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Vascular Quality Initiative®

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The Society for Vascular Surgery®
Vascular Quality Initiative®

2012 Vascular Annual Meeting®

June 8, 2012

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Current State of the VQI®

Carrie Bosela

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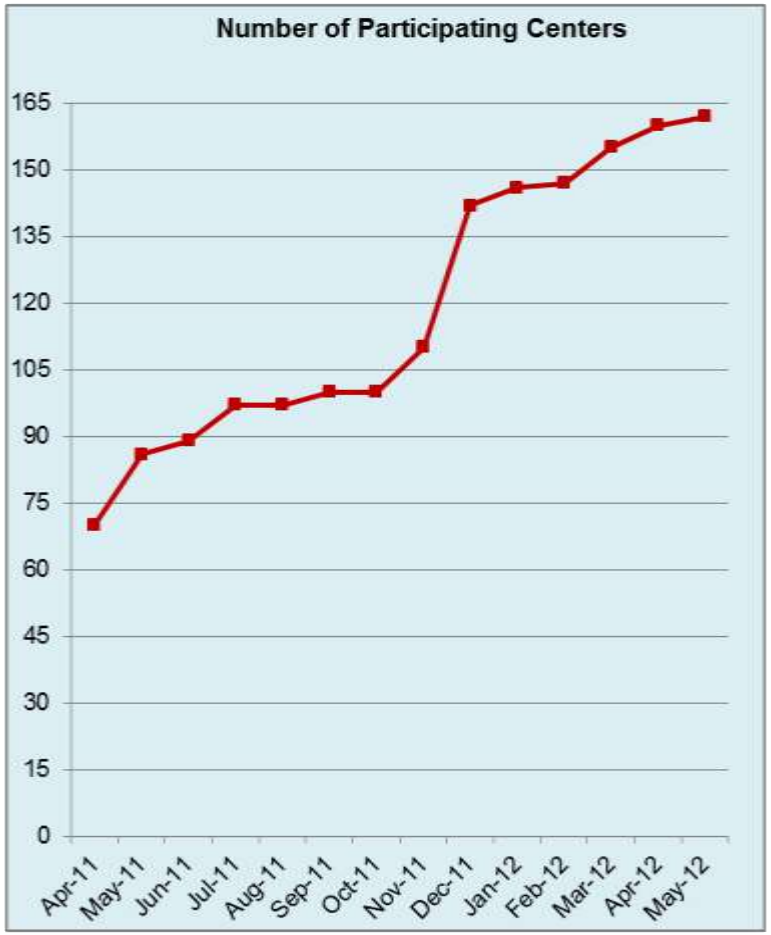

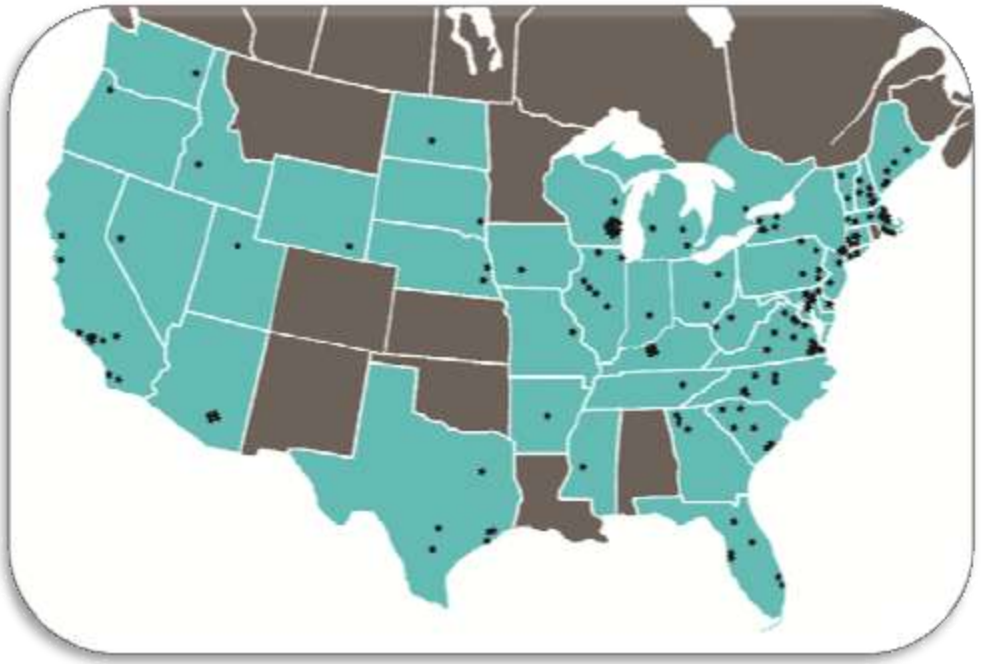

162 Centers, 39 States + Ontario

> 2500 Procedures per Month

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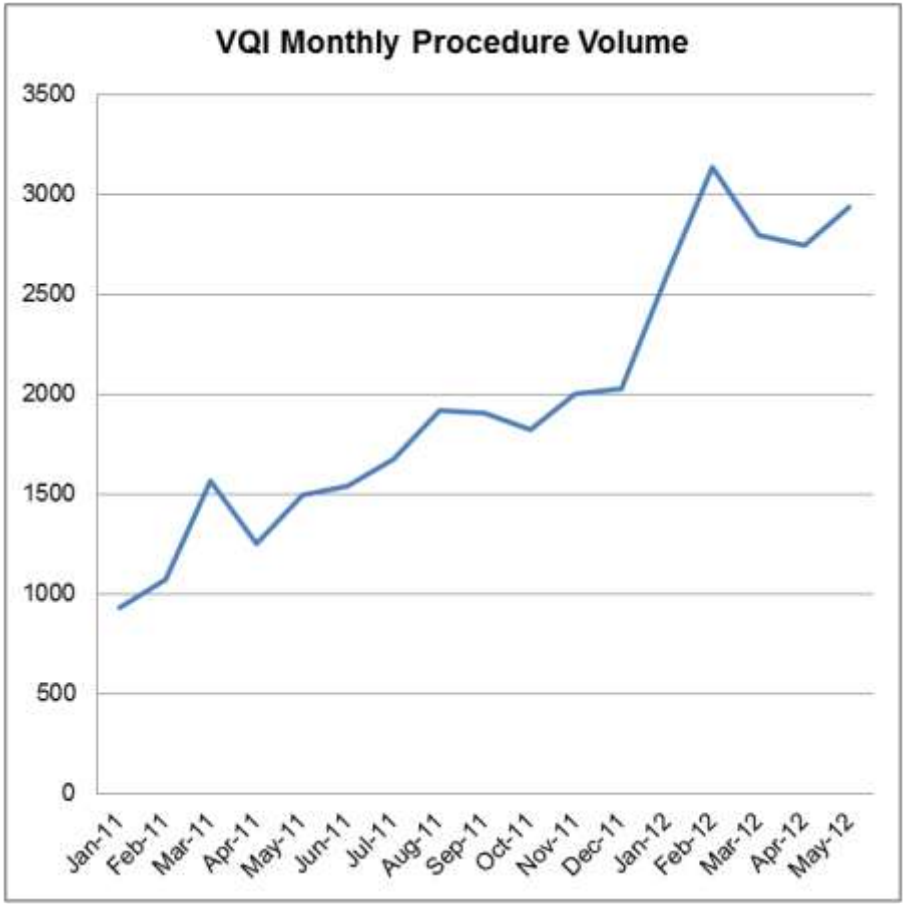
Total Procedures Captured (as of May 31, 2012)	51,142
Carotid Endarterectomy	15,295
Carotid Artery Stent	1,569
Endovascular AAA Repair	5,486
Open AAA Repair	2,938
Peripheral Vascular Intervention	13,661
Infra-Inguinal Bypass	8,334
Supra-Inguinal Bypass	1,988
Thoracic and Complex EVAR	401
Hemodialysis Access	1,053



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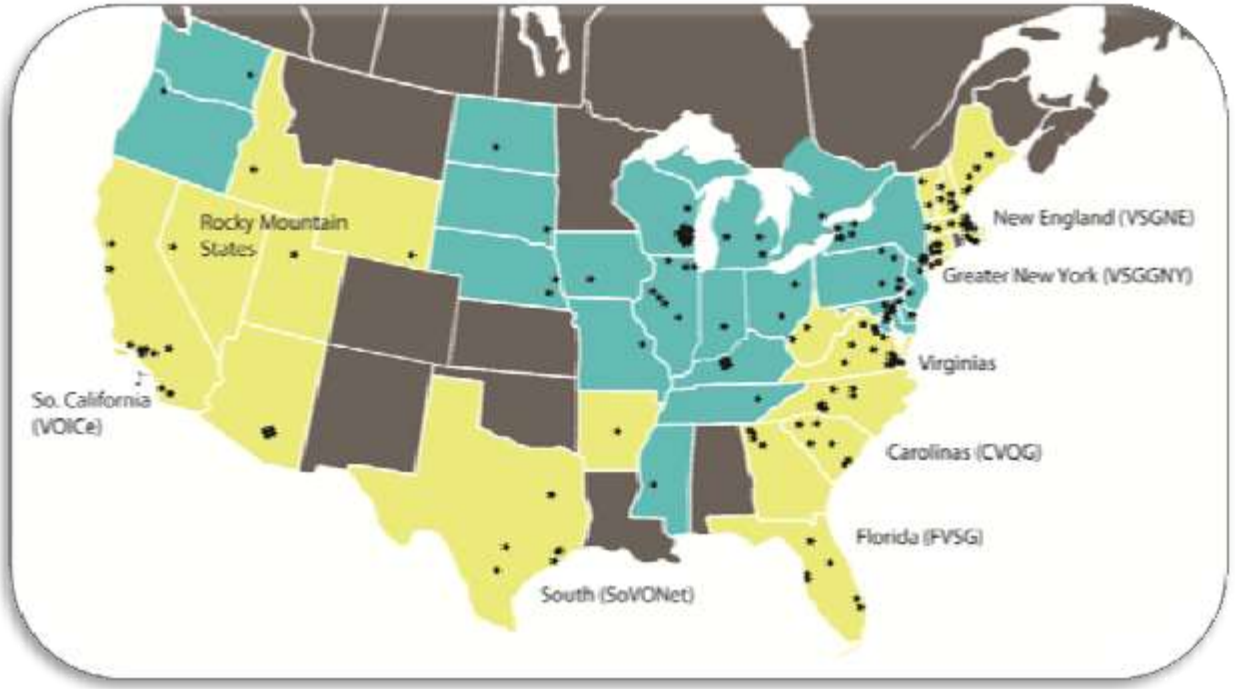
Formed Regional Groups:

- New England
- Carolinas
- Florida
- Southern California
- South (SOVONET)
- **Virginias**
- **New York City**
- Rocky Mountains

Forming Regional Groups:

- Illinois
- **Mid-Atlantic**
- Upstate New York
- Indiana
- **Chesapeake Valley**
- Northern California
- Michigan
- Missouri/Kansas/Iowa



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Analytics & Reporting Engine

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Q3 2012 - Initial Release of VQI Analytics & Reporting Engine

- Features Available
  - Report Builder to:
    - Select variables of interest
    - Filter for desirable population
  - Analytics for Different Variable Types
  - Suppression Rules for Anonymity
  - Benchmark with All Other VQI Participants
  - Printer-friendly PDF Generator
  - CSV Export of Raw Data

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Analytics & Reporting Engine

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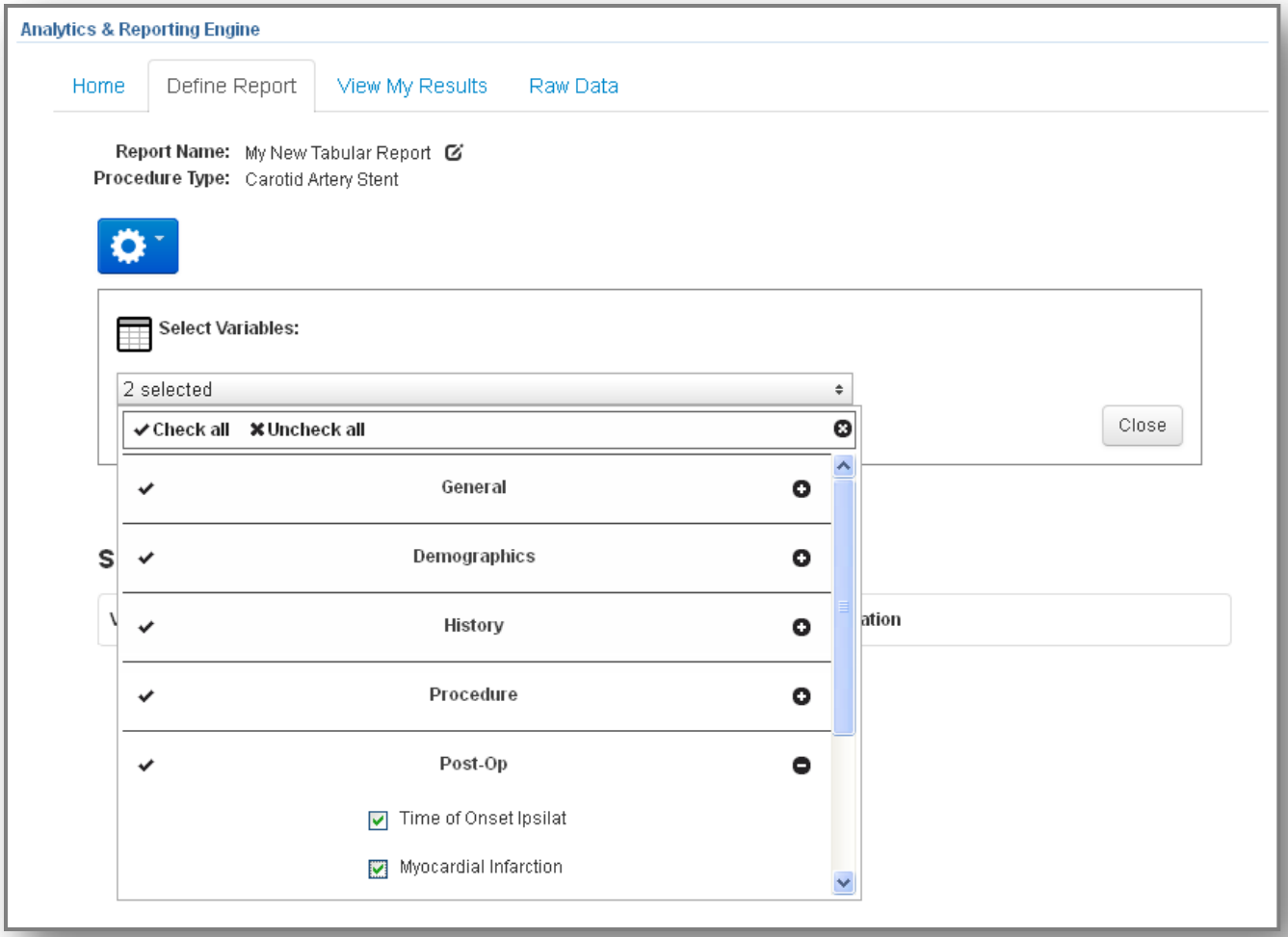
- Select Variables of Interest for Analysis



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Analytics & Reporting Engine

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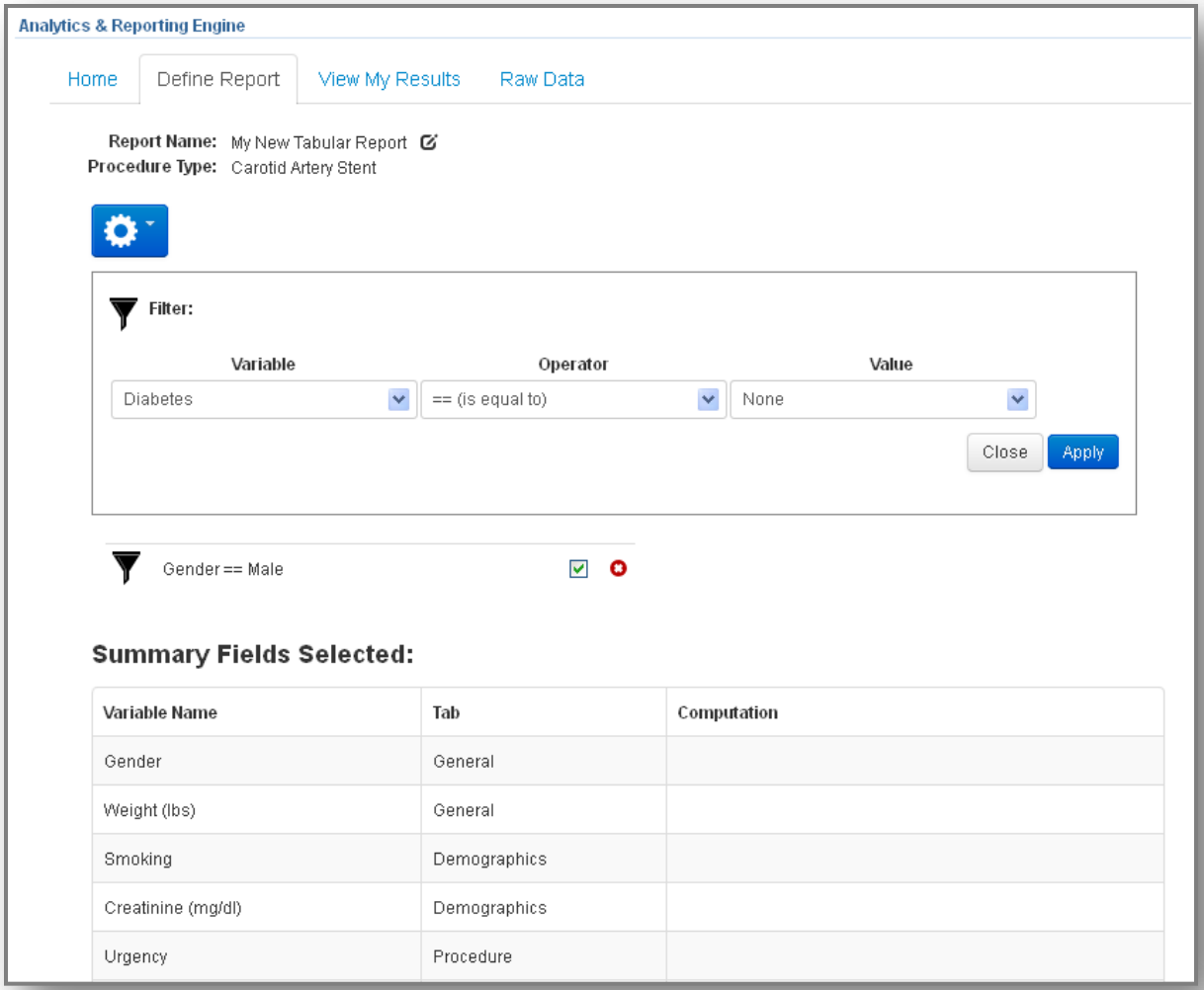
- Add Filters to Narrow Down to Population of Interest



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Analytics & Reporting Engine

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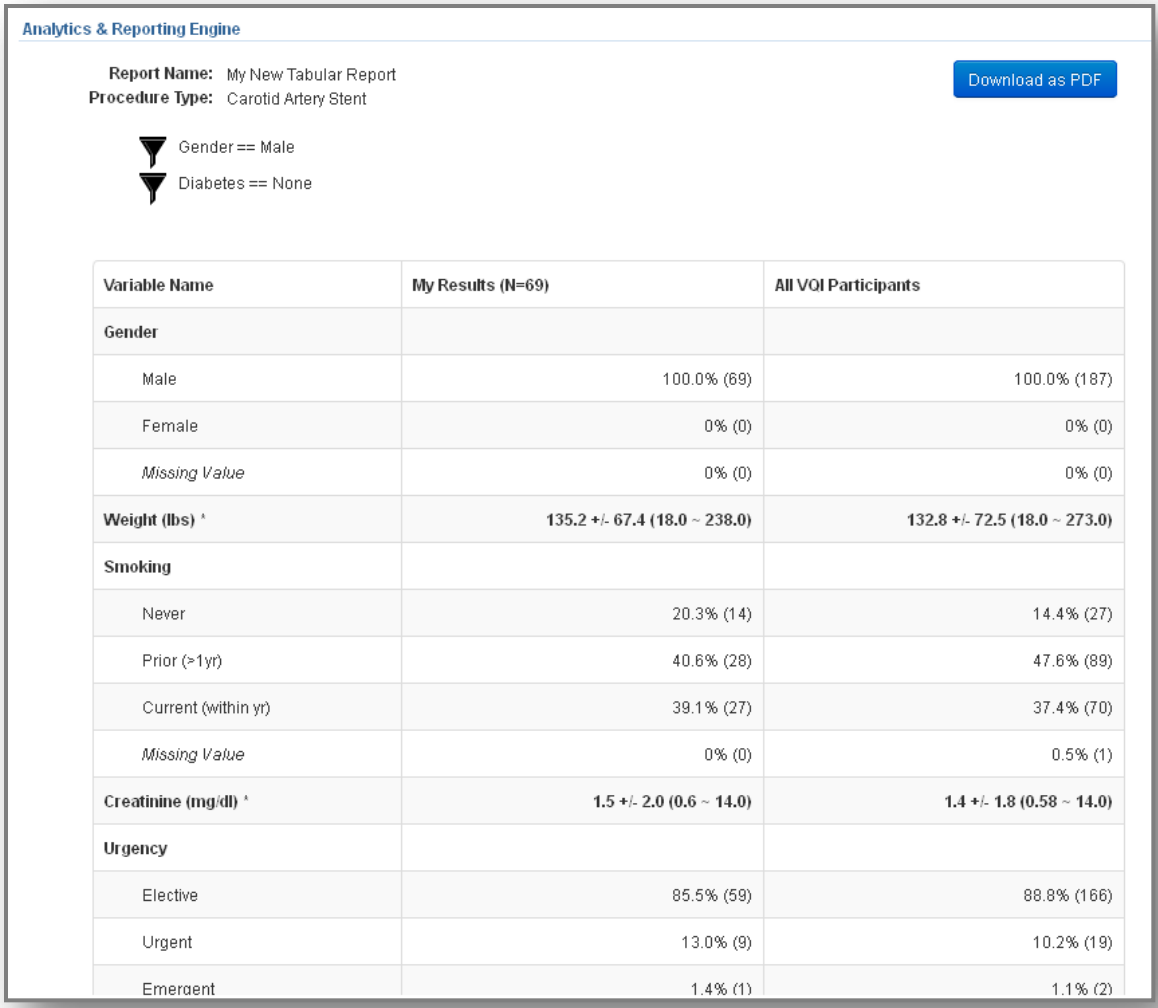
- Benchmark Results With All Other VQI Participants



Analytics & Reporting Engine

Report Name: My New Tabular Report
Procedure Type: Carotid Artery Stent

Download as PDF

Gender == Male
Diabetes == None

Variable Name	My Results (N=69)	All VQI Participants
Gender		
Male	100.0% (69)	100.0% (187)
Female	0% (0)	0% (0)
Missing Value	0% (0)	0% (0)
Weight (lbs) *	**135.2 +/- 67.4 (18.0 ~ 238.0)**	**132.8 +/- 72.5 (18.0 ~ 273.0)**
Smoking		
Never	20.3% (14)	14.4% (27)
Prior (>1yr)	40.6% (28)	47.6% (89)
Current (within yr)	39.1% (27)	37.4% (70)
Missing Value	0% (0)	0.5% (1)
Creatinine (mg/dl) *	**1.5 +/- 2.0 (0.6 ~ 14.0)**	**1.4 +/- 1.8 (0.58 ~ 14.0)**
Urgency		
Elective	85.5% (59)	88.8% (166)
Urgent	13.0% (9)	10.2% (19)
Emergent	1.4% (1)	1.1% (2)

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Analytics & Reporting Engine

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- Download Tabular Report into Nicely-formatted and Printer-friendly PDF File

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Report Name:	My New Tabular Report
Procedure Type:	Carotid Artery Stent
Medical Center:	26
Report Generation Time:	13:12:26 EDT 05/01/2012
Filters Applied to Dataset:	Gender == Male Diabetes == None

Variable Name	My Results (N=69)	All VQI Participants
Gender		
Male	100.0% (69)	100.0% (187)
Female	0% (0)	0% (0)
Missing Value	0% (0)	0% (0)
Race		
American Indian or Alaskan Native	0% (0)	0% (0)
Asian	0% (0)	0.5% (1)
Black or African American	0% (0)	2.1% (4)
Native Hawaiian or other Pacific Islander	0% (0)	0% (0)
White	98.6% (68)	96.8% (181)
More than 1 race	1.4% (1)	0.5% (1)
Unknown / Other	0% (0)	0% (0)
Missing Value	0% (0)	0% (0)
Height (inches) *	67.0 +/- 3.3 (60.0 ~ 72.0)	78.8 +/- 32.7 (51.0 ~ 185.0)
Weight (lbs) *	135.2 +/- 67.4 (18.0 ~ 238.0)	132.8 +/- 72.5 (18.0 ~ 273.0)
Discharge Status		
Home	94.2% (65)	94.7% (177)
Rehab Unit	1.4% (1)	2.1% (4)
Nursing Home	2.9% (2)	2.1% (4)
Dead	1.4% (1)	1.1% (2)
Other Hospital	0% (0)	0% (0)
Skilled Nursing Facility	0% (0)	0% (0)
Missing Value	0% (0)	0% (0)
Smoking		
Never	20.3% (14)	14.4% (27)
Prior (>1yr)	40.6% (28)	47.6% (89)
Current (within yr)	39.1% (27)	37.4% (70)
Missing Value	0% (0)	0.5% (1)
Creatinine (mg/dl) *	1.5 +/- 2.0 (0.6 ~ 14.0)	1.4 +/- 1.8 (0.58 ~ 14.0)
Stress Test		
Not done	87.0% (60)	72.2% (135)
Normal	8.7% (6)	18.7% (35)
(+)ischemia	2.9% (2)	5.9% (11)

