NATIONAL QUALITY FORUM

Measure Evaluation 4.1
January 2010

This form contains the measure information submitted by stewards. Blank fields indicate no information was provided. Attachments also may have been submitted and are provided to reviewers. The sub-criteria and most of the footnotes from the evaluation criteria are provided in Word comments and will appear if your cursor is over the highlighted area (or in the margin if your Word program is set to show revisions in balloons). Hyperlinks to the evaluation criteria and ratings are provided in each section.

TAP/Workgroup (if utilized)**:** Complete all yellow highlighted areas of the form. Evaluate the extent to which each sub-criterion is met. Based on your evaluation, summarize the strengths and weaknesses in each section.

Note: *If there is no TAP or workgroup, the SC also evaluates the* sub-criteria *(yellow highlighted areas)*.

Steering Committee: Complete all pink highlighted areas of the form. Review the workgroup/TAP assessment of the sub-criterion, noting any areas of disagreement; then evaluate the extent to which each major criterion is met; and finally, indicate your recommendation for the endorsement. Provide the rationale for your ratings.

Evaluation ratings of the extent to which the criteria are met
C = Completely (unquestionably demonstrated to meet the criterion)
P = Partially (demonstrated to partially meet the criterion)
M = Minimally (addressed BUT demonstrated to only minimally meet the criterion)
N = Not at all (NOT addressed; OR incorrectly addressed; OR demonstrated to NOT meet the criterion)
NA = Not applicable (only an option for a few sub-criteria as indicated)

(for NQF staff use) **NQF Review** #: OT1-011-09 **NQF Project:** Patient Outcomes Measures: Phases I and II
MEASURE DESCRIPTIVE INFORMATION
De.1 **Measure Title:** Postoperatice stroke or death in asymptomatic patients undergoing carotid endarterectomy
De.2 **Brief description of measure***:* Percentage of patients without carotid territory neurologic or retinal symptoms within the 12 months immediately preceding carotid endarterectomy (CEA) who experience stroke or death following surgery while in the hospital. This measure is proposed for both hospitals and individual surgeons.
1.1-2 **Type of Measure:** outcome De.3 **If included in a composite or paired with another measure, please identify composite or paired measure**
De.4 **National Priority Partners Priority Area:** population health De.5 **IOM Quality Domain**: effectiveness De.6 **Consumer Care Need:** Getting Better

CONDITIONS FOR CONSIDERATION BY NQF	
Four conditions must be met before proposed measures may be considered and evaluated for suitability as voluntary consensus standards:	**NQF Staff**
A. The measure is in the public domain or an intellectual property (measure steward agreement) is signed. *Public domain only applies to governmental organizations. All non-government organizations must sign a measure steward agreement even if measures are made publicly and freely available.* A.1 **Do you attest that the measure steward holds intellectual property rights to the measure and the right to use aspects of the measure owned by another entity (e.g., risk model, code set)?** Yes A.2 **Indicate if Proprietary Measure** (*as defined in measure steward agreement*)**:** A.3 **Measure Steward Agreement:** agreement signed and submitted A.4 **Measure Steward Agreement attached:**	**A** **Y**☐ **N**☐

B. The measure owner/steward verifies there is an identified responsible entity and process to maintain and update the measure on a schedule that is commensurate with the rate of clinical innovation, but at least every 3 years. Yes, information provided in contact section	**B** Y☐ N☐
C. The intended use of the measure includes both public reporting and quality improvement. ►**Purpose:** public reporting, quality improvement Accountability	**C** Y☐ N☐
D. The requested measure submission information is complete. Generally, measures should be fully developed and tested so that all the evaluation criteria have been addressed and information needed to evaluate the measure is provided. Measures that have not been tested are only potentially eligible for a time-limited endorsement and in that case, measure owners must verify that testing will be completed within 12 months of endorsement. D.1**Testing:** Yes, fully developed and tested D.2 **Have NQF-endorsed measures been reviewed to identify if there are similar or related measures?** Yes	**D** Y☐ N☐
(for NQF staff use**)** **Have all conditions for consideration been met?** **Staff Notes to Steward** (*if submission returned*)**:**	**Met** Y☐ N☐
Staff Notes to Reviewers (*issues or questions regarding any criteria*)**:**	
Staff Reviewer Name(s):	

