

How to Create a Successful VQI Research Proposal

- Dataset requests are project-based and require a Data Use Agreement through the SVS PSO
- Requests are for Regional or National datasets, via the Arterial or Venous RAC
- Regional submissions are via email to Nancy Heatley, nheatley@svspsso.org, as Administrator
- National submissions are online, through the Abstracts123 portal, <https://abstracts123.com/svs1/>
- More information is available on the VQI website, <https://www.vqi.org/data-analysis/>

- Clinically relevant
- Focus on one vascular territory.
 - Aortic Aneurysm
 - Carotid revascularization
 - Lower limb revascularization
 - Hemodialysis
 - TEVAR
 - IVC filter

- Check accepted VQI protocols with Search facility,
<https://www.vqi.org/data-analysis/rac-approved-project-search/>
- Avoid replicating protocols
- Or, see the National and Regional list,
<https://www.vqi.org/data-analysis/> (right hand column)

- Type of information available:
 - Demographics
 - Comorbidities
 - Operative characteristics
 - Post-operative characteristics
 - Follow-up

Vascular Quality Initiative® - Open AAA Repair
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Last Name First Name Middle Initial
Date of Birth Medical Record Number Social Security Number

General Information

Patient Data:
Zip/Postal Code Gender Male Female
Hispanic or Latino No Yes Race White Black or African American
Height inches or cm Asian More than 1 race
Weight lbs or kg American Indian or Alaskan Native
 Native Hawaiian or other Pacific Islander
 Unknown/other

Admission Data:
Visit code (not required)
Admit Date Discharge Date
Primary Physician Surgery Date
If PQRS Physician, Did Primary Physician bill to Medicare Part B? No Yes
Assistant
Primary Insurer Medicare Commercial Non US Insurance Medicaid Military/VA Self Pay If Medicare, Medicare Health Insurance Claim Number
Discharge Status Home Rehab Unit Nursing Home Other Hospital Homeless Dead
If dead, date of death
Transferred from? No Hospital Rehab Unit

Demographics

Smoking Never Prior Current
If Prior, Quit Smoking Date
Hypertension No Yes (>=140/90 or history)
Diabetes None Diet Non-Insulin Meds Insulin
CAD Symptoms None Stable Angina MI < 6 mos Unstable Angina
Prior CABG None <5yr >=5yrs ago
Prior CHF None Asymp, hx CHF Mild Moderate Severe
Dialysis No Functioning Transplant On Dialysis
Stress Test Not Done Normal (+)ischemia (+)MI (+)both
Prior PCI None <5yr >=5yrs ago
COPD No Not Treated On Meds On Home Oxygen
If No or Functioning Transplant, Creatinine mg/dl OR umol/L



Society for Vascular Surgery



Society for Vascular Medicine



SVU Society for Vascular Ultrasound

Explore VQI forms

Procedure

Anesthesia
 General
 General + Epidural
 Conversion from Endo AAA
 No
 Early
 Late
 Renal/Visceral Ischemic Time [] minutes

Exposure
 Anterior
 Retroperitoneal
 Distal Anastomosis
 Aorta
 CIA
 EIA
 CFA
 Graft Body Diameter [] mm

Graft Type
 Dacron, woven
 Dacron, knitted
 Dacron, coated
 PTE
 Non-autologous biologic
 Hypogastric ligated/occluded
 None
 Single
 Both
 Proximal Clamp Position
 Infrarenal
 Above one renals
 Above both renals
 Supraceliac

IMA at Completion
 Occluded
 Ligated
 Reimplanted
 Heparin No Yes
 Cold Renal Perfusion No Yes

Mannitol No Yes
 EBL [] ml
 Crystalloid [] ml
Autotransfusion [] ml
 PRBC (in OR) [] units

Total Procedure Time [] minutes
 Skin Prep Chlorhexidine Alcohol All 3
 Iodine Chlor + Iodine
 Chlor + Alcohol Iodine + Alcohol

Heart Rate
 On Arrival in OR [] bpm
 Highest intra-op [] bpm

Concomitant Procedure
 Thrombo-embolctomy No Yes
 Renal Bypass No Yes
 Intra-inguinal Bypass No Yes
 Other Abdominal No Yes

Post-Op Data

Time to Extubation in OR <12 hrs 12-24 hrs >24hrs
 Vasopressors Req. Post-Op No Yes
 ICU Stay [] days

Transfusion # Units PRBC []
 Myocardial Infarction No
 Troponin Only
 EKG or Clinical
 CHF No Yes
 Respiratory No
 Pneumonia
 Ventilator
 Dysrhythmia (new) No Yes
 Change of Renal Function None
 Creat. Increase > 0.5mg/dl(44.2umol/L)
 Temp. Dialysis
 Perm. Dialysis
 Wound Complication No
 Superficial Separation/ Infection
 Return to OR

Leg Ischemia/ Emboli No
 Yes, rx w/o Surgery
 Required Surgery
 Amputation
 Bowel Ischemia No
 Medical Rx
 Surgical Rx
 Return to OR No Yes
 Stroke None Minor Major
 If Yes, Bleeding No Yes

Discharge Medications
 Discharge ASA No Yes
 No, for medical reason
 Non-compliant
 Discharge Statin No Yes
 No, for medical reason
 Non-compliant
 Discharge ACE-Inhibitor/ARB No Yes
 No, for medical reason
 Non-compliant
 Discharge P2Y12 Antagonist None Clopidogrel
 Prasugrel Ticlopinine
 Ticagrelor Other
 No, for medical reason
 Non-compliant
 Discharge Beta Blocker No Yes
 No, for medical reason
 Non-compliant
 Discharge Anticoagulant None Warfarin
 Rivaroxaban Dabigatran
 Other
 No, for medical reason
 Non-compliant