* Value of variable is displayed in format: 'Mean +/- StdDev (Min ~ Max)'

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

(+)MI	1.4% (1)	2.7% (5)
(+)both	0% (0)	0.5% (1)
Missing Value	0% (0)	0% (0)
ICA Stenosis Ipsilateral		
< 50%	7.2% (5)	5.9% (11)
> 50%	5.8% (4)	2.1% (4)
> 60%	4.3% (3)	3.7% (7)
> 70%	13.0% (9)	14.4% (27)
> 80%	69.6% (48)	73.8% (138)
Occluded	0% (0)	0% (0)
Missing Value	0% (0)	0% (0)
Urgency		
Elective	85.5% (59)	88.8% (166)
Urgent	13.0% (9)	10.2% (19)
Emergent	1.4% (1)	1.1% (2)
Missing Value	0% (0)	0% (0)
Anesthesia		
Local	100.0% (69)	95.7% (179)
General	0% (0)	4.3% (8)
Missing Value	0% (0)	0% (0)
Heart Rate *	68.2 +/- 11.2 (45.0 ~ 95.0)	68.7 +/- 15.5 (40.0 ~ 183.0)
Length Of Stay (days) *	2.2 +/- 5.2 (0.0 ~ 42.0)	2.3 +/- 4.3 (0.0 ~ 42.0)
Myocardial Infarction		
No	100.0% (69)	99.5% (186)
Troponin only	0% (0)	0% (0)
EKG or clinical	0% (0)	0.5% (1)
Missing Value	0% (0)	0% (0)
Dysrhythmia (new)		
No	98.6% (68)	97.9% (183)
Yes	1.4% (1)	2.1% (4)
Missing Value	0% (0)	0% (0)
CHF		
No	100.0% (69)	100.0% (187)
Yes	0% (0)	0% (0)
Missing Value	0% (0)	0% (0)
Beta Blockers		
No	43.5% (30)	34.8% (65)
Yes	55.1% (38)	64.7% (121)
Intolerant	0% (0)	0% (0)
Missing Value	1.4% (1)	0.5% (1)
Ipsilat Neurologic Event		
No	100.0% (69)	98.9% (185)
TIA	0% (0)	0% (0)
Stroke minor	0% (0)	0.5% (1)
Stroke major	0% (0)	0.5% (1)
Missing Value	0% (0)	0% (0)

* Value of variable is displayed in format: 'Mean +/- StdDev (Min ~ Max)'

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New Projects for 2012/2013

- Provider billing (CPT) codes for auditing
- Working with EMR vendors to incorporate data elements into process of care
- Working with FDA and industry to use VQI data for post-approval device studies
- Provide mechanism for regional groups to use VQI clinical data for efficient research trials
- Develop a mechanism to link Medicare claims data with PSO data to capture events and outcomes > 1 yr
- Collaboration with other registries

Benefits of a Regional Quality Group

Jens Eldrup-Jorgensen, MD, FACS

Chief, Division of Vascular Surgery, Maine Medical Center
Professor of Surgery, Tufts University School of Medicine
Director, Vascular Center at Maine Medical Center

VSGNE Academics

- 130 surgeons in 30 hospitals
- Over 25,000 patients in registry since 2003
- 16 publications in peer reviewed journals
- 25 presentations at national and regional societies
- 9 papers presented at VAM

PUBLICATIONS

- Goodney PP, Likosky DS, Cronenwett JL. "Factors associated with stroke or death after carotid endarterectomy in Northern New England." Journal of Vascular Surgery 48 (2008): 1139- 45.
- Cronenwett JL, Likosky DS, Russell MT, Eldrup-Jorgensen J, Stanley AC, Nolan BW. "A regional registry for quality assurance and improvement: The Vascular Study Group of Northern New England (VSGNNE)." Journal of Vascular Surgery 46 (Dec. 2007): 1093-1102.
- Beck AW, Goodney PP, Nolan BW, Likosky DS, Eldrup-Jorgensen J, Cronenwett JL. "Vascular Study Group of Northern New England: Predicting 1-year mortality after elective abdominal aortic aneurysm repair." Journal of Vascular Surgery 49 (2009): 838-44.
- Goodney PP, Likosky DS, Cronenwett JL. "Vascular Study Group of Northern New England. Predicting ambulation status one year after lower extremity bypass." Journal of Vascular Surgery 49 (2009): 1431-39.
- Schanzer A, Goodney PP, Li Y, Eslami M, Cronenwett J, Messina L, Conte MS. "Vascular Study Group of Northern New England: Validation of the PIII CLI risk score for the prediction of amputation-free survival in patients undergoing infrainguinal autogenous vein bypass for critical limb ischemia." Journal of Vascular Surgery 50 (2009): 769-775.
- Goodney PP, Nolan BW, Schanzer A, Eldrup-Jorgensen J, Bertges DJ, Stanley AC, Stone DH, Walsh DB, Powell RJ, Likosky DS, Cronenwett JL. "Vascular Study Group of Northern New England: Factors Associated with Amputation or Graft Occlusion One Year after Lower Extremity Bypass in Northern New England." Journal of Vascular Surgery 24.1: (Jan. 2010): 57-68
- Goodney PP, Nolan BW, Schanzer A, Eldrup-Jorgensen J, Stanley AC, Stone DH, Likosky DS, Cronenwett JL. "Vascular Study Group of Northern New England: Factors associated with death 1 year after lower extremity bypass in Northern New England." Journal of Vascular Surgery 51.1 (2010):
71-8.
- Stone DH, Nolan BW, Schanzer A, Goodney PP, Cambria RA, Likosky DS, Walsh DB, Cronenwett JL. "Vascular Study Group of Northern New England: Protamine reduces bleeding complications associated with carotid endarterectomy without increasing the risk of stroke." Journal of Vascular Surgery 51.3 (2010): 559-64.
- Simons JP, Goodney PP, Nolan BW, Cronenwett JL, Messina LM, Schanzer A. "Vascular Study Group of Northern New England: Failure to achieve clinical improvement despite graft patency in patients undergoing infrainguinal lower extremity bypass for critical limb ischemia." Journal of Vascular Surgery 51.6 (2010): 1419-24.
- De Martino RR, Nolan BW, Goodney PP, Chang CK, Schanzer A, Cambria R, Bertges DJ, Cronenwett JL. "Vascular Study Group of Northern New England: Outcomes of symptomatic abdominal aortic aneurysm repair." Journal of Vascular Surgery 52.1 (Jul 2010): 5-12.
- Bertges DJ, Goodney PP, Zhao Y, Schanzer A, Nolan BW, Likosky DS, Eldrup-Jorgensen J, Cronenwett JL. :The Vascular Study Group of New England: Cardiac Risk Index (VSG-CRI) predicts cardiac complications more accurately than the Revised Cardiac Risk Index in vascular surgery patients." Journal of Vascular Surgery 52.3 (Sept 2010): 674-83.
- Goodney PP, Nolan BW, Eldrup-Jorgensen J, Likosky DS, Cronenwett JL. "Vascular Study Group of Northern New England: Restenosis after carotid endarterectomy in a multicenter regional registry." Journal of Vascular Surgery 52.4 (Oct 2010): 897-905.
- Goodney PP, Schanzer A, Demartino RR, Nolan BW, Hevelone ND, Conte MS, Powell RJ, Cronenwett JL. "The Vascular Study Group of New England: Validation of the Society for Vascular Surgery's Objective Performance Goals for critical limb ischemia in everyday vascular surgery practice." Journal of Vascular Surgery 17 (Feb 2011). [Epub ahead of print].
- Wallaert JB, Goodney PP, Vignati JJ, Stone DH, Nolan BW, Bertges DJ, Walsh DB, Cronenwett JL. "Completion imaging after carotid endarterectomy in the Vascular Study Group of New England." Journal of Vascular Surgery (Mar 2011). [Epub ahead of

Presentations

- "A regional registry for quality assurance and improvement: The Vascular Study Group of Northern New England", Cronenwett, JL, Likosky, DS, Russell, MT, Eldrup-Jorgensen, J, Stanley, AC, and Nolan, BW. Presented at the Vascular Annual Meeting of the Society for Vascular Surgery, Baltimore, MD, June 9, 2007.
- "Factors associated with stroke or death following carotid endarterectomy", Goodney, PP, Likosky, DL, and Cronenwett, JL. Presented at the Annual Meeting of the Eastern Vascular Society, Boston, MA, September 25, 2007.
- "Predicting one year mortality after elective AAA repair: When not to operate", Beck, AB, Goodney, PP, Nolan, BW, Likosky, DS, Eldrup-Jorgenson, J, and Cronenwett, JL. Presented at the Vascular Annual Meeting of the Society for Vascular Surgery, San Diego, CA, June 13, 2008.
- "The Impact of EVAR on Abdominal Aortic Aneurysm Repair in Northern New England: Is EVAR Quality Improvement?", Nolan, BW, Goodney, PP, Ogrinc, G, Splaine, ME, and Cronenwett, JL. Presented at the 35th Annual Meeting of the New England Society for Vascular Surgery, Newport RI, October 4, 2008.
- "Lower Extremity Ambulation Prediction Modeling: Who will be walking 1 year after lower extremity bypass?", Goodney, PP, Likosky, DL, and Cronenwett, JL. Presented the 35th Annual Meeting of the New England Society for Vascular Surgery, Newport, RI, October 2008.
- "Diabetes as a Risk Factor for Peripheral Vascular Surgery: Data from the Vascular Surgery Study Group of Northern New England", Nolan, B, Elrdrup-Jorgensen, J, Stanley, AC, Goodney, PP, Beck, AW, and Cronenwett, JL. Presented at the 19th Annual Winter Meeting of the Peripheral Vascular Surgery Society, Steamboat Springs CO, January 30, 2009.
- "Predicting amputation and graft occlusion within 1 year after lower extremity bypass within the Vascular Study Group of Northern New England", Goodney, PP, Nolan, BW, Schanzer, A, Eldrup-Jorgensen, J, Bertges, DJ, Stanley, AC, Stone, DH, Likosky, DL, and Cronenwett, JL. Presented at the 19th Annual Winter Meeting of the Peripheral Vascular Surgery Society, Steamboat CO, February 1, 2009.
- "Predicting survival within 1 year after lower extremity bypass within the Vascular Study Group of Northern New England", Goodney, PP, Nolan, BW, Schanzer, A, Eldrup-Jorgensen, J, Bertges, DJ, Stanley, AC, Stone, DH, Likosky, DL, and Cronenwett, JL. Presented at the Spring Meeting of the Society for Clinical Vascular Surgery, Ft. Lauderdale, FL, March 19, 2009.
- "Development of Risk Prediction Models in Lower Extremity Bypass", Wyers, MC, Goodney, PP, and Cronenwett, JL. Presented at the Vascular Annual Meeting of the Society for Vascular Surgery Distinguished Fellows Luncheon Report on Clinical Seed Grants, Denver CO, June 12, 2009.
- "Protamine Reduces Bleeding Complications Associated with Carotid Endarterectomy Without Increasing the Risk of Stoke", Stone, DH, Nolan, BW, Schanzer, A, Goodney, PP, Cambria, R, Likosky, DS, Walsh, DW, and Cronenwett, JL. Presented at the Vascular Annual Meeting of the Society for Vascular Surgery Plenary Session, Denver, CO, June 2009.
- "Validation of the PIII CLI risk score for the prediction of amputation-free survival (AFS) in patients with critical limb ischemia", Schanzer, A, Goodney, PP, Li, Y, Eslami, M, Cronenwett, JL, Messina, L, and Conte, MS. Presented at the Vascular Annual Meeting of the Society for Vascular Surgery, Denver, CO, June 2009.
- "Accuracy of Cardiac Risk Prediction Models In Patients Undergoing Open Abdominal Aortic Aneurysm Repair or Lower Extremity Bypass", Bertges, DJ, Goodney, PP, Zhao, Y, Schanzer, A, Nolan, BW, Likosky, DS, Eldrup-Jorgensen, J, and Cronenwett, JL. Presented at the 36th Annual Meeting of the New England Society for Vascular Surgery, Boston, MA, October 1, 2009.
- "Outcomes of Symptomatic Abdominal Aortic Aneurysm Repair: A Multicenter Review from the Vascular Surgery Study Group of Northern New England", De Martino, RR. Nolan, BW, Goodney, PP, Chang, CK, Schanzer, A, Cambria, R, Bertges, DL, and Cronenwett, JL. Presented at the 36th Annual Meeting of the New England Society for Vascular Surgery, Boston, MA, October 1, 2009.

Presentations

- Restenosis Following Carotid Endarterectomy in a Multicenter Regional Registry", Goodney, PP, Nolan, BW, Eldrup-Jorgensen, J, Stanley, AC, and Cronenwett JL. Presented at the 34th Annual Meeting of the Southern Association for Vascular Surgery, Bahamas, January 2010.
- "Failure to Achieve Clinical Improvement Depsite Graft Patency in Patients Undergoing Lower Extremity Bypass for Critical Limb Ischemia", Simons, JP, Goodney, PP, Cronenwett, JL, Messina, LM, and Schanzer, A. Presented at the 38th Annual Meeting of the Society for Clinical Vascular Surgery, Scottsdale, AZ, April 2010.
- "Predictors of Post-Operative Respiratory Failure After Elective Open Abdominal Aortic Aneurysm (AAA) Repair", Steppacher, RC, YouFu, L, Goodney, PP, Eslami, MH, Messina, LM, Cronenwett, JL, and Schanzer, A. Presented at the 38th Annual Meeting of the Society for Clinical Vascular Surgery, Scottsdale, AZ, April 2010.
- "Prior failed ipsilateral percutaneous vascular intervention in patients with critical limb ischemia predicts poor outcome after lower extremity bypass", Nolan, BW, DeMartino, RD, Beck, AW, Schanzer, A, Goodney, PP, Walsh, DB, and Cronenwett, JL. Presented at the Vascular Annual Meeting of the Society for Vascular Surgery, Boston, MA, June 10, 2010.
- "Do objective performance goals (OPGs) for critical limb ischemia apply to everyday vascular surgery practice?", Goodney, PP, Schanzer, A, DeMartino, RD, Nolan, BW, Conte, MS, Cronenwett, JL, and Powell RJ. Presented at the Vascular Annual Meeting of the Society for Vascular Surgery, Boston, MA, June 11, 2010.
- "A regional quality improvement effort to increase pre-operative beta-blocker utilization", Nolan, BW, Eldrup-Jorgensen, J, Beck, AW, Stanley, A, Goodney, PP, Schanzer, A, Liksoky, D, and Cronenwett, JL. Presented at the Vascular Annual Meeting of the Society for Vascular Surgery, Boston, MA, June 12, 2010.
- "Derivation and validation of a practical risk score for mortality after repair of ruptured abdominal aortic aneurysms and comparison to existing models in a U.S. regional cohort", Robinson, WP, Schanzer, A, Li, L, Nolan, BW, Goodney, PP, Eslami, MH, Messina, L, and Cronenwett, JL. Presented at the Vascular Annual Meeting of the Society for Vascular Surgery, Boston, MA, June 13, 2010.
- "The impact of completion imaging during carotid endarterectomy", Wallaert, JB, Goodney, PP, Zhao, Y, Stone, DH, Nolan, BW, Bertges, D, Eldrup-Jorgensen, J, Schanzer, A, Cambria, RA, Walsh, DB, and Cronenwett, JL. Presented at the 37th Annual Meeting of the New England Society for Vascular Surgery, Rockport, ME, September 24, 2010.
- "Impact of surgeon practice pattern in shunt use during CEA for contralateral carotid occlusion", Goodney, PP, Scali, ST, Stone, DH, Patel, V, Eslami, M, Wallaert, J, Shaw, P, and Cronenwett, JL. Presented at the Vascular Annual Meeting of the Society for Vascular Surgery, Chicago, IL, June 17, 2011.
- "Blood Transfusion Is Associated With Increased Perioperative Surgical Site Infection and Graft Failure In Lower Extremity Bypass", Tan, TW, Kalish, J, Farber, A, Hamburg, N, Eberhardt, R, Doros, G, Rybin, D, Eldrup-Jorgensen, J, Goodney, PP, and Cronenwett, JL. Presented at the 38th Annual Meeting of the New England Society for Vascular Surgery, Providence, RI, September 17, 2011.
- "Comparison of Carotid Endarterectomy and Stenting In Real World Practice Using A Regional Quality Improvement Registry", Nolan, BW, De Martino, RR, Goodney, PP, Butzel, D, Schanzer, A, Stone, DH, Kwolek, CJ, Powell1, RJ, and Cronenwett, JL. Presented at the 38th Annual Meeting of the New England Society for Vascular Surgery, Providence, RI, September 17, 2011.
- "Prior Contralateral Amputation Predicts Worse Outcomes For Lower Extremity Bypasses In the Intact Limb", Baril, DT, Goodney, PP, Robinson, WP, Nolan, BW, Stone, DH, Bloch, P, Li, Y, Cronenwett, JL, and Schanzer, A. Presented at the 38th Annual Meeting of the New England Society for Vascular Surgery, Providence, RI, September 18, 2011.

Registry in Practice

Database

- QA, QI
- Outcomes evaluation – Surgeon
  Division
- PQRI
- MOC

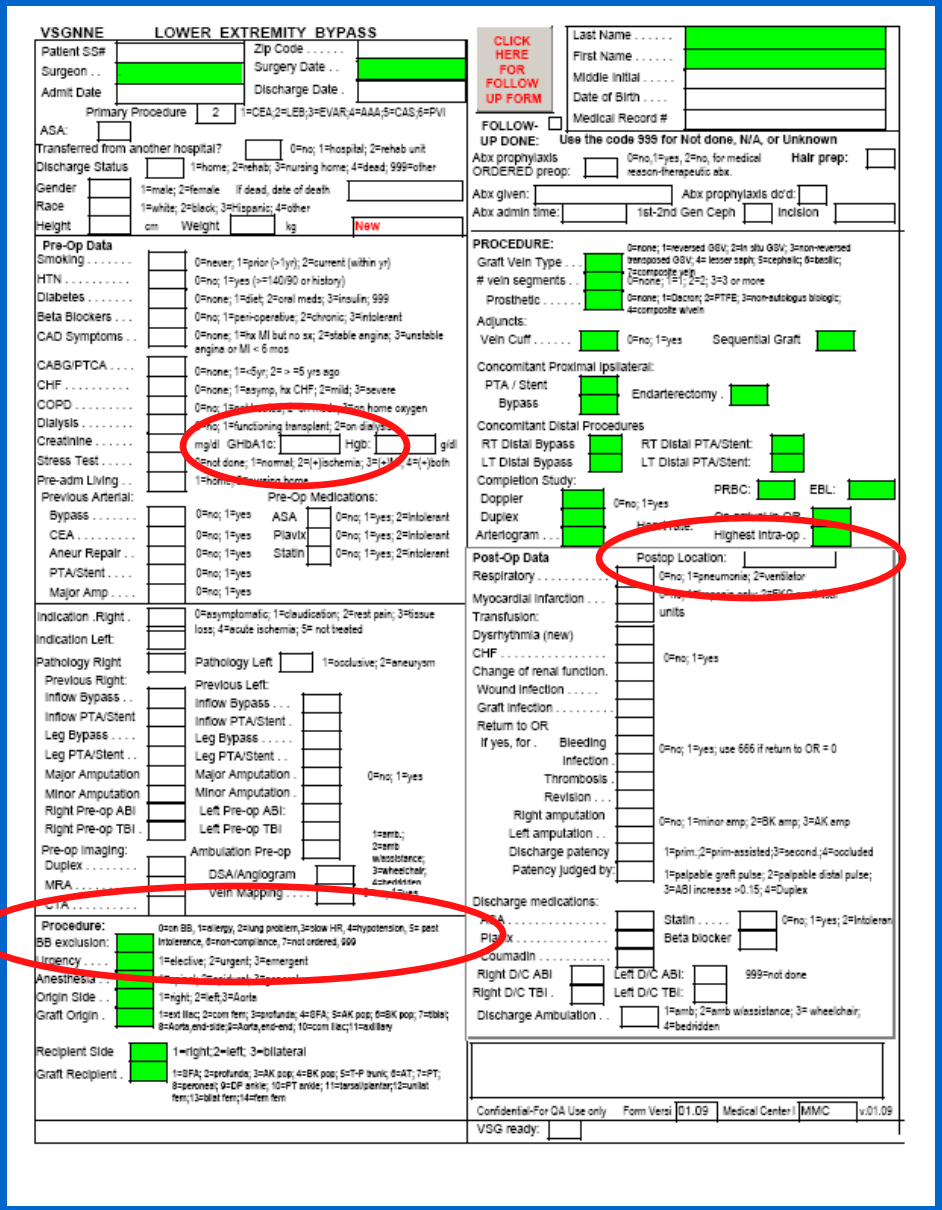
Registry in Practice

VSGNE Database

- State of the art
- Standardized reporting
- User-friendly
- Short
- IS supported

VSGNE Database

- Carotid endarterectomy
- Open AAA repair
- EVAR
- Lower extremity bypass
- PVI
- Others



VSGNNE LOWER EXTREMITY BYPASS

CLICK HERE FOR FOLLOW UP FORM

Patient SS# | Zip Code | Last Name | First Name | Middle Initial | Date of Birth | Medical Record #

Surgeon | Surgery Date | Admit Date | Discharge Date

Primary Procedure 2 (1=CEA;2=LEB;3=EVAR;4=AAA;5=CAS;6=PVI)

ASA | Transferred from another hospital? (0=no; 1=hospital; 2=rehab unit) | Discharge Status (1=home; 2=rehab; 3=nursing home; 4=dead; 999=other)

FOLLOW-UP DONE: Use the code 999 for Not done, N/A, or Unknown

Gender (1=male; 2=female) If dead, date of death | Race (1=white; 2=black; 3=Hispanic; 4=other)

Height (cm) | Weight (kg) | New

Abx prophylaxis ORDERED preop (0=no,1=yes, 2=no, for medical reason-therapeutic abx.) | Hair prep:

Abx given: | Abx prophylaxis d/c'd: | Abx admin time: | 1st-2nd Gen Cepin | Incision

Pre-Op Data

Smoking (0=never; 1=prior (>1yr); 2=current (within yr))

HTN (0=no; 1=yes (>=140/90 or history))

Diabetes (0=none; 1=diet; 2=oral meds; 3=insulin; 999)

Beta Blockers (0=no; 1=peri-operative; 2=chronic; 3=intolerant)

CAD Symptoms (0=none; 1=hx MI but no sx; 2=stable angina; 3=unstable angina or MI < 6 mos)

CABG/PTCA (0=none; 1=<5yr; 2= > =5 yrs ago)

CHF (0=none; 1=asymp, hx CHF; 2=mild; 3=severe)

COPD (0=no; 1=mild; 2=moderate; 3=on home oxygen)

Dialysis (0=no; 1=functioning transplant; 2=on dialysis)

Creatinine mg/dl GHbA1c: Hgb: g/dl

Stress Test (0=not done; 1=normal; 2=(+)ischemia; 3=(+)MI; 4=(+)both)

Pre-adm Living (1=home; 2=nursing home)

Previous Arterial:

Bypass (0=no; 1=yes)

CEA (0=no; 1=yes)

Aneur Repair (0=no; 1=yes)

PTA/Stent (0=no; 1=yes)

Major Amp (0=no; 1=yes)

Pre-Op Medications:

ASA (0=no; 1=yes; 2=intolerant)

Plavix (0=no; 1=yes; 2=intolerant)

Statin (0=no; 1=yes; 2=intolerant)

PROCEDURE:

Graft Vein Type (0=none; 1=reversed GSV; 2=in situ GSV; 3=non-reversed transposed GSV; 4= lesser saph; 5=cephalic; 6=basilic; 7=composite vein)

vein segments (0=none; 1=1; 2=2; 3=3 or more)

Prosthetic (0=none; 1=Dacron; 3=PTFE; 3=non-autologous biologic; 4=composite w/vein)

Adjuncts:

Vein Cuff (0=no; 1=yes) | Sequential Graft

Concomitant Proximal Ipsilateral:

PTA / Stent | Endarterectomy | Bypass

Concomitant Distal Procedures

RT Distal Bypass | RT Distal PTA/Stent:

LT Distal Bypass | LT Distal PTA/Stent:

Completion Study: | PRBC: | EBL:

Doppler | Duplex | Arteriogram (0=no; 1=yes) | Highest Intra-op

Indication .Right (0=asymptomatic; 1=claudication; 2=rest pain; 3=tissue loss; 4=acute ischemia; 5= not treated)

Indication Left:

Pathology Right | Pathology Left (1=occlusive; 2=aneurysm)

Previous Right:	Previous Left:
Inflow Bypass	Inflow Bypass
Inflow PTA/Stent	Inflow PTA/Stent
Leg Bypass	Leg Bypass
Leg PTA/Stent	Leg PTA/Stent
Major Amputation	Major Amputation
Minor Amputation	Minor Amputation
Right Pre-op ABI	Left Pre-op ABI:
Right Pre-op TBI	Left Pre-op TBI

(0=no; 1=yes)

Ambulation Pre-op (1=amb.; 2=amb w/assistance; 3=wheelchair; 4=bedridden)

Pre-op Imaging:

Duplex | MRA | CTA | DSA/Angiogram | Vein Mapping

Procedure:

BB exclusion (0=on BB, 1=allergy, 2=lung problem,3=slow HR, 4=hypotension, 5= past intolerance, 6=non-compliance, 7=not ordered, 999)

Urgency (1=elective; 2=urgent; 3=emergent)

Anesthesia

Origin Side (1=right; 2=left,3=Aorta)

Graft Origin (1=ext iliac; 2=com fem; 3=profunda; 4=BFA; 5=AK pop; 6=BK pop; 7=tibial; 8=Aorta,end-side;9=Aorta,end-end; 10=com iliac;11=axillary)

Recipient Side (1=right;2=left; 3=bilateral)

Graft Recipient (1=BFA; 2=profunda; 3=AK pop; 4=BK pop; 5=T-P trunk; 6=AT; 7=PT; 8=peroneal; 9=DP ankle; 10=PT ankle; 11=tarsal/plantar;12=unilat fem;13=bilat fem;14=fem fem)

Post-Op Data

Postop Location:

Respiratory (0=no; 1=pneumonia; 2=ventilator)

Myocardial Infarction

Transfusion: units

Dysrhythmia (new)

CHF (0=no; 1=yes)

Change of renal function.