TAP/Workgroup Reviewer Name:	
Steering Committee Reviewer Name:	
1. IMPORTANCE TO MEASURE AND REPORT	
Extent to which the specific measure focus is important to making significant gains in health care quality (safety, timeliness, effectiveness, efficiency, equity, patient-centeredness) and improving health outcomes for a specific high impact aspect of healthcare where there is variation in or overall poor performance. *Measures must be judged to be important to measure and report in order to be evaluated against the remaining criteria.* (evaluation criteria) **1a. High Impact**	Eval Rating
(for NQF staff use) **Specific NPP goal**:	
1a.1 **Demonstrated High Impact Aspect of Healthcare:** affects large numbers, severity of illness, high resource use 1a.2 1a.3 **Summary of Evidence of High Impact:** Stroke or death following CEA has been the primary clinical endpoint for multiple randomized trials of CEA (Ref 1-3). Although this is sometimes reported after 30 days, most postoperative strokes or deaths occur in hospital following CEA for asymptomatic patients (Ref 1). This endpoint is easy to capture from claims data and registries. This outcome is particularly important for asymptomatic patients undergoing CEA, since this is a prophylactic operation being proposed to prevent future stroke. As such, guidelines from the American Heart Association recommend CEA for such patients only if the risk of surgical death or stroke combined is less than 3% (Ref 4). This is based on Level I evidence from randomized trials which established the benefit of CEA in asymptomatic patients with at least 60% internal carotid artery (ICA) stenosis, but only if the surgical risk is appropriately low, since the subsequent stroke risk with medical management is not high (Ref 1-2). This contrasts with symptomatic patients with severe ICA stenosis where the stroke risk under medical therapy is high, and justifies CEA even when stroke risks are higher. Stroke is defined as an acute neurological deficit due to an occlusive or hemorrhagic brain lesion that persists more than 24 hours. It can be substantiated by a new stroke seen on brain imaging, but this is not a requirement, i.e., clinical symptoms alone is sufficient. Both minor and major strokes will be counted, as long as the symptoms persist more than 24 hours. Stroke in either carotid distribution, or vertebrobasilar	**1a** C☐ P☐ M☐ N☐

stroke is included, i.e., any postoperative new neurologic deficit attributed to an occlusive or hemorrhagic brain lestion lasting more than 24 hours. From an operational standpoint, post-operative new stroke is defined by medical record coding, ICD-9-CM 997.02.

While stroke or death following CEA is an appropriate quality measure for either symptomatic or asymptomatic patients, we believe that the former group would require risk adjustment to allow fair comparisons, while we do not believe this is necessary for asymptomatic patients. The rationale for this is as follows. Factors such as atrial fibrillation, congestive heart failure, contralateral carotid occlusion and diabetes have been shown to increase stroke risk following CEA, in addition to symptom status, and could be used to justify risk stratification (Ref 9). However, for asymptomatic patients, it is incumbent upon the surgeon to select only those patients of low perioperative risk to benefit from CEA. In fact, the recommendations of the AHA are that this surgery should not be done if risk is high (>3%), without risk adjustment in asymptomatic patients (Ref 4).

We propose that patients need to be asymptomatic regarding the ipsilateral carotid territory for at least one year to qualify for this measure. The basis for this is as follows. In the ACAS trial which demonstrated benefit of CEA in asymptomatic patients in the U.S., these patients had never had ipsilateral carotid TIA or stroke (Ref 1). In the similar European ACST trial, patients had to be asymptomatic for at least 6 months (Ref 2). Results from the NASCET medically treated patients showed that the higher stroke risk after a TIA or stroke was highest initially after the symptomatic event, and gradually decreased to baseline in 2 years (Ref 4). Thus, arguments could be made to define the asymptomatic interval from 6 months to ever, but VSGNNE and SVS recommend a one year time interval to confer asymptomatic status based on commonly accepted practice standards.

