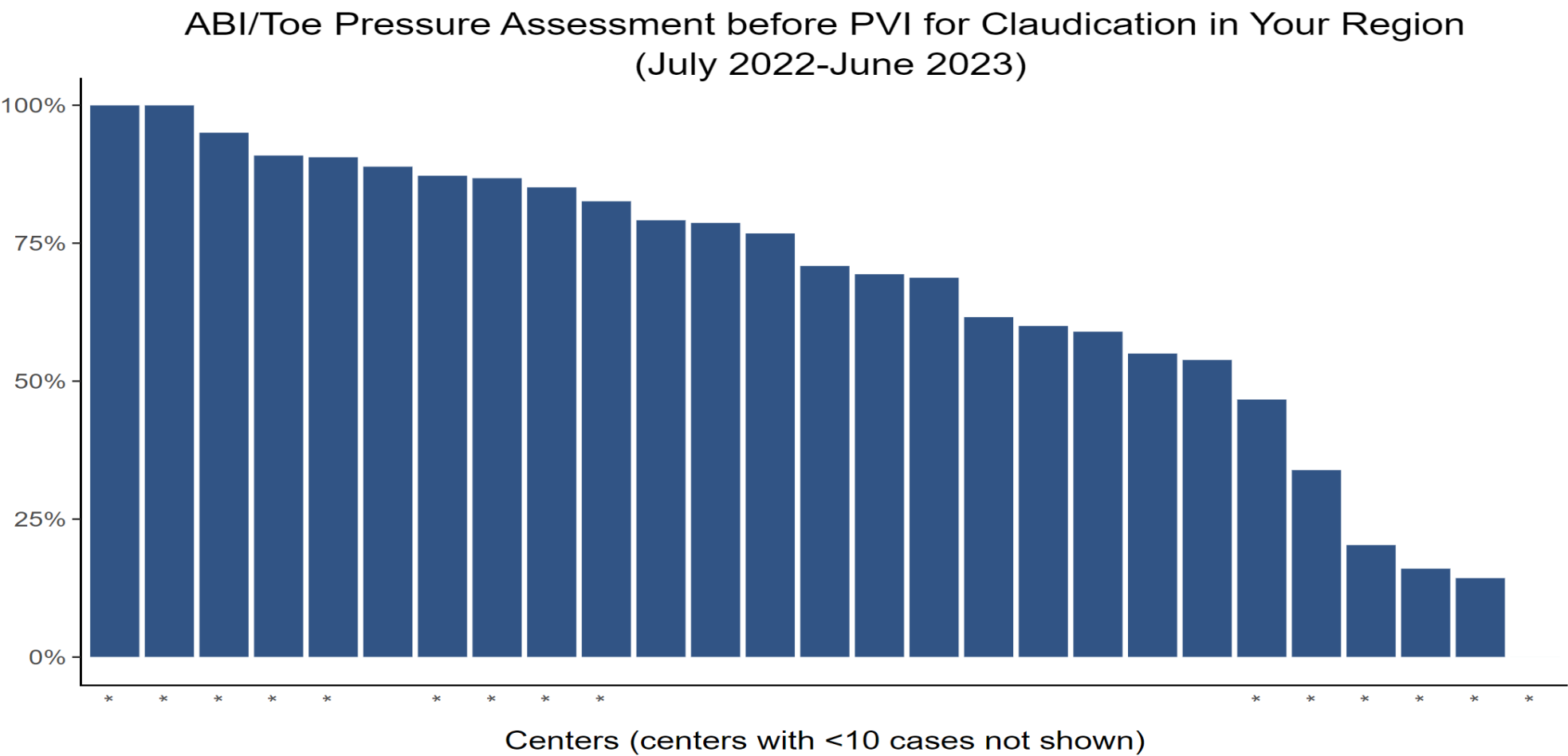
The table below gives the number of PVI procedures meeting the inclusion criteria, and the percentage of those procedures in which an ABI or toe pressure was assessed prior to PVI.

	Your Region	VQI Overall
Number of PVI procedures meeting inclusion criteria	1762	17092
Percentage with ABI/toe pressure assessment	69.6%	67.4%

# PVI CLAUD: ABI/Toe Pressure



# PVI CLAUD: ABI/Toe Pressure



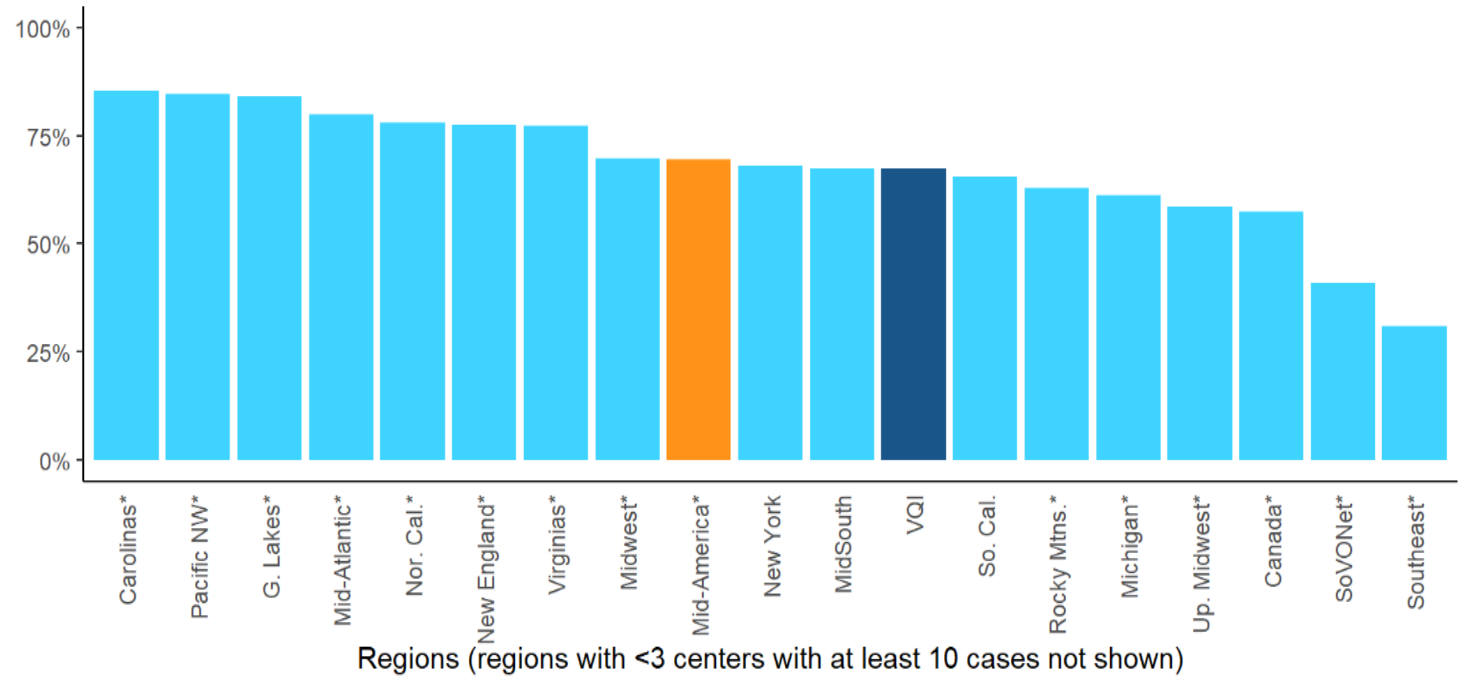
27 of 27 centers displayed

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



# PVI CLAUD: ABI/Toe Pressure

ABI/Toe Pressure Assessment before PVI for Claudication by Region Across VQI  
(July 2022-June 2023)




“\*” Indicates region’s rate differs significantly from the VQI rate.

# INFRA CLTI: Major Complications

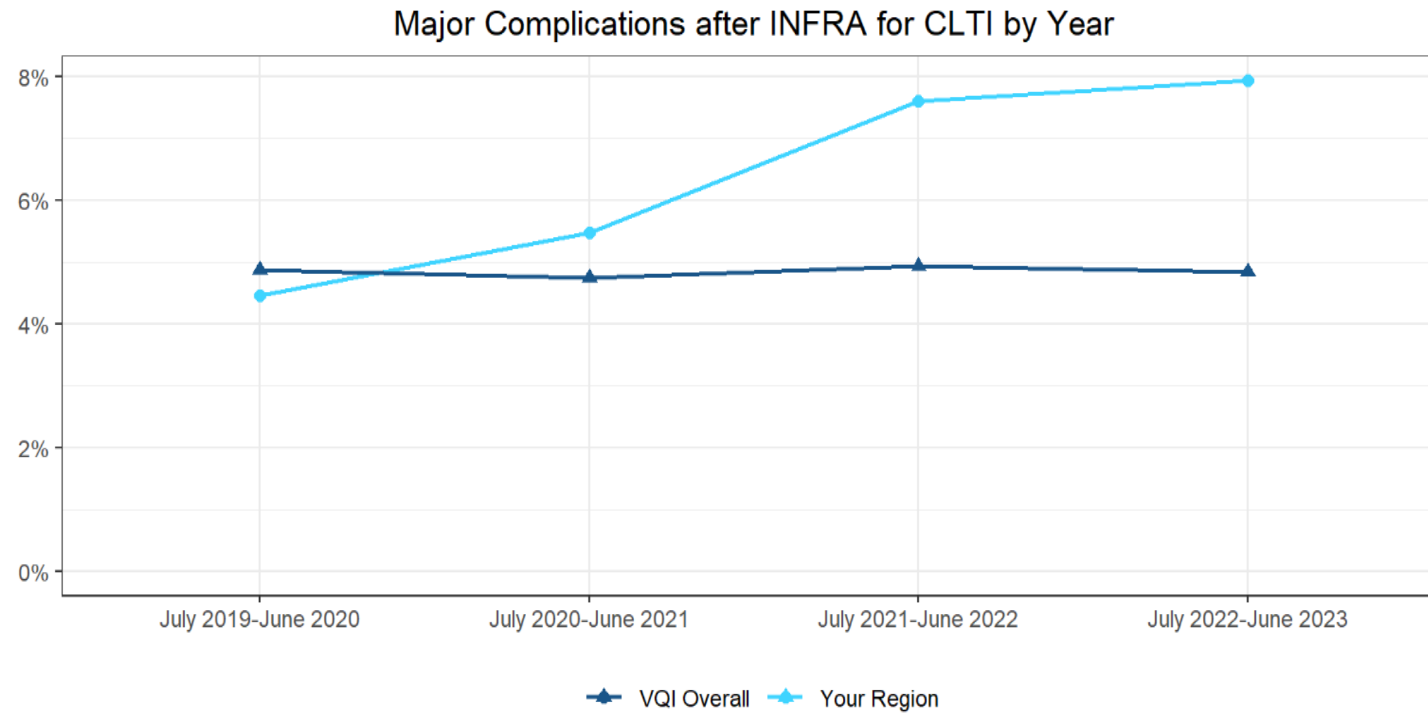
Procedures performed between July 1, 2022 and June 30, 2023

Includes Infrainguinal Bypass (INFRA) procedures for rest pain, tissue loss (i.e., ulcer, necrosis, or non-healing amputation) , or acute ischemia. Major complications are defined as in-hospital death, ipsilateral BK or AK amputation, or graft occlusion.

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

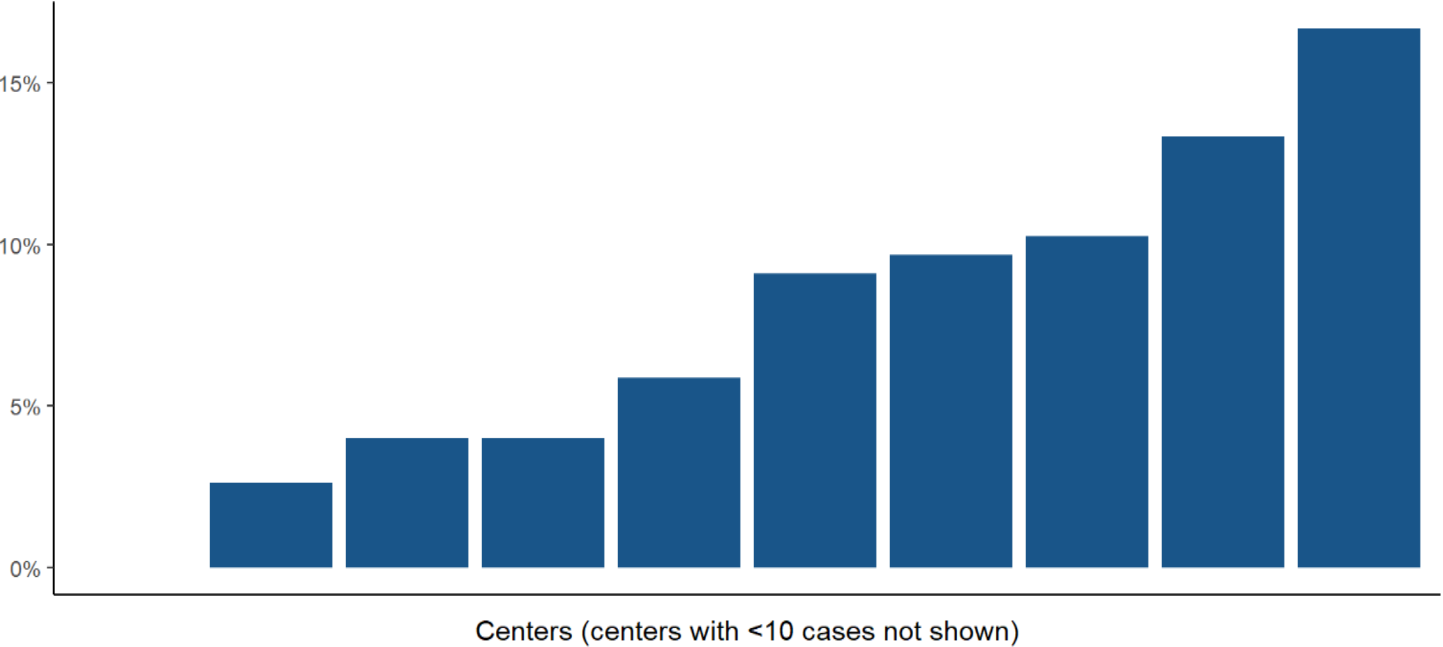
	Your Region VQI Overall	
Number of INFRA procedures meeting inclusion criteria	 315	5377
Percentage with major complications	7.9%	4.8%

# INFRA CLTI: Major Complications



# INFRA CLTI: Major Complications

Major Complications after INFRA for CLTI in Your Region (July 2022-June 2023)

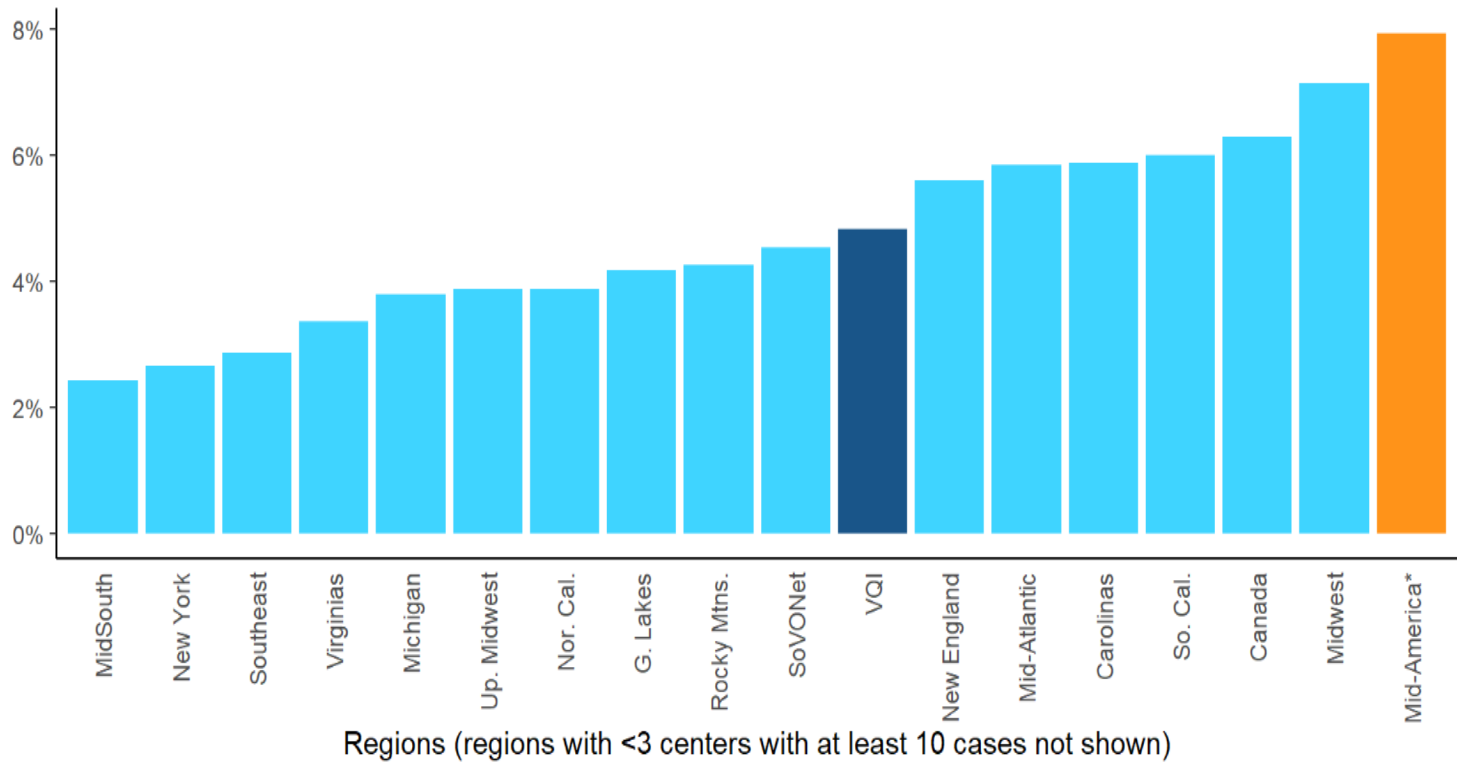


10 of 14 centers displayed

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

# INFRA CLTI: Major Complications

Major Complications after INFRA for CLTI by Region Across VQI (July 2022-June 2023)



“\*” Indicates region’s rate differs significantly from the VQI rate.