Wound Infection

Graft Infection

Return to OR

If yes, for . Bleeding | Infection | Thrombosis | Revision (0=no; 1=yes; use 666 if return to OR = 0)

Right amputation | Left amputation (0=no; 1=minor amp; 2=BK amp; 3=AK amp)

Discharge patency (1=prim.;2=prim-assisted;3=second.;4=occluded)

Patency judged by: (1=palpable graft pulse; 2=palpable distal pulse; 3=ABI increase >0.15; 4=Duplex)

Discharge medications:

ASA | Plavix | Coumadin | Statin | Beta blocker (0=no; 1=yes; 2=Intolerant)

Right D/C ABI | Left D/C ABI: | Right D/C TBI | Left D/C TBI: (999=not done)

Discharge Ambulation (1=amb; 2=amb w/assistance; 3= wheelchair; 4=bedridden)

Confidential-For QA Use only | Form Versi 01.09 | Medical Center I MMC | v.01.09

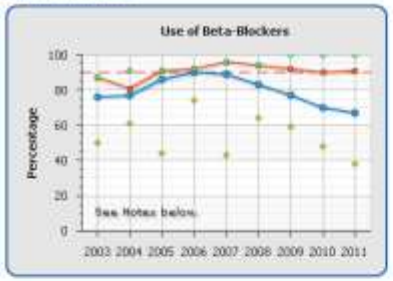
VSG ready:

Primary Carotid Endarterectomy

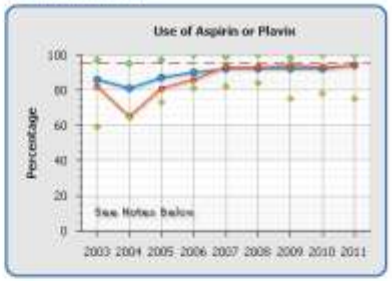
Region = 9142 (blue) Center = 2161 (red)

January 1, 2003 – December 31, 2011

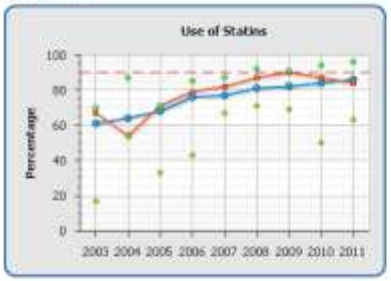
Use of Beta Blockers



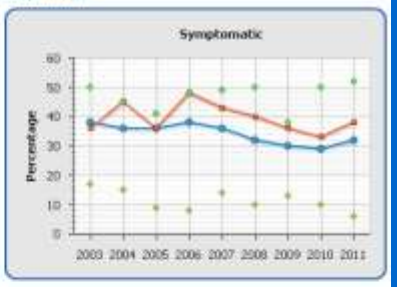
Use of Aspirin or Plavix



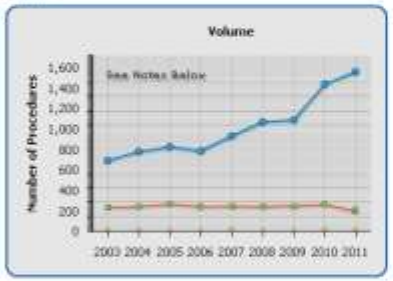
Use of Statins



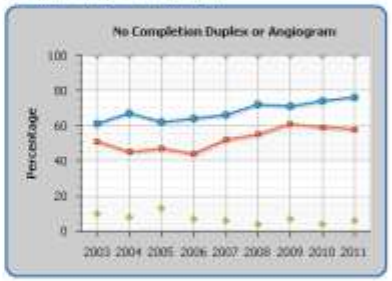
Symptomatic



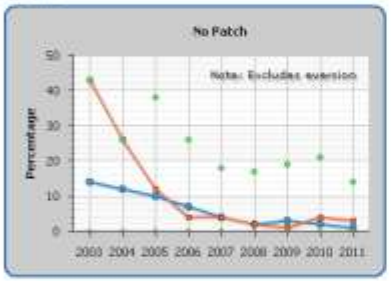
Volume



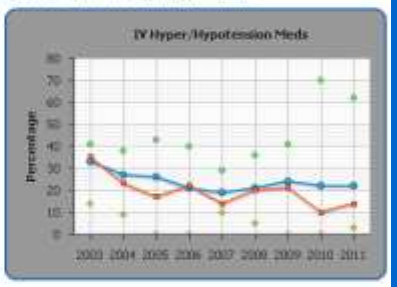
No Completion Duplex or Angiogram



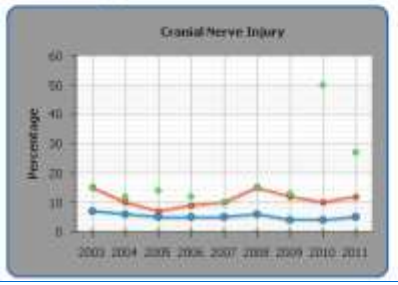
No Patch



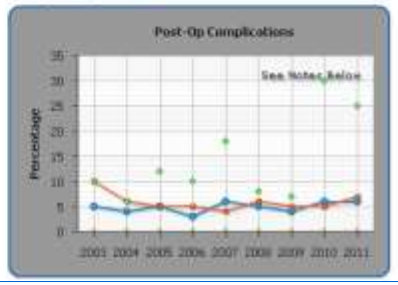
IV Meds Required for Hyper Hypotension



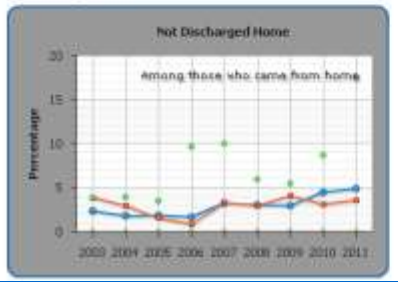
Cranial Nerve Injury



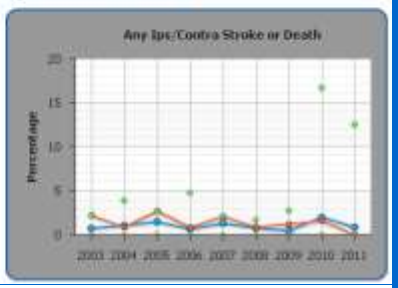
Post Op Complications



Not Discharged Home



Any IPS/Contra Stroke or Death



Notes

Beta Blockers: 90% benchmark (dashed line) established Nov. 2003. B-blocker working group presentations May 2004.

Use of Aspirin or Plavix: 95% benchmark (dashed line) established Nov. 2006.

Post-Op Complications: Any TIA, reperfusion symptoms, MI, new dysrhythmia, CHF, wound infection or return to OR.

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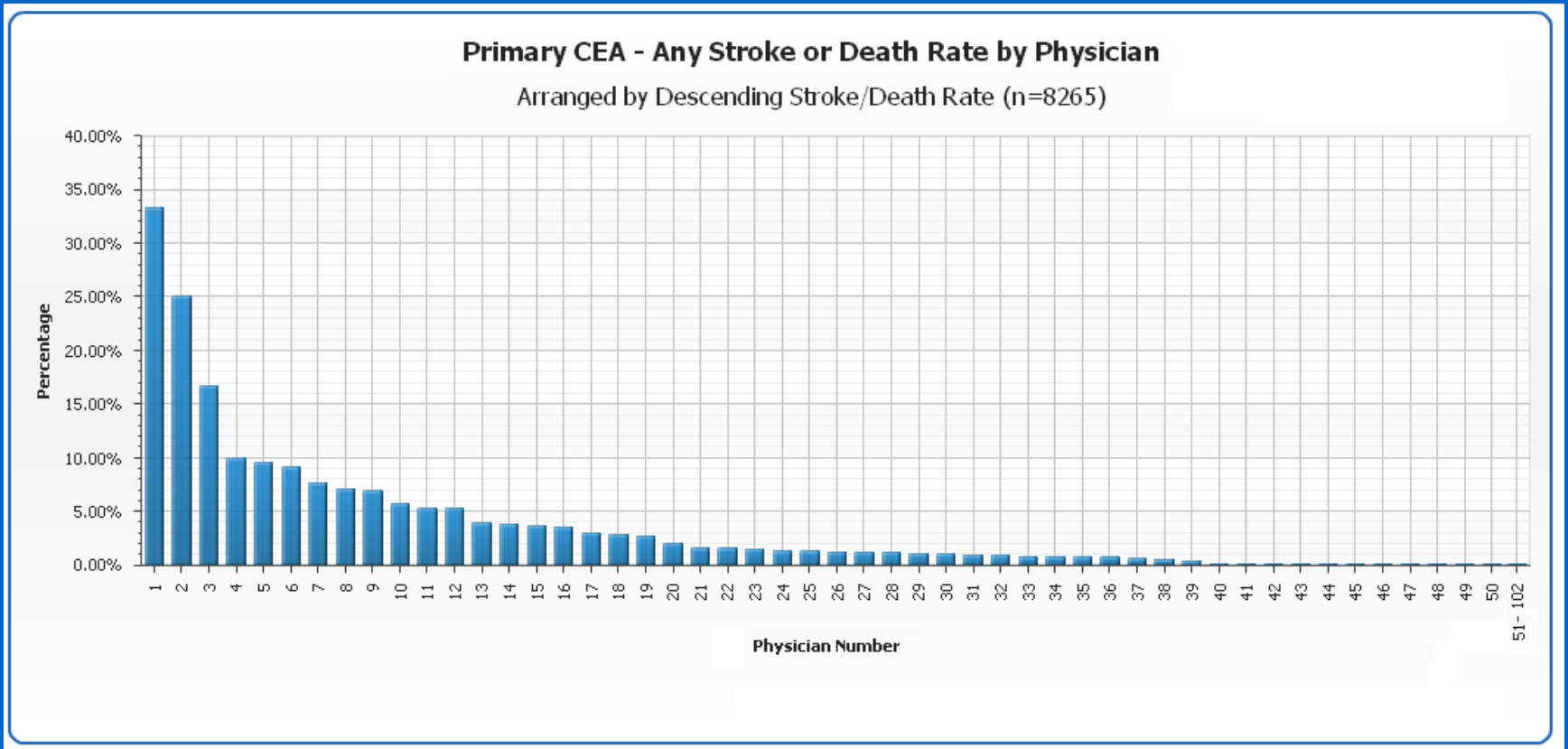
January 1, 2003 – December 31, 2011



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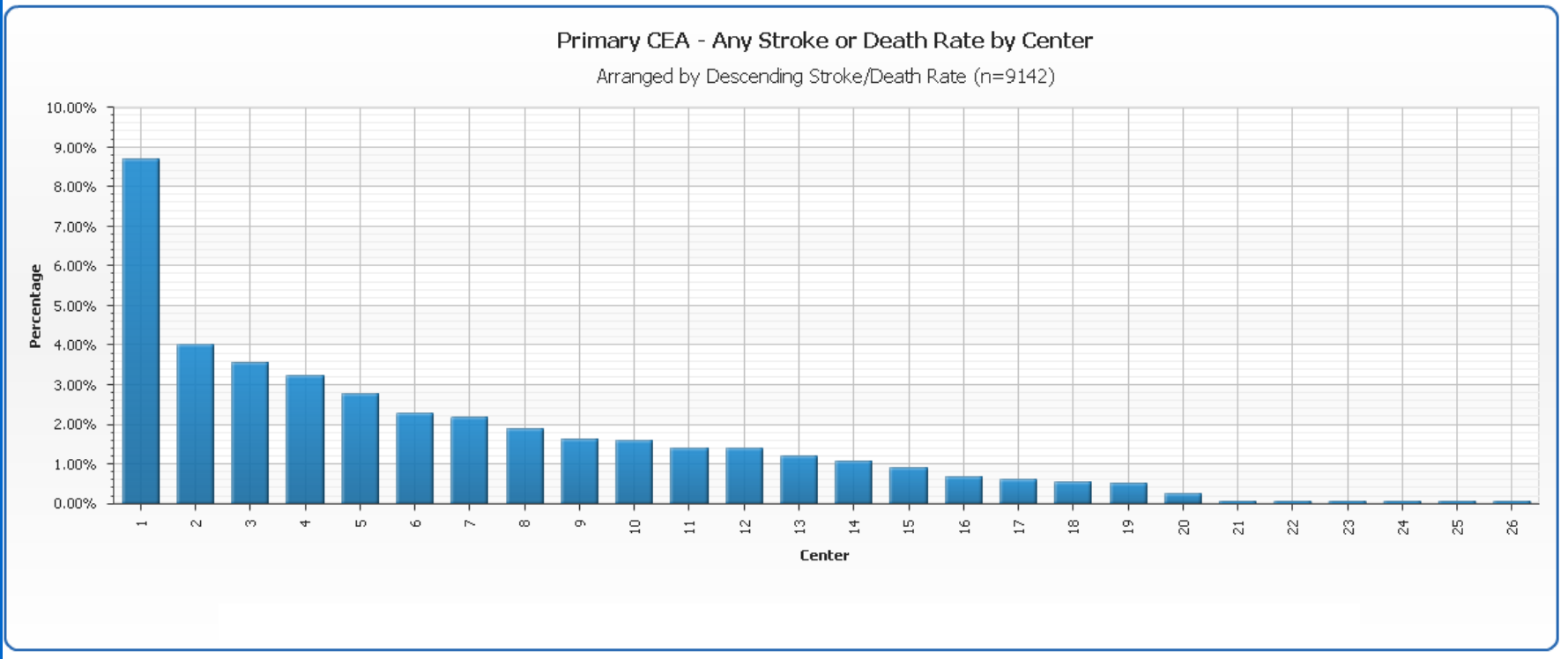

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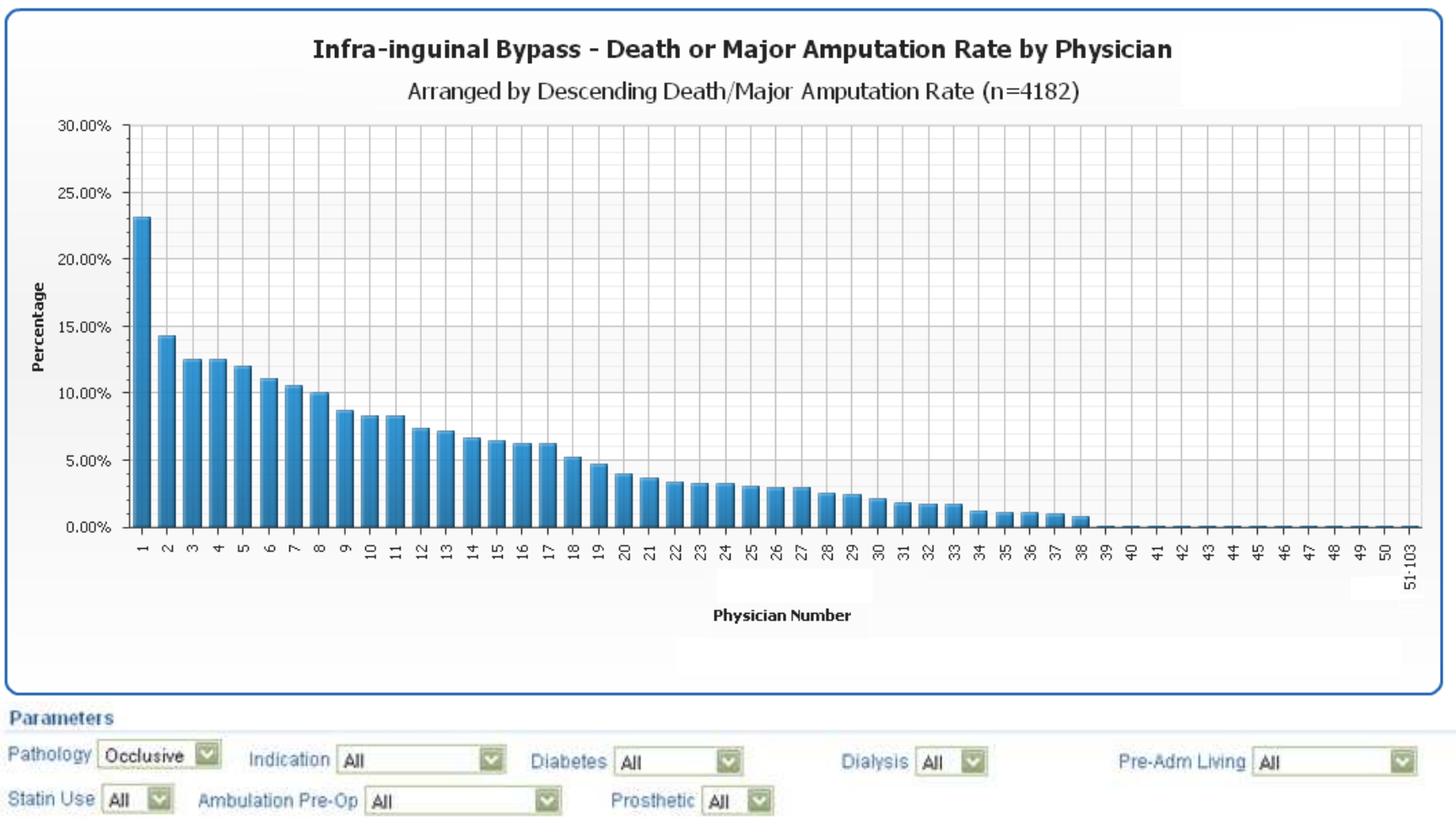

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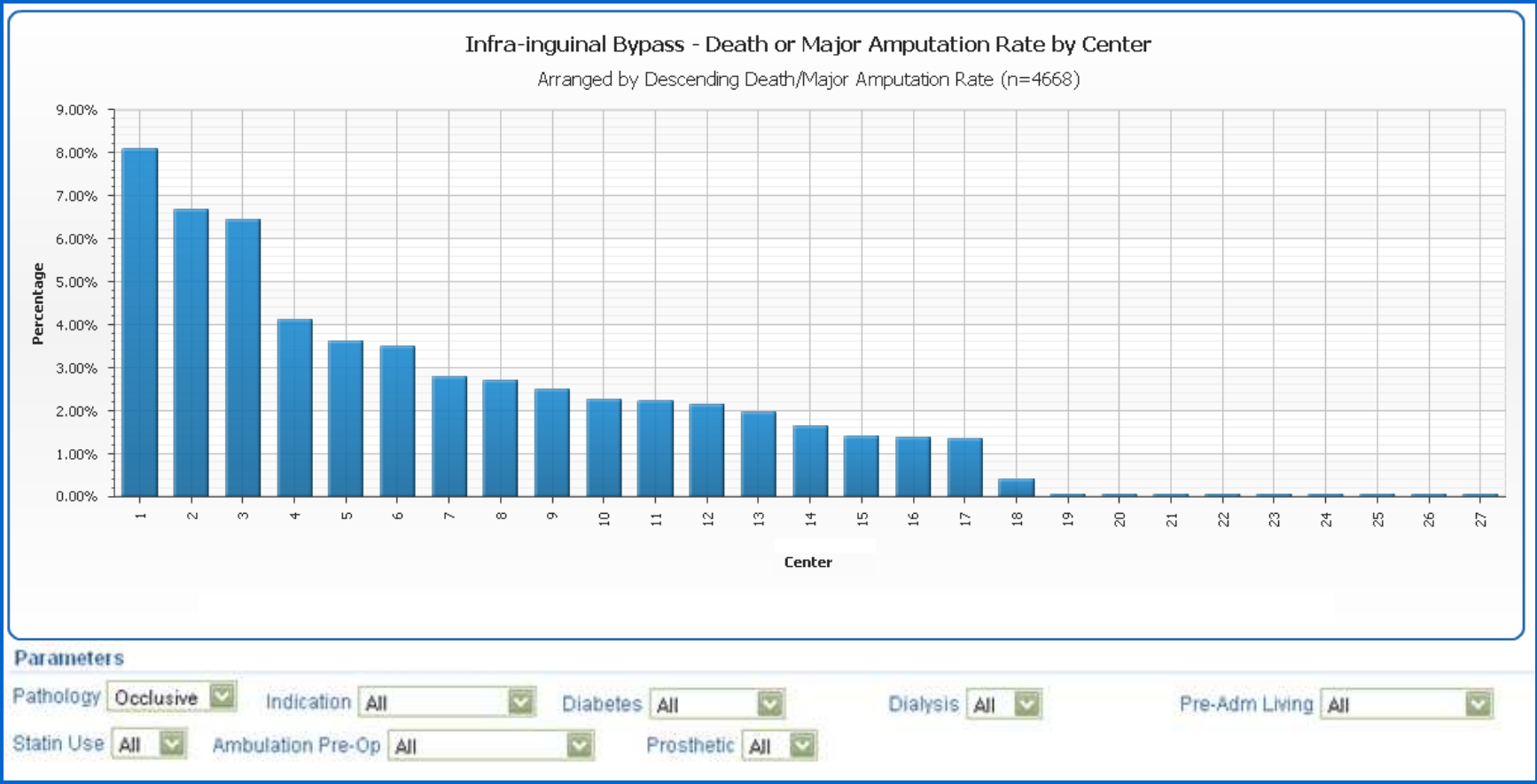

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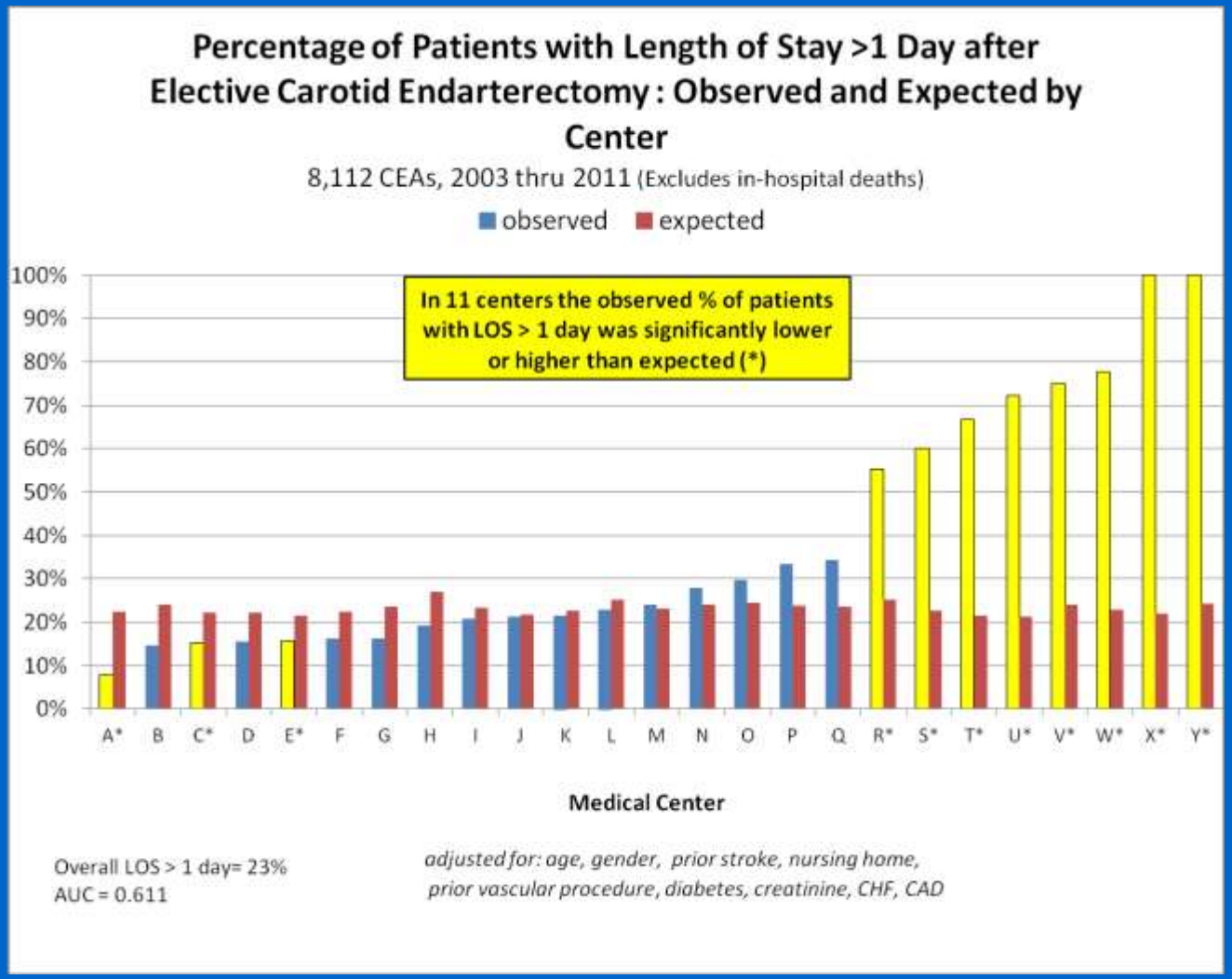