Adopting this outcome measure would likely have immediate impact on improving quality. Regional data have shown that feedback of the key outcome of stroke and death, in addition to some process measures after CEA reduced this outcome from 5.6% to 5.0% and in asymptomatic patients from 4.1% to 3.8% (Ref 5). The reporting time frame for hospitals should be on a yearly basis. The time frame for surgeons should be cumulative over their career.

This is an important quality measure, since it is suspected that a number of surgeons and centers performing CEAs do not meet the high standards of the randomized trials which established the benefit of such treatment. It has been shown that mortality following CEA in Medicare patients was 1.4% in hospitals participating in randomized trials, 1.7% in high volume non-trial hospitals, 1.9% in average volume hospitals and fully 2.5% in low volume hospitals (Ref 5). Given that the stroke rate is generally 3 times the mortality rate, this means that some surgeons/centers are likely not achieving optimal results. A recent survey in Canada found that 45% of hospitals are not meeting published guidelines (Ref 7). Adoption of this outcome measure in the United States would likely disclose similar results and lead to quality improvement. The VSGNNE has shown that regional results are good for CEA outcomes, but significant variation does exist between surgeons and centers (Ref 8). This would be the first true outcome measure for vascular surgery, and it would apply to the most frequently performed vascular operation.

1a.4 Citations for Evidence of High Impact:

1. Endarterectomy for asymptomatic carotid artery stenosis. Executive Committee for the Asymptomatic Carotid Atherosclerosis Study. Jama 1995;273(18):1421-8.
2. Halliday A, Mansfield A, Marro J, et al. Prevention of disabling and fatal strokes by successful carotid endarterectomy in patients without recent neurological symptoms: randomised controlled trial. Lancet 2004;363(9420):1491-502.
3. North American Symptomatic Carotid Endarterectomy Trial Collaborators. Beneficial effect of carotid endarterectomy in symptomatic patients with high-grade carotid stenosis. N Engl J Med 1991; 325: 445–53.
4. Biller J, Feinberg WM, Castaldo JE, et al. Guidelines for carotid endarterectomy: a statement for healthcare professionals from a special writing group of the Stroke Council, American Heart Association. Stroke; a journal of cerebral circulation 1998;29(2):554-62.
5. Kresowik TF, Bratzler DW, Kresowik RA, et al. Multistate improvement in process and outcomes of carotid endarterectomy. J Vasc Surg 2004;39(2):372-80.
6. Wennberg DE, Lucas FL, Birkmeyer JD, Bredenberg CE, Fisher ES. Variation in carotid endarterectomy mortality in the Medicare population: trial hospitals, volume, and patient characteristics.

Jama 1998;279(16):1278-81.
7. Feasby TE, Kennedy J, Quan H, Girard L, Ghali WA. Real-world replication of randomized controlled trial results for carotid endarterectomy. Archives of neurology 2007;64(10):1496-500.
8. 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). J Vasc Surg 2007.
9. Tu J, Wang H, Bowyer B, Green L, Fang J, Kucey D. Risk Factors for Death or Stroke After Carotid Endarterectomy: Observations From the Ontario Carotid Endarterectomy Registry. Stroke. 2003;34:2568-2575.

1b. Opportunity for Improvement

1b.1 Benefits (improvements in quality) envisioned by use of this measure:

1b.2 Summary of data demonstrating performance gap (variation or overall poor performance) across providers:
Numerous manuscripts have noted variation in the combined endpoint of stroke or death following carotid endarterectomy. In the Medicare population, the outcome has been shown to vary substantially as a function of hospital volume. This is an important consideration, since it is widely recognized that many surgeons and centers performing CEAs do not meet the high standards of the randomized trials which established the benefit of such treatment. It has been shown that mortality following CEA in Medicare patients was 1.4% in hospitals participating in randomized trials, 1.7% in high volume non-trial hospitals, 1.9% in average volume hospitals and fully 2.5% in low volume hospitals (Ref 6). Given that the stroke rate is generally 3 times the mortality rate, this suggests that some centers/surgeons are not achieving optimal results. A recent survey in Canada found that 45% of hospitals are not meeting published guidelines (Ref 7). Adoption of this outcome measure in the United States would likely disclose similar results and lead to quality improvement when this information was provided to surgeons and centers. This effect has been demonstrated in a midwest regional study by Kresowik et al where stroke and death rate after CEA improved after providing outcome data (Ref 5). The VSGNNE has shown that regional results are good for CEA outcomes, but significant variation does exist between surgeons and centers (Ref 8). Postoperative stroke or death is the accepted outcome paramenter for this surgery, and its measurement and reporting would demonstrate variation and opportunity for improvement

