Working with VISION Data

Kayla Moore and Jialin Mao





Accessing VISION Data: How to get your project on "The List"

Kayla Moore, MPH





Overview: Understanding how to work with VISION Data

- What makes VISION special?
- What are the Medicare-derived late outcomes?
- What are the rules governing use of VISION data? (scope, access, data transfers)
- How do I get my project on the "on-deck list"?
- How to avoid common pitfalls
- Where do I find more information?

Context: What makes VISION special?

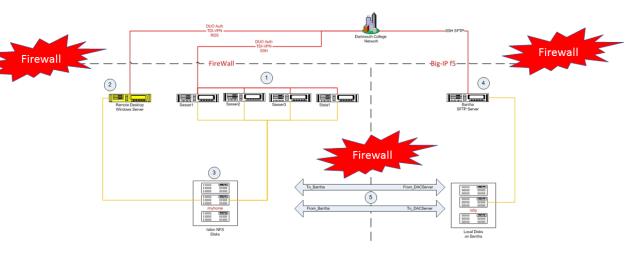


- VQI + Medicare Claims = VISION
 - 140+ clinical covariates in VQI
 - Longitudinal follow-up in Medicare (can follow individuals if they move to different centers)
 - Cost data
- Existing CMS Data Use Agreement
 - Bypasses need to obtain a new DUA for every research question (*restrictions apply*)
 - Significant savings in cost and time a new CMS DUA takes a minimum of 3-5 months. Data is costly and requires additional resources for security, cleaning, linking, and developing analytic datasets
- Analytic team with specialized knowledge

Restrictions Apply. Rules governing use of CMS Data

- Data must remain on secure HIPAA/FISMA compliant server
- Access is restricted to individuals named on the DUA
- No individual level data can be removed from the server
- Only aggregate/de-identified data (tables, figures be removed from the server.
- Output is reviewed by IT security team prior to transfer to ensure suppression requirements are applied (no cell sizes less than 10)
- In addition, CMS requires that each DUA be project-specific and tied to a single funding source

Security Architecture



Scope of research allowed under WCM's existing DUA

Research must focus on <u>evaluation of device outcomes</u>, including the following:

- safety and efficacy of devices
- the impact of provider characteristics on device outcomes
- health disparity related to device use and outcomes
- the impact of medical practice guidelines and healthcare policies

What if I want to use VISION data for a project that is not within the scope of the existing DUA?

• Obtain separate funding and apply for a "re-use" of the VISION DUA

What are the Medicare-derived variables in VISION?

- Death
- Procedure-specific adverse outcome (stroke, aortic rupture, amputation)
- Reintervention (repeated vascular procedures)
- Readmission
- Post-procedure imaging (CT, MRI)