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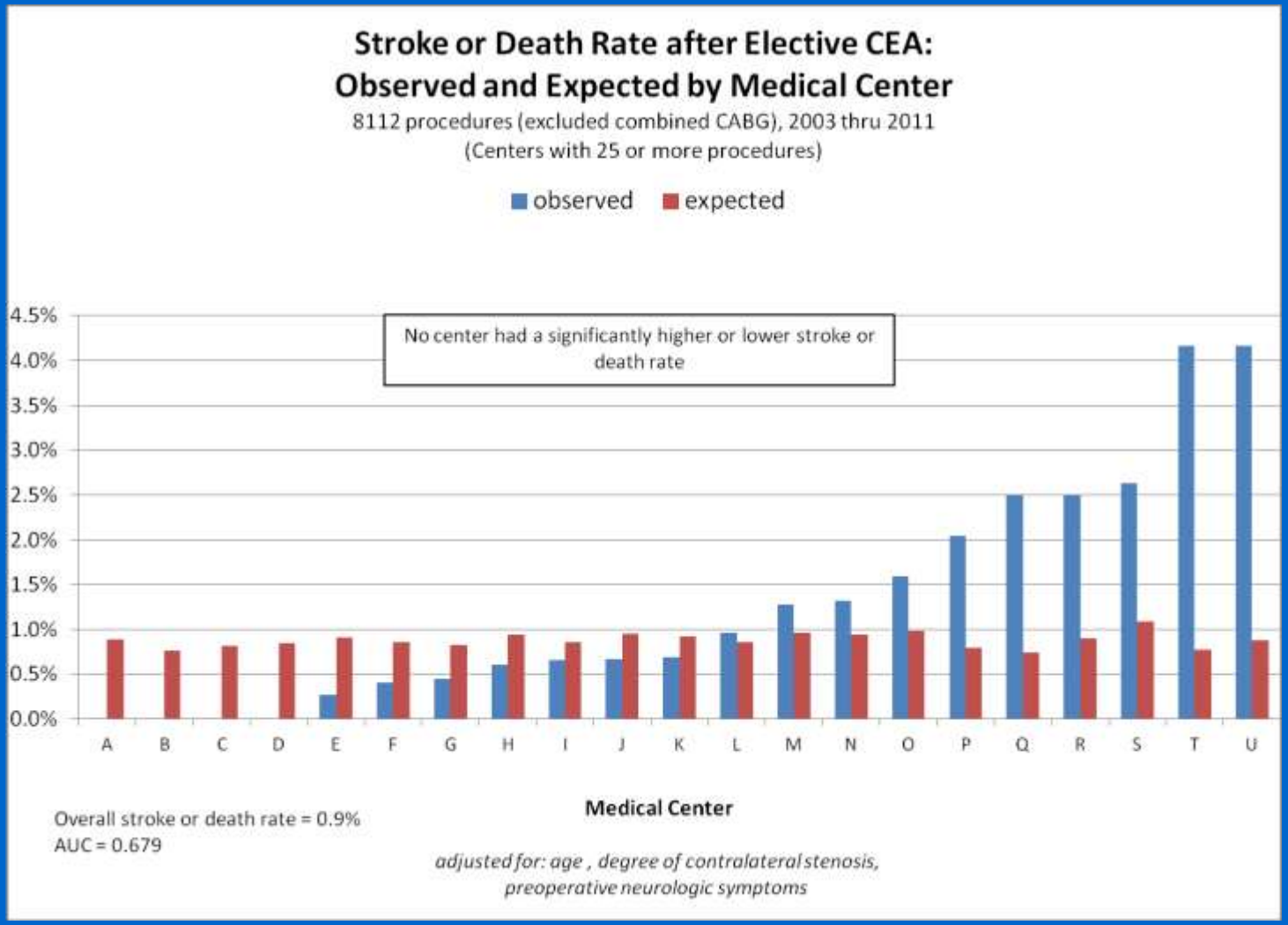

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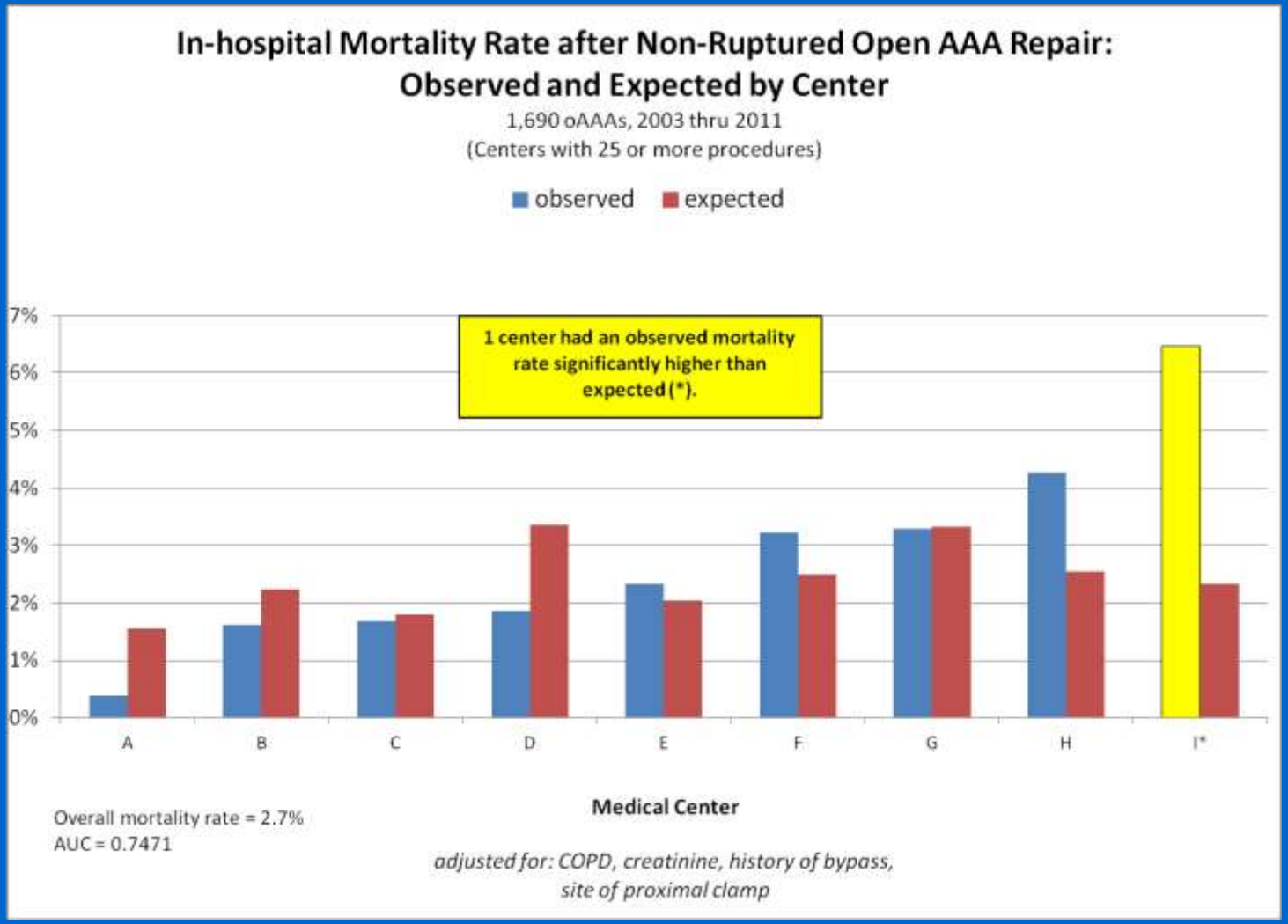

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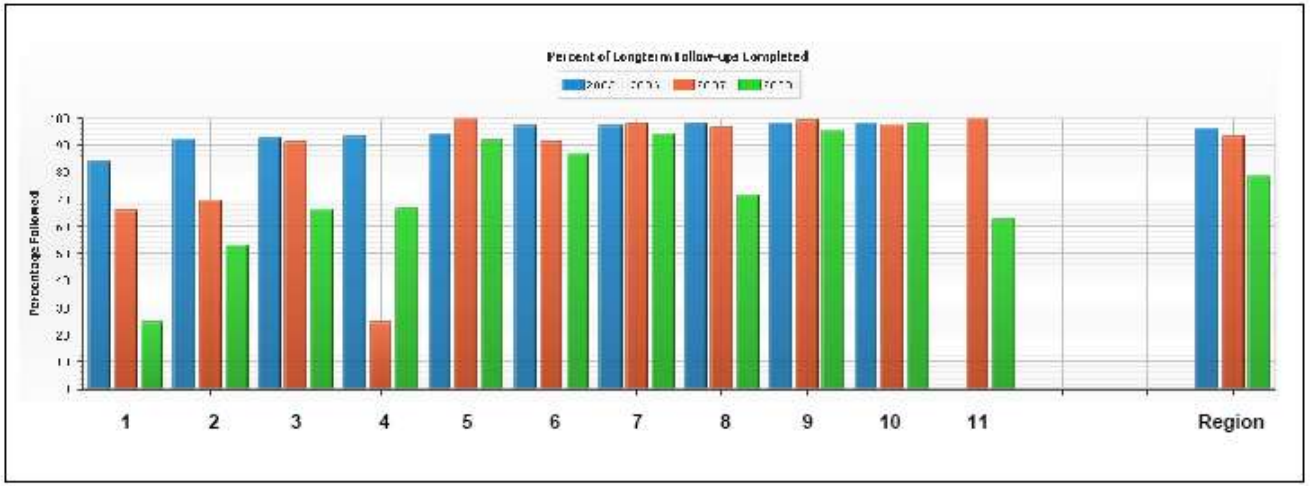
Long Term Follow-Up

For Procedures from January 2003 through December 2008



*For VSGNE Meeting May 12, 2010

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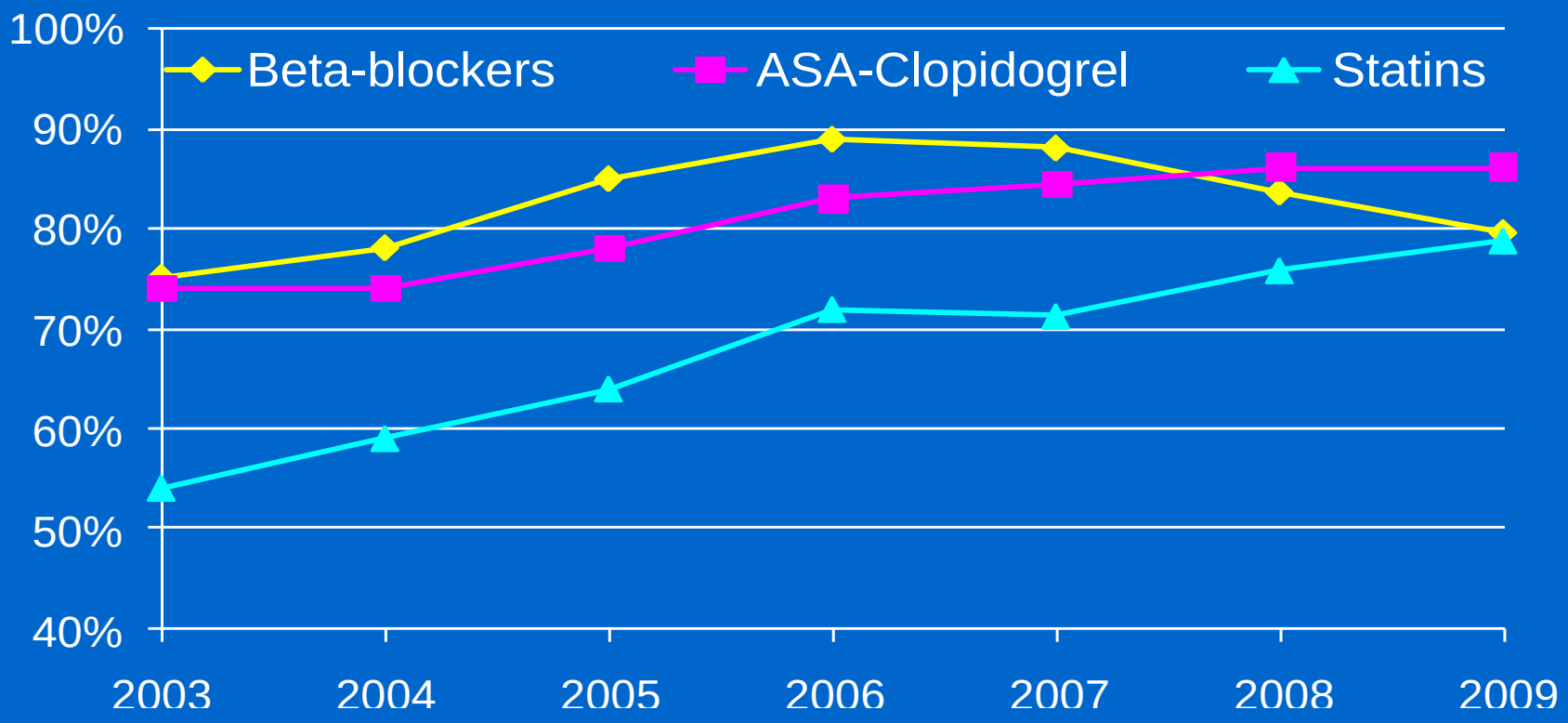
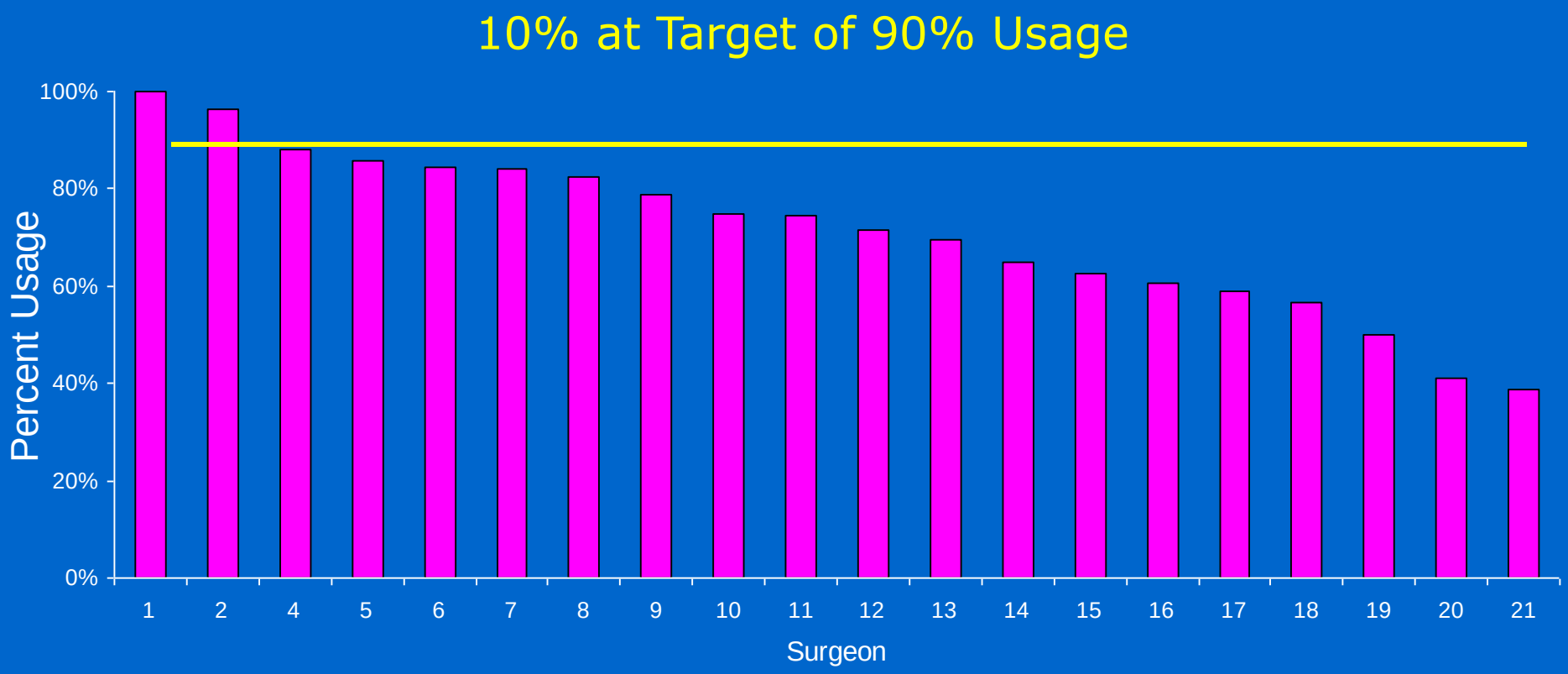
Pre-op Medication Usage

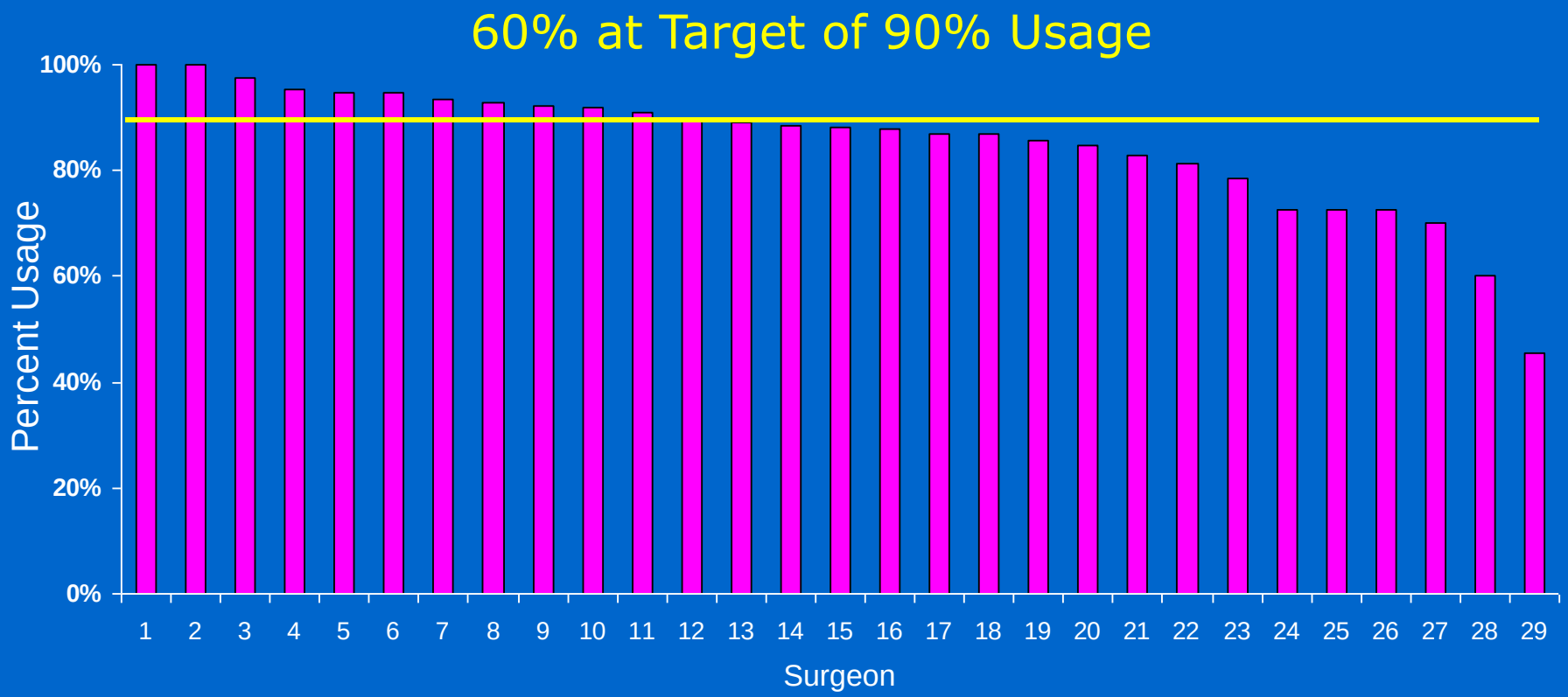


Pre-op Beta-Blocker Usage by Surgeon, Jan-June 2003



Initial Surgeon Variation: 39% - 100%

Pre-op B-Blocker Usage by Surgeon, July-Dec 2007



Most Recent Surgeon Variation: 45% - 100%

Division Outcomes:

1. Complication rates – stroke, cardiac, thrombosis, return to OR, etc
2. LOS, charges
3. Quality metrics – Beta blockers, ASA, statin

Maine Medical Center
The Vascular Center

Vascular Surgery Best Practices Scorecard

PROCEDURE: Carotid Endarterectomy

REPORT FOR ATTENDING: 3318

Date of surgery from: Jan-08 to: Dec-08

Post-Operative Outcomes/ Complications

		Your results % cases (n | total)	MMC YTD (ALL surgeons) % cases (n | total)
Case Data:	Number of cases reviewed:	83	245
	Mean Post-Op Length of Stay:	1.2	1.6
	Median Post-Op Length of Stay:	1.0	1.0
	Mean Hospital Length of Stay:	1.4	2.0
	Mean Total Hospital Charges:	$ 12,565	$ 13,177
Cranial Nerve Injury:	VII:	6.0% (5 | 83)	4.5% (11 | 245)
	IX:	1.2% (1 | 83)	1.6% (4 | 245)
	X:	3.6% (3 | 83)	2.9% (7 | 245)
	XII:	10.8% (9 | 83)	8.2% (20 | 245)
	Other:	0.0% (0 | 83)	0.4% (1 | 245)
Neurologic events:	Ipsilateral:		
	TIA:	1.2% (1 | 83)	1.2% (3 | 245)
	Minor stroke:	0.0% (0 | 83)	0.8% (2 | 245)
	Major stroke:	0.0% (0 | 83)	0.0% (0 | 245)
	Contralateral:		
	TIA:	1.2% (1 | 83)	0.4% (1 | 245)
	Minor stroke:	0.0% (0 | 83)	0.0% (0 | 245)
	Major stroke:	0.0% (0 | 83)	0.0% (0 | 245)
Other events:			
	Reperfusion symptoms - Seizure or hemorrhage:	0.0% (0 | 83)	0.4% (1 | 245)
	IV med required for HYPERtension:	10.8% (9 | 83)	12.7% (31 | 245)
	IV med required for HYPOtension:	9.6% (8 | 83)	7.8% (19 | 245)
	Myocardial infarction:	1.2% (1 | 83)	0.4% (1 | 245)
	Dysrhythmia (new):	0.0% (0 | 83)	2.0% (5 | 245)
	CHF:	0.0% (0 | 83)	0.4% (1 | 245)
	Wound infection:	0.0% (0 | 83)	0.0% (0 | 245)
	Return to OR for Bleeding:	1.2% (1 | 83)	1.6% (4 | 245)
	Return to OR for Neurologic event:	1.2% (1 | 83)	0.8% (2 | 245)
Discharge medications:	ASA:	89% (74 | 83)	89% (218 | 245)
	Plavix:	8.4% (7 | 83)	10.2% (25 | 245)
	Other antiplatelet:	9.6% (8 | 83)	9.4% (23 | 245)
	Statin:	81% (67 | 83)	86% (210 | 245)
	Beta blockers:	90% (75 | 83)	87% (212 | 245)
Discharge destination:	Home:	98% (81 | 83)	96% (235 | 245)
	Rehab facility:	2.4% (2 | 83)	3.3% (8 | 245)
	Skilled nursing facility:	0.0% (0 | 83)	0.8% (2 | 245)
	Expired:	0.0% (0 | 83)	0.0% (0 | 245)