1b.3 Citations for data on performance gap:
See citations abovr

1b.4 Summary of Data on disparities by population group:
It has been shown that mortality following CEA in Medicare patients was 1.4% in hospitals participating in randomized trials, 1.7% in high volume non-trial hospitals, 1.9% in average volume hospitals and fully 2.5% in low volume hospitals (Ref 6). Given that the stroke rate is generally 3 times the mortality rate, this means that many ill advised operations are likely being performed. A recent survey in Canada found that 45% of hospitals are not meeting published guidelines (Ref 7).

1b.5 Citations for data on Disparities:
See citations above

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1c. Outcome or Evidence to Support Measure Focus

1c.1 Relationship to Outcomes (*For non-outcome measures, briefly describe the relationship to desired outcome. For outcomes, describe why it is relevant to the target population*)**:**

1c.2-3. Type of Evidence: evidence based guideline, systematic synthesis of research

1c.4 Summary of Evidence (*as described in the criteria; for outcomes, summarize any evidence that healthcare services/care processes influence the outcome*)**:**
CEA for asymptomatic patients is based on Level I evidence from randomized trials which established the benefit of CEA in asymptomatic patients with at least 60% internal carotid artery (ICA) stenosis, but only if the surgical risk is appropriately low, since the subsequent stroke risk with medical management is not high

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(Ref 1-2). This contrasts with symptomatic patients with severe ICA stenosis where the stroke risk under medical therapy is high, and justifies CEA even when stroke risks are higher. 1c.5 **Rating of strength/quality of evidence (***also provide narrative description of the rating and by whom***):** 1c.6 **Method for rating evidence:** 1c.7 **Summary of Controversy/Contradictory Evidence:** None 1c.8 **Citations for Evidence (***other than guidelines***):** 1.Endarterectomy for asymptomatic carotid artery stenosis. Executive Committee for the Asymptomatic Carotid Atherosclerosis Study. Jama 1995;273(18):1421-8. 2. Halliday A, Mansfield A, Marro J, et al. Prevention of disabling and fatal strokes by successful carotid endarterectomy in patients without recent neurological symptoms: randomised controlled trial. Lancet 2004;363(9420):1491-502. 1c.9 **Quote the Specific guideline recommendation (***including guideline number and/or page number***):** Biller J, Feinberg WM, Castaldo JE, et al. Guidelines for carotid endarterectomy: a statement for healthcare professionals from a special writing group of the Stroke Council, American Heart Association. Stroke; a journal of cerebral circulation 1998;29(2):554-62. 1c.10 **Clinical Practice Guideline Citation:** American Heart Association: Carotid endarterctomy should be performed in asymptomatic patients with >60% ICA stenosis if the historical combined enpoint of surgical stroke or death rate is less than 3% for the surgoen/hospital 1c.11 **National Guideline Clearinghouse or other URL:** 1c.12 **Rating of strength of recommendation (***also provide narrative description of the rating and by whom***):** A 1c.13 **Method for rating strength of recommendation** (*If different from* USPSTF system*, also describe rating and how it relates to USPSTF)***:** 1c.14 **Rationale for using this guideline over others:** Only one available	
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Importance to Measure and Report?*	**1**
Steering Committee: Was the threshold criterion, *Importance to Measure and Report***, met?** **Rationale:**	**1** **Y☐** **N☐**
2. SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES	
Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. (evaluation criteria)	Eval Rating
2a. MEASURE SPECIFICATIONS	
S.1 **Do you have a web page where current detailed measure specifications can be obtained?** S.2 **If yes, provide web page URL:** **2a. Precisely Specified**	**2a-specs** **C☐** **P☐** **M☐**
2a.1 **Numerator Statement (***Brief, text description of the numerator - what is being measured about the*	