# INFRA CLTI: Major Complications

Complication	Count	Rate
Death	6	1.9%
Amputation**	10	3.8%
Graft Occlusion**	12	3.2%
<b>Overall</b>	<b>25</b>	<b>7.9%</b>

\*\* Note that there were 3 cases that had both an Amputation & Graft Occlusion

# Summary

- Regional performance is at or better than benchmark for many of the outcome and process measures
- Continued improvement in LTFU, AAA related process measures
- Examples of opportunities for improvement: carotid outcome and LOS measures, vein mapping for HDA, Major complications for INFRA and SUPRA

# Unveiling Mortality Trends:

A Ten-Year Analysis of Major Lower Limb  
Amputations in the United States (2013-2022)

---

Stella Cho MS1/Dr. Trissa Babrowski



National Institute of  
Diabetes and Digestive  
and Kidney Diseases



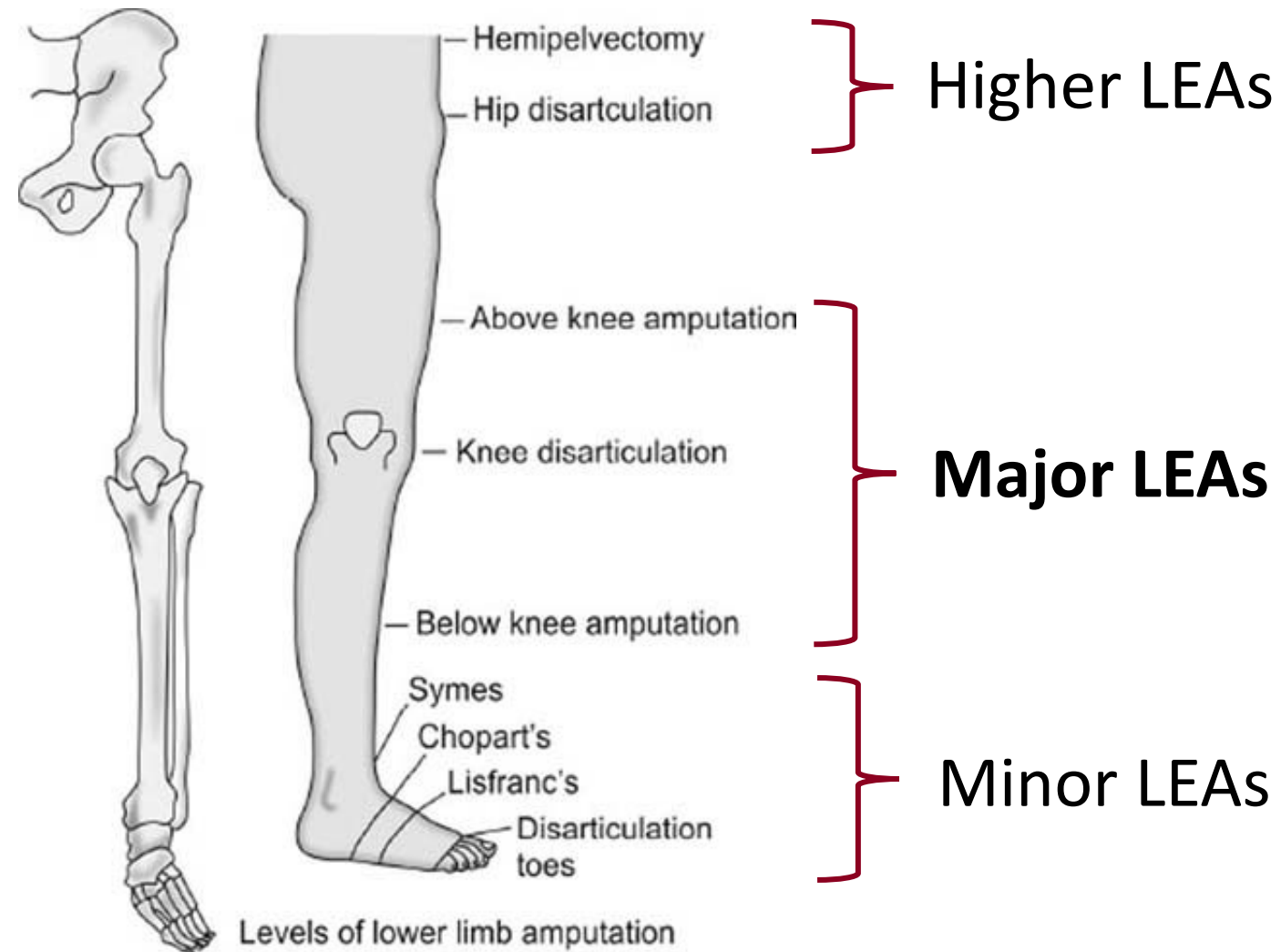
THE UNIVERSITY OF  
**CHICAGO**  
UChicago Medicine

Pritzker School  
of Medicine



## BACKGROUND:

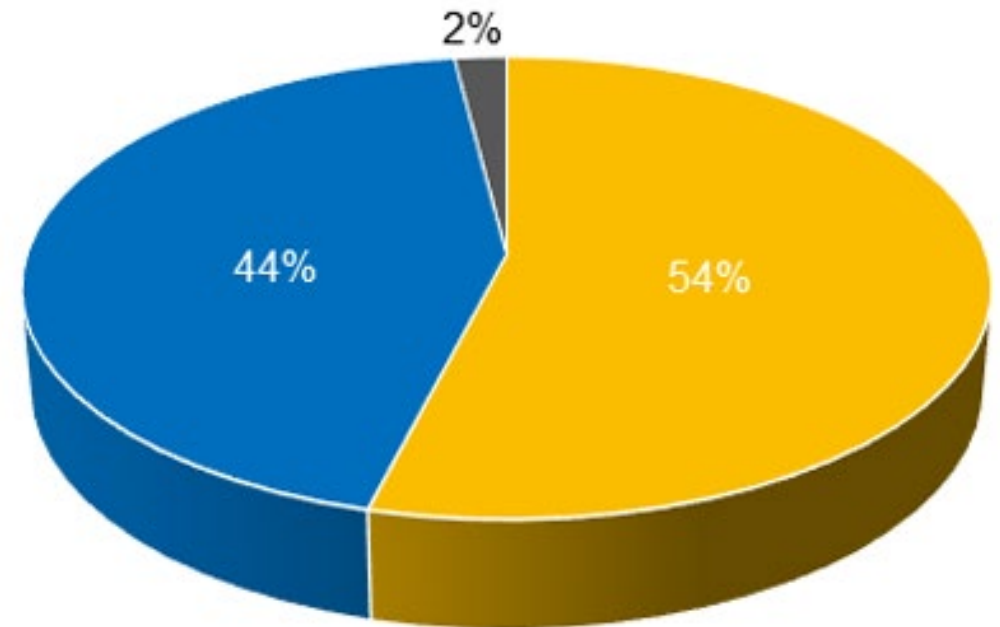
# Lower extremity amputation (LEA)<sup>1</sup>



## BACKGROUND:

### Common Reasons for LEA<sup>2,3</sup>

- Diabetes & Peripheral Vascular Disease (54%)
- Trauma (44%)
- Cancer (2%)
- Neuropathy

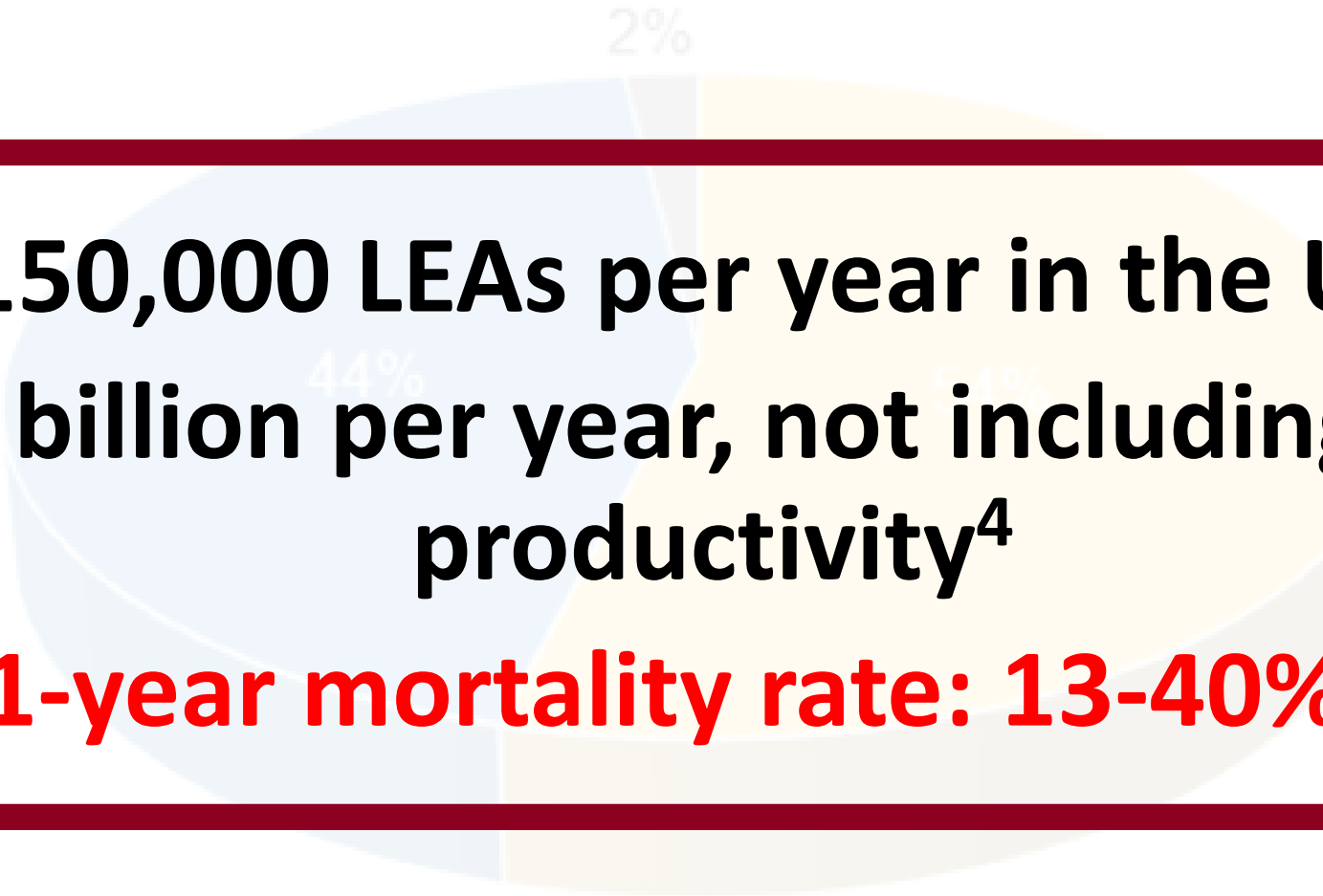


Ziegler-Graham et al. 2008



## BACKGROUND:

### LEA Cost and Mortality



**150,000 LEAs per year in the US<sup>2</sup>**  
**\$10.6 billion per year, not including loss of productivity<sup>4</sup>**

**1-year mortality rate: 13-40%<sup>5-7</sup>**



## AIMS AND HYPOTHESIS:

### Three Aims



**Aim 1**: Identify changes in 30-day and 1-year mortality rates after major lower extremity amputation



**Aim 2**: Determine association between perioperative medical management and mortality outcomes

## AIMS AND HYPOTHESIS:

### Three Aims



**Aim 1:** Identify changes in 30-day and 1-year mortality rates after major lower extremity amputation



**Aim 2:** Determine association between perioperative medical management and mortality outcomes

**There will be a:**

- (1) significant decrease in both 30-day and 1-year mortality rates**  
**for major LEAs from 2013-2022 due to**
- (2) better perioperative medical management over time.**



## AIMS AND HYPOTHESIS:

### Three Aims



**Aim 3**: Explore the association between geographic region and mortality trends



**Metropolitan**



**Non-metropolitan**

- Micropolitan
- Suburban
- Rural

## AIMS AND HYPOTHESIS:

### Three Aims



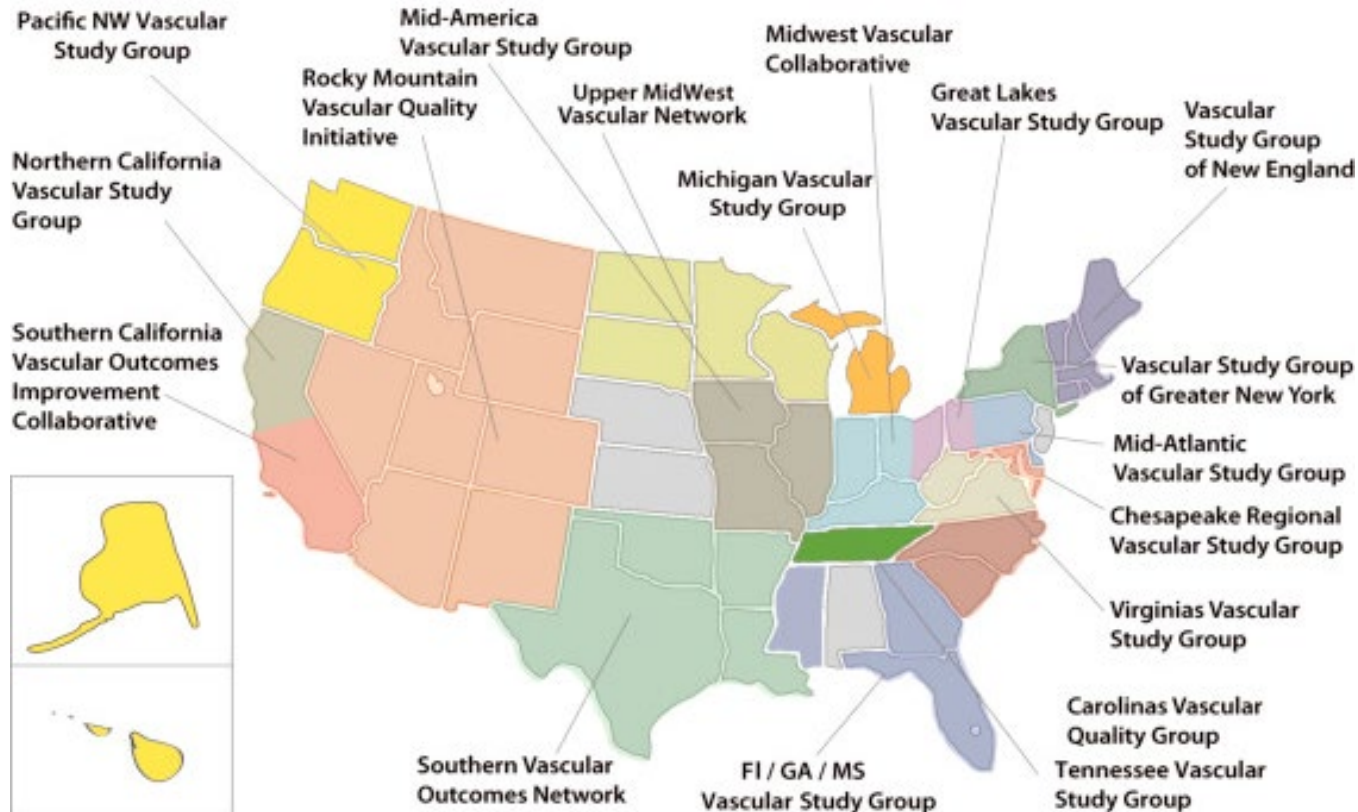
Aim 3: Explore the association between geographic region and mortality trends

**There will be**

**(3) higher LEA mortality rates in the metropolitan area due to a greater diversity in socioeconomic factors and access to medical resources across the United States.**

## METHODS:

# Vascular Quality Initiative (VQI) Database



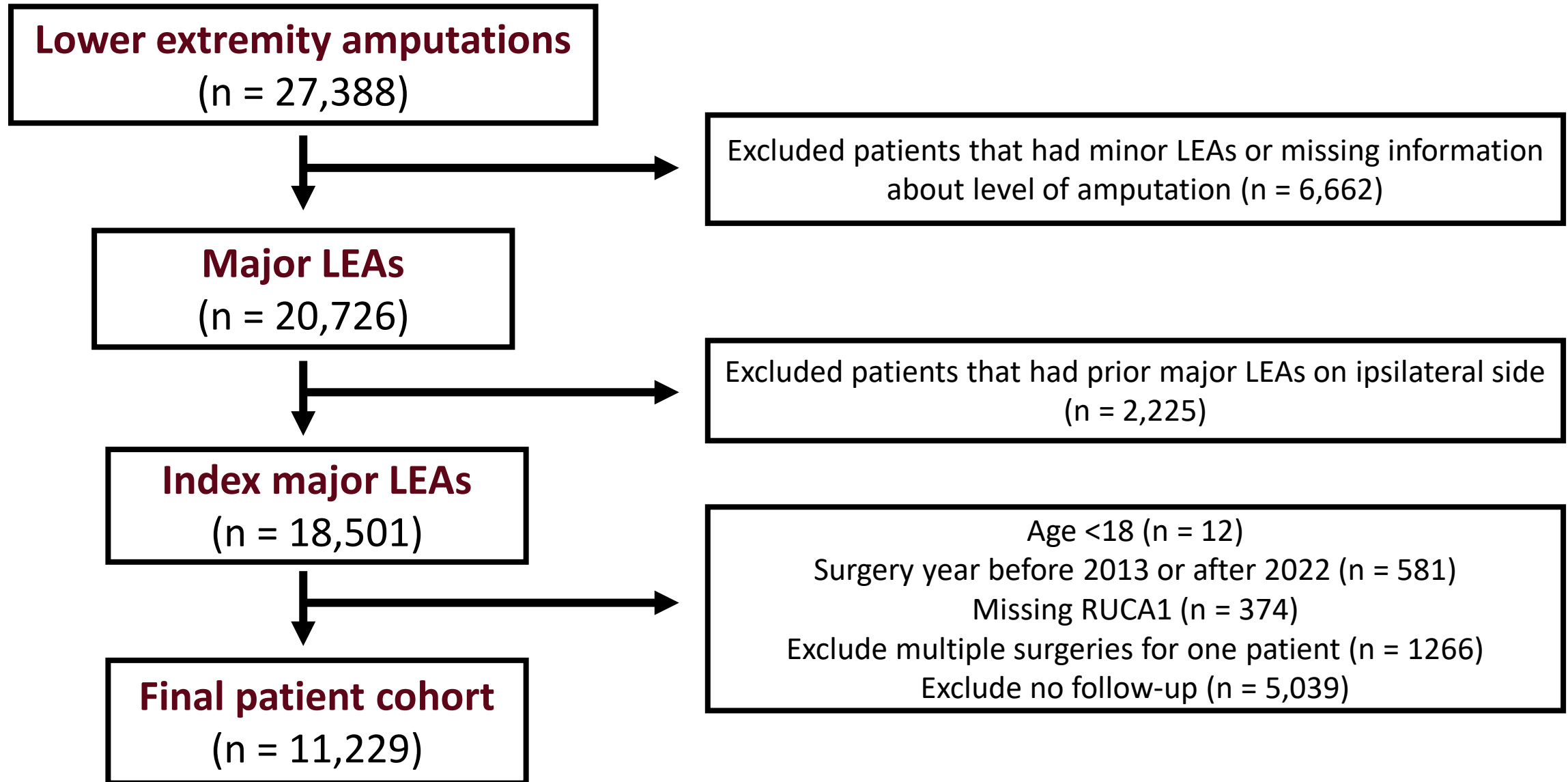
National clinical registry<sup>8</sup>

- 16 regions across the United States
- Over 900 hospitals





# **METHODS:** Cohort Selection Flowchart



## **METHODS:**

# Data Analysis

- Retrospective study
- Statistical analysis on R
- Mann-Kendall statistic
- Univariable logistic regression
- Multivariable logistic regression

## RESULTS: Patient demographics

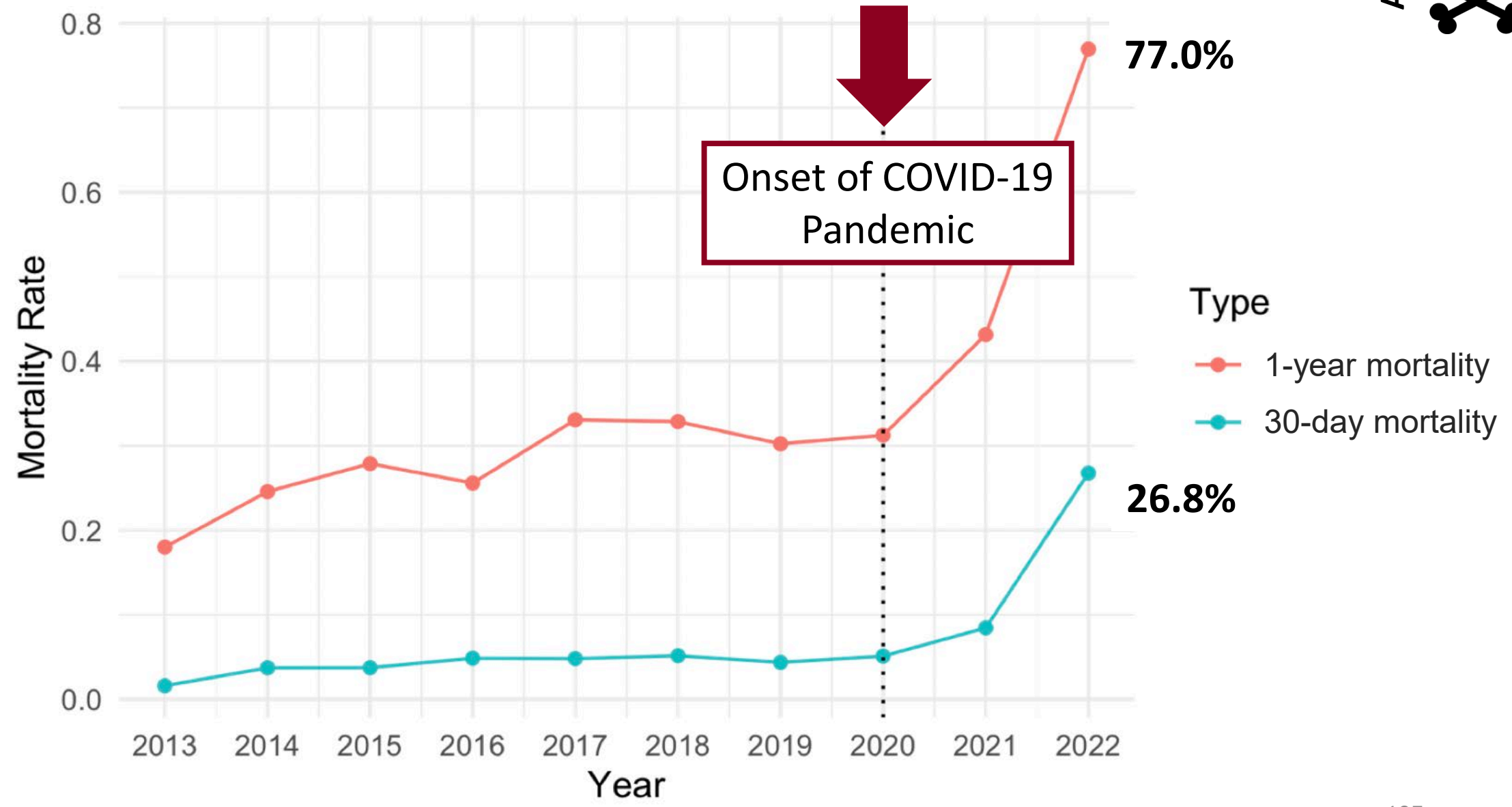
Characteristics	Total, % (n = 11229)
Mean age, years	65.2 ± 12.7
Female	35.2
<b>Race</b>	
NH Black or African American	34.5
NH White	55.5
Other	10.0
<b>Comorbidities</b>	
HTN	88.5
Diabetes	68.7
CAD	30.7
CHF	29.3
Dialysis	17.8
Chronic renal insufficiency	36.5
Prior vascular intervention	51.2
<b>Mortality</b>	
30 day	5.4
1 year	31.8