5/6/2009

Maine Medical Center
The Vascular Center

Vascular Surgery Best Practices Scorecard

REPORT FOR ATTENDING: 3318

PROCEDURE: Lower Extremity Bypass

Date of surgery from: Jan-08 to: Dec-08

Post-Operative Outcomes/ Complications

		Your results (% cases (n | total))	MMC YTD All surgeons
Case Data:	Number of cases reviewed:	23	122
	Mean Post-Op Length of Stay:	8.9	6.6
	Mean Hospital Length of Stay:	11.3	7.7
	Mean Total Hospital Charges:	$ 40,891	$ 37,042
Wound infection:		0.0% (0 | 23)	0.0% (0 | 122)
Post-op Bleeding:	Percent requiring 1-2 units:	0.0% (0 | 23)	0.8% (1 | 122)
	Percent requiring >=3 units:	0.0% (0 | 23)	0.0% (0 | 122)
	Percent requiring return to OR:	0.0% (0 | 23)	0.0% (0 | 122)
Myocardial infarction:		4.3% (1 | 23)	4.1% (5 | 122)
Dysrhythmia (new):		8.7% (2 | 23)	6.6% (8 | 122)
CHF:		0.0% (0 | 23)	2.5% (3 | 122)
Respiratory complications:	Pneumonia:	0.0% (0 | 23)	0.0% (0 | 122)
	Required ventilator post-op:	0.0% (0 | 23)	1.6% (2 | 122)
Change in renal function:	Increase in creat >0.5 mg/dl:	15.0% (3 | 20)	8.4% (9 | 107)
Return to OR for:	Infection:	0.0% (0 | 23)	0.0% (0 | 122)
	Thrombosis:	4.3% (1 | 23)	2.5% (3 | 122)
	Revision:	0.0% (0 | 23)	0.8% (1 | 122)
Ipsilateral amputation:	Minor:	4.3% (1 | 23)	7.4% (9 | 122)
	BK amputation:	0.0% (0 | 23)	2.5% (3 | 122)
	AK amputation:	0.0% (0 | 23)	0.0% (0 | 122)
Discharge patency:	Primary:	96% (22 | 23)	95.9% (117 | 122)
	Primary - assisted:	0.0% (0 | 23)	0.0% (0 | 122)
	Secondary:	4.3% (1 | 23)	2.5% (3 | 122)
	Occluded:	0.0% (0 | 23)	1.6% (2 | 122)
Patency judged by:	Palpable graft pulse:	55% (12 | 22)	50.9% (58 | 114)
	Palpable distal pulse:	45% (10 | 22)	46.5% (53 | 114)
	ABI increase >0.15:	0.0% (0 | 22)	1.8% (2 | 114)
	Duplex:	0.0% (0 | 22)	0.9% (1 | 114)
Discharge medications:	ASA:	83% (19 | 23)	78% (93 | 119)
	Plavix:	26.1% (6 | 23)	18.5% (22 | 119)
	Statin:	70% (16 | 23)	80% (95 | 119)
	Beta blockers:	100% (23 | 23)	91% (108 | 119)
Discharge ambulation:	Ambulatory:	30% (7 | 23)	33% (39 | 119)
	Ambulatory with assistance:	65% (15 | 23)	62% (74 | 119)
	Wheelchair:	4.3% (1 | 23)	5.0% (6 | 119)
	Bedridden:	0.0% (0 | 23)	0.0% (0 | 119)
Discharge destination:	Home:	61% (14 | 23)	66% (81 | 122)
	Rehab facility:	30% (7 | 23)	24.6% (30 | 122)
	Skilled nursing facility:	9% (2 | 23)	6.6% (8 | 122)
	Expired:	0% (0 | 23)	2.5% (3 | 122)
Percent previous year followed up In study period:	Within 10-14 months of index surgery:		

Outcomes analysis:

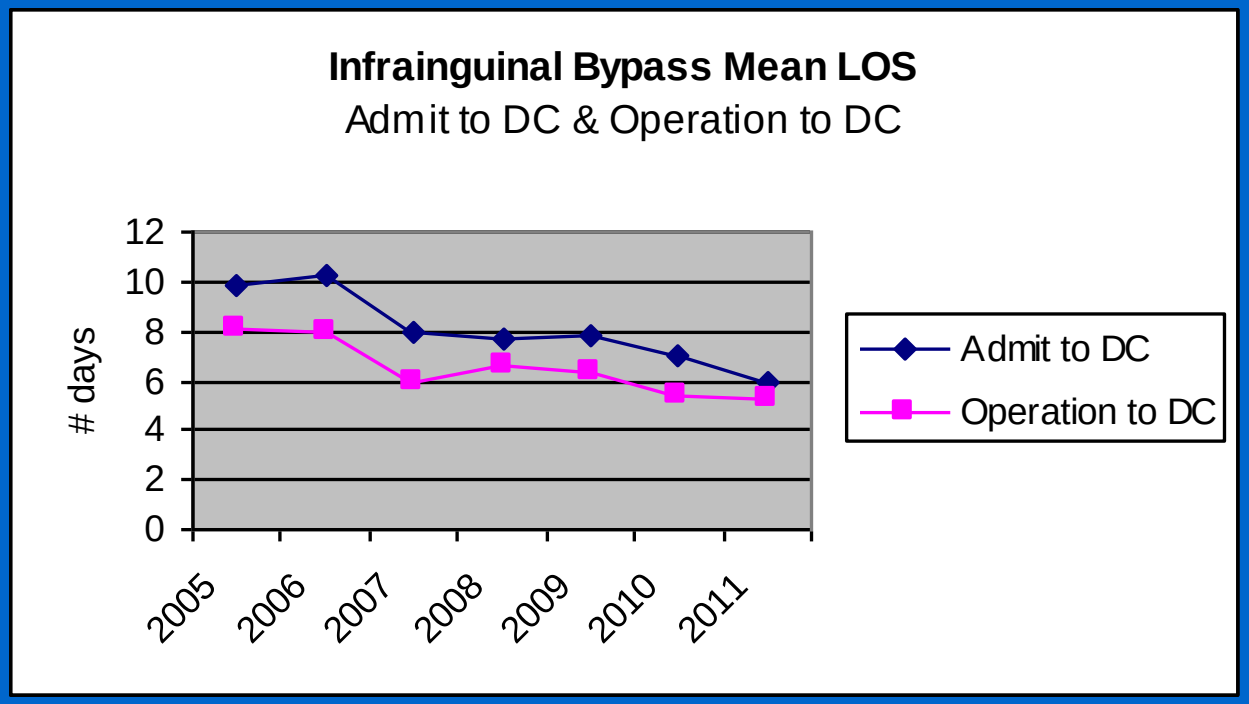
Independent recording

Ongoing evaluation

CEA pathway

- 85% transfer to regular floor care (bypassing Intermediate and Critical Care)
- 85% discharged on POD #1

LEBPG



The 2008 American College of Surgeons – National Surgical Quality Improvement Program mean post op LOS benchmark is 6.9 days.

The Surgical Care Improvement Project (SCIP)

Measures being tracked include:

1. Appropriate pre-op timing of antibiotic administration
2. Appropriate choice of drug for procedure
3. Antibiotic discontinued 24 hours after surgery
4. Bundle including cases meeting all SCIP criteria

% of cases meeting ALL SCIP criteria:

Endo AAA (ruptured cases excluded)	97%
Carotid Endarterectomy	99%
Open AAA (ruptured cases excluded)	97%
Infrainguinal Bypass	98%
Ruptured AAA	100%
Suprainguinal Bypass	98%

PQRS

Physician Quality Reporting System:

Incentive payment for submission of quality measures data

2010	2%
2011	1.5%
2012-4	0.5%
2015	- 1.5%
2016	- 2%

PQRS

Quality measures

Timing of antibiotic administration
Selection of antibiotic
Discontinuation of antibiotic w/i 24 hrs
Use of patch during CEA

PQRS
Reporting options

- Claims-based methods
- Registry-based methods

Must include 80% of all at risk cases

PQRS
Qualify for bonus

- Two of 7 general surgeons
- One of 5 vascular surgeons

PQRS
Qualify for bonus

- Five of 5 vascular surgeons using VSG
- $ 6-8000 per surgeon

ABS - MOC

Maintenance of Certification
Part 4.

Participation in a national, regional or local surgical **outcomes database or quality assessment program**.

ABS - MOC

Recertification

VSGNNE is an ABS approved registry

Registry in Practice

VSGNNE registry

- QA, QI
- Outcomes evaluation – Provider Division
- PQRS
- MOC

So Cal VOICe

SOUTHERN CALIFORNIA VASCULAR OUTCOMES IMPROVEMENT COLLABORATIVE

+

SOUTHERN CALIFORNIA VASCULAR SURGICAL SOCIETY

Fred Weaver, MD

SoCal VOICe

Southern **Cal**ifornia **V**ascular **O**utcomes **I**mprovement **C**ollaborative

So Cal VOICe

- Participating Institutions
  - Cedars-Sinai Medical Center
  - Keck Hospital of USC
  - Loma Linda University Medical Center
  - Ronald Reagan UCLA Medical Center
  - Sharp Grossmont Hospital
  - Tarzana Medical Center
  - UCSD University Hospital
  - William Suval, MD

SoCal VOICe
Administrative Structure

- Medical Director: Fred A Weaver
- Executive Committee: One representative from each participating institution or practice group (3 or more members) *USC, UCSD, Sharp, UCLA, Loma Linda, Cedars, Tarzana, Victorville*
- Quality Committee: Karen Woo, Representatives from participating institutions, epidemiologist
- Project Manager/Administrative Assistant

Website

- http://www.vascularweb.org/regionalgroups/VOICE/Pages/default.aspx

Southern California Vascular Surgical Society

- Established 1982
- Membership 173
- Executive Council, President, President-elect, Treasurer, Recorder, Councillors (3)
- Boston Based Executive Director Terri Comegys
- Annual Meeting, Spring
- Average attendance 100
- Friday night reception, weekend half day meetings

Process of Integration

- Initial presentation of concept and panel at annual meeting 2010, Jack Cronenwett visiting speaker
- Bylaws presented to SCVSS in 2011
- SCVSS provided startup funds
- Executive and Quality Committee Appointments
- First semiannual meeting SoCal VOICe January 2012
- Second semiannual meeting in May 2012 at SCVSS
- Bylaws adopted by SoCal VOICe and SCVSS
- Executive Director of SoCal VOICe ex-officio member of SCVSS Executive Council
- Agree to semiannual meetings, Spring SCVSS meeting and Fall SoCal VOICe institutions

Advantages of Regional Group Alignment with Regional Vascular Society

- Established Organization
- Member list
- Leaders in Southern California Vascular Surgery
- Annual Meeting
- Re-energize scientific meeting of organization
- Neutral fiduciary agent

Disadvantages of Regional Group Alignment with Regional Vascular Society

- Need to work within constraints of existing regional vascular society
- Parallel leadership
- Linked to viability of regional vascular society
- Poor fiduciary oversight

VOICe Quality Committee

- SCVSS abstracts
  - Practice pattern variability in peripheral vascular interventions: Initial results from the So Cal VOICe database
  - Patient demographics in the So Cal VOICe database: Comparison with the VQI population

Moving Towards a QI Project:

Our Work in the VSGNE

Philip Goodney, MD, MS

Goals

- Regional Quality Collaboratives – what are they good for?
- Building momentum in quality improvement projects
- Getting “down and dirty” with chlorhexidine

Goals

- Regional Quality Collaboratives – what are they good for?
- Building momentum in quality improvement projects
- Getting “down and dirty” with Chlorhexidine

Regional Quality Collaboratives

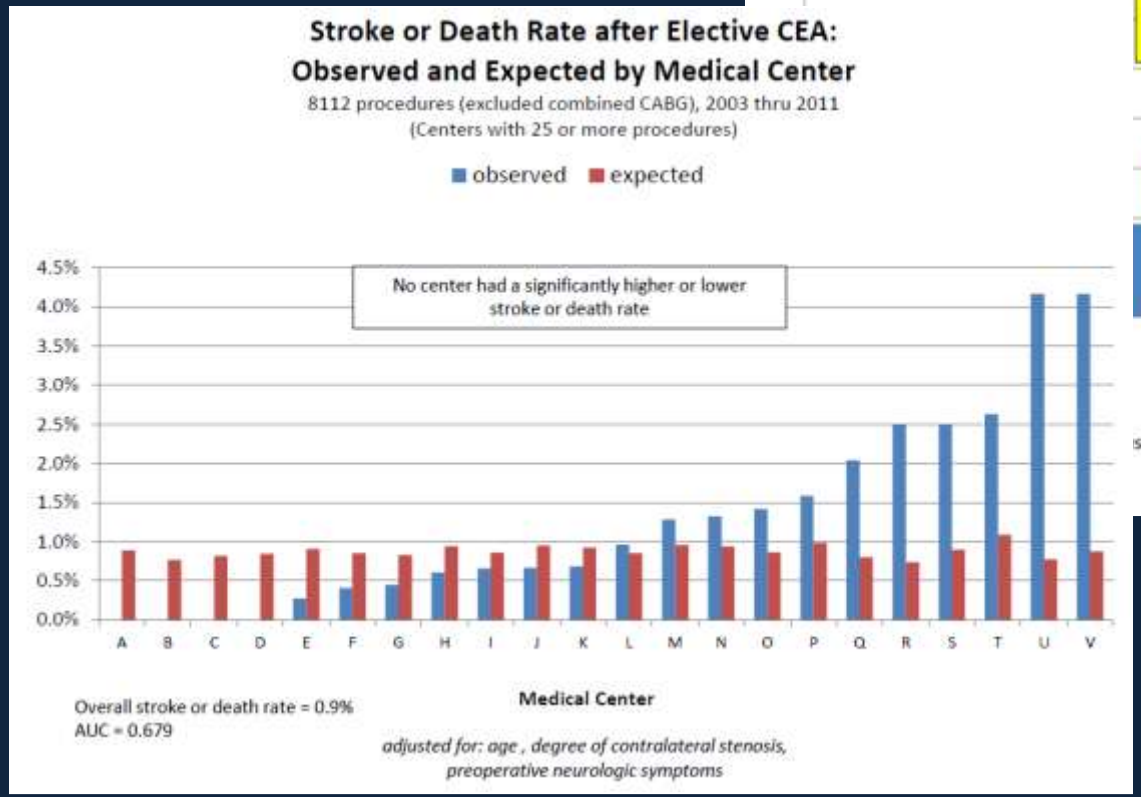
Mission Statement:

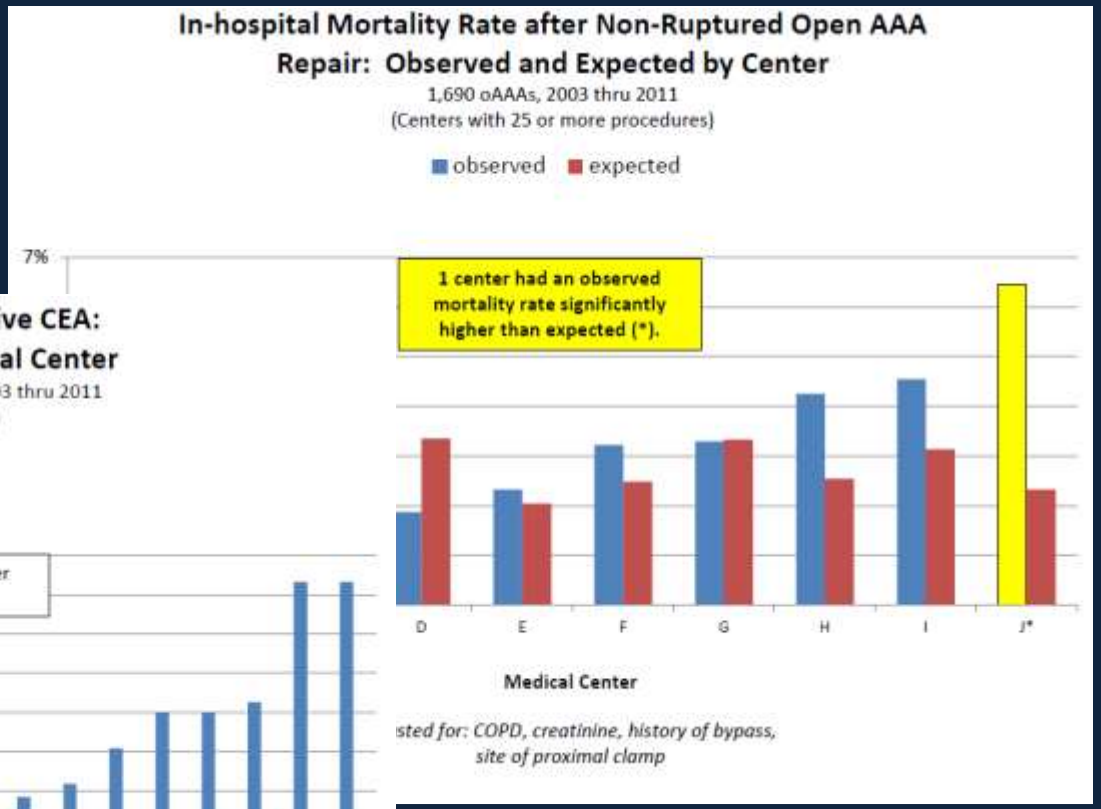
The Vascular Study Group of New England is a voluntary, cooperative group of clinicians, hospital administrators, and research personnel organized to improve the care of patients with vascular disease.

By collecting and exchanging information, the group strives to continuously improve the quality, safety, effectiveness, and cost of caring for patients with vascular disease.

What We've Done Well:

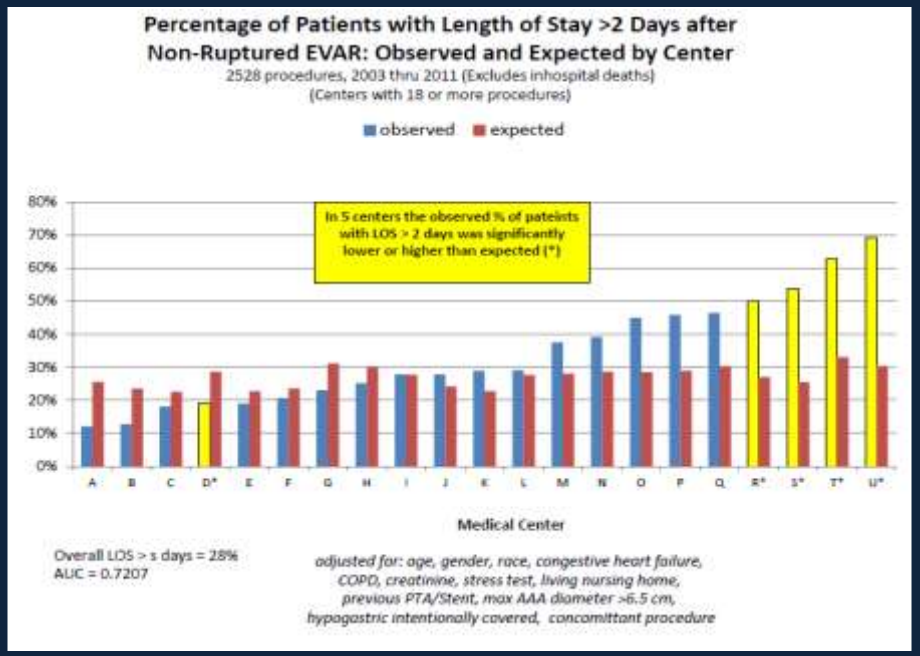
- Benchmarking

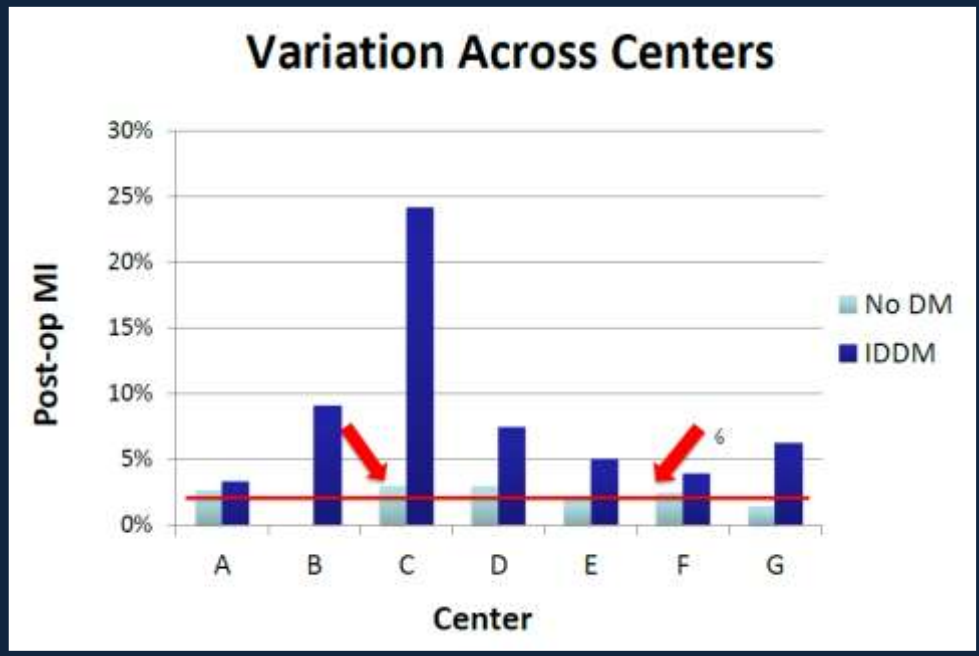




What We've Done Well:

- Benchmarking





What We've Done Well:

- Risk Prediction

Restenosis after carotid endarterectomy in a multicenter regional registry

Philip P. Goodney, MD, Brian W. Nolan, MD, Jens Eldrup-Jorgensen, MD, Donald S. Likosky, PhD, and Jack L. Cronenwett, MD, for the Vascular Study Group of Northern New England, *Lebanon, NH*

Predicting 1-year mortality after elective abdominal aortic aneurysm repair

Adam W. Beck, MD,[a] Philip P. Goodney, MD,[a] Brian W. Nolan, MD,[a] Donald S. Likosky, PhD,[a,b] Jens Eldrup-Jorgensen, MD,[c] and Jack L. Cronenwett, MD,[a] for the Vascular Study Group of Northern New England, *Lebanon, NH; and Portland, Me*

Failure to achieve clinical improvement despite graft patency in patients undergoing infrainguinal lower extremity bypass for critical limb ischemia

Jessica P. Simons, MD, MPH,[a] Philip P. Goodney, MD, MS,[b,c] Brian W. Nolan, MD, MS,[b,c] Jack L. Cronenwett, MD,[b] Louis M. Messina, MD,[a] and Andres Schanzer, MD,[a] on behalf of the Vascular Study Group of Northern New England, *Worcester, Mass; Lebanon and Hanover, NH*

The Vascular Study Group of New England Cardiac Risk Index (VSG-CRI) predicts cardiac complications more accurately than the Revised Cardiac Risk Index in vascular surgery patients

Daniel J. Bertges, MD, RVT,[a] Philip P. Goodney, MD,[b] Yuanyuan Zhao, MD,[b] Andres Schanzer, MD,[c] Brian W. Nolan, MD,[b] Donald S. Likosky, PhD,[b] Jens Eldrup-Jorgensen, MD,[d] and Jack L. Cronenwett, MD,[b] for the Vascular Study Group of New England, *Burlington, Vt; Lebanon, NH; Worcester, Mass; and Portland, Me*

Factors associated with stroke or death after carotid endarterectomy in Northern New England

Philip P. Goodney, MD, Donald S. Likosky, PhD, and Jack L. Cronenwett, MD, for the Vascular Study Group of Northern New England, *Lebanon, NH*

Completion imaging after carotid endarterectomy in the Vascular Study Group of New England

Jessica B. Wallaert, MD,[a] Philip P. Goodney, MD, MS,[a] John J. Vignati, MD,[b] David H. Stone, MD,[a] Brian W. Nolan, MD, MS,[a] Daniel J. Bertges, MD,[c] Daniel B. Walsh, MD,[a] and Jack L. Cronenwett, MD,[a] *Lebanon and Laconia, NH; and Burlington, Vt*

Predicting ambulation status one year after lower extremity bypass

Philip P. Goodney, MD,[a,b] Donald S. Likosky, PhD,[a,b] and Jack L. Cronenwett, MD,[a] for the Vascular Study Group of Northern New England, *Lebanon and Hanover, NH*

Clopidogrel is not associated with major bleeding complications during peripheral arterial surgery

David H. Stone, MD,[a] Philip P. Goodney, MD,[a,b] Andres Schanzer, MD,[c] Brian W. Nolan, MD,[a,b] Julie E. Adams, MD,[d] Richard J. Powell, MD,[a] Daniel B. Walsh, MD,[a] and Jack L. Cronenwett, MD,[a] for the Vascular Study Group of New England, *Lebanon, NH; Worcester, Mass; and Burlington, Vt*

Validation of the PIII CLI risk score for the prediction of amputation-free survival in patients undergoing infrainguinal autogenous vein bypass for critical limb ischemia

Andres Schanzer, MD,[a] Philip P. Goodney, MD, MS,[b] Youfu Li, MD, MPH,[a] Mohammad Eslami, MD,[a] Jack Cronenwett, MD,[b] Louis Messina, MD,[a] and Michael S. Conte, MD,[c] for the Vascular Study Group of Northern New England, *Worcester, Mass; Lebanon, NH; San Francisco, Calif*

What We've Done Well:

- Building Collaboration

VSGNNE 2003

What We've Done Well:

- Building Collaboration

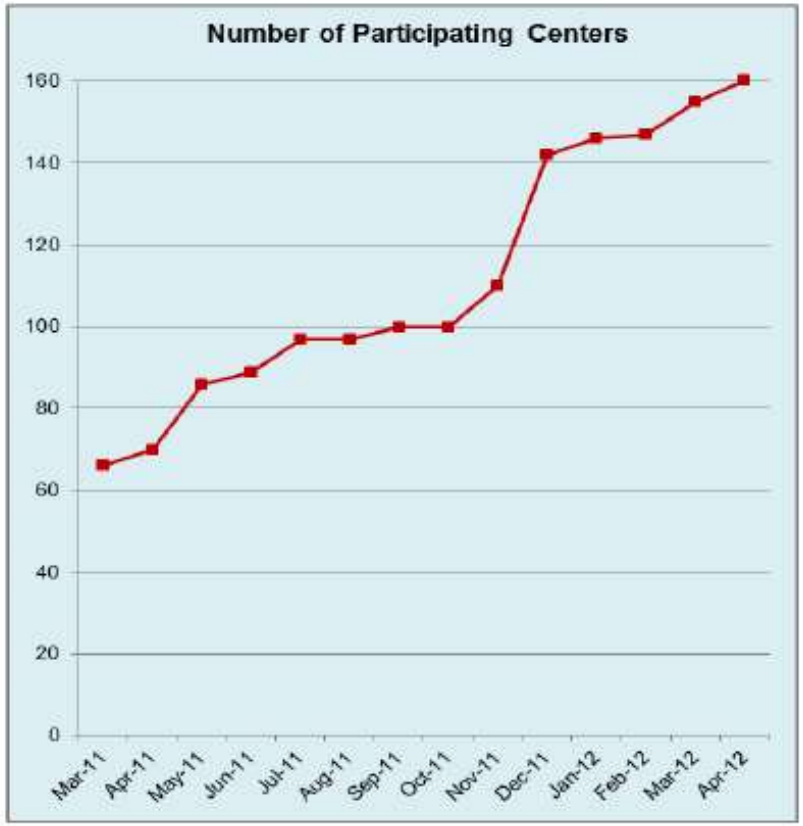
VSGNNE 2003

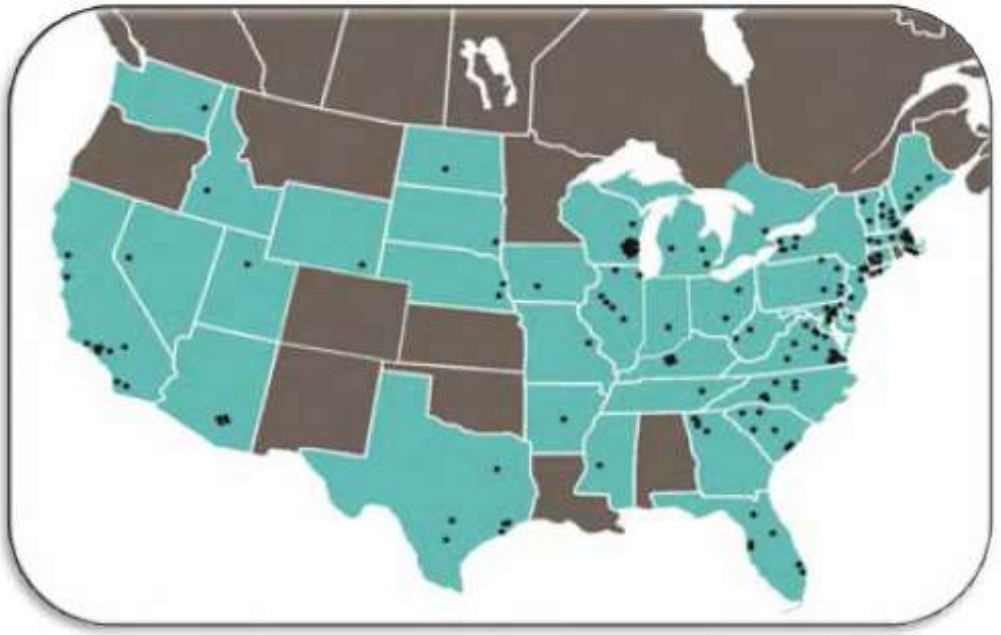
VSGNNE 2012

What We've Done Well:

Vascular Quality Initiative®

Powered by m2s

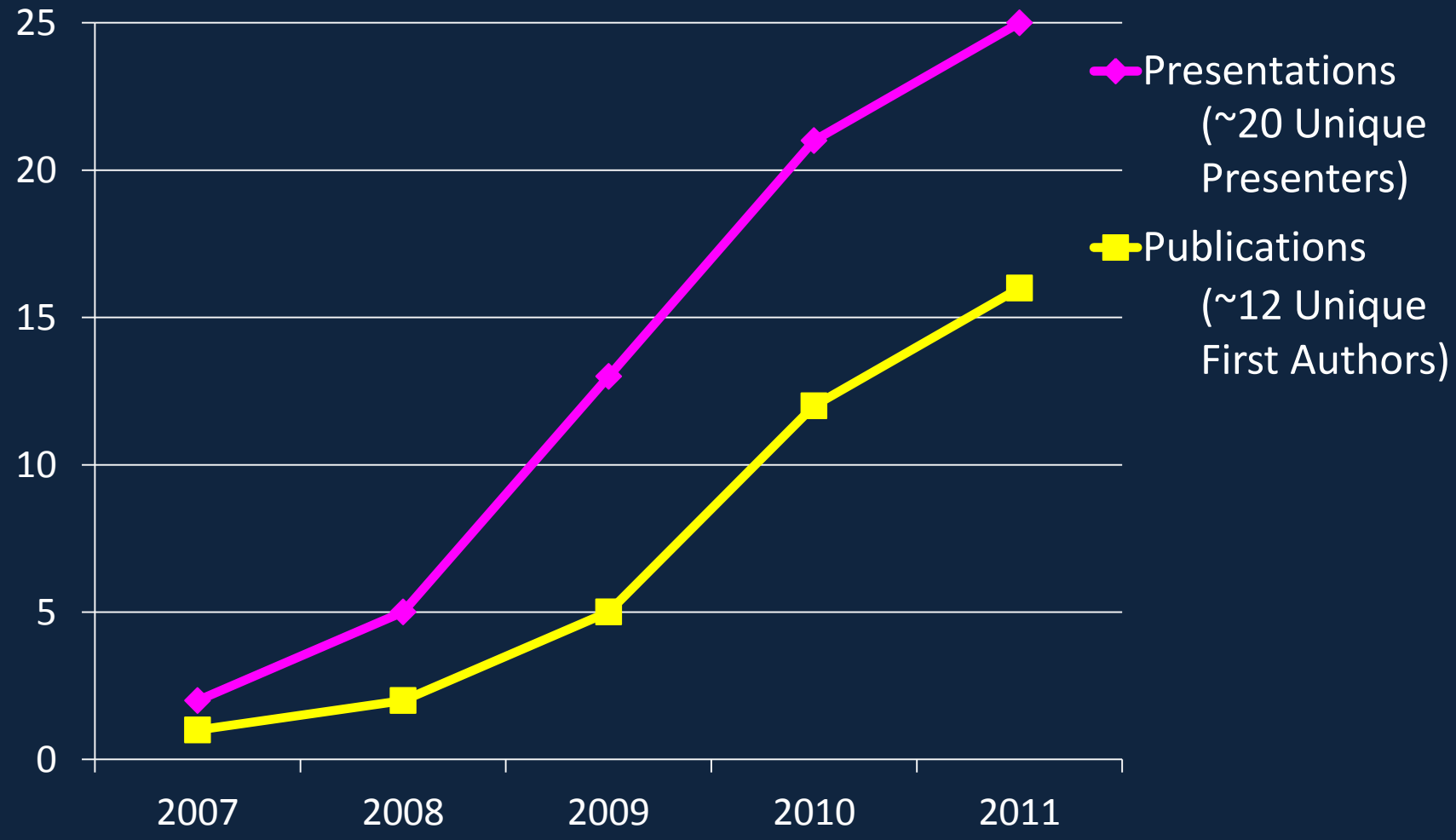




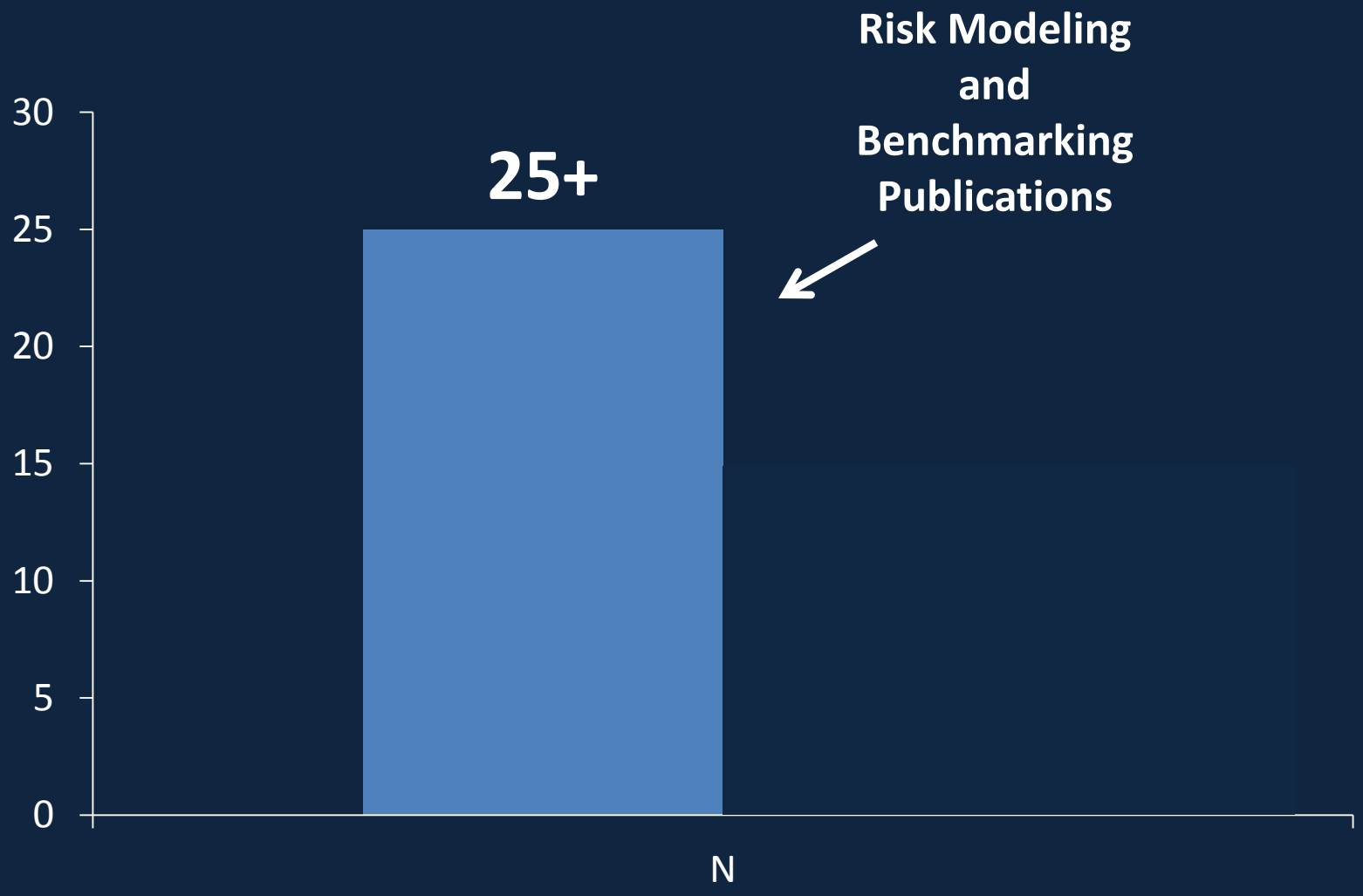
160 Centers, 38 States + Ontario

> 2500 Procedures per Month

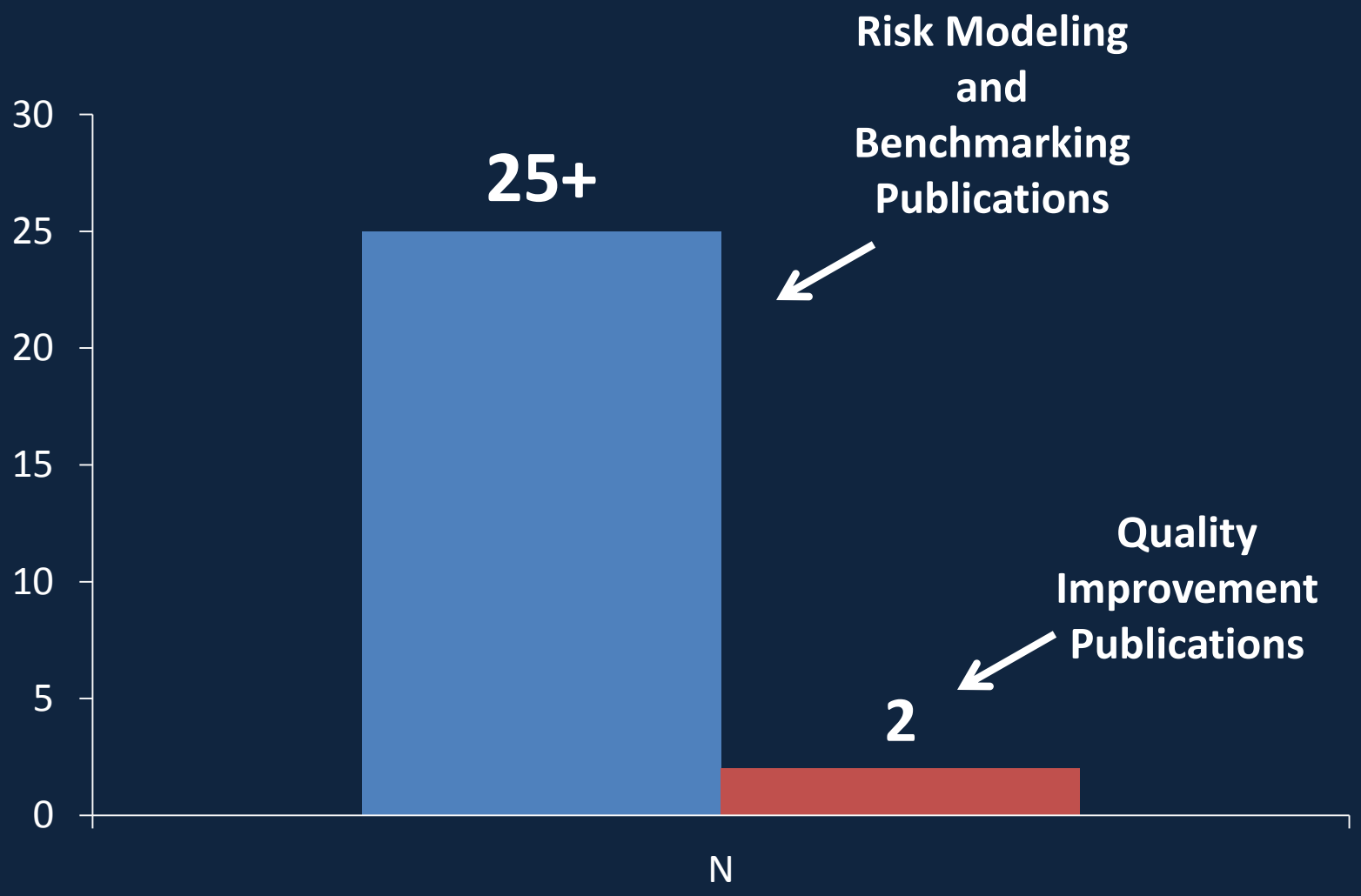
VSGNE at Regional-National Meetings and Peer-Reviewed Publications



Where We Have Room To Improve:



Where We Have Room To Improve:



Where We Have Room To Improve:

- Using quality improvement to demonstrate real change in vascular surgery.
  - It is one thing to report and study your own data
  - It is another to change practice AND improve care

- Not a problem unique to our effort
  - NSQIP
  - SCOAP
  - STS/AATS

Goals

- Regional Quality Collaboratives – what are they good for?
- Building momentum in quality improvement projects
- Getting “down and dirty” with Chlorhexidine

Room To Improve?

- How can we use QI to:
  - change practice
- AND
  - improve care?

Obstacles

- Agreement versus Dissent
- Evidence versus Equipoise
- Cost versus… well, Cost
- Motivation versus Inertia
- Mistrust versus Teamwork

Lao Tzu, cc 1904

A journey of a thousand miles begins with a single step.

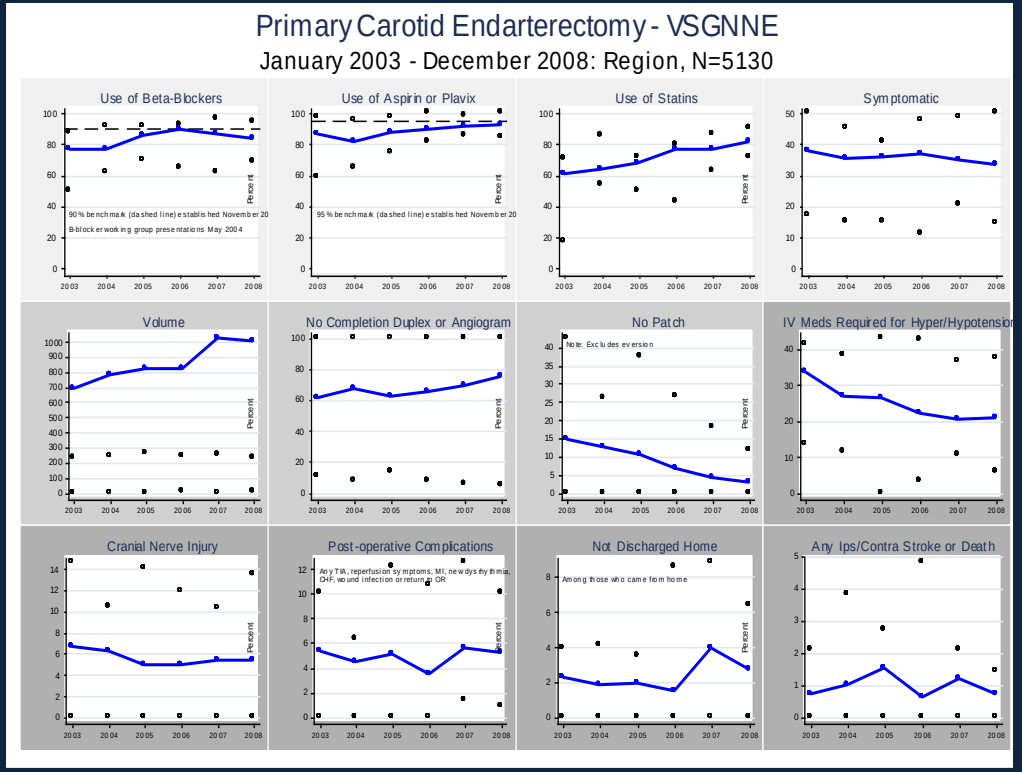
How We've Done QI

- "Testing the Waters"
  - Feedback given at biannual meetings regarding the use of patch angioplasty in CEA
- "Baby Steps" Our First QI Project
  - Beta blockers
- What comes next?
  - Chlorhexidine

Testing the Waters

- Biannual meetings where surgeons meet, discuss, and review their processes of care and outcomes

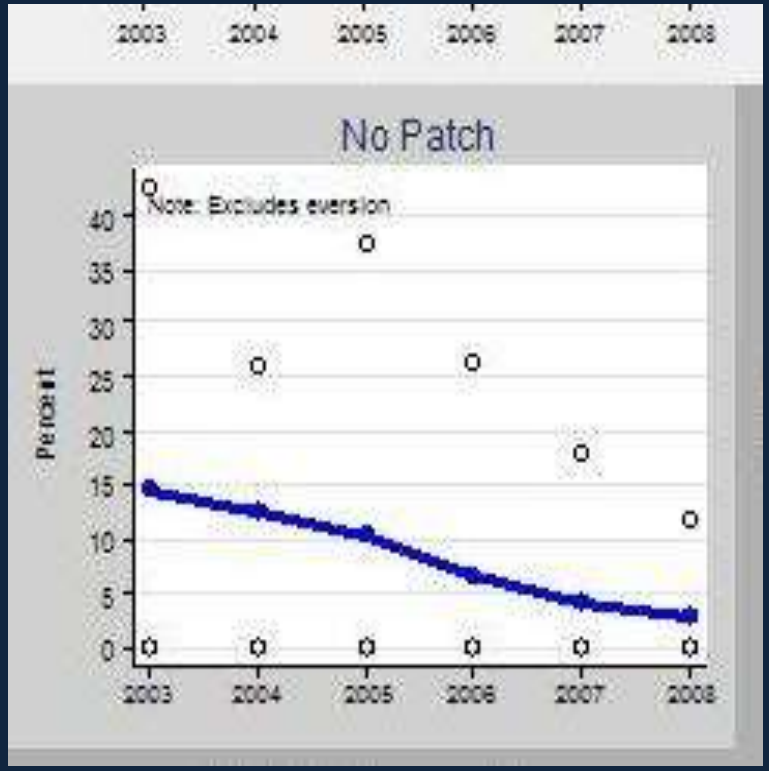
- Patch angioplasty was a quality measure selected for review at inception, and followed over time.



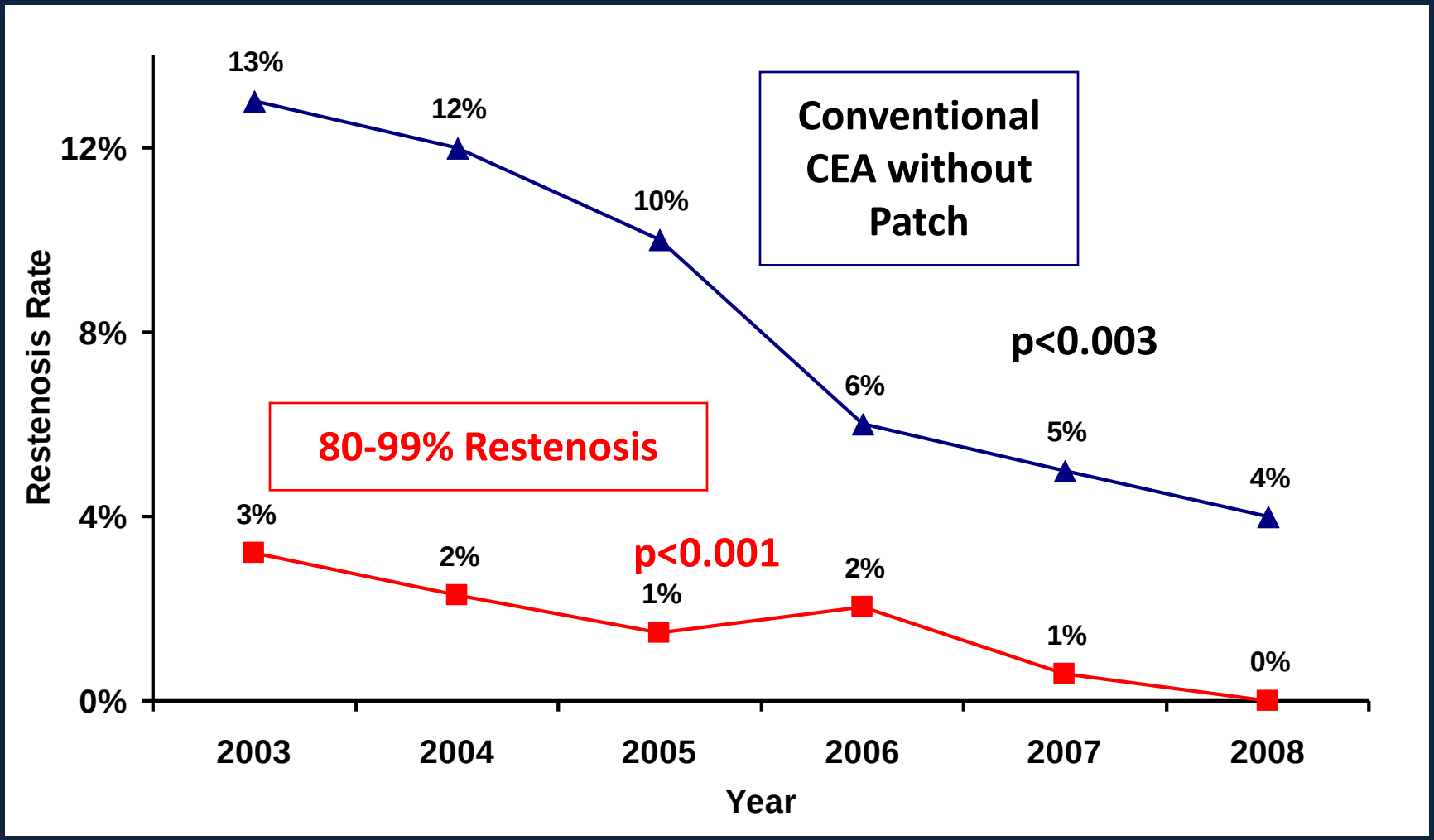
VSGNE Meeting

- No mandates were made; we simply shared our patterns of practice

- We used this feedback mechanism to encourage surgeons to adopt this process of care into their practices



Results of this “Intervention”