target population, e.g. target condition, event, or outcome)**:** Patients over age 18 without preoperative carotid territory neurologic or retinal sympotoms within the 12 months immediately preceding CEA who experience stroke or death during their hospitalization following elective carotid endarterectomy. **2a.2 Numerator Time Window (***The time period in which cases are eligible for inclusion in the numerator*)**:** Annual for hospitals, lifetime for surgeons **2a.3 Numerator Details (***All information required to collect/calculate the numerator, including all codes, logic, and definitions*)**:** This measure is reported with a G-code to establish asymptomatic status, plus the ICD-9 code for iatrogenic stroke OR in hospital death. Gxxx1: Patients without ipsilateral carotid territory neurologic or retinal symptoms during the past year undergoing elective carotid endarterectomy Post-operative stroke: ICD-9 code 997.02 Or Death	**N**☐
2a.4 Denominator Statement (*Brief, text description of the denominator - target population being measured*)**:** Patients over age 18 without preoperative carotid territory neurologic or retinal sympotoms in the 12 months immediately preceding elective carotid endarterectomy **2a.5 Target population gender:** Female, Male **2a.6 Target population age range:** Over 18 **2a.7 Denominator Time Window (***The time period in which cases are eligible for inclusion in the denominator*)**:** Annual for hospitals, lifetime for surgeons **2a.8 Denominator Details (***All information required to collect/calculate the denominator - the target population being measured - including all codes, logic, and definitions*)**:** CPT code 35301 OR ICD-9 code 38.12 to establish carotid endarterectomy AND Gxxx1 to limit this to the subset of patients who were asymptomatic for one year preoperatively	
2a.9 Denominator Exclusions (*Brief text description of exclusions from the target population*)**:** Patients with ipsilateral neurologic symptoms (transient ischemic attack, amaurosis, or stroke) within the 12 months immediately preceding CEA. **2a.10 Denominator Exclusion Details (***All information required to collect exclusions to the denominator, including all codes, logic, and definitions*)**:** Exclude patients without Gxxx1 to limit this to the subset of patients who were asymptomatic for one year preoperatively	
2a.11 Stratification Details/Variables (*All information required to stratify the measure including the stratification variables, all codes, logic, and definitions*)**:** Stratification not needed	
2a.12-13 Risk Adjustment Type: no risk adjustment necessary **2a.14 Risk Adjustment Methodology/Variables (***List risk adjustment variables and describe conceptual models, statistical models, or other aspects of model or method*)**:** **2a.15-17 Detailed risk model available Web page URL or attachment:**	
2a.18-19 Type of Score: rate/proportion **2a.20 Interpretation of Score:** better quality = lower score	

2a.21 Calculation Algorithm (*Describe the calculation of the measure as a flowchart or series of steps***):**

2a.22 Describe the method for discriminating performance *(e.g., significance testing)***:**

2a.23 Sampling (Survey) Methodology *If measure is based on a sample (or survey), provide instructions for obtaining the sample, conducting the survey and guidance on minimum sample size (response rate)*:

2a.24 Data Source (*Check the source(s) for which the measure is specified and tested)*
Management data, Documentation of original self-assessment, pharmacy data, Survey: Patient

2a.25 Data source/data collection instrument (*Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.***):**
Vascular Surgery GRoup of Northern New England; SVS Vascular Registry, NSQIP

2a.26-28 Data source/data collection instrument reference web page URL or attachment:

2a.29-31 Data dictionary/code table web page URL or attachment:

2a.32-35 Level of Measurement/Analysis (*Check the level(s) for which the measure is specified and tested)*
Clinicians: Individual, Clinicians: Group, Facility/Agency

2a.36-37 Care Settings (*Check the setting(s) for which the measure is specified and tested)*
Hospital

2a.38-41 Clinical Services (*Healthcare services being measured, check all that apply*)
Clinicians: Physicians (MD/DO)