Peri-Op Antibiotic Ordered:
 Start <1hr Pre-op No Yes
 No, for medical reason
 1st-2nd Gen Cephalosporin No Yes
 No, for medical reason
 Stop <24hr Post-op No Yes
 No, for medical reason

Vascular Quality Initiative® - Open AAA Repair Follow-Up

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Last Name First Name Middle Initial
 Date of Birth Medical Record Number Social Security Number
 Visit code (not required) Zip/Postal Code
 Physician Procedure:
 Surgery Date Side:

General Information

Date of Contact Contact By Face to Face Phone No Follow-up Possible
 Current Smoking No Yes
 Current Living Status Home Nursing Home Dead Homeless Date of Death Cause Operation Related Non-Related Unsure
Current Medications
 ASA No Yes No, for medical reason Non-compliant
 P2Y12 Antagonist None Prasugrel Ticagrelor Non-compliant
 Clopidogrel Ticlopinine Other No, for medical reason
 Anticoagulant None Rivaroxaban Other Non-compliant
 Warfarin Dabigatran No, for medical reason
 Beta Blocker No Yes No, for medical reason Non-compliant
 Statin No Yes No, for medical reason Non-compliant
 ACE-Inhibitor/ARB No Yes No, for medical reason Non-compliant

Open AAA

Number of Subsequent Operations Related to AAA
 If subsequent operations performed, performed for:
 Incision No Yes Graft No Yes
 Intestine No Yes Leg Ischemia No Yes

v1.24

- Check to make sure your institution subscribes to the dataset(s), i.e. IVC or hemodialysis
- Collaborate with other investigators and institutions

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

- Formulate a short abstract (4-5 sentences).
 - Briefly describe previous literature on the topic?
 - Why is it relevant to use VQI?
 - What's the aim of your study?

- Research question/Hypothesis.
 - Clinically relevant research question.
 - Primary and secondary objective of the study.
 - Your research hypothesis.
- Specific Aims of the study.

- Usually 1 page (single space).
- Do a thorough literature review on the topic.
- 1st paragraph → general background information on the topic.
- 2nd paragraph → previous literature on the topic.
- 3rd paragraph → Your aim of the study.

- Study subjects:
 - Inclusion and exclusion criteria.
 - Study groups.
 - Exposure variables.

VQI proposal: Approach

- Endpoints (Primary and secondary)
 - Primary endpoints ex renal failure.
 - Use the VQI forms to identify your outcome of interest.
 - Provide the page number from the forms.

Transfusion # Units PRBC	<input type="text"/>	Myocardial Infarction	<input type="checkbox"/> No <input type="checkbox"/> Troponin Only <input type="checkbox"/> EKG or Clinical	Dysrhythmia (new)	<input type="checkbox"/> No <input type="checkbox"/> Yes
CHF	<input type="checkbox"/> No <input type="checkbox"/> Yes	Respiratory	<input type="checkbox"/> No <input type="checkbox"/> Pneumonia <input type="checkbox"/> Ventilator	Change of Renal Function	<input type="checkbox"/> None <input type="checkbox"/> Creat. Increase > 0.5mg/dl(44.2umol/L) <input type="checkbox"/> Temp. Dialysis <input type="checkbox"/> Perm. Dialysis

- PRELIMINARY DATA (if available)
- Descriptive statistical analysis.
 - Students t-test and Pearsons' chi-square for continous and categorical variables, respectively.
 - Multivariate Regression analysis (logistic, Cox-Hazard)
 - Kaplan Meir analysis
- Experience biostatiticians in the team.

- USE VQI forms to formulate mock tables.
- Table 1: Patient characteristics
- Table 2: Outcomes
- Table 3: Multivariate regression analysis
- Figure 1: Kaplan-Meir analysis

- Think of potential problems and solutions in advance
- Focus on a limited number of datasets, rather than asking for many datasets
- Review what's been done before and check the RAC Approved Projects List to refine your approach
- Be aware that device specific data may take much longer to obtain due to SVS PSO protections for proprietary data or Medicare Match/VISION
- Check with the SVS PSO team if you have something innovative in mind – better to run it past the PSO prior to investing a lot of time on a project that isn't feasible

- IRB approval will be obtained once the protocol is approved.

The Use of Intravascular Ultrasound in the Treatment of Type B Dissection with TEVAR and Implications on Outcomes

Nathan Belkin 1, Benjamin M Jackson 2, Paul J Foley 2, Scott M Damrauer 2, Venkat Kalapatapu 2, Michael A Golden 2, Ronald M Fairman 2, Grace J Wang 2

J Vasc Surg. 2020 Jan 6;S0741-5214(19)32623-0. doi: 10.1016/j.jvs.2019.10.073.

<https://pubmed.ncbi.nlm.nih.gov/31919000/>

- Clinical Outcomes After Varicose Vein Procedures in Octogenarians within the Vascular Quality Initiative Varicose Vein Registry
- [Danielle C. Sutzko](#), MD, MS, [Andrea T. Obi](#), MD, [Andrew S. Kimball](#), MD, [Margaret E. Smith](#), MD, [Thomas W. Wakefield](#), MD, and [Nicholas H. Osborne](#), MD, MS
- J Vasc Surg Venous Lymphat Disord. 2018 Jul; 6(4): 464–470.
- <https://www.sciencedirect.com/science/article/abs/pii/S2213333X18301379?via%3Dihub>
- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6005729/>

- The SVS PSO and the Research Advisory Councils encourage research proposals from the members
- Once you have a question in mind, familiarize yourself with the datasets and the “rules of the road” in using the data for greater success
- The SVS PSO Team is here to help – email Nancy Heatley at nheatley@svspsso.org
- Good luck!