

Vascular Quality Initiative + Medicare Long-term Outcomes

Overview: The Vascular Implant Surveillance and Interventional Outcomes Network (VISION) is a partnership between the Vascular Quality Initiative (VQI) and MDEpiNet that directly supports the mission of the VQI to improve the quality, safety, effectiveness and cost of vascular healthcare by collecting and exchanging information. VISION facilitates low-cost, but high value real-world effectiveness research through the creation of a national repository of linked clinical-claims analytic datasets. VISION data allows researchers to analyze device performance and long-term outcomes from vascular surgical techniques. Use of the data is governed by a Data Use Agreement (DUA) between Weill Cornell Medical College and the Center for Medicaid and Medicare Services (CMS). Data is kept on a secure server at Weill Cornell Medical College, Science and Infrastructure Center.

Scope: VISION projects must be approved by the VQI Research Advisory Committee and focus on evaluation of device outcomes, including the following:

- safety and efficacy of devices, which involves assessing predictor and comparative effectiveness studies using broad categories of devices, specific device designs, and components of devices;
- the impact of provider characteristics on device outcomes;
- health disparity related to device use and outcomes; and
- the impact of medical practice guidelines and healthcare policies.

Matching Process: VISION matches surgical cases in the Vascular Quality Initiative registry with information on long-term outcomes derived from Medicare claims data. Direct matching methods were used to match VQI cases to Medicare claims using SSN, date of birth (DOB), gender, and date of procedure. Cases that did not match on direct identifiers (missing SSN) were matched using center ID, Center state, DOB, Sex, Procedure date and zipcode. Canadians, patients under 65 years of age, procedures after 12/31/2016 were excluded from the matching process. A validation of direct vs. indirect matching methods is underway..

Dataset description: Medicare-derived outcomes data are only available for patients in fee-for-service Medicare. The Medicare variables describe hospitalizations and outpatient procedures that occurred subsequent to the index hospitalization through the analytic end date. In the Medicare data, four major outcomes are identified:

1. Death
2. Procedure-specific adverse outcome (stroke, aortic rupture, amputation)
3. Reintervention (repeated vascular procedures)
4. Post-procedure imaging
5. Cost

Additional outcomes may be generated as needed for specific projects.

Match Rates: VQI Index Procedures matched to Medicare claims

Procedure	Total N (VQI data up to 2016)	Combined Match (direct and indirect)	Match Rate
Carotid endarterectomy (CEA)	78283	67041	85.6%
Carotid artery stenting (CAS)	14139	11519	81.5%
Endovascular abdominal aortic repair (EVAR)	30495	7429	89.9%
Thoracic endovascular aortic repair (TEVAR)	7710	5500	71.3%
Open abdominal aortic repair (OPEN)	8756	7490	85.5%
Peripheral vascular intervention (PVI) intervention	108628	80169	73.8%
Lower extremity bypass (LEB)	46394	36204	78.0%