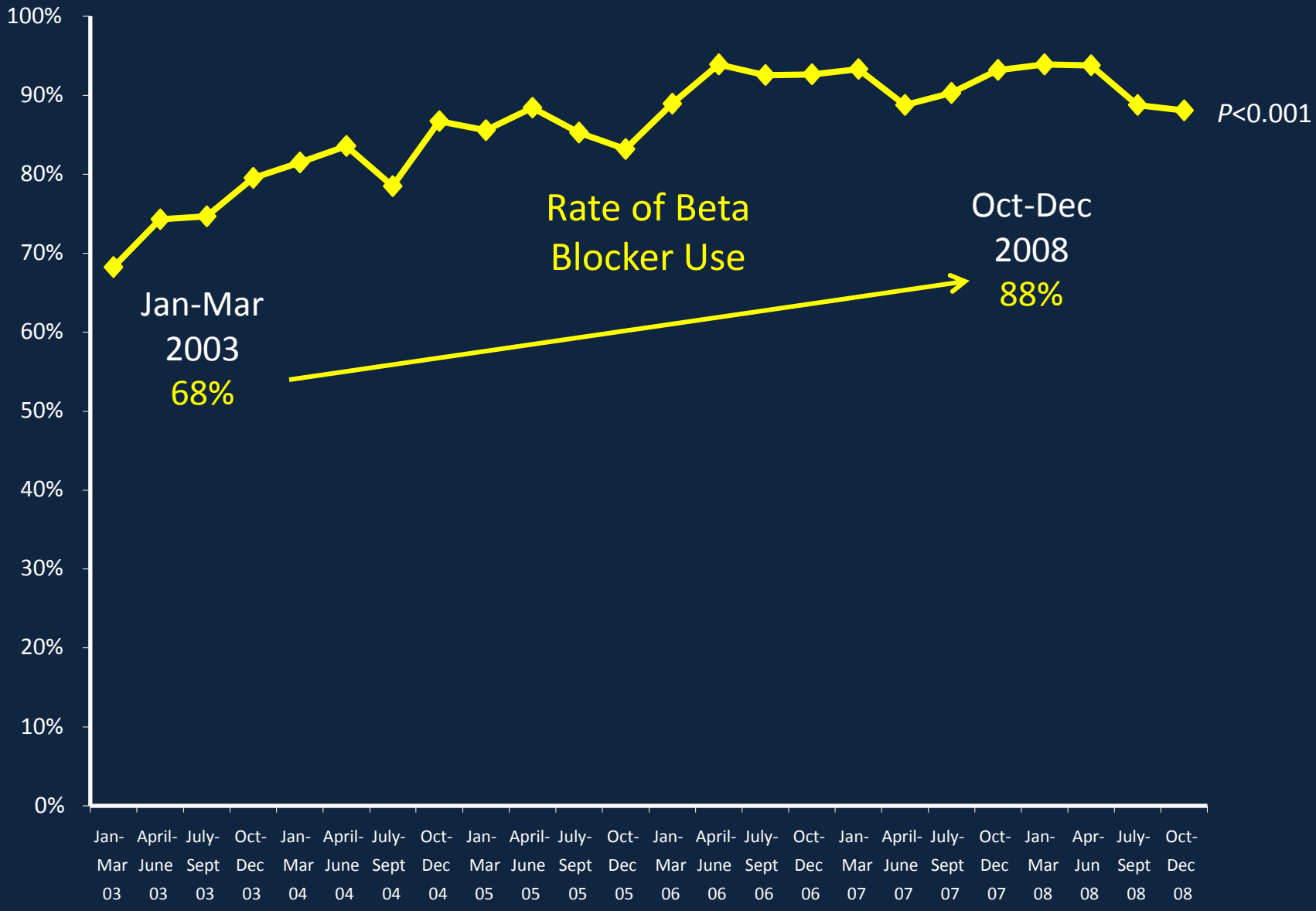


Baby Steps: Our First QI Project

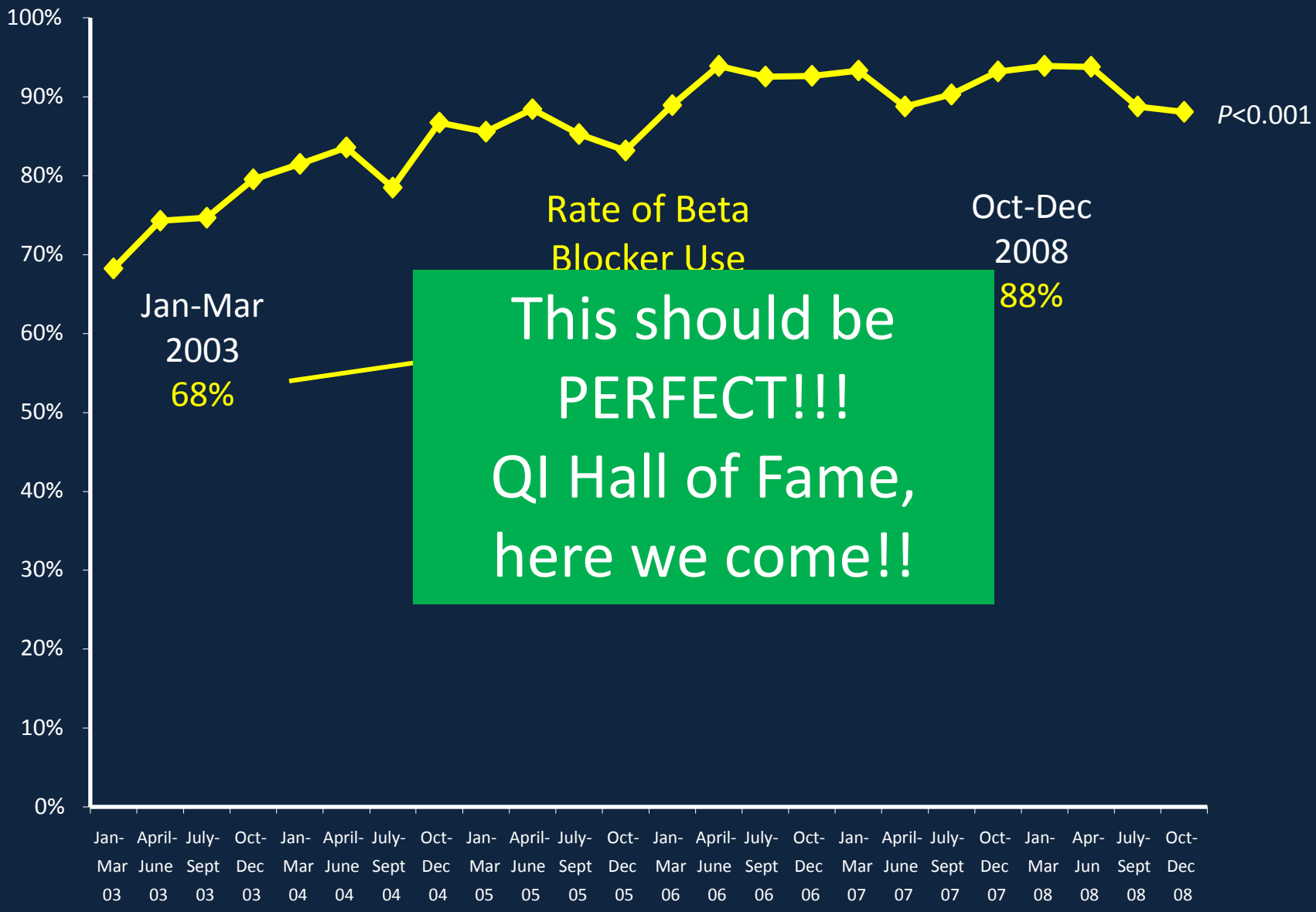
- We chose something:
  - Easy (“low-hanging fruit”)
  - Broadly endorsed
  - Evidence-based
  - Directly related to better outcomes
  - Widely generazliable

- Beta Blockers!!!
  - Working groups, prescription teams, evidence summaries, group projects and feedback to providers

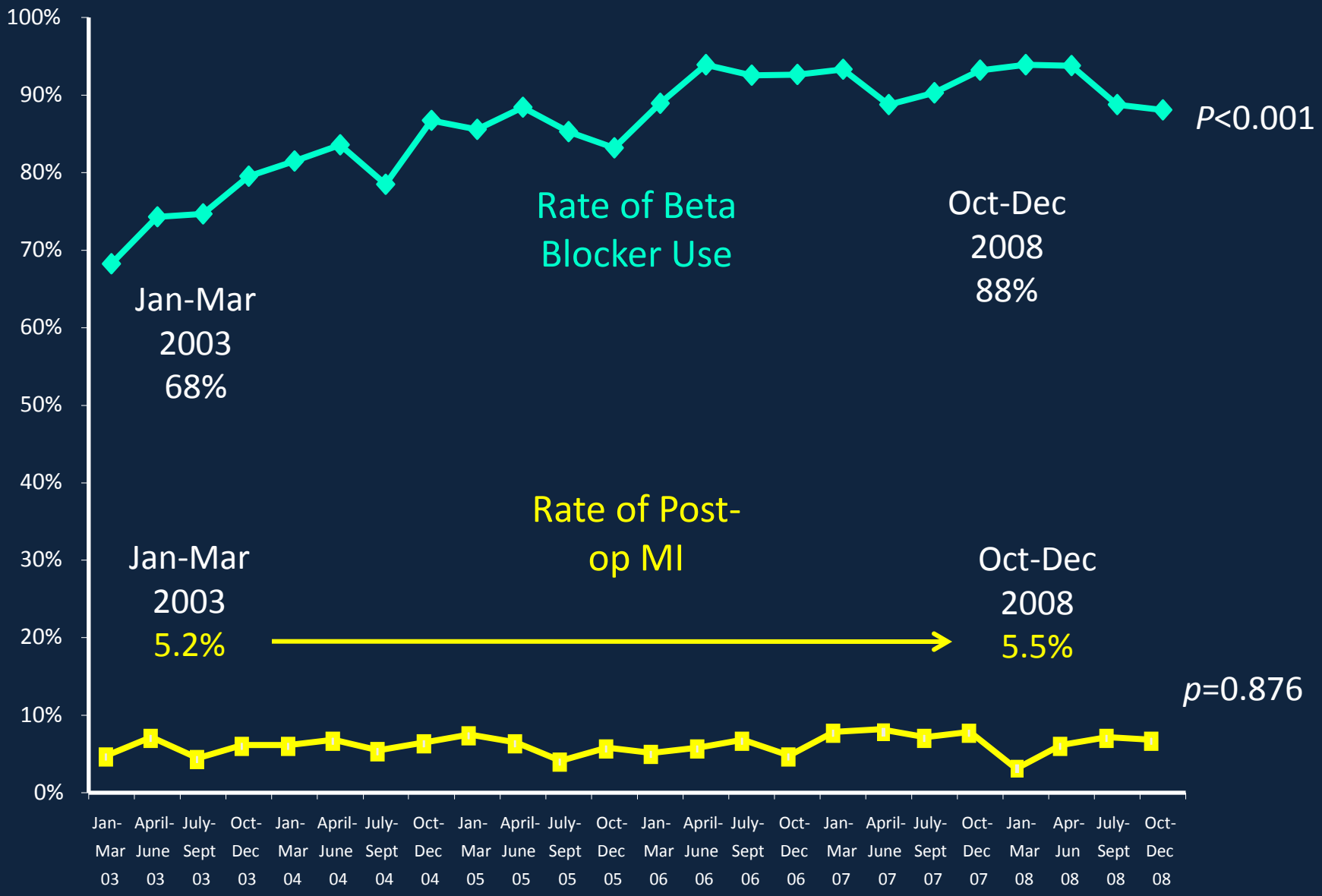
Increased Pre-op Beta Blocker Use



Increased Pre-op Beta Blocker Use



No Change in Post-op MI Rate



Baby Steps: What We Learned

- We can change practice
  - Great motivation and teamwork
  - Collaborative effort resulted in significant change

- However, we didn't improve care.
  - Evidence must be tailored to the challenge at hand, in real world practice
    - We learned that we had few "high-risk" patients not already on beta blockers
    - Future efforts need to be risk-stratified, patient-specific

Goals

- Regional Quality Collaboratives – what are they good for?
- Building momentum in quality improvement projects
- Getting “down and dirty” with Chlorhexidine

Undeterred: On to the Next Project!

- Building on this momentum
  - Formation of a Quality Committee
  - Appointment of Committee Chairperson

- Chartered to oversee quality improvement efforts within VSGNE
  - Choose and spearhead Quality Improvement initiatives
  - Develop practice guidelines
  - Develop care plans and clinical aids

Quality Committee

- Chair, Alik Farber, Boston Medical Center

Name	Institution
Mark Conrad	Massachusetts General Hospital
Alik Farber	Boston Medical Center
Philip Goodney	Dartmouth
Robert Hawkins	Maine Medical Center
Jeffrey Indes	Yale
Lowell Kahn	Baystate
William Mackey	Tufts
Matthew Menard	Brigham and Women's Hospital
April Nadeau	Central Maine Heart & Vascular
Andrew Stanley	University of Vermont
William Wilson	Elliot Health System
Mark Wyers	Beth Israel-Deaconess

What Should We Improve?

- Surgical Site Infection with LEB
- Contrast Nephropathy
- Plavix Use
- PVI adjuncts
- Endoleak Rates
- Post Op MI
- Diabetes Control

Deciding on a QI Project

- Literature Review

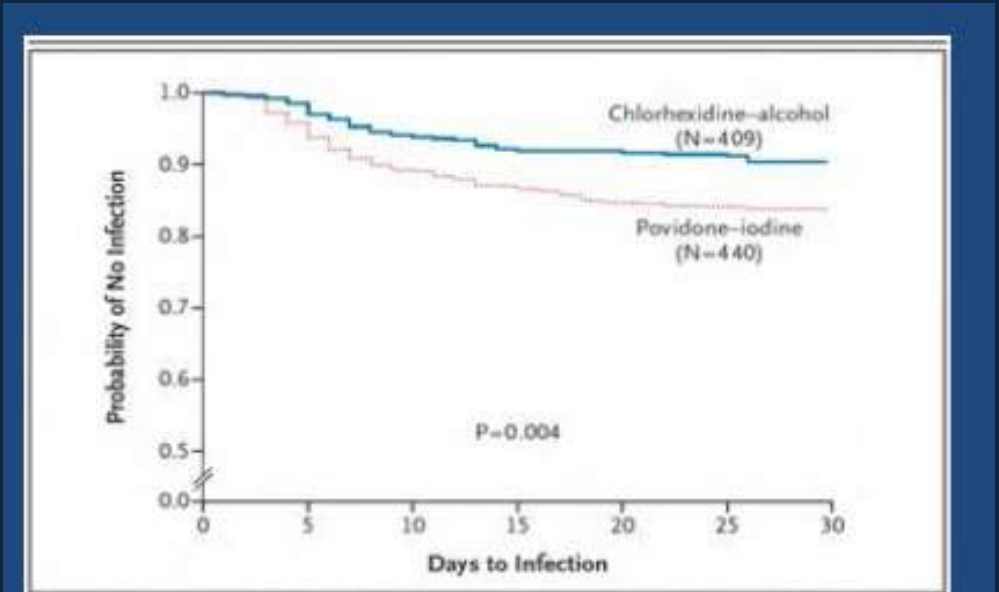


Figure 2. Kaplan–Meier Curves for Freedom from Surgical-Site Infection (Intention-to-Treat Population).

Patients who received chlorhexidine–alcohol were significantly more likely to remain free from surgical-site infection than were those who received povidone–iodine (P=0.004 by the log-rank test). In the chlorhexidine–alcohol group, 39 patients had events (9.5%) and data from 370 patients (90.5%) were censored; in the povidone–iodine group, 71 patients had events (16.1%) and data from 369 patients (83.9%) were censored.

Deciding on a QI Project

- Survey: What were we interested in improving?

Deciding on a QI Project

- Survey: What were we interested in improving?

- There is significant variability in practice patterns with regard to LEB and factors that may be related to development of SSI
- This presents an opportunity for further clarification of best practices
- This presents an opportunity for Quality Improvement.

Deciding on a QI Project

- Consensus!!!

- Focus initial QI efforts on one overarching topic
  - Lower Extremity Bypass
    - Surgical Site Infection

Moving Ahead: Topics For Our Committee

Blue = Agreement White = Debate

- All patients undergoing LEB should have skin prepared with Chlorhexidene
- Reason for not using Chlorhexidene to be noted
- Follow SSI rates
- Definitions: Should we change wound infection to SSI?
  - SSI (CDC): deep incisional, superficial incisional, organ space infection
- Should we allow for any preparation? Only Chloraprep?
- Should we insist on uniform application?
- Other issues?

Summary: Goals

- Regional Quality Collaboratives – what are they good for?
  - Benchmarking, risk models = Easy; QI=hard
- Building momentum in quality improvement projects
  - Start simple, learn from experience and mistakes
  - Keep the momentum going
- Getting “down and dirty” with Chlorhexidine
  - Teamwork, consensus building
  - Organizational structure, planning, and commitment are important

The Vascular Quality Initiative

Hardwiring the collection and reliability of the data

John (Jeb) Hallett, M.D., FACS

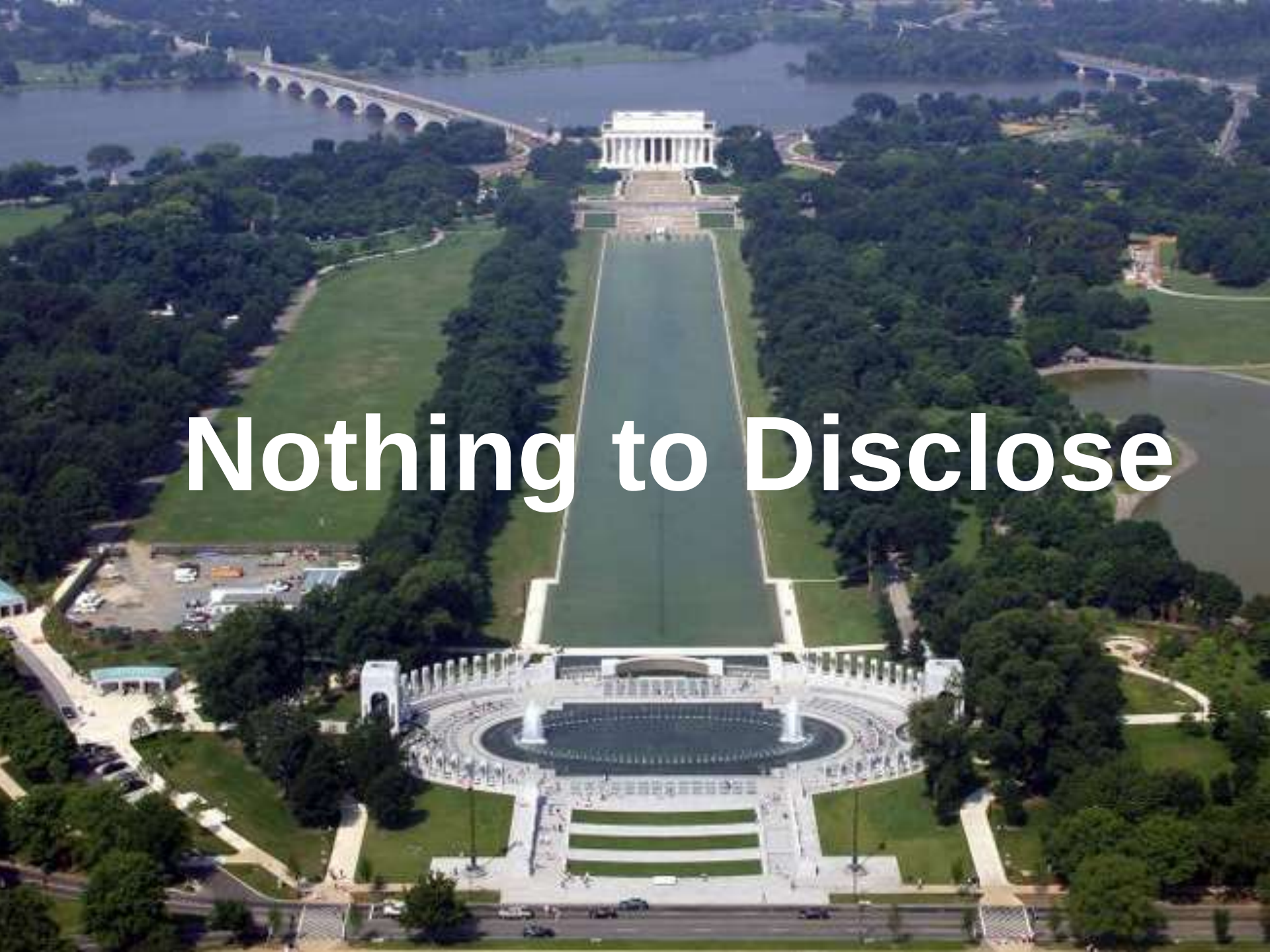
Clinical Professor of Surgery, MUSC

Roper St Francis Heart and Vascular Center

Charleston, South Carollina

SOCIETY FOR VASCULAR SURGERY
SVS PSO
PATIENT SAFETY ORGANIZATION

m2s
DATA TO THE HIGHEST POWER
clinical data pathways
CONTROL. COLLABORATE. COMMUNICATE


Nothing to Disclose

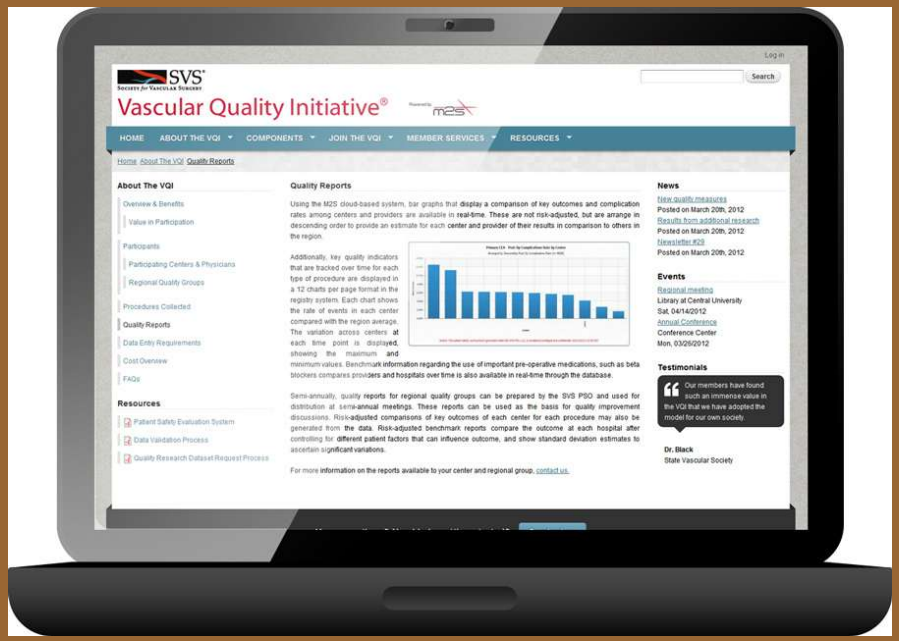
The Hypothesis

Variation in practice is the enemy of quality…and lower cost

The two major problems in medicine must be improved

It is all about hardwiring better behavior

Quality Data is the new “biopsy and autopsy” in healthcare



Journal of Vascular Surgery
Official Publication of the Society for Vascular Surgery

A regional registry for quality assurance and improvement: The Vascular Study Group of Northern New England (VSGNNE)

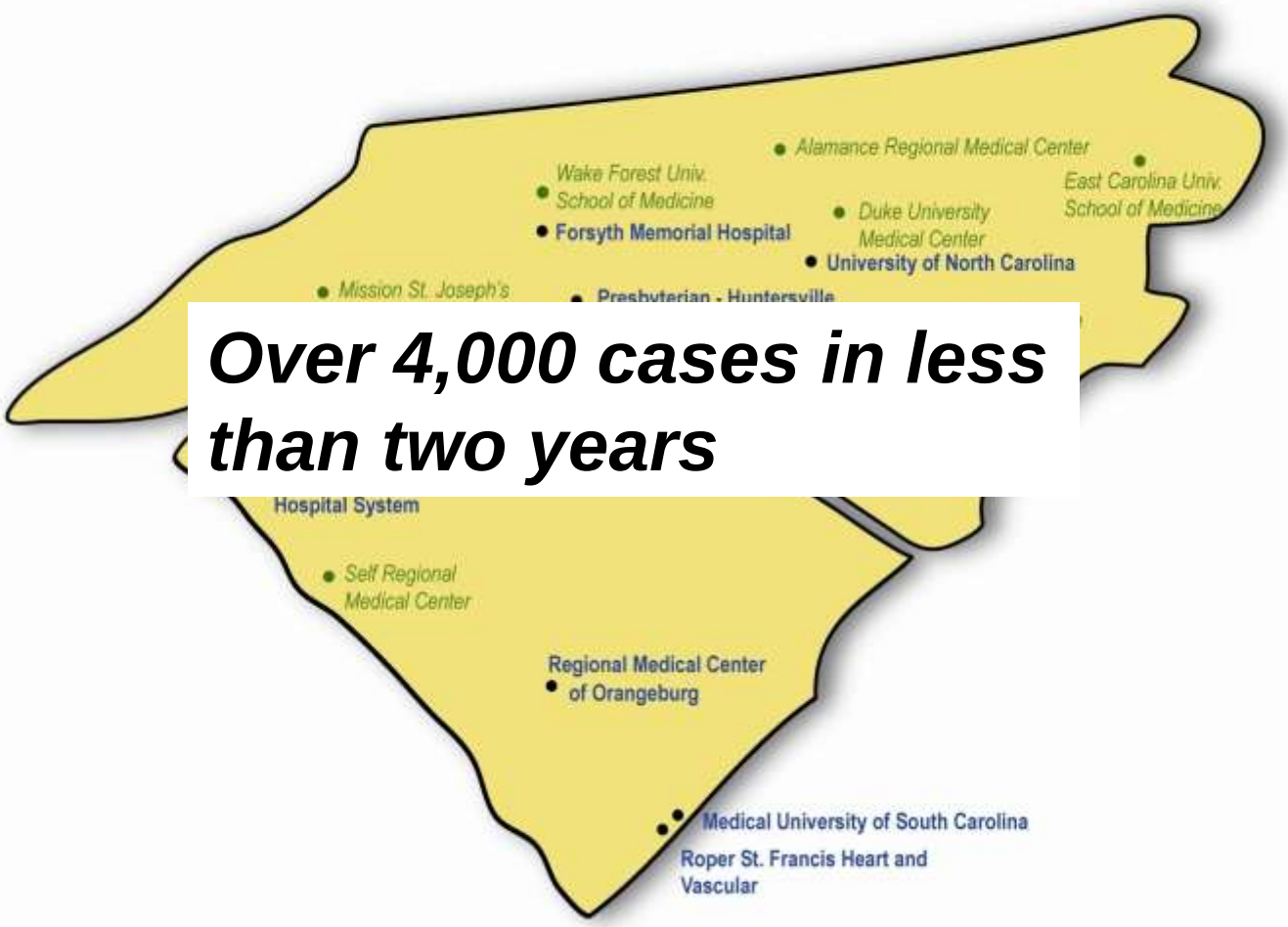
Jack L. Cronenwett, MD,[a] Donald S. Likosky, PhD,[b] Margaret T. Russell, MBA, MS,[a] Jens Eldrup-Jorgensen, MD,[c] Andrew C. Stanley, MD,[d] and Brian W. Nolan, MD,[a] for the VSGNNE, *Lebanon and Hanover, NH; Portland, Me; and Burlington, Vt*

)93-102.