**Aim 1**: Identify changes in 30-day and 1-year mortality rates after major lower limb amputation



# Mortality rates from 2013-2022



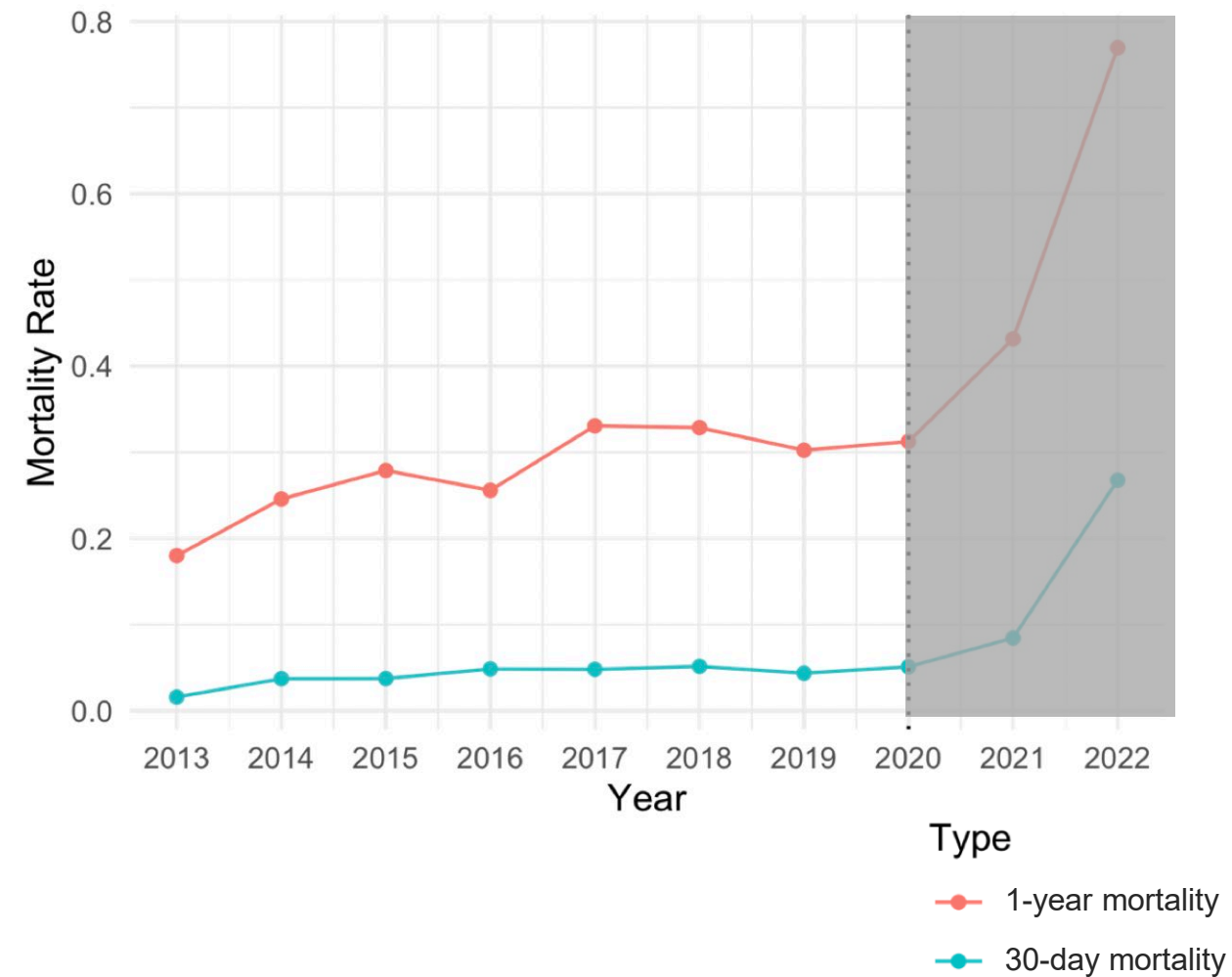
# Mann-Kendall statistic for trend

2013-2022

	Mann-Kendall statistic (S)	P value
30-day mortality	0.778	0.002
1-year mortality	0.773	0.003

2013-2019

	Mann-Kendall statistic (S)	P value
30-day mortality	0.619	0.051
1-year mortality	0.619	0.051



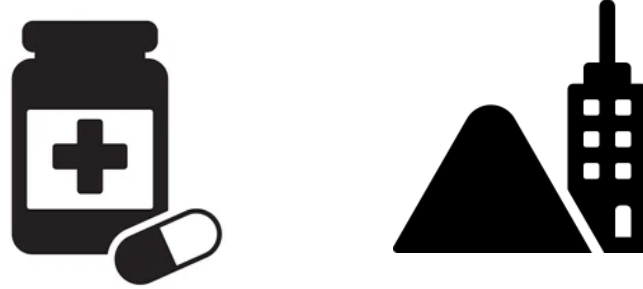


# Year effect on mortality trends

	Unadjusted mortality		Adjusted mortality	
	30-day	1-year	30-day	1-year
	OR (95% CI)	OR (95% CI)	aOR (95% CI)	aOR (95% CI)
Surgery year	1.19 (1.14-1.23)**	1.13 (1.11-1.15)**	1.21 (1.16-1.27)**	1.14 (1.12-1.16)**

Adjusted for comorbidities (HTN, Diabetes, CAD, CHF, Dialysis, CRI, PVI)

\*\* p < 0.001



**Aim 2:** Explore association between perioperative medical management and mortality outcomes

**Aim 3:** Explore the association between geographic region and mortality outcomes



# Supplemental: Univariable analysis for predictors

	30-day	1-year
Characteristic	OR (95% CI)	OR (95% CI)
Age	1.04 (1.03-1.05)**	1.03 (1.02-1.03)**
Female	1.11 (0.94-1.32)	1.08 (0.99-1.17)
Total procedure time	1 (1.00-1.00)*	1 (1.00-1.00)
Total length of stay	1 (0.99-1.00)	1 (1.00-1.00)
Estimated blood loss	1 (1.00-1.00)*	1 (1.00-1.00)*
<b>RACE</b>		
NH White	1.0 (Ref)	1.0 (Ref)
NH Black or African American	0.74 (0.61-0.89)**	0.95 (0.87-1.03)
Other	0.91 (0.69-1.19)	1.04 (0.91-1.19)
<b>COMORBIDITIES</b>		
Hypertension	1.43 (1.07-1.94)*	1.32 (1.16-1.51)**
Diabetes	0.86 (0.73-1.03)	1.05 (0.96-1.14)
CAD	1.3 (1.10-1.54)*	1.32 (1.21-1.43)**
CHF	1.62 (1.37-1.92)**	1.65 (1.52-1.80)**
Creatinine > 1.5 mg/dL	1.54 (1.24-1.89)**	1.29 (1.15-1.43)**
Prior vascular intervention	0.86 (0.73-1.01)	1.03 (0.96-1.12)
<b>POSTOP_SSI</b>		
No SSI	1.0 (Ref)	1.0 (Ref)
Superficial	0.99 (0.30-2.40)	1.08 (0.66-1.73)
Deep	0.8 (0.20-2.16)	1.47 (0.90-2.37)
Organ/Space	0	3.23 (0.54-24.5)
<b>POSTOP_MI</b>		
No MI	1.0 (Ref)	1.0 (Ref)
Troponin only	2.84 (1.54-4.85)**	1.68 (1.13-2.48)*

	30-day	1-year
Characteristic	OR (95% CI)	OR (95% CI)
EKG or clinical	1.94 (0.81-3.97)	2.05 (1.29-3.26)*
<b>PREOP MEDS</b>		
Aspirin	0.81 (0.69-0.96)*	1.02 (0.94-1.11)
P2Y12 Antagonist	1.02 (0.84-1.22)	1.05 (0.96-1.15)
Statin	1.02 (0.86-1.21)	1.09 (1.00-1.19)*
Beta-blocker	1.2 (1.02-1.43)*	1.17 (1.08-1.27)**
ACE Inhibitor	0.79 (0.67-0.94)*	0.79 (0.72,-0.85)**
Anticoagulant	1.08 (0.89-1.30)	1.17 (1.07-1.28)**
<b>DC MEDS</b>		
Aspirin	0.5 (0.42-0.59)**	0.93 (0.86-1.02)
P2Y12 Antagonist	1.01 (0.84-1.21)	1.03 (0.94-1.12)
Statin	0.58 (0.49-0.69)**	1.01 (0.92-1.10)
Beta-blocker	0.7 (0.59-0.82)**	1.03 (0.95-1.11)
ACE Inhibitor	0.67 (0.56-0.80)**	0.74 (0.68-0.80)**
Anticoagulant	0.77 (0.63-0.93)*	1.14 (1.04-1.24)*
<b>LTF MEDS</b>		
Aspirin	0.71 (0.49-1.05)	0.88 (0.78-1.01)
P2Y12 Antagonist	0.81 (0.51-1.24)	0.88 (0.76-1.01)
Statin	0.54 (0.37-0.79)**	0.91 (0.80-1.05)
Beta-blocker	0.81 (0.55-1.18)	0.88 (0.78-1.00)*
ACE Inhibitor	1 (0.67-1.46)	0.88 (0.77-1.00)*
Anticoagulant	0.85 (0.53-1.31)	1 (0.87-1.15)
<b>Geographic variation</b>		
Metropolitan	1.0 (Ref)	1.0 (Ref)
Others	0.98 (0.79-1.21)	0.87 (0.78-0.96)*

OR = Odds Ratio, CI = Confidence Interval



# Supplemental: Multivariable analysis for predictors

AIM 2



AIM 3



Characteristic	30-day mortality		1-year mortality	
	aOR (95% CI)	p-value	aOR (95% CI)	p-value
Age	1.03 (1.01-1.05)	<b>0.001</b>	1.01 (1.00-1.01)	<b>0.011</b>
Female	0.77 (1.01-1.05)	0.3	0.97 (0.84-1.13)	0.7
Total procedure time	1 (0.99-1.01)	>0.9	1 (1.00-1.00)	0.8
Total length of stay	0.99 (0.96-1.00)	0.2	1 (1.00-1.00)	>0.9
Estimated blood loss	1 (1.00-1.00)	0.15	1 (1.00-1.00)	<b>&lt;0.001</b>
<b>RACE</b>				
NH White	1.0 (Ref)		1.0 (Ref)	
NH Black or African American	0.52 (0.29-0.90)	<b>0.025</b>	1.12 (0.96-1.31)	0.2
Other	0.75 (0.34-1.50)	0.4	1.31 (1.03-1.65)	<b>0.023</b>
<b>COMORBIDITIES</b>				
Hypertension	2.21 (0.96-6.04)	0.088	1.28 (1.01-1.64)	<b>0.042</b>
Diabetes	1.48 (0.87-2.62)	0.2	0.91 (0.78-1.07)	0.3
CAD	1.16 (0.65-2.01)	0.6	0.94 (0.79-1.12)	0.5
CHF	1.15 (0.65-1.97)	0.6	1.26 (1.05-1.50)	<b>0.011</b>
Creatinine > 1.5 mg/dL	1.14 (0.64-1.96)	0.6	1.09 (0.90-1.30)	0.4
Prior vascular intervention	0.61 (0.36-1.02)	0.063	0.92 (0.79-1.08)	0.3



Characteristic	30-day mortality		1-year mortality	
	aOR (95% CI)	p-value	aOR (95% CI)	p-value
<b>PREOP MEDS</b>				
Aspirin	1.84 (0.94-3.67)	0.079	0.96 (0.78-1.17)	0.7
P2Y12 Antagonist	0.59 (0.27-1.30)	0.2	1.02 (0.81-1.28)	0.9
Statin	1.41 (0.64-3.14)	0.4	0.81 (0.64-1.02)	0.07
Beta-blocker	1.21 (0.58-2.52)	0.6	1.04 (0.83-1.32)	0.7
ACE Inhibitor	1.12 (0.59-2.11)	0.7	0.95 (0.78-1.17)	0.7
Anticoagulant	1.15 (0.56-2.29)	0.7	0.98 (0.79-1.21)	0.9
<b>D/C MEDS</b>				
Aspirin	0.4 (0.20-0.82)	<b>0.012</b>	1.17 (0.93-1.47)	0.2
P2Y12 Antagonist	2.32 (1.02-5.04)	<b>0.04</b>	0.94 (0.73-1.19)	0.6
Statin	0.5 (0.22-1.16)	0.11	1.34 (1.03-1.75)	<b>0.032</b>
Beta-blocker	0.54 (0.25-1.19)	0.12	0.76 (0.59-0.97)	<b>0.026</b>
ACE Inhibitor	0.7 (0.36-1.36)	0.3	0.99 (0.80-1.22)	>0.9
Anticoagulant	0.73 (0.34-1.51)	0.4	1.04 (0.83-1.29)	0.7
<b>LTF MEDS</b>				
Aspirin	1.11 (0.63-1.97)	0.7	0.87 (0.73-1.05)	0.15
P2Y12 Antagonist	0.78 (0.39-1.54)	0.5	0.91 (0.74-1.13)	0.4
Statin	0.42 (0.23-0.78)	<b>0.005</b>	0.98 (0.80-1.20)	0.8
Beta-blocker	1.06 (0.57-1.98)	0.9	0.96 (0.79-1.16)	0.6
ACE Inhibitor	1.24 (0.72-2.12)	0.4	0.96 (0.81-1.14)	0.6
Anticoagulant	0.87 (0.42-1.70)	0.7	0.92 (0.75-1.13)	0.4



Characteristic	30-day mortality		1-year mortality	
	aOR (95% CI)	p-value	aOR (95% CI)	p-value
<b>Post-op Surgical Site Infection</b>				
No SSI	1.0 (Ref)		1.0 (Ref)	
Superficial	2.21 (0.12-12.0)	0.5	1.2 (0.48-2.61)	0.7
Deep	3.11 (0.16-17.7)	0.3	1.84 (0.75-4.09)	0.2
Organ/Space	0	>0.9	3.8 (0.15-98.5)	0.4
<b>Post-op Myocardial Infarction</b>				
No MI	1.0 (Ref)		1.0 (Ref)	
Troponin only	0 (0.00-1,977)	>0.9	1.14 (0.45-2.52)	0.8
EKG or clinical	9 (1.36-34.1)	<b>0.005</b>	2.16 (0.93-4.60)	0.055
<b>Geographic variation</b>				
Metropolitan	1.0 (Ref)		1.0 (Ref)	
Others	0.33 (0.12-0.70)	<b>0.01</b>	0.55 (0.44-0.68)	<b>&lt;0.001</b>



# Multivariable analysis for predictors

Characteristic	30-day mortality		1-year mortality	
	aOR (95% CI)	P value	aOR (95% CI)	P value
<b>D/C MEDS</b>				
Aspirin	0.4 (0.20-0.82)	<b>0.012</b>	1.17 (0.93-1.47)	0.2
P2Y12 Antagonist	2.32 (1.02-5.04)	<b>0.04</b>	0.94 (0.73-1.19)	0.6
Statin	0.5 (0.22-1.16)	0.11	1.34 (1.03-1.75)	<b>0.032</b>
Beta-blocker	0.54 (0.25-1.19)	0.12	0.76 (0.59-0.97)	<b>0.026</b>
<b>LTF MEDS</b>				
Statin	0.42 (0.23-0.78)	<b>0.005</b>	0.98 (0.80-1.20)	0.8
<b>POST-OP MYOCARDIAL INFARCTION</b>				
No MI	1.0 (Ref)		1.0 (Ref)	
EKG or clinical	9 (1.36-34.1)	<b>0.005</b>	2.16 (0.93-4.60)	0.055

\*This table only includes  $P < 0.05$ , see supplemental for all predictor variables



# Multivariable analysis for predictors

Characteristic	30-day mortality		1-year mortality	
	aOR (95% CI)	P value	aOR (95% CI)	P value
Age	1.03 (1.01-1.05)	0.001	1.01 (1.00-1.01)	0.011
<b>RACE</b>				
NH White	1.0 (Ref)		1.0 (Ref)	
NH Black or African American	0.52 (0.29-0.90)	0.025	1.12 (0.96-1.31)	0.2
Other	0.75 (0.34-1.50)	0.4	1.31 (1.03-1.65)	0.023
<b>COMORBIDITIES</b>				
Hypertension	2.21 (0.96-6.04)	0.088	1.28 (1.01-1.64)	0.042
CHF	1.15 (0.65-1.97)	0.6	1.26 (1.05-1.50)	0.011
<b>GEOGRAPHIC REGION</b>				
Metropolitan	1.0 (Ref)		1.0 (Ref)	
Non-metropolitan	0.33 (0.12-0.70)	0.01	0.55 (0.44-0.68)	<0.001

\*This table only includes  $P < 0.05$ , see supplemental for all predictor variables



# Multivariable analysis for predictors



	Increased Risk	Protective Effect
<b>30-day mortality</b>	<ul style="list-style-type: none"><li>• Age</li><li>• D/C P2Y12 antagonist</li><li>• Post-op EKG or clinical MI</li></ul>	<ul style="list-style-type: none"><li>• NH African American</li><li>• D/C Aspirin</li><li>• LTF Statin</li><li>• Non-metropolitan area</li></ul>
<b>1-year mortality</b>	<ul style="list-style-type: none"><li>• Age</li><li>• Other race</li><li>• Hypertension</li><li>• CHF</li><li>• D/C Statin</li></ul>	<ul style="list-style-type: none"><li>• D/C Beta-blocker</li><li>• Non-metropolitan area</li></ul>



## Supplemental: Consistent predictors between univariable and multivariable analyses

	Increased Risk	Protective Effect
<b>30-day mortality</b>	<ul style="list-style-type: none"><li>• Age</li></ul>	<ul style="list-style-type: none"><li>• NH African American</li><li>• DC Aspirin</li><li>• LTF Statin</li></ul>
<b>1-year mortality</b>	<ul style="list-style-type: none"><li>• Age</li><li>• Hypertension</li><li>• CHF</li></ul>	<ul style="list-style-type: none"><li>• DC Beta-blocker</li><li>• Non-metropolitan area</li></ul>





# **LIMITATIONS**

- Retrospective analysis
- Cause of death not considered, missing information
- Patients with no long-term follow-up information excluded
- Not enough information about COVID-19 pandemic



# CONCLUSION

## Major Findings

- Increasing LEA mortality trend from 2013 to 2022
- Predictors for 30-day and 1-year mortality

	Increased Risk	Protective Effect
30-day mortality	Age, DC P2Y12 antagonist, Post-op EKG or clinical MI	NH African American, DC Aspirin, LTF Statin, Non-metropolitan area
1-year mortality	Age, Other race, Hypertension, CHF, DC Statin	DC Beta-blocker, Non-metropolitan area

## Implications

- Need to investigate effect of COVID-19 pandemic on LEA mortality
- Possible predictors: HTN, CHF, medical management, surgical outcomes, non-metropolitan area

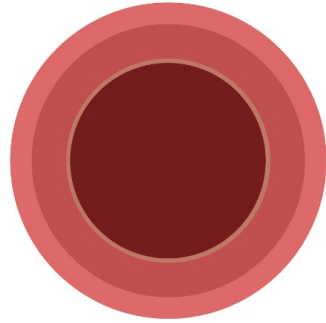
The background is a detailed illustration of a blood vessel. The vessel wall is shown in a reddish-pink hue. Inside the vessel, numerous red blood cells are depicted as red, biconcave discs. A prominent yellow, textured plaque, representing atherosclerosis, is shown partially blocking the vessel's lumen. The overall scene is set against a dark, muted background, emphasizing the internal structure of the blood vessel.