Contact us to request a copy of the late outcomes variable dictionary

13	A	year_inuex	All	D	nnbex procedure year
4	Entiltement start				
15		entitlement atproc	All	Num	Had FFS coverage at the time of index procedure (1 = yes, 0 = no, missing = no mbsf for index year)
16		entitlement_end	All	Date	Time when dropping out of FFS coverage (not because of death) for those who had entitlement at the time of index procedure if patient died and this variable is missing, it means patient had coverage until death
17					
18	Index payment				
19		index_inp_pmt	All	Num	Index inpatient total payment amount = MedPAR payment + MedPAR pass through (present if index was found in MedPAR)
20		index_mdcr_passthru	All	Num	Index MedPAR passthrough (retained from index file)
21		index_mdcr_pmt	All	Num	Index MedPAR/outpatient payment (retained from index file)
22		index_out_pmt	PVI	Num	Index Outpatient payment amount (retained from index file, present if index was found in outpatient)
23		index_ptb_pmt	All	Num	Index Part B total payment amount
24 25		tot_mdcr_pmt	All	Num	Index total payment amount = inpatient/outpatient total * Part B total
26	Reintervention				
27		reint_admdt1-reint_admdtN	AAA/TAAA/Carotid	Date	Admission date for the Nth reintervention
28		reint_disdt1-reint_disdtN	AAA/TAAA/Carotid	Date	Discharge date for the Nth reintervention
29		reint_dx1	AAA/TAAA/Carotid	Char	Principal diagnosis code for first reintervention (if procedure codes not in the list)
30		reint_dt1-reint_dtN	PVI, LEB	Date	Date of the Nth reintervention from NCH file
31		reint_los1-reint_losN	AAA/TAAA/Carotid	Num	Length of stay for the Nth reintervention
32		reint_no1-reint_noN	All	Num	Indicator variable for the Nth reintervention
33		reint_pmt1-reint_pmtN	AAA/TAAA/Carotid	Num	Medicare payment amount for the Nth reintervention (MedPAR payment + MedPAR pass through + Part B claim payment)
34		reint_pr1	AAA/TAAA/Carotid	Char	Procedure code for first reintervention
35		tot_reint	All	Num	Number of reinterventions following the index procedure
36	Reintervention su	bcategory specific to PVI			
37		reint_endoinflow1-reint_endoinflowN	PVI, LEB	Num	Is the Nth reintervention an endo inflow procedure? (1=yes)
38		reint_endoinflow_cpt1-reint_endoinflow_cptN	PVI, LEB	Char	If the Nth reintervention is an endo inflow procedure, CPT code for that procedure
39		reint_endooutflow1-reint_endooutflowN	PVI, LEB	Num	Is the Nth reintervention an endo outflow procedure? (1=yes)
40		reint_endooutflow_cpt1-reint_endooutflow_cptN	PVI, LEB	Char	If the Nth reintervention is an endo outflow procedure, CPT code for that procedure
41		reint_openinflow1-reint_openinflowN	PVI, LEB	Num	Is the Nth reintervention an open inflow procedure? (1=yes)
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Alabi	Olamide	mortality, readmission, re-intervention, limb		AAA, EVAR, CEA, CAS	riprici di Vasci
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Beck	Adam	International Variation in Endovascular Treatment		TEVAR/Complex EVAR	s/complex EV
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Colvard	Jaime				
	Benjamin	Physician-modified endografts versus		TEVAR/Complex EVAR	
Conrad	Mark	Risk Score predicting 5-year survival after Open	Mass General Hospital	EVAR, Open	
Conway	Allan	AAA Sac Shrinkage in Patients with Short Infrarenal			
DeMartino	Randall	Late Outcomes After Endovascular or Open Repair		Open & EVAR	
Flohr	Tanya	Influence of Novel Oral Anticoagulants (NOACs)		EVAR	
Sarg	Karan	Impact of Positive Stress Test on Postoperative		Carotid Artery Stent, Caro	
Garg	Karan	Outcomes of Endovascular Interventions for Acute		Peripheral Vascular Inte	ervention
Garg	Karan	Effect of Conduit Choice and Distal Bypass Target	NYU	Infrainguinal Bypass	
Garg	Karan	Characteristics and Outcomes in Patients	NYU	Endovascular AAA	
Garg	Karan	Effect of graft configuration on outcomes in	NYU	Endovascular AAA	
Garg	Karan	Effect of prophylactic coil embolization of aortic	NYU	Endovascular AAA	
Garg	Karan	Effect of Diabetes on outcomes of open	NYU	Infrainguinal Bypass	
Garg	Karan	Outcomes of Suprainguinal inflow to Popliteal and	NYU	Infrainguinal Bypass,Su	prainguinal E
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Garg	Karan	Outcomes of intact open infrarenal abdominal		Open AAA Repair	
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- 3. VISION Analytic Team requests research memorandum

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Addresses a gap in knowledge

- 3. VISION Analytic Team requests research memorandum
- 4. VISION Analytic Team works with you to refine analytic plan and conduct analyses

Externally funded projects

Example: NIH, AHA, PCORI, FDA

1. Engage VISION team during proposal development to:

Ensure feasibility

Obtain preliminary data for use in proposal

- Define scope and budget for VISION Team (can vary from basic DUA support to in-depth analytic support)
- 2. Obtain VQI/RAC Approval
- 3. Apply for a "re-use" DUA to use VISION data at WCM (CMS requires a separate DUA for each funding source)

Recap: Steps for success & How to avoid Common Pitfalls

• Before RAC proposal

 \checkmark Become familiar with rules governing use of VISION Data

- ✓ Identify which late-outcomes variables you wish to use
- ✓ Ensure project is feasible (aligns with available data years, not overly complex)
- ✓ Ensure projects includes a device-specific component
- ✓ Contact VISION Team with any questions

• After RAC Approval

- ✓ Follow-up with VISION Team to discuss timeline/priority
- ✓ Be open to potential collaboration with other investigators with overlapping projects