TESTING/ANALYSIS

2b. Reliability testing

2b.1 Data/sample *(description of data/sample and size)***:** VSGNNE registy, hospital claims data and hospital chart review

2b.2 Analytic Method *(type of reliability & rationale, method for testing)***:**
Determination of the reliability of registry data to identify postoperative stroke in comparison with hospital claims data (ICD-9 code 997.02) as judged by chart review

2b.3 Testing Results *(reliability statistics, assessment of adequacy in the context of norms for the test conducted)***:**
A random selection of 25 patients with post-operative stroke reported to the VSGNNE registry after CEA revealed that all reported to the VSGNNE registry had a postoperative stroke compared with 90% of the same patients as identified by claims data.

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2c. Validity testing

2c.1 Data/sample *(description of data/sample and size)***:** Randomized clinical trials

2c.2 Analytic Method *(type of validity & rationale, method for testing)***:**
Expert panel discussion and review of VSGNNE database

2c.3 Testing Results *(statistical results, assessment of adequacy in the context of norms for the test conducted)***:**
Stroke and death after CEA is the primary outcome measure used in randomized trials, and is widely accepted in clinical practice. By selecting asymptomatic patients the measure avoids any controversy around risk adjustment while capturing 70% of CEA procedures. The use of stroke and death to measure quality has face value validity since it is the universal endpoint used in clinical trials of carotid

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endarterectomy (Ref 1-3 above). Further, it is the measure used to compare different regions and centers (Ref 5-7 above). Finally it is the recommended outcome measure by the American Heart Association (Ref 4 above). This was established by expert panel discussion (members listed below).

We have further validated the use of stroke and death by looking at the variation in this outcome measure across both hospitals and surgeons in the VSGNNE registry. In an analysis of 30000 CEAs performed in 9 hospitals in ME,NH and VT, ranging in size from 25 to 615 beds (Ref 8 above). Combined stroke and death rate ranged from 0 to 2.5% among centers, and showed greater variation among indivicual surgeons. This reflects the range expected (<3% stroke rate for asymptomatic patients).

2d. Exclusions Justified

2d.1 **Summary of Evidence supporting exclusion(s):**
Excluded from the denominator are patients undergoing CEA who have had ipsilateral TIA or stroke within past year

2d.2 **Citations for Evidence:**
Symptomatic patients benefit substantially more from CEA than asymptomatic patients. However, they have higher associated risk of stroke and death, and this is complicated by many patient risk factors as well as severity of presenting neurologic symptoms. Since this group comprises only 30% of patients undergoing CEA, it would unduly complicate the analysis be requiring risk reporting. This is the rationale for excluding these patients

2d.3 **Data/sample** *(description of data/sample and size)*: VSGNNE registry database

2d.4 **Analytic Method** *(type analysis & rationale)*:

2d.5 **Testing Results** *(e.g., frequency, variability, sensitivity analyses)*:
asymptomatic patients comprised 72% of all CEA patients reported to the registry

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2e. Risk Adjustment for Outcomes/ Resource Use Measures

2e.1 **Data/sample** *(description of data/sample and size)*:

2e.2 **Analytic Method** *(type of risk adjustment, analysis, & rationale)*:

2e.3 **Testing Results** *(risk model performance metrics)*:

2e.4 **If outcome or resource use measure is not risk adjusted, provide rationale:** Practice guidelines recommend that CEA only be performed in aysmptomatic patients if the stroke or death rate is less than 3%, without risk adjustment. Although there may be individual patient risk factors that could affect this rate, it is incumbent on the surgeon to only select patients for this prophylactic and elective operation who will have a low stroke or death rate, considering any such risk factors. For this reason, there is no benefit to risk adjusting this outcome in asymptomatic patients.