# Gender Disparities in Pre-Operative Management for Peripheral Arterial Disease, & Its Influence on Post-Operative Outcomes

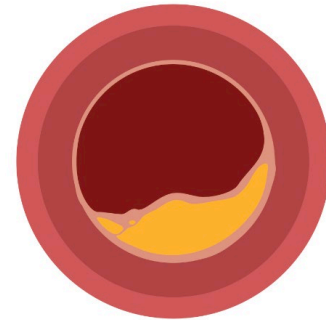
Danielle D. Gaskin, MSPH  
SRP Mentor: Trissa Babrowski, M.D.



AT THE FOREFRONT  
**UChicago  
Medicine**



**Peripheral Arterial Disease (PAD)** affects 10-20% of U.S. adults.

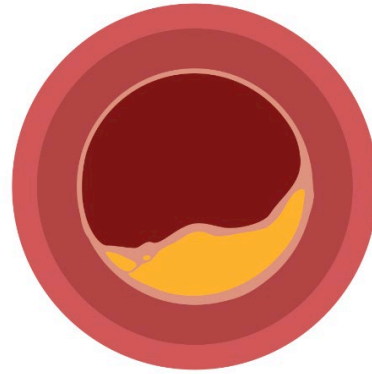
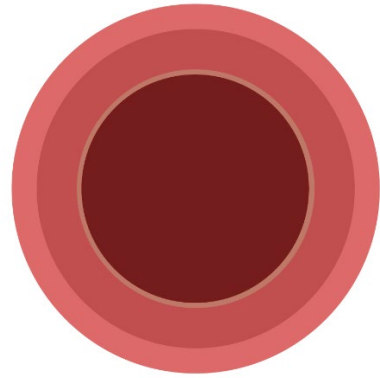


Untreated or exacerbation of symptoms is associated with increased patient morbidity and mortality.



Medical therapy is the first-line treatment, but surgical intervention is also an option.

**Gender disparities exist.**

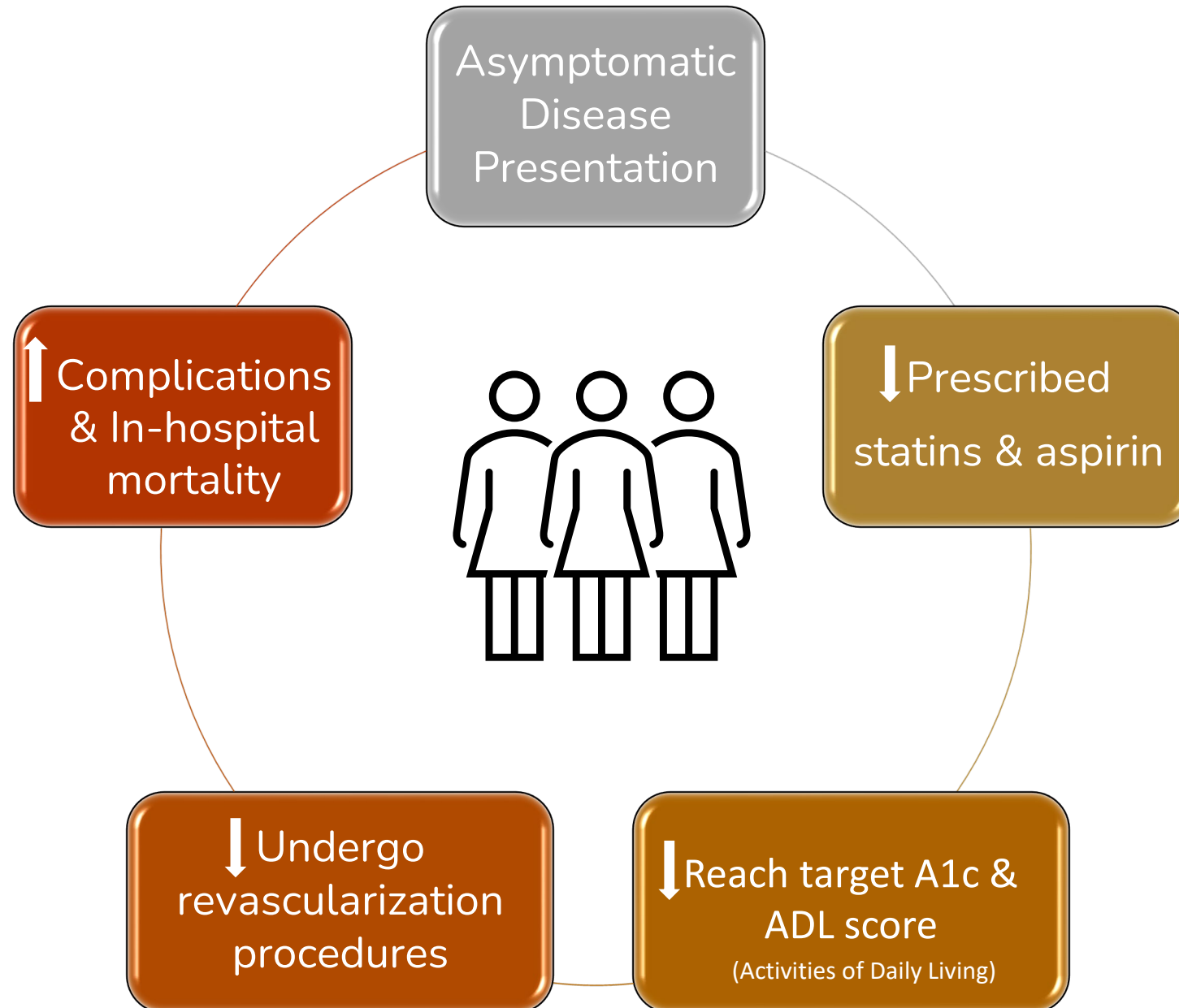


Peripheral Arterial Disease (PAD)  
affects 10-20% of U.S. adults, but...

Gender  
disparities exist.



## PAD AND WOMEN



To determine if the rates of medical pre-operative management of patients with peripheral arterial disease (PAD) is the same for women compared to men.



## METHODOLOGY

Design: Retrospective Cohort Study of Patients Undergoing Vascular Intervention from 2009-2022 in the U.S.

Primary Outcome: Pre-Operative Medical Management

- Statins
- Aspirin
- Antiplatelets
- Anticoagulants
- ACE Inhibitors



Primary Predictor: Patient Gender

Patient Characteristics: Demographic and Relevant Health History



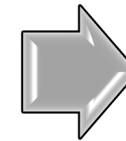


## ANALYTICAL APPROACH

To determine if the rates of medical pre-operative management of patients with peripheral arterial disease is the same for women compared to men.



Multivariable modified Poisson regression model to estimate the likelihood of medication use prior to vascular surgery.



Results described as Incidence Rate Ratios (IRR); 95% CI, and *p*-value.



**Peripheral Vascular  
Intervention Dataset  
(n=362,812)**

**Peripheral Vascular  
Intervention Long Term  
Follow-up Dataset  
(n=288,038)**

**Infrainguinal Bypass  
Dataset  
(n=77,965)**

**Infrainguinal Bypass  
Long Term Follow-up  
Dataset  
(n=88,131)**

Missing follow-up data n=85,919  
Missing LTF Mortality n=258,418  
Prior Arterial Bypass, Endarterectomy, and PVI n=179,633  
Subsequent Procedures n=351,193  
Multiple Patients n=126,985  
Missing Amputation Data n=394,547

Missing follow-up data n=22,388  
Missing LTF Mortality n=67,832  
Prior Arterial Bypass n=54,751  
Prior Stent n=32,967  
Subsequent Procedures n=86,479

PVI/LTF Data sets  
merged

Infrainguinal/LTF  
Data sets merged

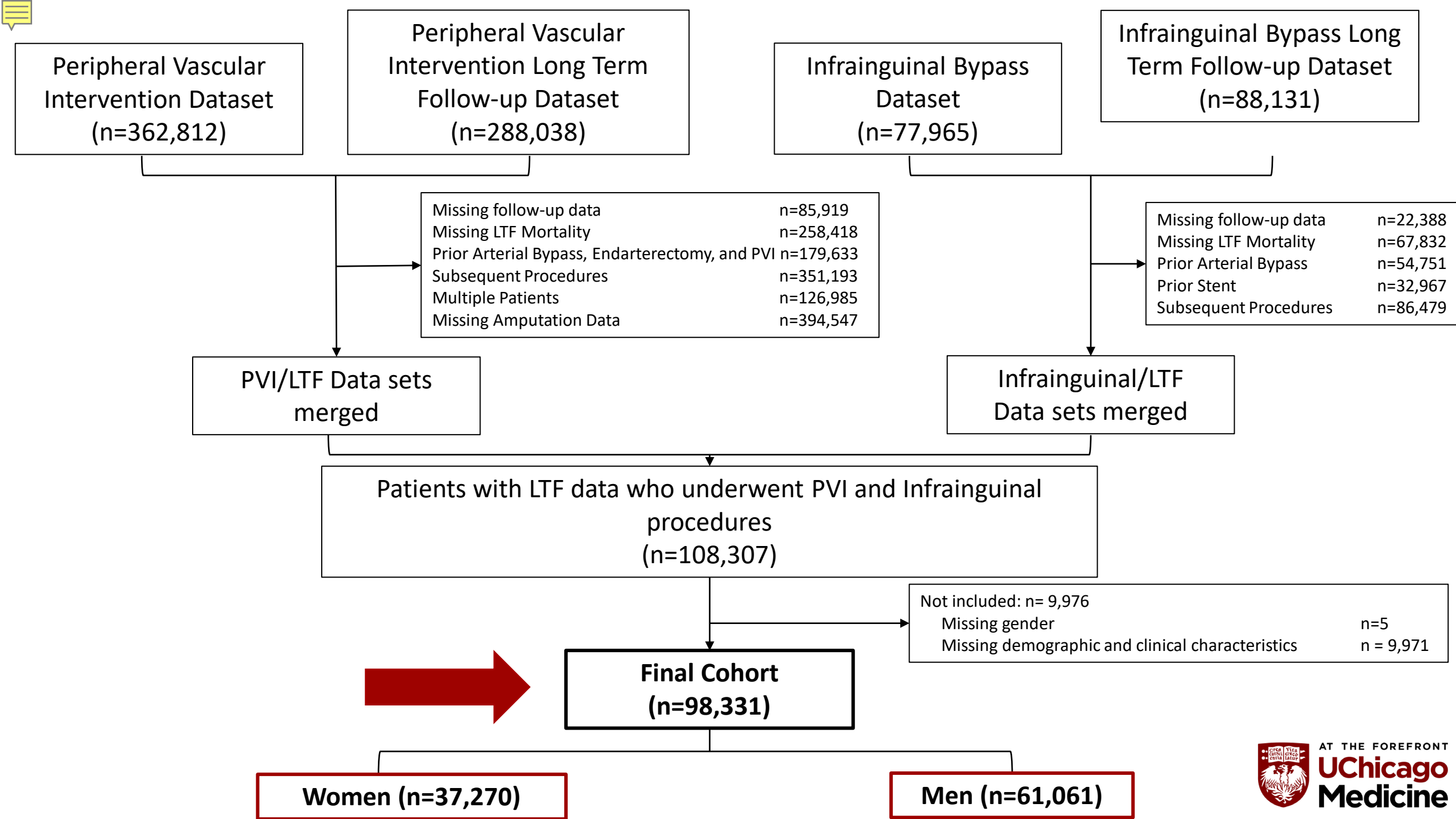
Patients with LTF data who underwent PVI and Infrainguinal  
procedures  
(n=108,307)

Not included: n= 9,976  
Missing gender n=5  
Missing demographic and clinical characteristics n= 9,971

**Final Cohort  
(n=98,331)**

**Women (n=37,270)**

**Men (n=61,061)**





## FINDINGS

*Table 1. Demographic and Health Characteristics of Our Sample (N=98,331)*

	Women (n=37,270)	Men (n=61,061)
Age, years (mean $\pm$ SD)	<b>68.6 <math>\pm</math> 11.9</b>	66.9 $\pm$ 10.6
Race [N, %]		
White	27,845 (74.7)	48,660 ( <b>79.7</b> )
Black/African American	7,385 ( <b>19.8</b> )	8,990 (14.7)
Primary Insurance		
Medicare	21,065 ( <b>56.5</b> )	31,389 (51.4)
Medicaid	3,116 (8.4)	4,719 (7.7)
Commercial	12,203 (32.7)	22,367 ( <b>36.6</b> )

## FINDINGS

*Table 1. Demographic and Health Characteristics of Our Sample (N=98,331)*

	Women (n=37,270)	Men (n=61,061)
Comorbidities (N, %)		
History of Stroke	3,368 ( <b>12.2</b> )	4,622 (9.9)
History of MI	9,227 (24.8)	19,197 ( <b>31.4</b> )
COPD	10,016 ( <b>26.9</b> )	13,954 (22.8)
Cigarette Smoking*		
Never	10,357 ( <b>27.8</b> )	11,217 (18.4)
Prior (quit $\geq$ 1 month)	13,404 (36.0)	26,394 ( <b>43.2</b> )
Current	13,509 (36.2)	23,450 (38.4)

## FINDINGS

*Table 3. Estimated Risk Ratios for Use of Preoperative Medications by Women with Peripheral Arterial Disease (N=98,331)*

	Incidence Rate Ratio	95% Confidence Interval	p-Value
Statins	0.95	0.93, 0.96	<0.001
Aspirin	0.97	0.95, 0.98	<0.001
Antiplatelets	1.09	1.06, 1.11	<0.001
Anticoagulants	0.79	0.77, 0.82	<0.001
ACE Inhibitors	0.98	0.96, 1.00	0.02

Note: Men served as the reference group. Significance was set at 0.05. Values denoted with an asterisk (\*) have more than 5% of the sample missing data. All models were run separately and were adjusted from the demographic and health characteristics listed in Table 1. Antiplatelet drugs include Clopidogrel, Prasugrel, Ticagrelor, Ticlopidine, PAR1 Inhibitor, and other P2Y12 Inhibitors. Anticoagulation drugs include Warfarin, Dabigatran, Vitamin K Antagonists, Thrombin Inhibitor, Factor Xa Inhibitor and other drugs.



## FINDINGS

Table 3. Estimated Risk Ratios for Use of Antiplatelet (& Aspirin) by Women with Peripheral Arterial Disease (N=98,331)

	Incidence Rate Ratio	95% Confidence Interval	p-Value
<b>All Antiplatelets</b>	<b>1.06</b>	<b>1.03, 1.09</b>	<b>&lt;0.001</b>
Statins	0.95	0.93, 0.96	<0.001
Anti-Coagulation Drugs	0.79	0.77, 0.82	<0.001
ACE Inhibitors	0.98	0.96, 1.00	0.02

Note: Men served as the reference group. Significance was set at 0.05. Values denoted with an asterisk (\*) have more than 5% of the sample missing data. All models were run separately and were adjusted from the demographic and health characteristics listed in Table 1. Antiplatelet drugs include **Aspirin**, Clopidogrel, Prasugrel, Ticagrelor, Ticlopidine, PAR1 Inhibitor, and other P2Y12 Inhibitors. Anticoagulation drugs include Warfarin, Dabigatran, Vitamin K Antagonists, Thrombin Inhibitor, Factor Xa Inhibitor and other drugs.

## LIMITATIONS

1. Merging datasets hides nuances.

- For example, beta-blockers



2. We did not account for disease severity.

- Ankle-Brachial Index not included in the analysis



3. We cannot speak for medical judgement.





### **Women are medically undermanaged for their PAD compared to men.**

- Patients with more significant cardiovascular history are more likely to receive aspirin, antiplatelets, and statins.
- Aspirin is a form of antiplatelet therapy.
- Women may have specific characteristics that affect prescribing practices.
- Anticoagulants (e.g., Warfarin) are the least used medication → research on its efficacy for PAD is varied.

## FUTURE DIRECTION



To determine if the rates of medical pre-operative management of patients with peripheral arterial disease is the same for women compared to men.

02

To determine if women diagnosed with peripheral arterial disease who receive standard pre-operative care have similar post-operative outcomes to men with the same condition.

03

To examine the long-term medical management in patients undergoing revascularization and its effect on outcomes, based on gender.

## ANALYTICAL APPROACH

### Primary Outcomes:

- Major Limb Amputations
- Mortality

### Secondary Outcomes:

- Primary-Assisted and Secondary Patency
- Heart Attack
- Stroke

To determine if women diagnosed with peripheral arterial disease who receive standard pre-operative care have similar post-operative outcomes to men with the same condition.

Propensity score weighted Cox proportional regression models to compare gender differences in primary and secondary outcomes following vascular surgery.

To examine the long-term medical management in patients undergoing revascularization and its effect on outcomes, based on gender.

Propensity score weighted Cox proportional regression models to compare gender differences in (1) medical management at discharge and (2) primary and secondary outcomes approximately one-year post vascular surgery.

## ANALYTICAL APPROACH

To determine if women diagnosed with peripheral arterial disease who receive standard pre-operative care have similar post-operative outcomes to men with the same condition.

Propensity score weighted Cox proportional regression models to compare gender differences in primary and secondary outcomes following vascular surgery.

To examine the long-term medical management in patients undergoing revascularization and its effect on outcomes, based on gender.

Propensity score weighted Cox proportional regression models to compare gender differences in (1) medical management at discharge and (2) primary and secondary outcomes approximately one-year post vascular surgery.