Additional Information

https://www.vqi.org/dataanalysis/blinded-datasets/

Kayla.O.Moore@Dartmouth.edu

Data Analysis	Vascular Implant Surveillance and Interventional Outcomes Network (VISION): SVS VOI-Medicare-Matched datasets				
SVS VOI Publications	Overview				
RAC Approved Project Search	The SVS VQI <u>Vascular Implant Surveillance and Interventional Outcomes Network (VISION</u> partnership between the SVS VQI and <u>MDEpiNet</u> that directly supports the mission of the				
SVS VQI Medicare Matched Blinded Datasets	VQI to improve the quality, safety, effectiveness and cost of vascular healthcare by coll and exchanging information. VISION links SVS VQI registry data to Medicare claims to generate novel registry-claims linked datasets. The datasets combine the clinical detail				
SVS PSO Data Analysis Guidelines for Use	the SVS VQI with long-term outcome variables derived from Medicare claims. VISION data used to generate center-specific feedback reports called, <u>Survival, Reintervention and</u>				
Industry Project Charters and Process	<u>Surveillance (SRS)</u> and to analyze device performance and long-term outcomes of vaso surgical techniques. Use of the data is governed by a Data Use Agreement (DUA) betw Weill Cornell Medical College and the Center for Medicaid and Medicare Services (CMS)				
CREST-2 Randomized Control Trial	Dataset Description: Medicare-Match data are available for EVAR, OAAA, PVI, TEVAR, CA INFRA and SUPRA datasets. For each dataset, the following SVS VQI-Medicare derived outcomes are available:				
	1. Death 2. Procedure-specific adverse outcome (stroke, aortic rupture, amputation) 3. Reintervention (repeated vascular procedures) 4. Readmission 5. Post-procedure imaging 6. Cost				
	For more details on how VISION datasets are generated, and how to use VISION data, ple refer to the following supplemental materials:				

Now that you are on "the list"

Working with the VISION analytical team

Jialin Mao, MD, MS

A full research protocol

Research Memorandum

I. Brief background and research question

a. Brief background (Please specify the specific goals and objectives of research, and hypothesis if any)

b. Device being studied (The DUA with CMS is device based. Examples: stents, carotid patches, angioplasty balloons)

c. Prior research related to the topic that you think would be helpful to refer to, if any

II. Methods

a. Datasets and population

Please specify the VQI-Medicare linked dataset you intend to use

DEVAR	□Open AAA	□CEA	□CAS
□PVI	□Infra	□Supra	□TEVAR

Years of inclusion: (currently there are linked data up to 2016 available)

b. Study population

bl. Inclusion criteria (i.e. age group, sex, indication or diagnosis, specific procedure)

(If you know the exact variable for procedures/indications in VQI that will be used here, specifying here would be helpful.)

Example:

- Medicare beneficiaries above age 65 linked to VQI
- Undergoing balloon angioplasty or stent placement
- Femoral popliteal disease

b2. Exclusion criteria, if any (i.e. certain patient characteristics, previous or concurrent procedure)

c. Key variables

c.1. Exposure (i.e. time trend, comparison groups):

c.2. Outcomes:

c.3. Covariates:

If not otherwise specified, we will include <u>age, sex, race/ethnicity, and procedure year by default</u>. Please specify other important covariates <u>you'd</u> like to include: (i.e. comorbidities, procedure characteristics, center volume)

d. Statistical methods

Please include any preliminary thoughts you have. This can be further refined later.

III. Additional information

Include any additional information you'd like to provide.

Dataset and years

- Dataset
 - AAA, Carotid, PAD
 - Vein will be added this year
- Data years: currently up to 2016, expecting update to 2018
 - Are there restrictions to the years of data due to procedures or the availability of variables?
 - Is the current sample size going to be big enough?



Note: CMS data release + DUA amendment -> 2 year data lag

Study design

- Inclusion/exclusion criteria
- Exposure and outcome
- Important covariates
- Statistical methods: preliminary thoughts are ok!

Have questions? Contact us!

What's helpful for the analytical team to know?

- A little bit background would be helpful
- Former studies with similar topics or designs
- Definition of variables based on VQI data
- Things that you are looking for from claims data

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What if the variables are not in the current dataset?

What happens next

- ✓On deck
- ✓ Full protocol
- ✓Your turn
 - We will review your protocol and mark our questions and thoughts
 - We will reach out to you to kick start:
 - We are all very good at using Zoom now
 - We bring our questions, you bring yours
 - Likely staged process
 - Clarify questions
 - Query rough numbers
 - Analysis <-> Changes

Questions?

Thank you