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2f. Identification of Meaningful Differences in Performance

2f.1 **Data/sample from Testing or Current Use** *(description of data/sample and size)*:

2f.2 **Methods to identify statistically significant and practically/meaningfully differences in performance** *(type of analysis & rationale)*:

2f.3 **Provide Measure Scores from Testing or Current Use** *(description of scores, e.g., distribution by quartile, mean, median, SD, etc.; identification of statistically significant and meaningfully differences in performance)*:

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2g. Comparability of Multiple Data Sources/Methods 2g.1 **Data/sample** *(description of data/sample and size)*: VSGNNE registry vs. hospital claims data 2g.2 **Analytic Method** *(type of analysis & rationale)*: More than 3000 CEAs in asymptomataic patients in the VSGNNE registry were compared with hospital claims data for same procedure. 2g.3 **Testing Results** *(e.g., correlation statistics, comparison of rankings)*: Because the ICD-9 and CPT codes are unique for CEA, we found >98% agreement in patients identified by these methods.	**2g** C☐ P☐ M☐ N☐ NA☐
2h. Disparities in Care 2h.**1 If measure is stratified, provide stratified results** *(scores by stratified categories/cohorts)*: N/A 2h.2 **If disparities have been reported/identified, but measure is not specified to detect disparities, provide follow-up plans:**	**2h** C☐ P☐ M☐ N☐ NA☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Scientific Acceptability of Measure Properties?*	**2**
Steering Committee: Overall, to what extent was the criterion, *Scientific Acceptability of Measure Properties*, **met?** **Rationale:**	*2* C☐ P☐ M☐ N☐
3. USABILITY	
Extent to which intended audiences (e.g., consumers, purchasers, providers, policy makers) can understand the results of the measure and are likely to find them useful for decision making. (evaluation criteria)	Eval Rating
3a. Meaningful, Understandable, and Useful Information 3a.1 **Current Use:** in use 3a.2 **Use in a public reporting initiative (disclosure of performance results to the public at large)** (*If used in a public reporting initiative, provide name of initiative(s), locations, Web page URL(s). If not publicly reported, state the plans to achieve public reporting within 3 years*): N/A 3a.3 **If used in other programs/initiatives (***If used in quality improvement or other programs/initiatives, name of initiative(s), locations, Web page URL(s). If not used for QI, state the plans to achieve use for QI within 3 years***):** The VSGNNE registry has reported this outcome measure regionally since 2003, to participating hospitals and surgeons. The SVS Carotid Registry reports these results to participating surgeons and hospitals on a national basis since 2006. **Testing of Interpretability** (*Testing that demonstrates the results are understood by the potential users for public reporting and quality improvement*) 3a.4 **Data/sample** *(description of data/sample and size)*: 3a.5 **Methods** *(e.g., focus group, survey, QI project)*: 3a.6 **Results** *(qualitative and/or quantitative results and conclusions)*: Not specifically tested, but the outcome of stroke or death after this operation is quite transparent.	**3a** C☐ P☐ M☐ N☐
3b/3c. Relation to other NQF-endorsed measures	

3b.1 **NQF # and Title of similar or related measures:**	
(for NQF staff use) **Notes on similar/related endorsed or submitted measures:**	
3b. Harmonization If this measure is related to measure(s) already endorsed by NQF (e.g., same topic, but different target population/setting/data source or different topic but same target population): 3b.2 **Are the measure specifications harmonized? If not, why?**	**3b** C☐ P☐ M☐ N☐ NA☐
3c. Distinctive or Additive Value 3c.1 **Describe the distinctive, improved, or additive value this measure provides to existing NQF-endorsed measures:** 5.1 **Competing Measures If this measure is similar to measure(s) already endorsed by NQF (i.e., on the same topic and the same target population), describe why it is a more valid or efficient way to measure quality:**	**3c** C☐ P☐ M☐ N☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Usability*?	**3**
Steering Committee: Overall, to what extent was the criterion, *Usability*, **met?** **Rationale:**	**3** C☐ P☐ M☐ N☐
4. FEASIBILITY	
Extent to which the required data are readily available, retrievable without undue burden, and can be implemented for performance measurement. (evaluation criteria)	Eval Rating
4a. Data Generated as a Byproduct of Care Processes 4a.1-2 **How are the data elements that are needed to compute measure scores generated?** data generated as byproduct of care processes during delivery, coding/abstraction performed by someone other than person obtaining original information, other Data are reported by hosptials and surgeons to the VSGNNE and SVS registries	**4a** C☐ P☐ M☐ N☐
4b. Electronic Sources 4b.1 **Are all the data elements available electronically?** (*elements that are needed to compute measure scores are in defined, computer-readable fields, e.g., electronic health record, electronic claims*) Yes 4b.2 **If not, specify the near-term path to achieve electronic capture by most providers.**	**4b** C☐ P☐ M☐ N☐
4c. Exclusions 4c.1 **Do the specified exclusions require additional data sources beyond what is required for the numerator and denominator specifications?** Yes 4c.2 **If yes, provide justification.** It is required to determine whether patients were asymptomatic for one year prior to CEA. This is documented in the medical record, since it comprises the indication for surgery, but is not available in claims data without the additional G code. However, it is readily available from the national SVS registry and the regional VSGNNE registry.	**4c** C☐ P☐ M☐ N☐ NA☐