### Primary Outcomes:

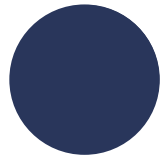
- Major Limb Amputations
- Mortality

### Secondary Outcomes:

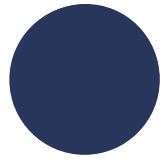
- ~~Primary-Assisted and~~ Secondary Patency
- Heart Attack
- Stroke

# CE/CME Meeting Attendance Credit

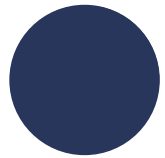
7 days to submit; No email reminder



**P**UT your FULL NAME in Zoom for remote attendees. Record of meeting attendance is required for CME/CE credit (no exceptions will be made)



**S**END an email to [achurilla@vascularsociety.org](mailto:achurilla@vascularsociety.org) with names of group members that are sharing 1 device



**O**FFICIALLY apply for CME/CE credit by clicking the URL or QR code provided



[https://dmu.co1.qualtrics.com/jfe/form/SV\\_6Pbu85fsAS](https://dmu.co1.qualtrics.com/jfe/form/SV_6Pbu85fsAS)

# SUPRA CLTI: Major Complications

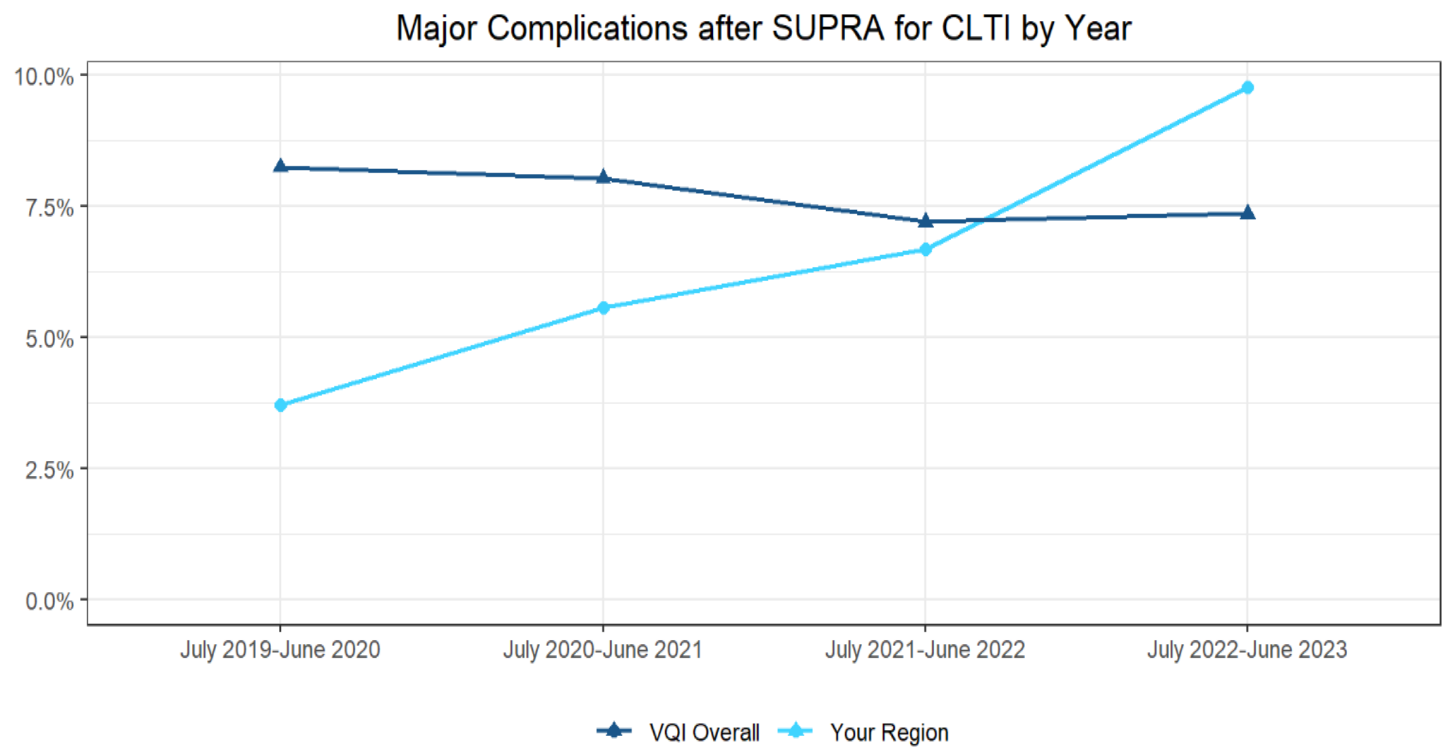
Procedures performed between July 1, 2022 and June 30, 2023

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

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

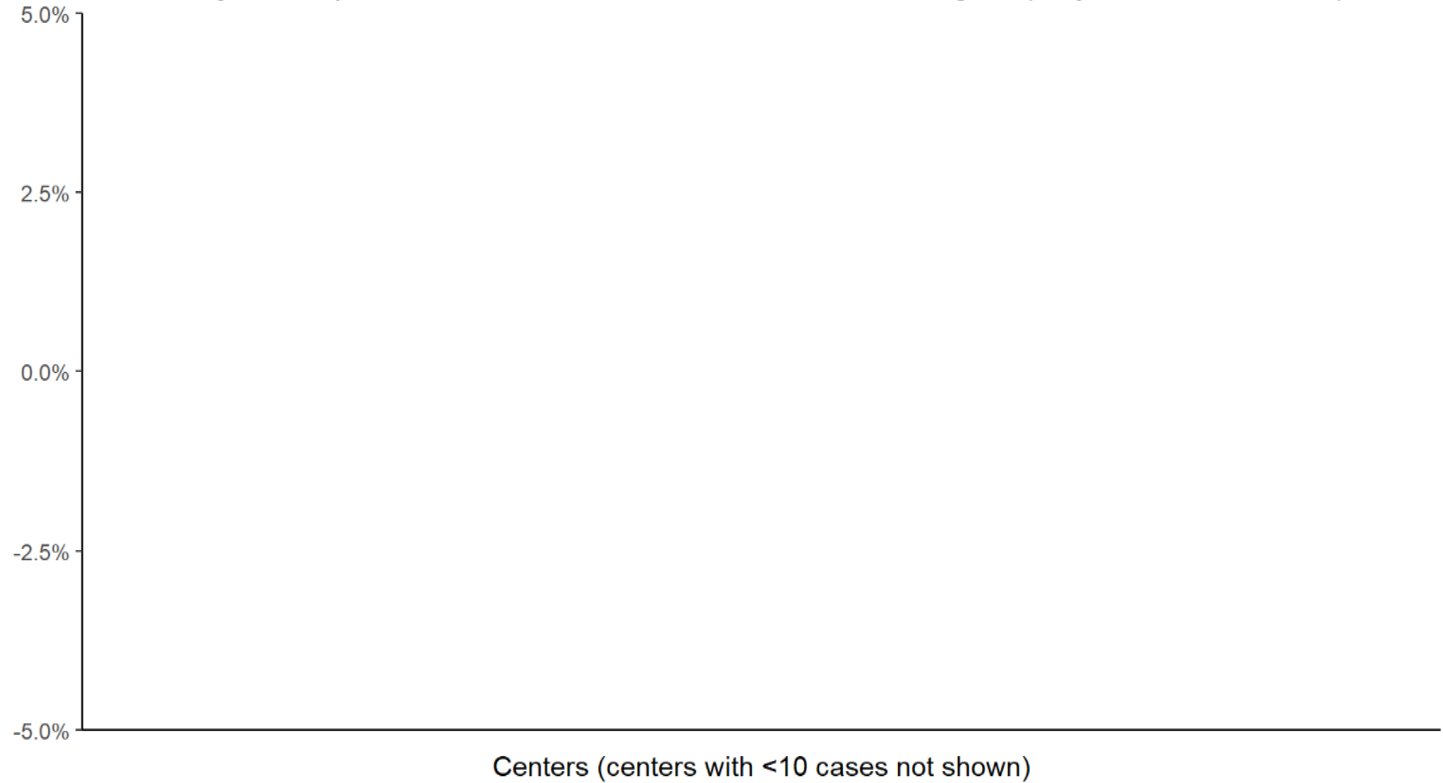
	Your Region VQI Overall	
Number of SUPRA procedures meeting inclusion criteria	41	1266
Percentage with major complications	9.8%	7.3%

# SUPRA CLTI: Major Complications



# SUPRA CLTI: Major Complications

Major Complications after SUPRA for CLTI in Your Region (July 2022-June 2023)

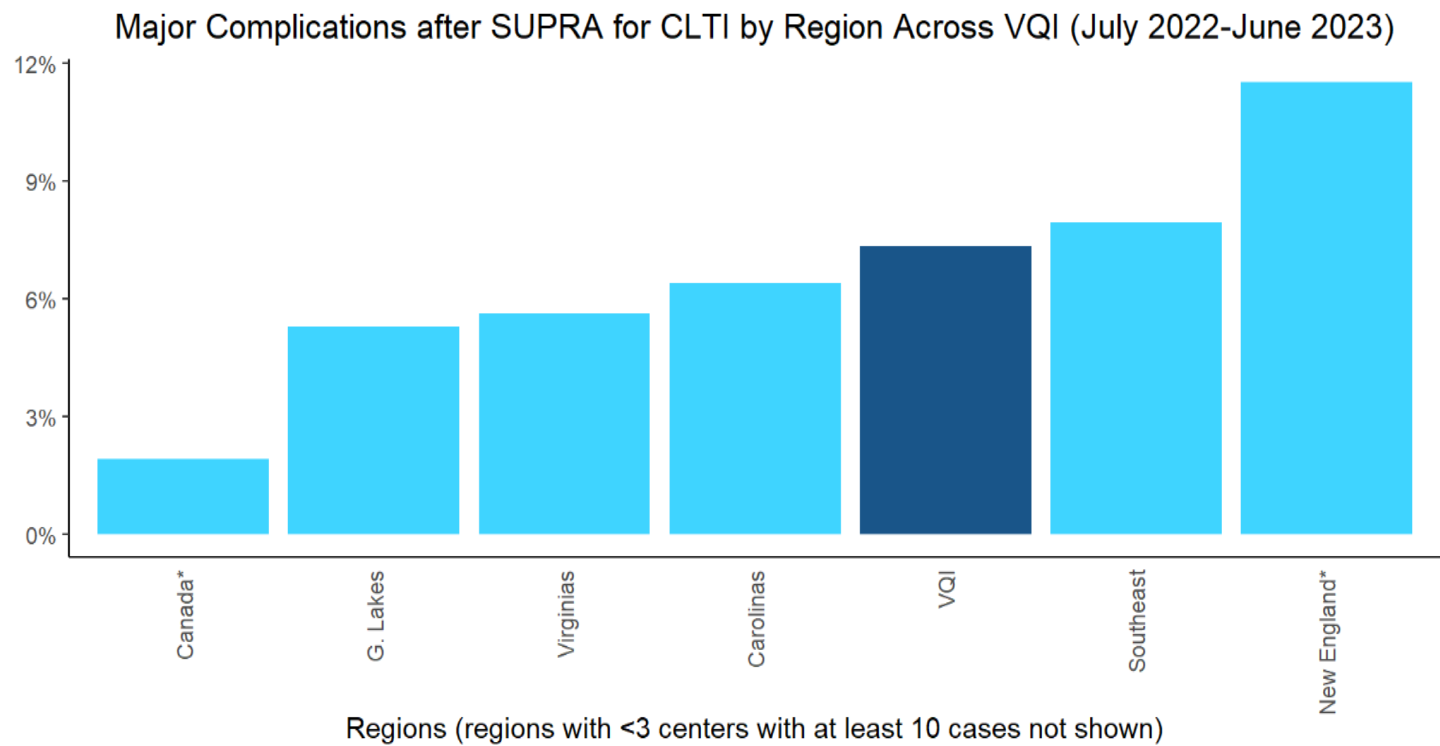


0 of 5 centers displayed

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



# SUPRA CLTI: Major Complications



“\*” Indicates region’s rate differs significantly from the VQI rate.

# LEAMP: Postop Complications

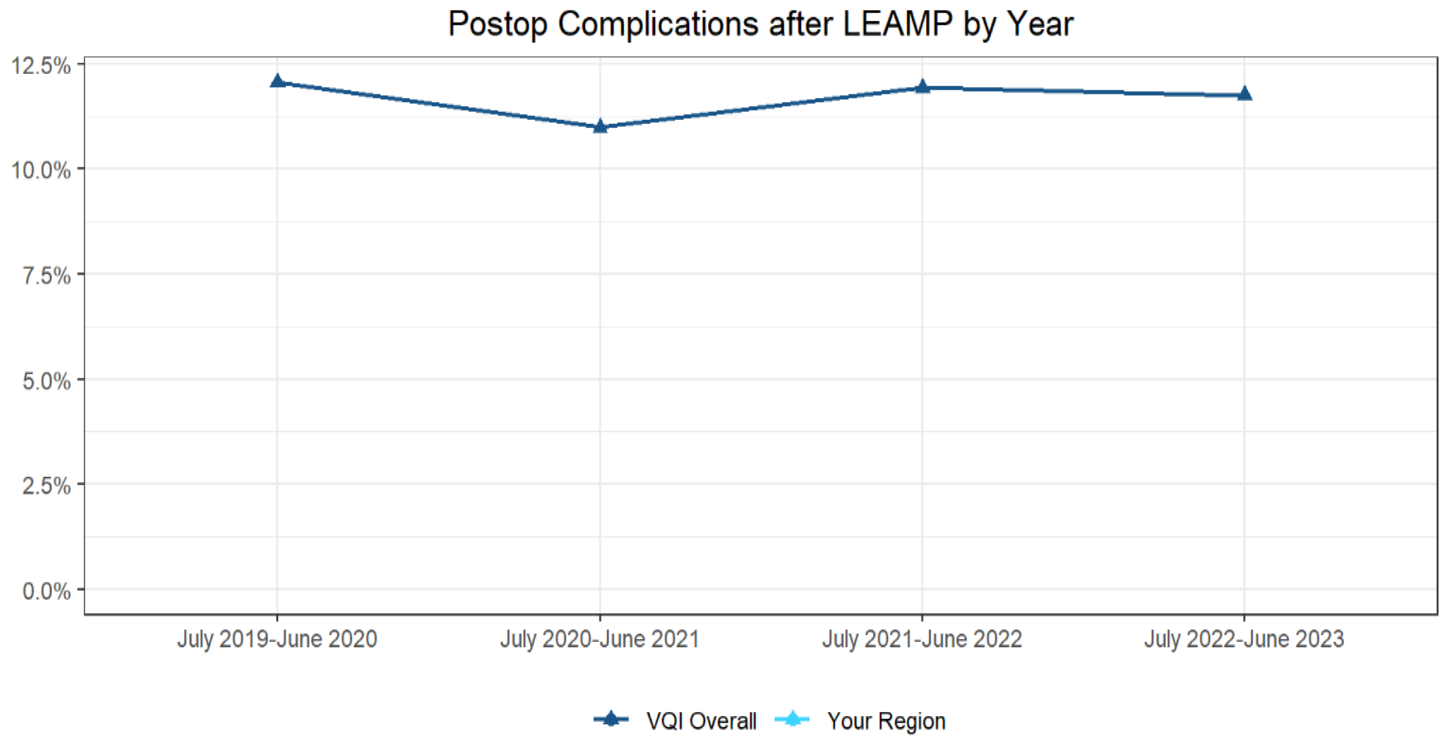
Procedures performed between July 1, 2022 and June 30, 2023

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

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

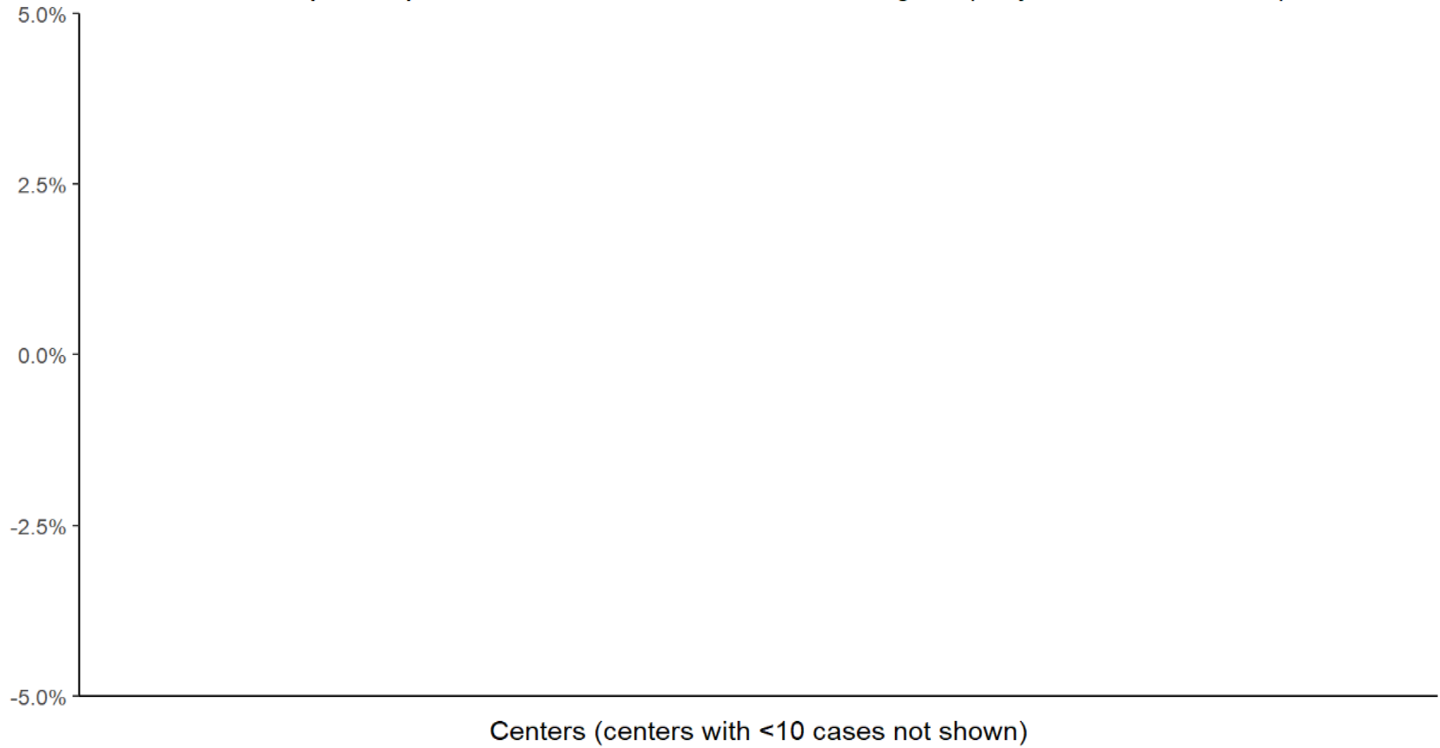
	Your Region VQI Overall	
Number of LEAMP procedures meeting inclusion criteria	NA (<3 centers)	3640
Percentage with postoperative complications		11.8%

# LEAMP: Postop Complications



# LEAMP: Postop Complications

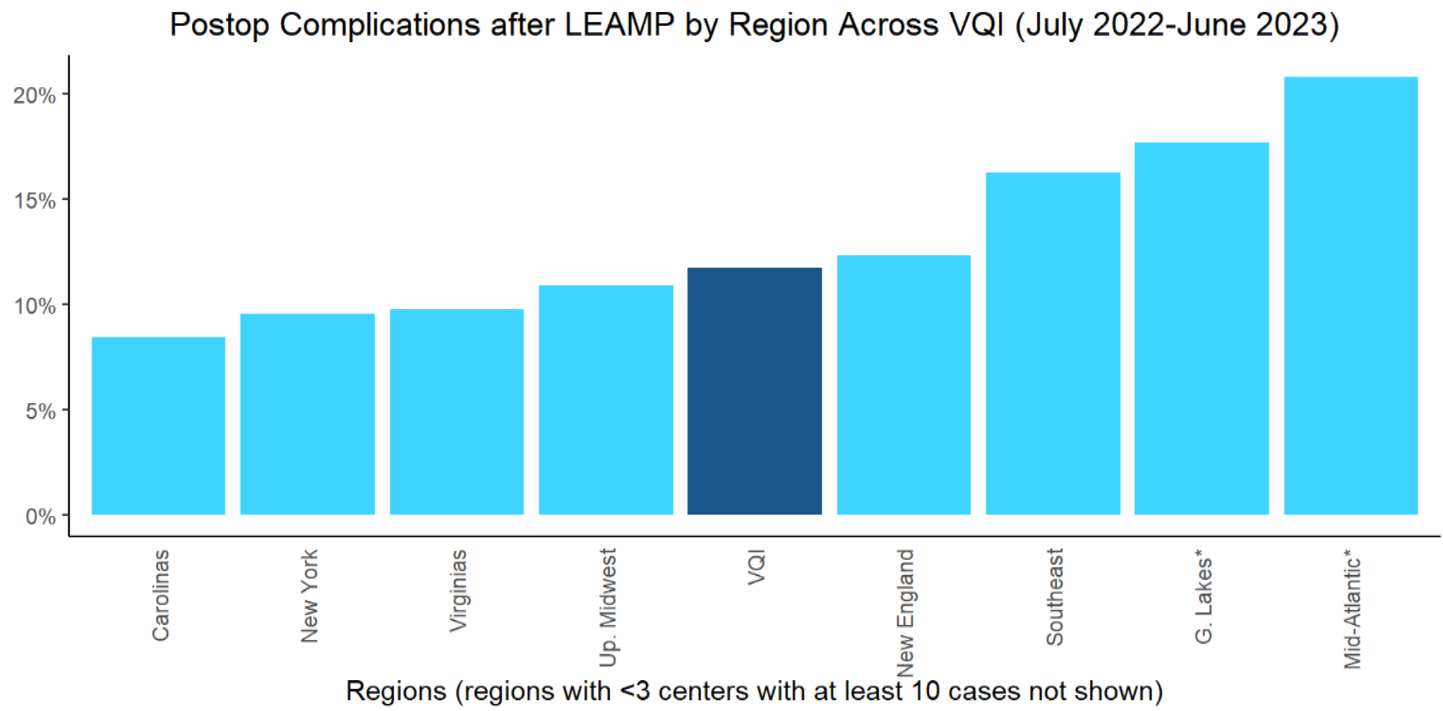
Postop Complications after LEAMP in Your Region (July 2022-June 2023)



0 of 2 centers displayed

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

# LEAMP: Postop Complications



“\*\*” Indicates region’s rate differs significantly from the VQI rate.