The “game changers”

Software Program

Carolinas Vascular Quality Group



Over 4,000 cases in less than two years

The most challenging issues

- ***Data entry process and reliability***
- ***One year follow-up*** ***(80% between 9-21 months)***
- ***Website development***

Stopwatch Lap Timer

41

Start/Stop Reset

Lap #	Running Total	This Lap
Lap 1	00:00:03.869	00:00:03.869
Lap 2	00:00:19.257	00:00:15.388
Lap 3	00:00:47.194	00:00:27.937
Lap 4	00:01:08.524	00:00:21.330
Lap 5	00:01:32.574	00:00:24.050
Lap 6	00:02:29.128	00:00:56.554
Lap 7	00:03:21.496	00:00:52.368
Lap 8	00:04:38.803	00:01:17.307
Lap 9	00:06:47.409	00:02:08.606
Lap 10	00:06:59.239	00:00:11.830

Doc, this is your story

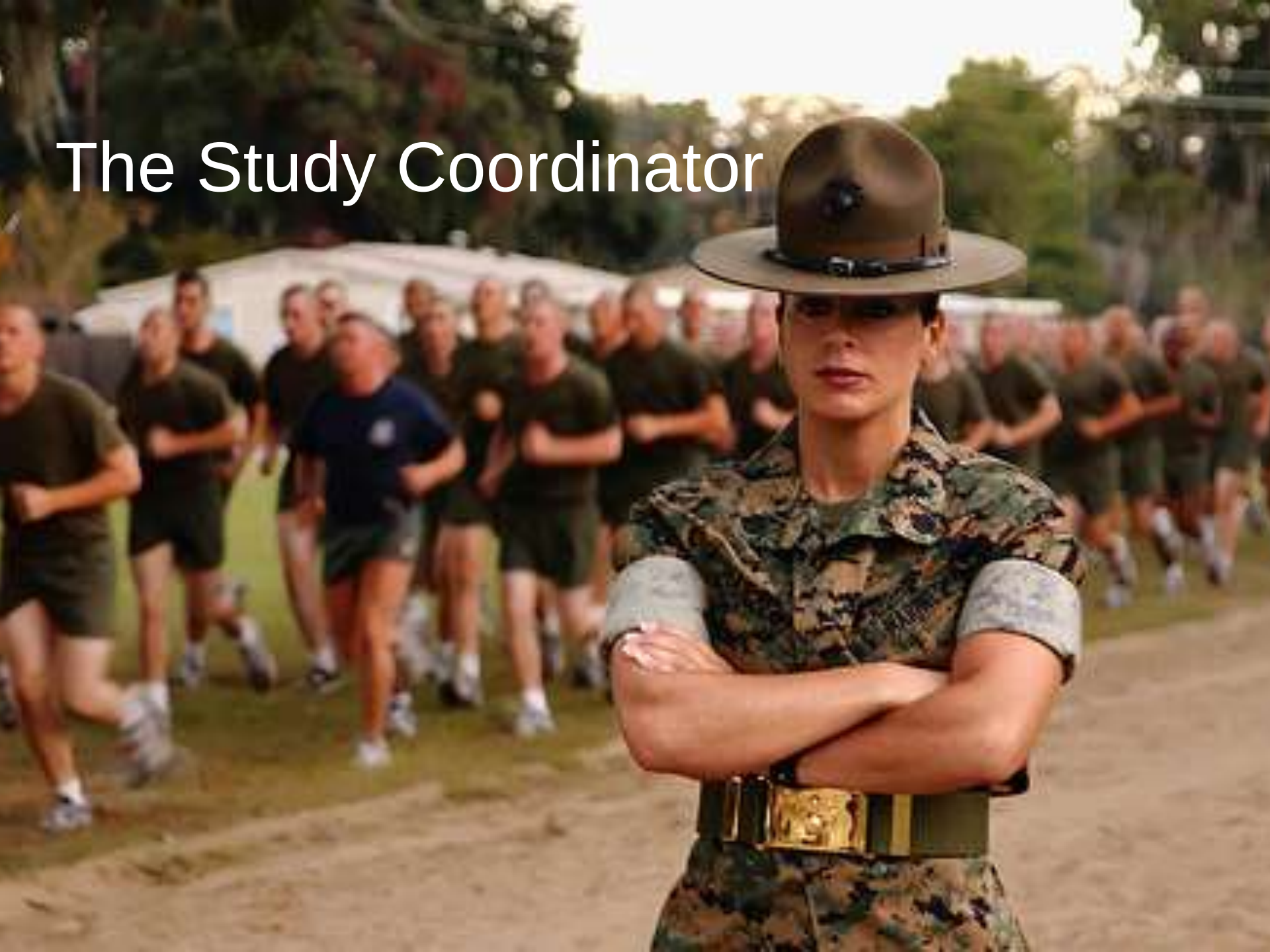
Data Entry and Reliability

- **Who enters data?**
- **When and where?**
- **Who validates the process and reliability?**
- **How do you help those who are failing to get it done?**

Who enters the data?

- *"The most reliable people"*
- *The surgeon*
- *The advanced clinical practitioners*
- *The office nurses*
- *The endovascular and OR staff*
- *Often, study coordinators!!*
- *Trained residents or students*

The Study Coordinator



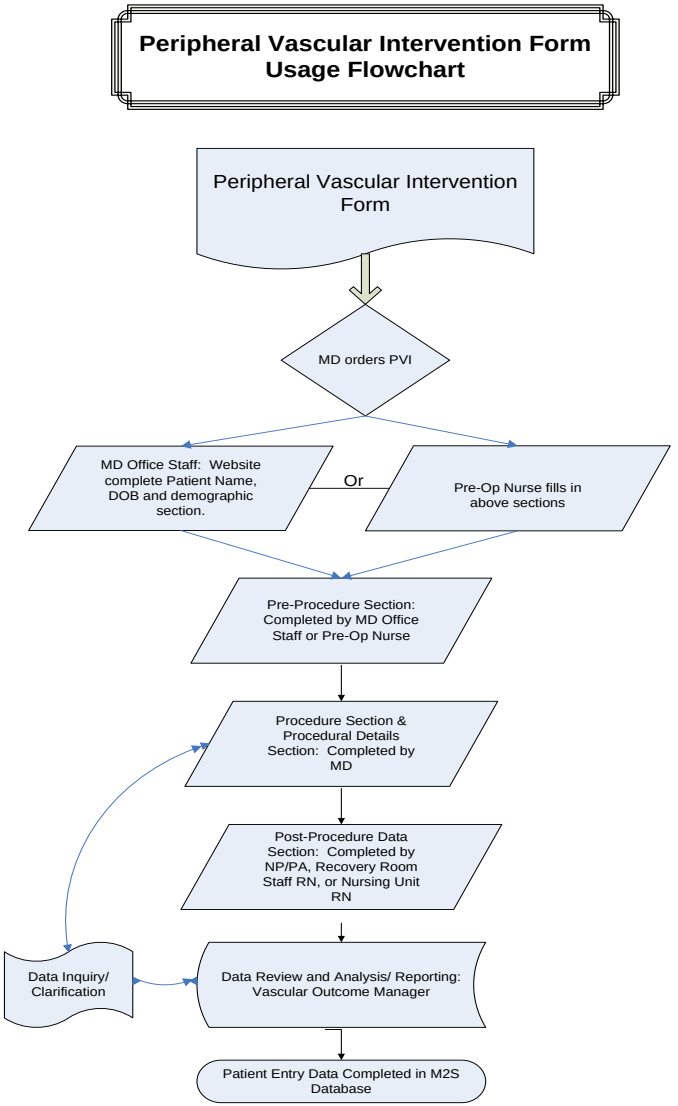
The Data Collection Process

(Example: PVI Form for the Endovascular Lab)

1. Workflow: *"who does what… and when".*

2. Appointment of "who does what" – decide members of m2s User Group.

(Members of the m2s User Group for the Endovascular Lab Team= Physicians, NP's, PA's, Nurses: both in-house and private MD practice, and the Endovascular Lab's Nurses/Techs/staff …..along with our Core Team Members.)



Training is Everything!!!

3. Training the User Group:

We gathered them together…..

- **Presentation: Why a National Database**
- **m2s Demo via Teleconference**
- **Handed out User Manual, and gave them their User Name/Password into system.**
- **Coordinator phone # ….just a call away.**

4. Set "Go Live" date(s)- spent day in the Endovascular Lab with each MD for data entry into system, and walked staff through it …. and as needed….

Data Validation

a reconcile of two databases…

Weekly Coordinator supplies m2s "Incomplete" patient listing to the person responsible for making sure the patients are completed and submitted in m2s. ***(Note: please FAX to a secure line/email "mark secure".)***

**** In private practices,*** this list gets sent to ONE person from each MD practice. This can vary from NP-PA-office Nurse.

**** In university hospitals,*** coordinators can send this patient list to the person the MD assigns to the task of making sure the patients are completed and submitted in m2s.

Data Validation = Data Reconciliation

You want ALL your patients in the database!

Monthly – it's time to compare/reconcile patients in two databases:

(1) Patients in your hospital systems database (run the ICD-9 codes)

(2) Patients in m2s (coordinator runs report of all pts. in database)

Now, compare the two patient lists:

Patients in hospital system = Patients in m2s

The Key to Validation

Reconcile your database!

Repeat reconcile <u>every Quarter</u>….

then **<u>Yearly.</u>**

Remember, sanity is a good thing….

Log in

SVS
Society for Vascular Surgery

Search

Vascular Quality Initiative®

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HOME | ABOUT THE VQI | COMPONENTS | JOIN THE VQI | MEMBER SERVICES | RESOURCES

Home About The VQI Quality Reports

About The VQI

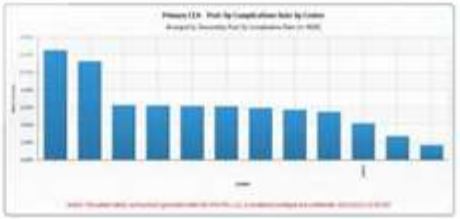
- Overview & Benefits
- Value in Participation
- Participants
  - Participating Centers & Physicians
  - Regional Quality Groups
- Procedures Collected
- Quality Reports
- Data Entry Requirements
- Cost Overview
- FAQs

Resources

- Patient Safety Evaluation System
- Data Validation Process
- Quality Research Dataset Request Process

Quality Reports

Using the M2S cloud-based system, bar graphs that display a comparison of key outcomes and complication rates among centers and providers are available in real-time. These are not risk-adjusted, but are arrange in descending order to provide an estimate for each center and provider of their results in comparison to others in the region.



Additionally, key quality indicators that are tracked over time for each type of procedure are displayed in a 12 charts per page format in the registry system. Each chart shows the rate of events in each center compared with the region average. The variation across centers at each time point is displayed, showing the maximum and minimum values. Benchmark information regarding the use of important pre-operative medications, such as beta blockers compares providers and hospitals over time is also available in real-time through the database.

Semi-annually, quality reports for regional quality groups can be prepared by the SVS PSO and used for distribution at semi-annual meetings. These reports can be used as the basis for quality improvement discussions. Risk-adjusted comparisons of key outcomes of each center for each procedure may also be generated from the data. Risk-adjusted benchmark reports compare the outcome at each hospital after controlling for different patient factors that can influence outcome, and show standard deviation estimates to ascertain significant variations.

For more information on the reports available to your center and regional group, contact us.

News

New quality measures
Posted on March 20th, 2012
Results from additional research
Posted on March 20th, 2012
Newsletter #29
Posted on March 20th, 2012

Events

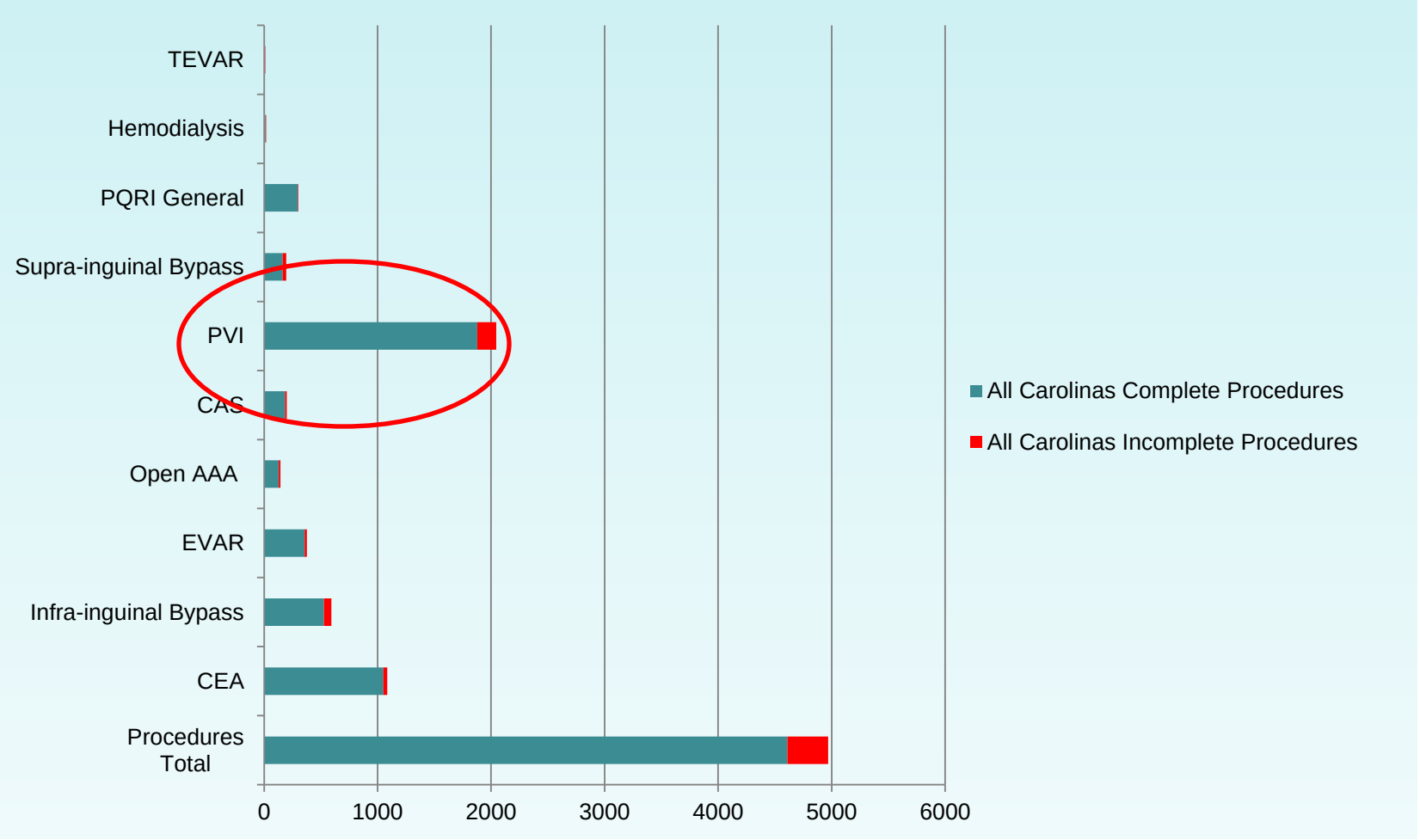
Regional meeting
Library at Central University
Sat, 04/14/2012
Annual Conference
Conference Center
Mon, 03/26/2012

Testimonials

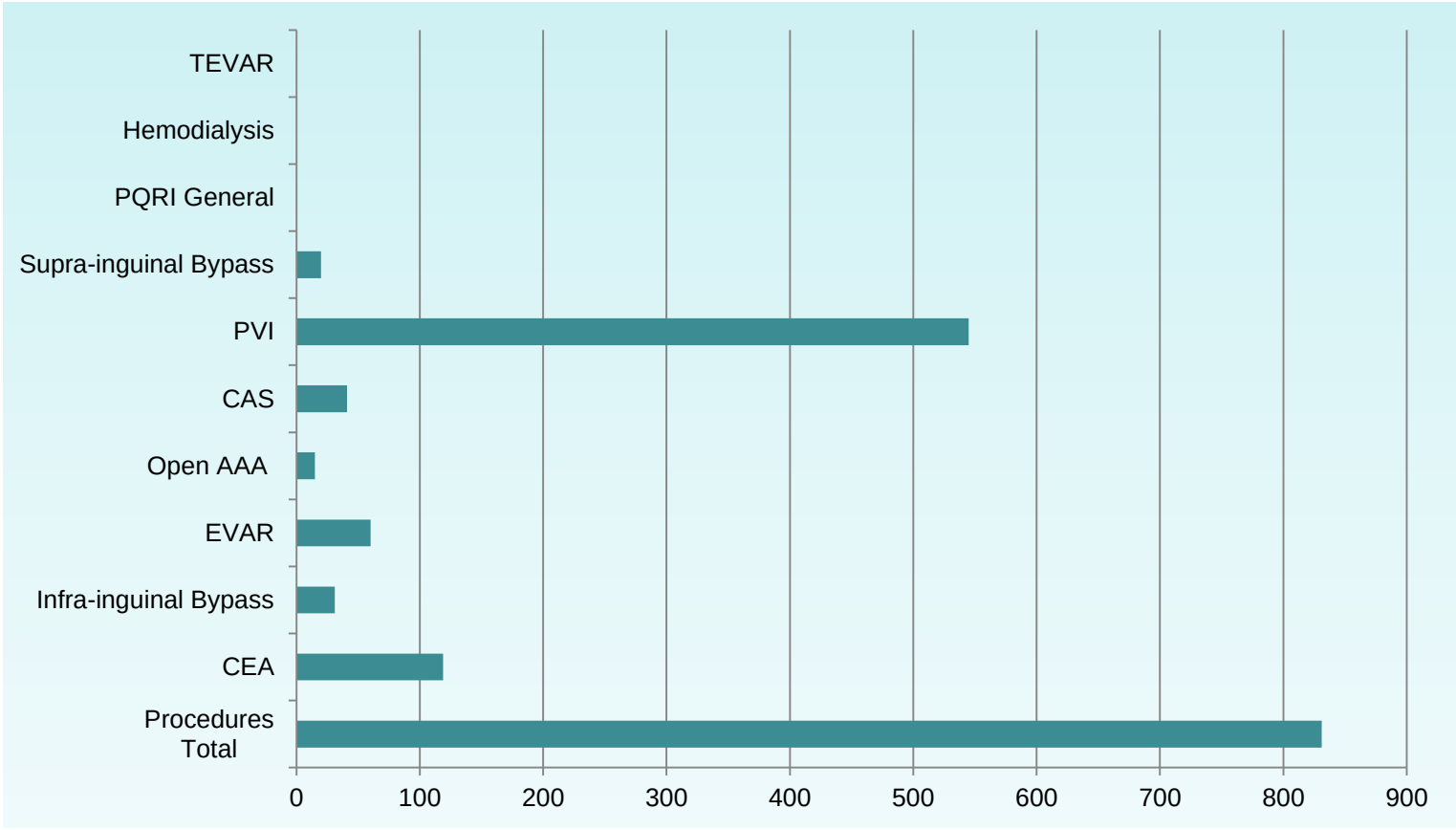
> Our members have found such an immense value in the VQI that we have adopted the model for our own society.

Dr. Black
State Vascular Society

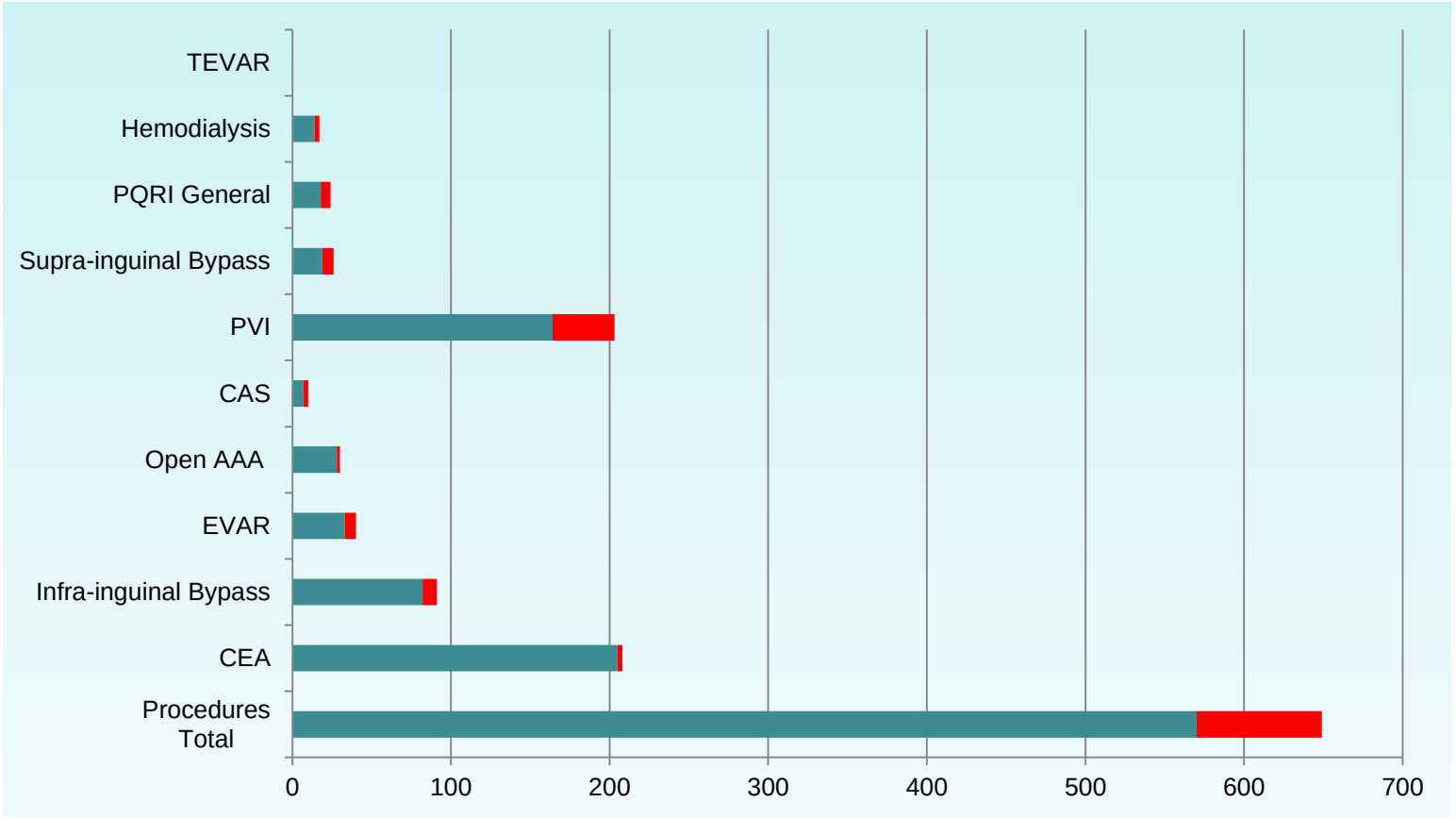
Entire Carolinas Vascular Quality Group



The Improbable “Perfect”



The “Real Deal”



One-year followup

- **Essential to the outcomes analysis**
- **Mandated now at 80% between 9-21 months**
- **Some can be done by telephone**
- **“Program” the follow-up with your electronic medical record (EMR)**
- **Keep your m2s website “up and running during clinic”**

Design and use a website to communicate best practices

The solutions require….

- ***Provider teamwork to collect data and to make meaningful changes in care***

- ***Empowering the patient through interactive, less expensive technologic communication to adhere to evidence-based medicine and to alert us when they are getting trouble***

Questions?

Contact Information:

Carrie Bosela, SVS PSO
c.bosela@svspso.org