4d. Susceptibility to Inaccuracies, Errors, or Unintended Consequences 4d.1 **Identify susceptibility to inaccuracies, errors, or unintended consequences of the measure and describe how these potential problems could be audited. If audited, provide results.** It is possible that errors could be made in identifying asymptomatic vs symptomatic patients preoperatively. Chart audit shouild disclose the prevalence of any error, which is anticipated to be very small. Even if a few symptomatic patients were included, it would not substnatially distort the outcome. Since complication rate should be lower in asymptomatic patients, centers and surgeons would be incented to insure accuracy of this coding.	**4d** C☐ P☐ M☐ N☐
4e. Data Collection Strategy/Implementation 4e.1 **Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data/missing data, timing/frequency of data collection, patient confidentiality, time/cost of data collection, other feasibility/ implementation issues:** These data have been successfully collected and reported by VSGNNE since 2003, not for > 4000 asymptomatic patients undergoing CEA. We have not had to modify this process. Further, we have compared the results with claims data and found uniform agreement based on unique CPT and ICD-9 codes. 4e.2 **Costs to implement the measure** (*costs of data collection, fees associated with proprietary measures*)**:** $0 4e.3 **Evidence for costs:** 4e.4 **Business case documentation:**	**4e** C☐ P☐ M☐ N☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the sub-criteria **for** *Feasibility?*	**4**
Steering Committee: Overall, to what extent was the criterion, *Feasibility***, met?** **Rationale:**	**4** C☐ P☐ M☐ N☐
RECOMMENDATION	
(for NQF staff use) **Check if measure is untested and only eligible for time-limited endorsement.**	**Time-limited** ☐
Steering Committee: Do you recommend for endorsement? **Comments:**	**Y**☐ **N**☐ **A**☐
CONTACT INFORMATION	
Co.1 **Measure Steward (Intellectual Property Owner)** Co.1 **Organization** Society for Vascular Surgery | 633 N. St. Clair, 24th floor | Chicago | Illinois | 60611 Co.2 **Point of Contact** Mark | Morasch, MD | mmorasch@nmh.org | 312-695-2716	
Measure Developer If different from Measure Steward Co.3 **Organization** Society for Vascular Surgery | 633 N. St. Clair, 24th floor | Chicago | Illinois | 60611 Co.4 **Point of Contact**	

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Co.5 Submitter If different from Measure Steward POC
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Co.6 Additional organizations that sponsored/participated in measure development

ADDITIONAL INFORMATION

Workgroup/Expert Panel involved in measure development
Ad.1 Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.

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Discussion of appropriatenss of measure, review of application, review of registry data

Ad.2 If adapted, provide name of original measure:
Ad.3-5 If adapted, provide original specifications URL or attachment

Measure Developer/Steward Updates and Ongoing Maintenance
Ad.6 Year the measure was first released: 2003
Ad.7 Month and Year of most recent revision: 2009-09
Ad.8 What is your frequency for review/update of this measure? Annual
Ad.9 When is the next scheduled review/update for this measure? 2010-09

Ad.10 Copyright statement/disclaimers: N/A
Ad.11 -13 Additional Information web page URL or attachment:
Date of Submission (*MM/DD/YY*)**:** 09/15/2009