# IVCF: Filter Retrieval Reporting

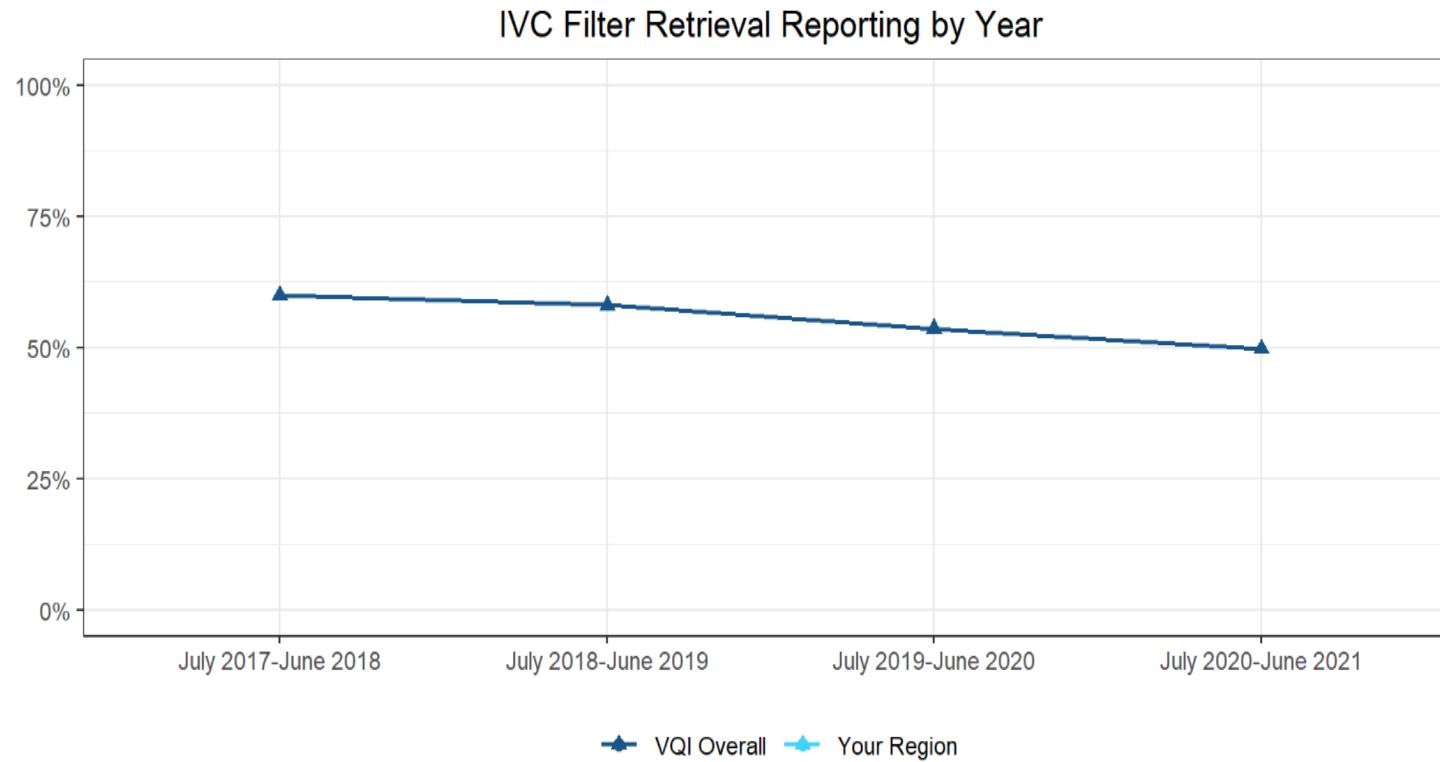
Procedures performed between July 1, 2020 and June 30, 2021

Includes Inferior Vena Cava Filter (IVCF) procedures. Excludes filters with permanent planned duration, patients who have expired, or patients where no follow-up was possible.

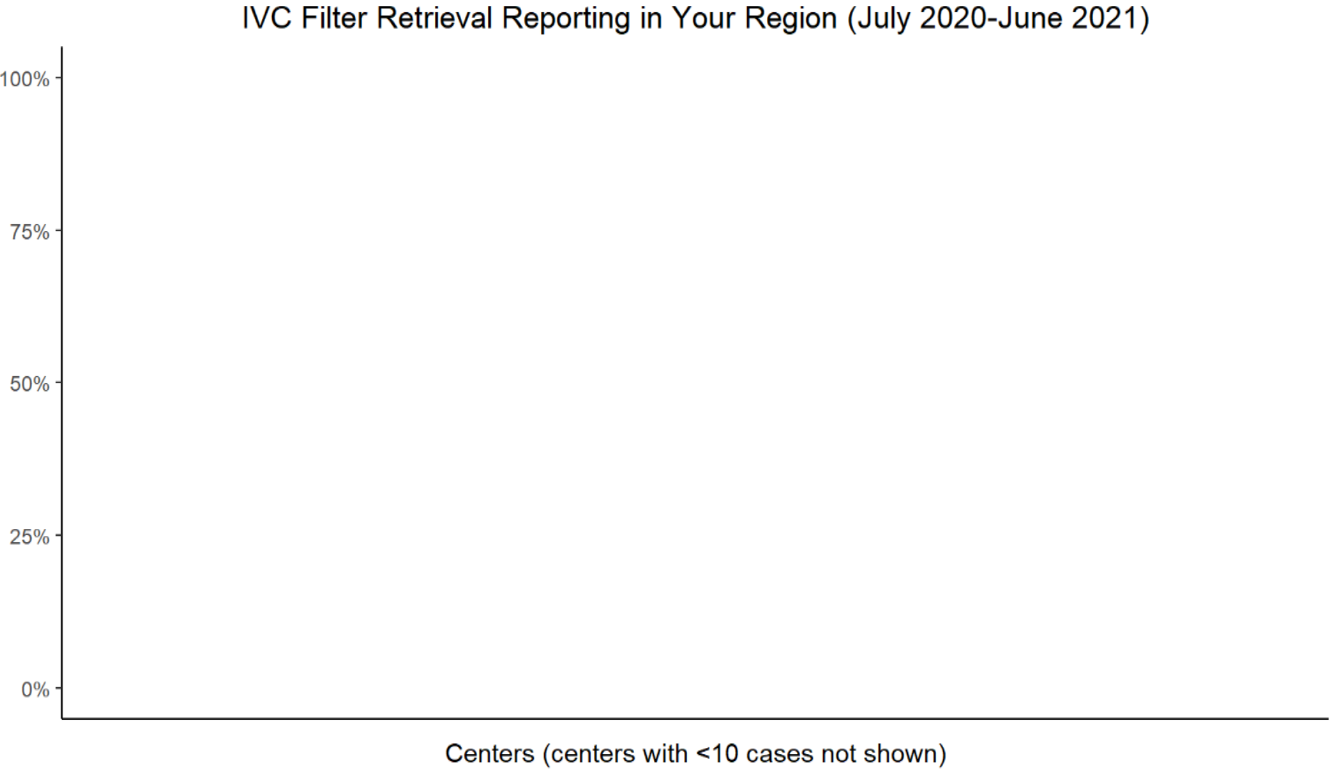
The table below gives the number of procedures meeting the inclusion criteria, and the percentage of those procedures in which the filter was reported as retrieved (or retrieval was attempted) at any time post-procedure. Because follow-up is critical for assessing filter retrieval, cases meeting the inclusion criteria are broken down into those with follow-up records (at least 1 follow-up record) and those without follow-up records.

	<b>Your Region VQI Overall</b>	
Number of IVCF procedures meeting inclusion criteria	NA (<3 centers)	1025
Number without follow-up records		233
Number with follow-up records		792
Percentage with Filter Retrieval, or Attempt at Retrieval		49.8%
Percentage not retrieved because No Follow-up Records Created		22.7%
Percentage not retrieved because Not Clinically Indicated		18.3%
Percentage not retrieved because Patient Declined		1.4%
Percentage not retrieved because Lost to Follow-Up		5.2%
Percentage not retrieved because Deemed Too Late for Removal		0%
Percentage not retrieved because Planned Later Removal		2.8%
Percentage not retrieved because No Reason Given		0.3%

# IVCF: Filter Retrieval Reporting



# IVCF: Filter Retrieval Reporting

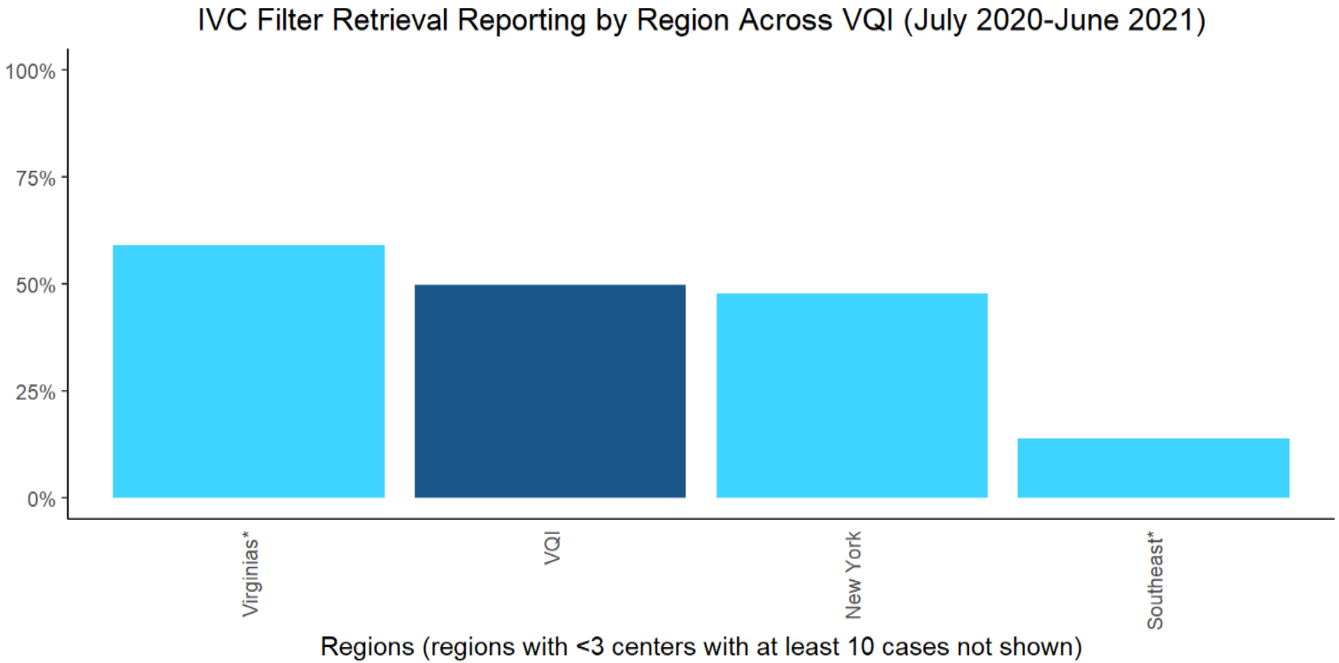


0 of 2 centers displayed

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



# IVCF: Filter Retrieval Reporting



“\*\*” Indicates region’s rate differs significantly from the VQI rate.

# Break

**\*Please return at 3pm CT**

---

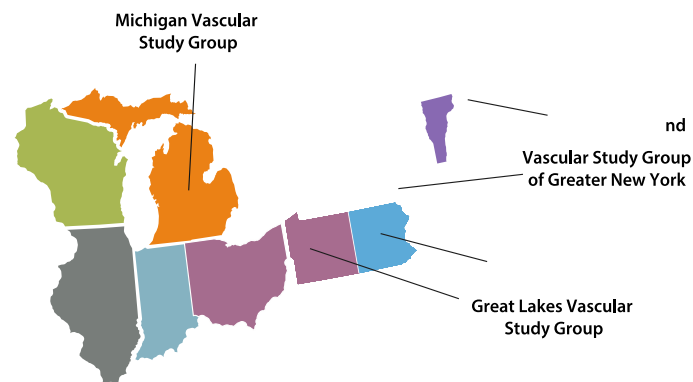
# VQI National Update

---

Betsy Wymer, DNP, RN, CV-BC  
PSO Director of Quality

# VQI Participation

Canadian Vascular  
Quality Initiative



(VOICE)

AK

HI

Puerto Rico

## Regional Breakdown

Canadian Vascular Quality Initiative | 7 Centers

Carolinas Vascular Quality Group | 40 Centers

Great Lakes Vascular Study Group | 63 Centers

Michigan Vascular Study Group | 37 Centers

Mid-America Vascular Study Group | 75 Centers

Mid-Atlantic Vascular Study Group | 90 Centers

MidSouth Vascular Study Group | 26 Centers

Midwest Vascular Collaborative | 51 Centers

Northern California Vascular Study Group | 27 Centers

Pacific NW Vascular Study Group | 41 Centers

Rocky Mountain Vascular Quality Initiative | 56 Centers

Southeastern Vascular Study Group | 139 Centers

Southern California VOICE | 43 Centers

Southern Vascular Outcomes Network | 114 Centers

Upper Midwest Vascular Network | 66 Centers

Vascular Study Group of Greater New York | 46 Centers

Vascular Study Group of New England | 50 Centers

Virginias Vascular Study Group | 44 Centers

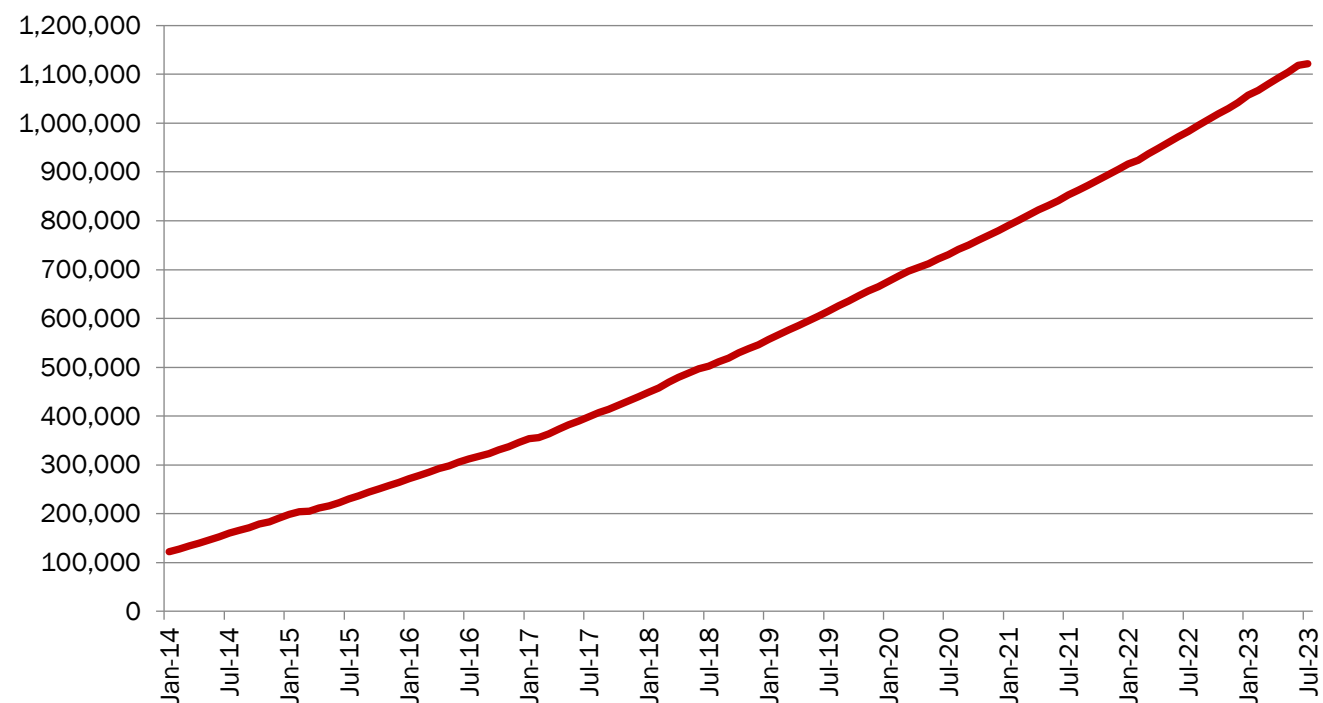
Singapore | 1 Center

**TOTAL CENTERS | 1,021 Centers**

# Procedures Captured

TOTAL PROCEDURES CAPTURED (as of 8/1/2023)		1,121,484
Peripheral Vascular Intervention		385,649
Carotid Endarterectomy		198,537
Infra-Inguinal Bypass		83,175
Endovascular AAA Repair		82,585
Hemodialysis Access		78,639
Carotid Artery Stent		105,006
Varicose Vein		63,229
Supra-Inguinal Bypass		26,445
Thoracic and Complex EVAR		30,162
Lower Extremity Amputations		29,693
IVC Filter		18,607
Open AAA Repair		18,169
Vascular Medicine Consult		1,367
Venous Stent		221

## VQI Total Procedure Volume



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



# Regional Meeting CME/CE Credit



Des Moines University is the continuing education provider for this activity.



The attendance roster will be cross-referenced with those applying for CME/CE. Sign in correctly.



Each participant **MUST COMPLETE BOTH** the attendance attestation and the meeting evaluation from the URL site – one form.



You will have 7 days from the date of the meeting to complete the forms and **SUBMIT**.



Approximately 14 days from the meeting, Des Moines University will email you instructions on how to access your certificate.





PSO leadership is providing continuing education credit to you at no charge!

# 2023 VQI@VAM Wrap Up

- Recordings & slides available on the VQI@VAM Planner
  - Log into the Planner <https://2023svsvam.eventscribe.net/>
  - Select Full Schedule
  - Select your preferred day
  - Select your session



Tuesday, June 14, 2022

12:00 PM – 5:00 PM EDT      VQI Annual Meeting  


Location:312

VQI Annual Meeting



**PSO Reporting and Analytics: Drilling into Quarterly Dashboards**



 Tuesday, June 14, 2022     12:15 PM – 12:45 PM EDT

**Presenter(s)**



**Leila Mureebe, MD**  
Duke University Medical Center  
Durham

 Video 

 Slides 

**SVS** | **VQI**  
In collaboration with NCDR\*

# Have you checked out the new VQI Website?

If not, here's just a peek at what you're missing!

- 1 Registry specific pages – deeper dive into each of the SVS VQI's 14 registries
- 2 The ability to view the VQI.org website in your preferred language! Don't see your preferred language, reach out to see about getting it added to the site
- 3 New webinars & presentations added regularly – either on the main events page, or in Members Only

For more information about the VQI website, contact Jen Correa, SVS PSO Marketing Manager at [jcorrea@svspsso.org](mailto:jcorrea@svspsso.org).

“Participation in the Vascular Quality Initiative is the best way to study our outcomes, and make sure we provide the highest quality care possible to our patients with vascular disease.”

Dr. Phillip Goodney – Dartmouth Health

## IMPORTANCE OF REGIONAL GROUPS

Through regional quality group meetings, participants share and analyze collected data to initiate quality improvement projects to reduce complications, readmissions, and length of stay. Quality improvements projects can translate directly to hospital cost reduction. With continued expansion of the SVS VQI and regional quality groups, data will more rapidly accumulate and can be leveraged for benchmarking and quality improvement initiatives.

Benefits of regional quality group participation include:

- Anonymous, benchmarked reports for comparison
- Increasing power and ability to detect root causes of outcomes
- Facilitating & initiating quality improvement projects
- Access to blinded datasets for data analysis at regional and national level
- Improving long-term patient surveillance

[FIND YOUR REGIONAL GROUP →](#)





## QUALITY IMPROVEMENT – MEMBERS ONLY



# VQI Members Only

**Access to information exclusively available to members of the SVS VQI**

- Find information that is not publicly shared on the VQI Website (ex: Quality Guide, Specific Registry Webinars, etc....)
- Find links and other information for upcoming Regional Group meetings
- Remember, access to the Members Only area of the VQI Website requires a different login than your PATHWAYS user account
- For account access email Jen Correa at: [jcorrea@svspso.org](mailto:jcorrea@svspso.org) to receive your username and temporary password

# FDA Communications

<https://www.vqi.org/resources/fda-communication/>

## FDA COMMUNICATIONS

### NEWS/UPDATES FROM THE U.S. FOOD AND DRUG ADMINISTRATION

September 12, 2022

**FDA Advisory Panel Recommendations on Lifelong Surveillance and Long-Term Postmarket Data Collection for Patients with AAA Endovascular Aortic Repair – Letter to Health Care Providers**

---

March 9, 2022

**Medtronic Recalls TurboHawk Plus Directional Atherectomy System Due to Risk of Tip Damage During Use**



# Readmission Study University of Rochester

---

- 30d Readmission rates
  - Review of readmission cost
  - Frequency of readmissions
  - Frequency of reoperations & cost
- Univ Rochester piloting 30D readmission project
- To join the pilot or for questions contact Stacey Esposito at:

[Stacey\\_Esposito@URMC.Rochester.edu](mailto:Stacey_Esposito@URMC.Rochester.edu)

Benefits determined by the study include:

- More accurate capture of complications after discharge/use of LTFU form for complications prior to 9 mos.
- Track & trend unplanned readmissions
- Identify the reason for unplanned readmissions
- Evidence based data to identify at risk patient populations
- Benchmark against Region and All VQI

- Smoking Cessation launched as a new NQI June 2023 w/ variables added to all Arterial Registries – Early Q3 2023
- Help Text Enhancement Tool – May 2023
- Interactive plots for the Biannual Center and Regional Level Reports
- Retirement of most COVID Variables
- Retirement of >500 Opioid variables
- Collection of Exercise Program variables in Lower Extremity Registries
- In Development:
  - Open Aorta Registry
  - Infrainguinal/Suprainguinal Registry Follow-up reports
  - Continued efforts for harmonization across registries
  - Enhanced reporting measure for biannual reports
  - EPIC integration into VQI *Looking for Center volunteers*

**what's next?**

# Cardiac Risk Index

SVS | VQI

In collaboration with NCDR\*

Home

Calculators

About

## Suprainguinal Bypass (SUPRA)

Applicable to any primary, non-emergent suprainguinal bypass for aneurysmal or occlusive disease for indications of claudication, rest pain, tissue loss, or acute ischemia

Generate report

Age <sup>i</sup>

Under 60

Graft Origin <sup>i</sup>

Axillary

ASA Class <sup>i</sup>

1, 2, or 3

History of Coronary Artery Disease <sup>i</sup>

None

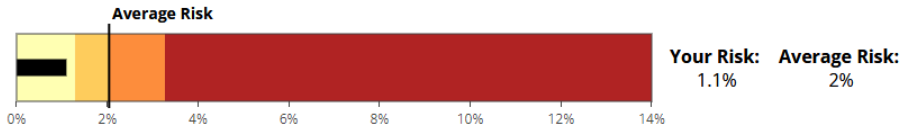
Results of Stress Test within Past 2 Years <sup>i</sup>

Not Done

Indication for Surgery <sup>i</sup>

Claudication

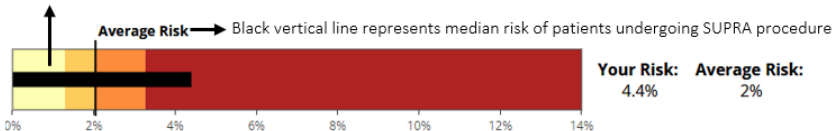
1.1 %



**Your risk value falls within the 1st quartile (0-25th percentile) of risk.**

**How to interpret figure:**

Black bar represents your risk value based on input variables



Background shaded by risk quartile:

- First Quartile (0 – 25<sup>th</sup> percentile)
- Second Quartile (25<sup>th</sup> – 50<sup>th</sup> percentile)
- Third Quartile (50<sup>th</sup> – 75<sup>th</sup> percentile)
- Fourth Quartile (75<sup>th</sup> – 100<sup>th</sup> percentile)

Maximum possible risk based on highest risk category of all input variables

<https://www.vqi.org/risk-calculators/>

# The VQI-CRI is also available in a mobile-friendly format

## Welcome to the VQI Cardiac Risk Index

Last updated: February 2023

This calculator estimates a patient's risk of in-hospital postoperative myocardial infarction for five primary vascular procedures based on the input of preoperative patient characteristics and planned procedure details.

**Disclaimer:**

The VQI Cardiac Risk Index (VQI-CRI) estimates the chance of an adverse outcome based on preoperative patient and procedure information entered into the calculator. These estimates are calculated using VQI data collected from a large number of patients who had a procedure similar to the one for which the patient may be a candidate.

It is important to note that VQI-CRI risk estimates only take certain information into account. There may be other factors that are not used in the estimate which may increase or decrease the risk of an adverse outcome. Estimates obtained are not a guarantee of results. An adverse outcome may occur even if the risk is low. Similarly, an adverse outcome may not occur even if the risk is high.

The information presented by the VQI-CRI is not meant to replace the advice of a physician or healthcare provider regarding diagnosis, treatment, or potential

AA

svs-vqi.shinyapps.io

## Suprainguinal Bypass (SUPRA)

Applicable to any primary, non-emergent suprainguinal bypass for aneurysmal or occlusive disease for indications of claudication, rest pain, tissue loss, or acute ischemia

Age i

Under 60

Graft Origin i

Axillary

ASA Class i

1, 2, or 3

History of Coronary Artery Disease i

None

Results of Stress Test within Past 2 Years i

Not Done

AA

svs-vqi.shinyapps.io

Normal

Results of Stress Test within Past 2 Years i

Not Done

Indication for Surgery i

Claudication

### Risk of In-Hospital Postoperative Myocardial Infarction:

# 1.1 %

Your risk value falls within the 1st quartile (0-25th percentile) of risk.

[GENERATE REPORT](#)

AA

svs-vqi.shinyapps.io



# Physician Snapshot Report Discussion



# Introducing Physician Snapshot Reports for Carotid Treatment

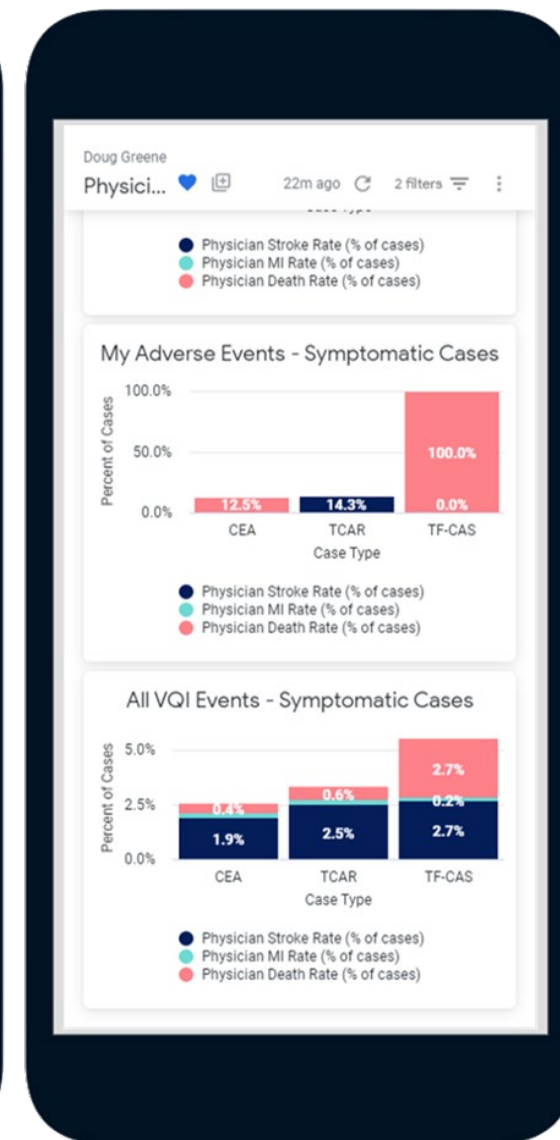
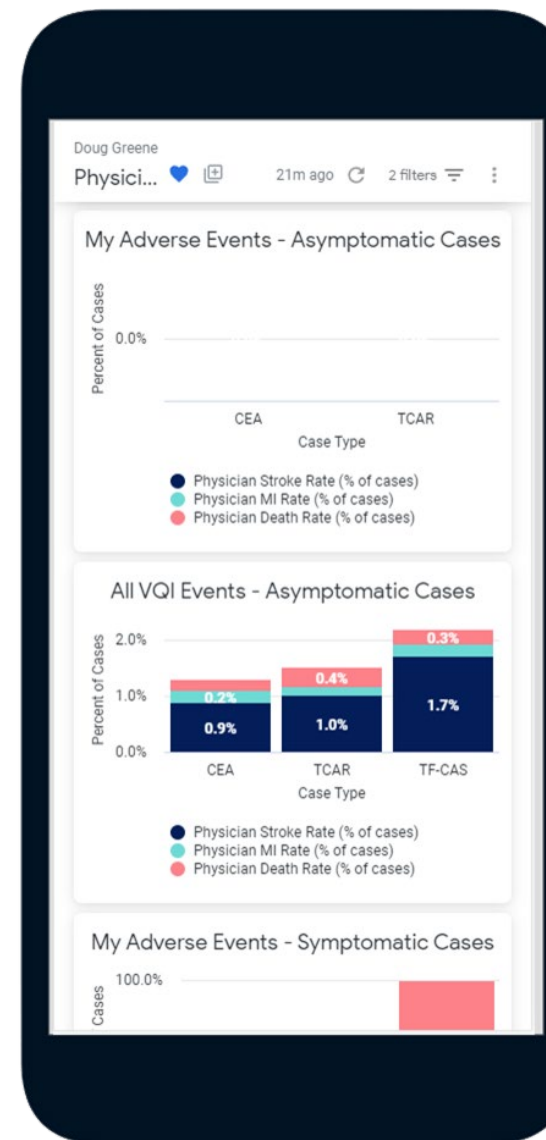
- Individual Physician Reporting for individual physicians to compare key outcomes against all VQI cases
- Key features
  - Flexible access: Available on your smart phone or through Pathways reports on your desktop
  - Near real time data with nightly updates
  - CEA, TCAR and TF-CAS available on the same report
  - Flexible time interval views- default view is the last 365 days with options to adjust the date range
  - Secured- viewable only by **you** via your VQI PATHWAYS password





# Compare Physician with VQI Average Annual Case Volume and Key Outcomes

CEA vs TCAR vs TF-CAS, Asymptomatic vs Symptomatic Cases, Stroke, Death, MI

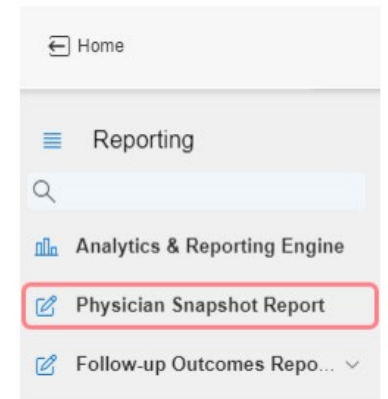


# How do I access my Carotid snapshot?



## Two Options:

1. An email with your URL entitled **View my Carotid Snapshot** was sent to the email on file for you in PATHWAYS- simply click the link and enter your PATHWAYS password
2. From a desktop computer- URL Access: <https://pathways.m2s.com>  
-From the reporting menu in the top right, click the option for the Physician Snapshot Report



Note: You will need your VQI PATHWAYS password to view the report

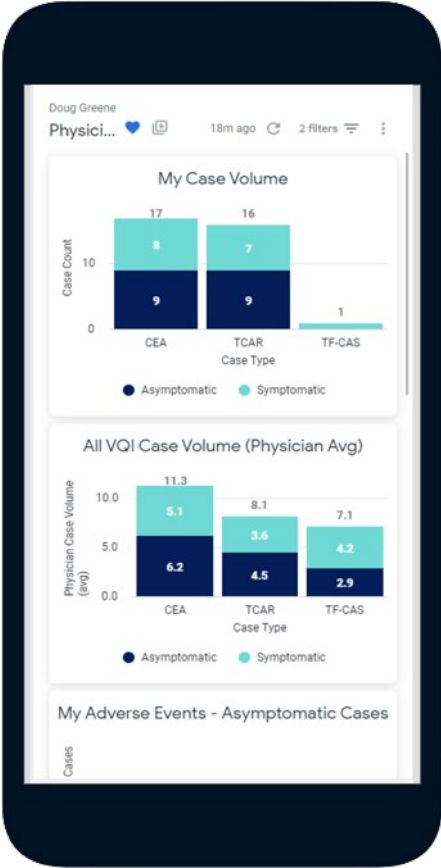
- If you do not know your VQI PATHWAYS password, please see your VQI hospital manager
- You may also email PATHWAYS support for assistance at [PATHWAYSsupport@fivoshealth.com](mailto:PATHWAYSsupport@fivoshealth.com)

# Physician Snapshot Report Feedback – Polling Questions



- How many of you have viewed your report?
- If you have not viewed the report, why?
- Can you share your initial reaction or feedback if you have used it?

Note: In order to obtain future feedback, we may send a very brief email survey.  
Your participation is greatly appreciated!





# General RAC Submission Guidelines

- Active Pathways Account w/ 'Share a File' privileges
- Center Registry Subscription
- Regional RAC approval required for all regional proposals



# General RAC Submission Guidelines Cont.

- Check email for approval status from Melissa Latus  
[mlatus@svspso.org](mailto:mlatus@svspso.org)
- Check email notification from FIVOS health that data set is available in 'Share A File'
- Data in 'Share A File' will expire after 30 days of receipt

# 2022 Participation Award Winners



MercyOne Des Moines Medical Center  
Loyola University Medical Center  
Gottlieb Memorial Hospital  
MacNeal Hospital



Northwestern Memorial Hospital  
OSF Saint Anthony Medical Center  
OSF Saint Francis Medical Center  
OSF St. Joseph Medical Center  
University of Chicago Medical Center  
NorthShore Hospital  
University of Kansas Hospital Authority  
Carle Foundation Hospital  
Nebraska Medicine  
Saint Luke's Hospital of Kansas City  
Barnes Jewish Hospital  
Kansas Heart Hospital



Saint Luke's Episcopal Presbyterian Hospital  
UnityPoint Health Des Moines  
SSM Health St. Joseph Hospital - St. Charles  
AMITA Health Adventist Medical Center La Grange  
Decatur Memorial Hospital  
The Methodist Medical Center of Illinois  
Genesis Medical Center, Davenport  
Northwestern Medicine Lake Forest Hospital  
SSM Health Good Samaritan - Mount Vernon, IL  
Northwest Community Hospital

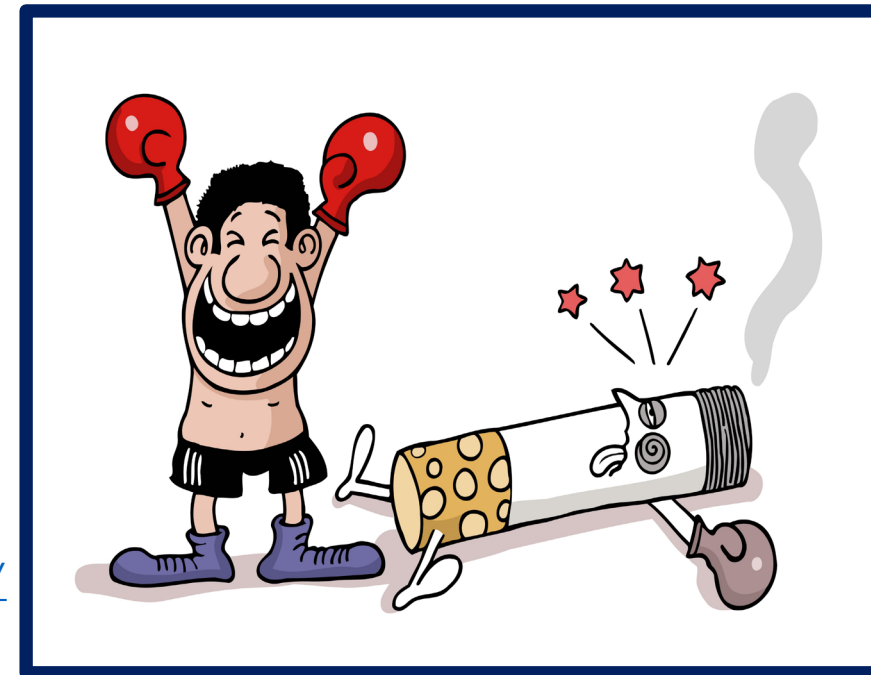
**Congratulations!**

# Quality Improvement Updates

Betsy Wymer, DNP, RN, CV-BC  
Director of Quality, SVS PS0

# Quality Improvement: National Quality Initiative - Smoking Cessation

- Introduced at VQI@VAM 2023
- CAN-DO Program
  - Choosing Against combustible Nicotine Despite Obstacles
- Arterial registries only
- Reporting measures added Spring 2023
  - Preop Smoking – Elective procedures
  - Smoking Cessation – Elective, Urgent, Emergent procedures
- Currently have smoking variables
  - Minimal addition of variables
  - Go LIVE August 2023
- Webinars
  - July and August (register at [www.vqi.org](http://www.vqi.org))
- Education <https://www.vqi.org/quality-improvement/national-qi-initiatives/>
  - Physician and Patient
  - Toolkits
  - Billable codes and sample dictation
  - Resources





# Active Regional Charters

Regional Group Name	Center Name	Charter Topic	Lead
MID-AMERICA VASCULAR STUDY GROUP	Elmhurst Memorial Hospital	LTFU	Yao Streng

# Quality Improvement – Participation Points

---

The following is a list of the four domains for the 2023 Participation Awards criteria:

- **Domain 1 – LTFU – 40% weighted**
- **Domain 2 – Regional Meeting Attendance – 30% weighted**
- **Domain 3 – QI Project – 25% weighted** 
- **Domain 4 – Registry Subscriptions – 5% weighted**

# Quality Improvement – Participation Points

## QI Project Domain

### Domain – Quality Improvement Project – 25% weighted

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

- Initiation of a QI Project, evidenced by submitting a Project Charter to [QI@SVSPSO.ORG](mailto:QI@SVSPSO.ORG) or [bwymmer@svspso.org](mailto:bwymmer@svspso.org) (2 points). **One charter per year.**
- Presenting a QI Project (presentation or poster) at a Regional VQI, \*Regional Society Meeting, or \***Hospital Board and/or C Suite** meeting (2 points) *When presenting at succinct regional meetings, project slides must reflect a change or update in status.*
- Presenting a QI Project (presentation or poster) at the National VQI or \*Vascular Annual Meeting (2 points)
- \*Publish a **VQI quality improvement** article in a Peer Reviewed Journal (2 points)
- Centers with significant improvement or excellent performance rates on National QI Initiatives will receive one additional point (per initiative), for a maximum of 6 QI points

\* Please send attestation (proof) to [bwymmer@svspso.org](mailto:bwymmer@svspso.org) on or before December 31, 2023.

# Quality Improvement – QI Project Domain Requirements

---

- Present VQI data to C-Suite (leadership, CNO, COO, Chief Vascular Surgeon, etc.)
- Contact Betsy at [bwymmer@svspso.org](mailto:bwymmer@svspso.org)
- Provide the following
  - Agenda/Meeting Minutes (date, your name and presentation, attendees)
  - Copy of presentation (feel free to cover center data)
  - Maximum of 2 presentations per year – slides must present a change or an update in status
- You will receive an email confirmation from Betsy which verifies participation points

# Fellows in Training (FIT) Program 2022-2023

## Jack Cronenwett Scholarship Winners

### Quality

Dr. Christine Kariya

FIT Mentor Dr. Danny Bertges

University of Vermont Medical Center

Dr. Hanna Dakour Aridi

FIT Mentor Dr. Michael Murphy

Indiana University Health – Methodist

### Research

Dr. Ben Li

FIT Mentor Dr. Graham Roche-Nagle

Toronto General Hospital

Dr. Brianna Krafcik

FIT Mentor Dr. Phil Goodney

Dartmouth Hitchcock Medical Center

Dr. Caronae Howell

FIT Mentor Dr. Benjamin Brooks

University of Utah Hospital and Clinics/The University of Arizona



# Quality – Fellows in Training (FIT) Program

## 2023-2024 FIT Mentor, FIT Fellow, and Center

<b>FIT Mentor</b>	<b>FIT Fellow</b>	<b>Center</b>
Michael Costanza	Deena Chihade	University Hospital
Samantha Minc	Paul Rothenberg	WVU
Nikolaos Zacharias	Mitri Khoury	Massachusetts General Hospital
Nikolaos Zacharias	Tiffany Bellomo	Massachusetts General Hospital
Arash Bornack	Christopher Chow	University of Miami
Michael Madigan/Mohammed Eslami	Mikayla Lowenkamp	UPMC
Thomas Brothers	Saranya Sundaram	Medical University in South Carolina
Benjamin Jacobs/Sal Scali	Michael Fassler	University of Florida
Adam Beck	Amanda Filiberto	University of Alabama Birmingham
Brian DeRubertis	Nakia Sarad	Weill Cornell Medical Center
Dan Newton	Syeda Ayesha Farooq	Virginia Commonwealth University



# Improve Your Quality of Care in Vascular Surgery and Interventional Care

Introducing a new quality program developed by the American College of Surgeons and the Society for Vascular Surgery: a standards-based framework designed to meet the unique needs of vascular programs



*facs.org/vascular*

Email [vascular@facs.org](mailto:vascular@facs.org) for information

# Committee Updates

---



# AQC Update

Trissa Babrowski, MD

- Committee meets every other month
  - Jan, March, May.....
- Re-engagement of registry committees
  - New reporting measures for ea. registry
  - Review of variables for possible retirement
  - One committee each Mtg. will give progress update
- Review & discussion of proposed registry revisions
  - LE/VMC SET variables to align w/guidelines
  - Pilot ERAS Variables
  - Initial discussion of required vs non-required procedure variables



# VQC Update

Khalil Qato, MD

- Committee meets biannually
- Re-engagement of registry committees
  - New reporting measures for each registry
  - Review of variables for possible retirement
  - Each committee will give updates during the VQC meetings
- Active review of Venous Stent to decrease registry burden
- Discussion on how to increase venous registry presence w/in the venous community
- Next Meeting VEITH (hybrid)
  - November 12-17, 2023

# Arterial RAC Update

Kamal Gupta, MD

- The proposal review committee meets every other month
- Comprised of all RAC chairs nationally and some other members
- Reviews about 20-30 abstracts each cycle
- The process is fair and open with the aim of approving most proposals
- The committee advises investigators on how to improve the proposals

# Arterial RAC

- When requesting a Data Set, the investigator must have an ACTIVE PATHWAYS account.
- Once approved, the Data Set will be transferred through the “SHARE a FILE” function in PATHWAYS.



- The Data Set will be available through “Share a File” for 30 days

# Arterial RAC

- Components of a VQI proposal
- For more information:
  - Podcast: Requesting Data presented by Dr. Leila Mureebe, MD  
[https://drive.google.com/file/d/1tBsYrzhOPu-Oz5gu\\_eHhMmrVvyEtk5i2/view](https://drive.google.com/file/d/1tBsYrzhOPu-Oz5gu_eHhMmrVvyEtk5i2/view)

- Abstract
- Research question/Hypothesis
- Background/significance
- Approach
- Analytic plan
- Mock Tables
- Potential problems/solutions
- IRB approval/exemptions

# RAC Data Use Agreement

The Data Use Agreement needs to be signed by the Attending Physician when submitting in Abstract 123

<https://abstracts123.com/svs1/>

## Data Use Agreement

### Data Use Agreement

Below are the terms of the Data Use Agreement for the Society for Vascular acknowledging the terms below.

1. The Recipient shall not use or further disclose the data set other than as required to complete T
2. The Recipient shall allow access to the data only to individuals directly accountable to the Recipient
3. The Recipient shall use appropriate safeguards to prevent use or disclosure of the data set other than as required to complete T
4. The recipient agrees that this study must be approved by the IRB of the institution that takes responsibility for the study
5. Upon completion of the project, or should this Agreement be terminated for any reason, including non-compliance with the terms of this Agreement, the Recipient shall delete all data and destroy all copies of the data
6. The Recipient agrees to present or publish approved project within 24 months with one refresh

☐ I acknowledge I have read and understood the Data Use Agreement.

☐ I have received approval from my regional RAC, only applicable for those regions that require RAC approval.  
(required answer)

Signature:

Select Today's Date:



# RAC Proposal Process

---

## **1. Review list of projects:**

<https://www.vqi.org/data-analysis/rac-approved-project-search/>

## **2. Submit proposal online:**

<http://abstracts123.com/svs1/meetinglogin>

## **3. Deadlines for submissions:**

<https://www.vqi.org/svs-vqi-national-arterial-rac-schedule/>

- Your Regional RAC chair is available to help answer questions or help with proposal writing



# Venous RAC Update

## Vacant Position

- The July Venous RAC had 4 venous proposals submitted
- Podcast: Requesting Data presented by Dr. Leila Mureebe, MD. Follow link below
  - [https://drive.google.com/file/d/1tBsYrzh0Pu-Oz5gu\\_eHhMmrVvyEtk5i2/view](https://drive.google.com/file/d/1tBsYrzh0Pu-Oz5gu_eHhMmrVvyEtk5i2/view)
- The current venous registries with blinded data sets
  - Varicose Vein
  - IVC Filter
- Types of information available:
  - Demographics
  - Comorbidities
  - Operative characteristics
  - Post-operative characteristics
  - Follow-up



# Governing Council Update

Ashley Vavra, MD

- Meets twice a year
- Last meeting: June 16, 2023
- Committee designation:
  - Each region represented by the Regional Lead Medical Directors
- Adam Beck – newly appointed GC Chair; Grace Wang – newly appointed Vice Chair
- All Regional RAC requests must have regional RAC approval; committee highly recommends that the Regional RAC also approve national requests
- Next meeting VEITH; November 2023



# Updates for Fall 2023 VQI Regional Meetings



# 2023 Technology Updates for VQI

- TEVAR Fenestration Treatment Minor Revision
  - “Fenestration Type”, a new field was added to the nine different branches in the branches tab
- CAS Minor Revision
  - Modified the “Approach” field and dependencies
  - Updated “Lesion 2 Side” to auto-populate the value entered for “Lesion 1 Side”
- PVI Minor Revision
  - The PVI registry was modified to align with changes made during the INFRA/SUPRA major revision
- Infra-inguinal Bypass and Supra-inguinal Bypass Revision
  - Major revisions were made to the lower extremity bypass registries



# Same Registry Cloning for Infra/Supra-inguinal Bypass

- The ability to copy data from existing procedure records to a new procedure record for the same patient and registry has been added

Enter New Patient / Find Existing PatientToolsResourcesShare a FileAnalytics & Reporting Engine

Patient Details

Patient Information

Last Name: TestssFirst Name: sunilMI: SdfsDOB: 12/01/1996MRN: 98765421SSN: XXX-XX-4321MBI:

Procedure Records

QGoActions

Procedure = 'Infra-inguinal Bypass'

Procedure Status

Procedure Status : Complete

Procedure Date	Procedure	PrimprocID	Surgery Side	Physician	Visit Code	Follow-up	PRO Status	Delete
11/01/2022	Infra-inguinal Bypass	19974633	-	AYA AKL	-	Create/View	-	

1 - 1 of 1

Create Procedure

Procedure Type

New

Acute Ischemic Stroke

Carotid Artery Stent

Carotid Endarterectomy

Cerebral Aneurysm

Cerebral Arteriovenous Malformations

DFL Dev Registry

DFL Test Registry

Drainage Catheter

Endo AAA Repair

Hemodialysis Access

IVC Filter

Infra-inguinal Bypass

Lower Extremity Amputation

Open AAA Repair

Orthopaedic Foot and Ankle Registry

Peripheral Vascular Intervention

Supra-inguinal Bypass

Thoracic and Complex EVAR

Varicose Vein

Vascular Medicine Consult

Vascular Ultrasound

Venous Stent

Create ProcedureClone Procedure

226

© 2023, Fivos | Proprietary and Confidential

## Follow Up Outcome Report Drilldowns

- Drilldown option has been provided to list the PRIMRPCID for procedures included in the calculator for My Center. This option is available for outcomes employing Mean/ STD and Median/IQR calculations.
- Outcomes reports impacted include:
  - CEA
  - HDA
  - VV



CEA Follow-up Outcomes Report

Follow-Up Rate

CEA PDT (7 Filters) ▼

	PRIMRPCID
1	2559725
2	2561458

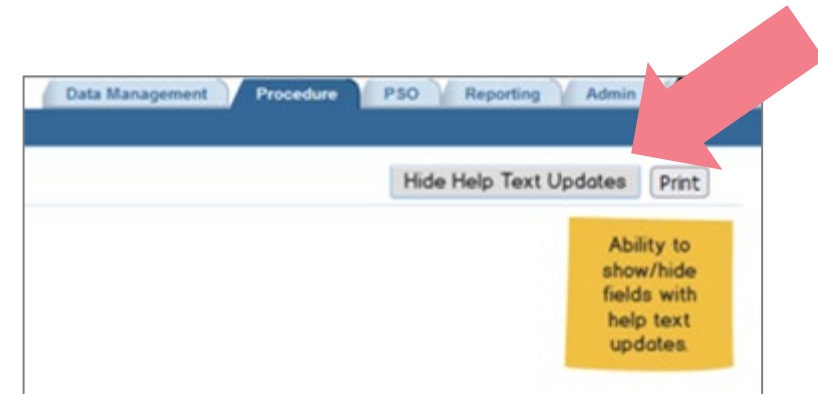
Download ×

# Released in Q2 2023



## Help Text

- Enhancement to highlight fields with recently updated help text to alert abstractors to revised definitions



## Support Tab Enhancements

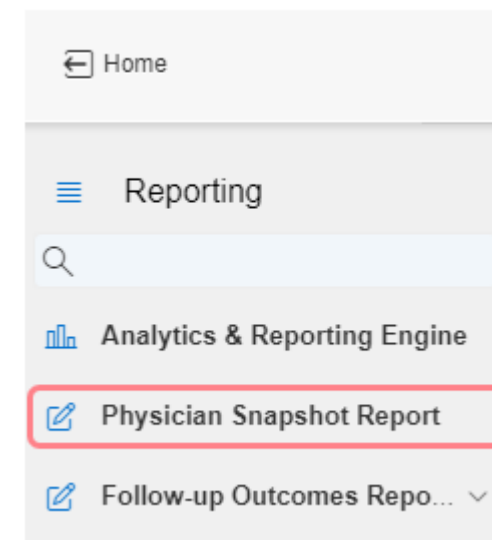
- Addition of "Useful Links" section
- "Training Schedule" page has been renamed to "Upcoming Trainings"
- "Video Library" added on the Support tab

# Released in Q2 2023



## Physician Snapshot Report

- Introduced new Carotid Physician Snapshot Report.
  - New report privilege added to the Users and Permissions Report





Released in Q2 2023



Claims Validation

- Sort by Response Provided in the Unmatched Claims – You can now sort or filter the “Unmatched Claims” report by the Response column

Claims Validation Year : 2015

Q

Go

3. Unmatched Claims

⬆

Actions

Save Changes

▼

☒

⚠

Response in 'Exclude from PATHWAYS, Miscoded in Billing, To be added in PATHWAYS, To be updated in PATHWAYS, Wrong Identifier in Billing'

×

☒

⚠

Status = 'Unmatched Claims'

×

1 - 14 of 14

Filename	Status	Response	Mismatch Reason	Claims NPI	Claims Provider First Name
claim-07.csv	Unmatched Claims	Miscoded in Billing	Claims record didnt match PATHWAYS record	1122112233	Coco
claim-08.csv	Unmatched Claims	Wrong Identifier in Billing	Claims record didnt match PATHWAYS record	1122112233	Coco



# PATHWAYS Support

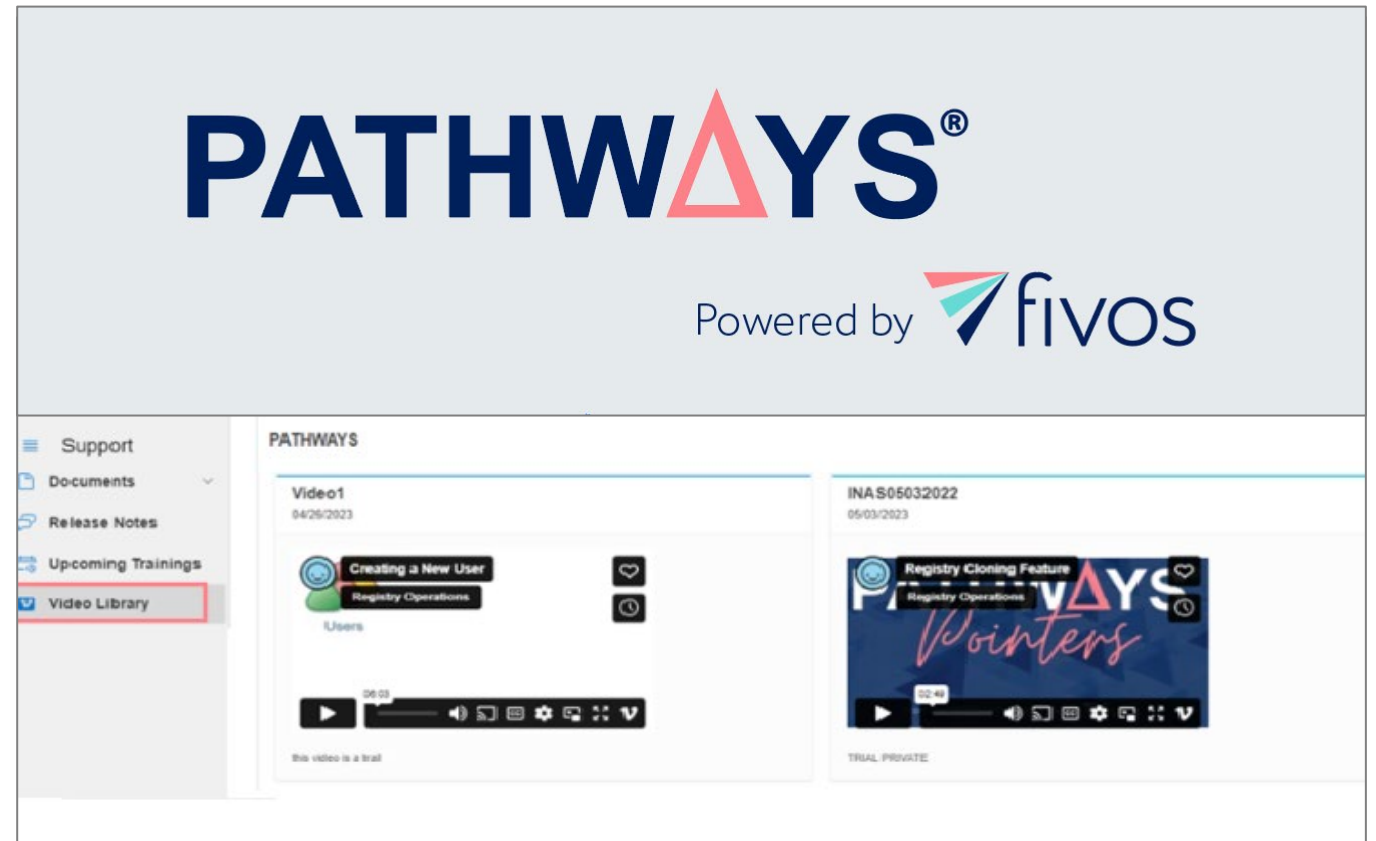
# PATHWAYS Support



## Need help?

Check out the PATHWAYS Support tab.

- **Documents** – List of essential documents necessary for new staff and experienced abstractors to assist with data abstraction.
- **Release Notes** – Listing of release announcements highlighting changes and improvements to the registries.
- **Upcoming Trainings** – List of upcoming training opportunities with registration links for new staff and experienced abstractors.
- **Video Library** – Listing of video tutorials to help you learn at your convenience.



# PATHWAYS Support Updates



## Announced in the spring:

### PATHWAYS Hospital Manager Guide

- Added to the Resources Tab
- Helps users better understand role responsibilities

## NEW announcement:

### PATHWAYS Administrative Training Video

- Added to the Support Tab Video Library
- Provide even more support to assist new centers and new HMs
- In beta > we welcome feedback on its usefulness during onboarding

# PATHWAYS Support Updates



## Claims Validation

### Recent news:

- The **2022** Claims Validation process was launched in April 2023 and closed in July
- Powerful testimonials about ROI projects during VQI at VAM
  - Direct result of the claims validation audit
- This process can provide even more centers with opportunities to expose revenue leakage and mitigate financial loss (a great opportunity to **WOW** your administrative team)

### Up next:

We are looking forward to launching the **2023** Claims Validation cycle in the **Spring of 2024!**



## Coming Soon

The Support Team continues to develop brief training videos to assist with specific functionality and tasks.

We appreciate feedback we received during our recent VQI@VAM Support Update webinar. We will be sure to use this information for future development!

# PATHWAYS Support – A Closing Note



A friendly reminder...

The following registries are all available in VQI. Reach out to our Sales team for assistance with additional VQI registry opportunities at your center.

Carotid Artery Stent  
Carotid Endarterectomy  
Endovascular AAA Repair  
Hemodialysis Access  
Infra-Inguinal Bypass  
IVC Filter  
Lower Extremity Amputations

Open AAA Repair  
Peripheral Vascular Intervention  
Supra-Inguinal Bypass  
Thoracic and Complex EVAR  
Varicose Vein  
Vascular Medicine Consult  
Venous Stent



# Registry Projects



# SVS Post-Market Surveillance Projects



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

# TEVAR Dissection Surveillance Project



- The SVS PSO is excited to announce the continuation of the TEVAR Dissection Surveillance Project to evaluate the Cook Zenith Dissection Endovascular System. FDA approval was granted for this device after safety and effectiveness were demonstrated in pre-market studies of complicated dissection with the proviso that the efficacy of TEVAR treatment of descending aortic dissection would be more fully analyzed through post-market surveillance, as was done through VQI for the W. L. Gore and Medtronic devices after their approval.
- Patients will have 30 day, and annual visits for 5 years.
- Total reimbursement of \$4,000 per patient for a patient followed annually for 5 years.

For enrollment information: Sarah Van Muyden | [sarah.vanmuyden@fivoshealth.com](mailto:sarah.vanmuyden@fivoshealth.com)

# TEVAR Dissection Surveillance Project – Cook Only



- 122 of the 180 required patients enrolled (14 potential cases in process)
- 60 Chronic Cases Enrolled - Enrollment Complete
- 62 Acute Cases Enrolled Currently -52% of total Acute Cases Enrolled
- Retrospective enrollment allowed- All eligible cases from December 31, 2018 (protocol FDA approval date)
- (76) 30-Day visits completed, (66) 1-year follow-up visits completed, (40) 2-year follow-up visit completed and (12) 3-year follow up visits completed
- 28 sites currently participating
- This project is conducted within the SVS PSO and only non-identifiable data (removal of patient, center and physician information) will be provided to Cook or the FDA. Only standard of care practice is being evaluated. For such PSO activities, patient informed consent and Institutional Review Board review are not required.



# Gore TBE Project



Gore is collaborating with the Society for Vascular Surgery Vascular Quality Initiative (VQI) to collect data and images from the **TEVAR** registry for a 10-year follow-up project.

Project Objective: To ensure that the clinical outcomes during the commercial use of the GORE® TAG® Thoracic Branch Endoprosthesis are as anticipated.

Patient Population: Patients who undergo treatment with the GORE® TAG® Thoracic Branch Endoprosthesis device.

## Number of Patients

- Max number of patients: 350
- Start Date 01/15/2023



# About the Gore TBE Project



Project specific dynamic content has been added to the TEVAR registry.

Project Timeline:

- **Phase I:** Start-up, development, enrollment (3 years) Current Phase
- **Phase II:** Surveillance period (10 years)
- Total expected duration of the project: (13 years)

Project Imaging Requirements: Procedure + 1 Month + Annually



# Gore TBE Project



- 23 fully executed addendums
- 22 sites full trained
- Current enrollment as of 8/14/23 = 58 patients

For enrollment information:  
Megan Henning  
[megan.henning@fivoshealth.com](mailto:megan.henning@fivoshealth.com)



Please contact  
[PATHWAYSSUPPORT@fivoshealth.com](mailto:PATHWAYSSUPPORT@fivoshealth.com)  
for questions

## Spring 2024 Regional Meeting

---

- VQI@VAM 2024 in Chicago
- Date and Time TBD





# Fall Report Reminder

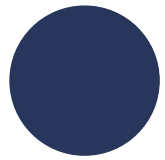
---

## Reminder:

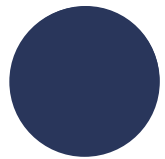
Spring 2024 Report Cut Date = **February 1, 2024**, for  
procedures CY 2023

# CE/CME Meeting Attendance Credit

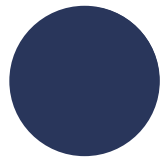
7 days to submit; No email reminder



**P**UT your FULL NAME in Zoom for remote attendees. Record of meeting attendance is required for CME/CE credit (no exceptions will be made)



**S**END an email to [achurilla@vascularsociety.org](mailto:achurilla@vascularsociety.org) with names of group members that are sharing 1 device



**O**FFICIALLY apply for CME/CE credit by clicking the URL or QR code provided



[https://dmu.co1.qualtrics.com/jfe/form/SV\\_6Pbu85fsAS](https://dmu.co1.qualtrics.com/jfe/form/SV_6Pbu85fsAS)

- Thank you to our members for your continued participation and support of VQI

- Thank you to COOK and GORE for your contributions and making these meetings possible
- Thank you to Des Moines University for providing CE/CME credit for today's meeting

# Thank You

---