Quality ID #166 (NQF 0131): Coronary Artery Bypass Graft (CABG): Stroke- National Quality Strategy Domain: Effective Clinical Care

2018 OPTIONS FOR INDIVIDUAL MEASURES:
REGISTRY ONLY

MEASURE TYPE:
Outcome

DESCRIPTION:
Percentage of patients aged 18 years and older undergoing isolated CABG surgery who have a postoperative stroke (i.e., any confirmed neurological deficit of abrupt onset caused by a disturbance in blood supply to the brain) that did not resolve within 24 hours

INSTRUCTIONS:
This measure is to be submitted <u>each time</u> an isolated CABG procedure is performed during the performance period. It is anticipated that eligible clinicians who provide services for isolated CABG will submit this measure. This measure is intended to reflect the quality of the surgical services provided for isolated CABG or isolated reoperation CABG patients. Isolated CABG refers to CABG using arterial and/or venous grafts only.

Measure Submission:
The listed denominator criteria are used to identify the intended patient population. The numerator options included in this specification are used to submit the quality actions allowed by the measure. The quality-data codes listed do not need to be submitted for registry submissions; however, these codes may be submitted for those registries that utilize claims data.

DENOMINATOR:
All patients undergoing isolated CABG surgery

Denominator Criteria (Eligible Cases):
All patients aged 18 years and older on date of encounter
AND
Patient procedure during the performance period (CPT): 33510, 33511, 33512, 33513, 33514, 33516, 33517, 33518, 33519, 33521, 33522, 33523, 33533, 33534, 33535, 33536

OR

Patient procedure during the performance period (CPT): 33510, 33511, 33512, 33513, 33514, 33516, 33517, 33518, 33519, 33521, 33522, 33523, 33533, 33534, 33535, 33536
AND
Patient procedure during the performance period (CPT): 33530

NUMERATOR:
Patients undergoing isolated CABG surgery who have a postoperative stroke (i.e., any confirmed neurological deficit of abrupt onset caused by a disturbance in blood supply to the brain) that did not resolve within 24 hours

Numerator Instructions:
INVERSE MEASURE - A lower calculated performance rate for this measure indicates better clinical care or control. The "Performance Not Met" numerator option for this measure is the representation of the better clinical quality or control. Submitting that numerator option will produce a performance rate that trends closer to 0%, as quality increases. For inverse measures, a rate of 100% means all of the denominator eligible patients did not receive the appropriate care or were not in proper control.

Numerator Options:

Performance Met:		Stroke following isolated CABG surgery **(G8573)**

OR

Performance Not Met:		No stroke following isolated CABG surgery **(G8574)**

RATIONALE:

Stroke is a devastating complication after coronary bypass surgery. The 1999 American College Cardiology/American Heart Association (ACC/AHA) guidelines indicate that adverse cerebral outcomes are observed in ~6% of patients after bypass surgery equally divided between 2 types:

1) associated with major, focal neurological defects, stupor or coma and 2) evidence of deterioration in intellectual function. Type 1 deficits occur in ~3% of patients and are responsible for 21% mortality.

Reports in the literature on postoperative stroke incidence are difficult to compare because the conditions included in the term "stroke" vary. A standardized definition of stoke will provide common language to compare stroke incidence and evaluate management strategies for reducing this devastating complication.

Reported rates of postoperative cerebral dysfunction range from 0.4% to 13.8% following coronary operations. Complications for patients undergoing emergent CABG or valve surgery were greater than the complication rate for patients undergoing elective CABG or valve surgery. As bypass times increased, so did the incidence of stroke.

When bypass time was 90 to 113 minutes, OR =1.59, p=0.022 and when bypass time was > 114 minutes, the OR =2.59, p < 0.001. Outcomes are better when patient age is younger and with beating-heart surgery rather than on-pump surgery.

CLINICAL RECOMMENDATION STATEMENTS:

The 1999 ACC/AHA guidelines describe strategies for reducing the risk of postoperative stroke such as an aggressive approach to the management of patients with severely diseased ascending aortas identified by intraoperative echocardiographic imaging, prevention or aggressive management of postoperative atrial fibrillation, delay of bypass surgery in the case of a left ventricular mural thrombus or a recent, preoperative CVA and preoperative carotid screening. Patients should carefully be screened for cerebrovascular disease to help prevent stroke and its associated morbidities.

Use of beta-adrenergic antagonists was associated with a lower incidence of stroke in patients undergoing elective CABG (OR=0.45; 95% CI 0.23 to 0.83; p=0.016). Use of antiplatelet agents within 48 hours of surgery is associated with a decreased risk of stroke (OR=0.51, p=0.01). Increased use of beating-heart surgery without cardiopulmonary bypass may lead to a lower prevalence of stroke following cardiac surgery and thus improve patient outcomes.
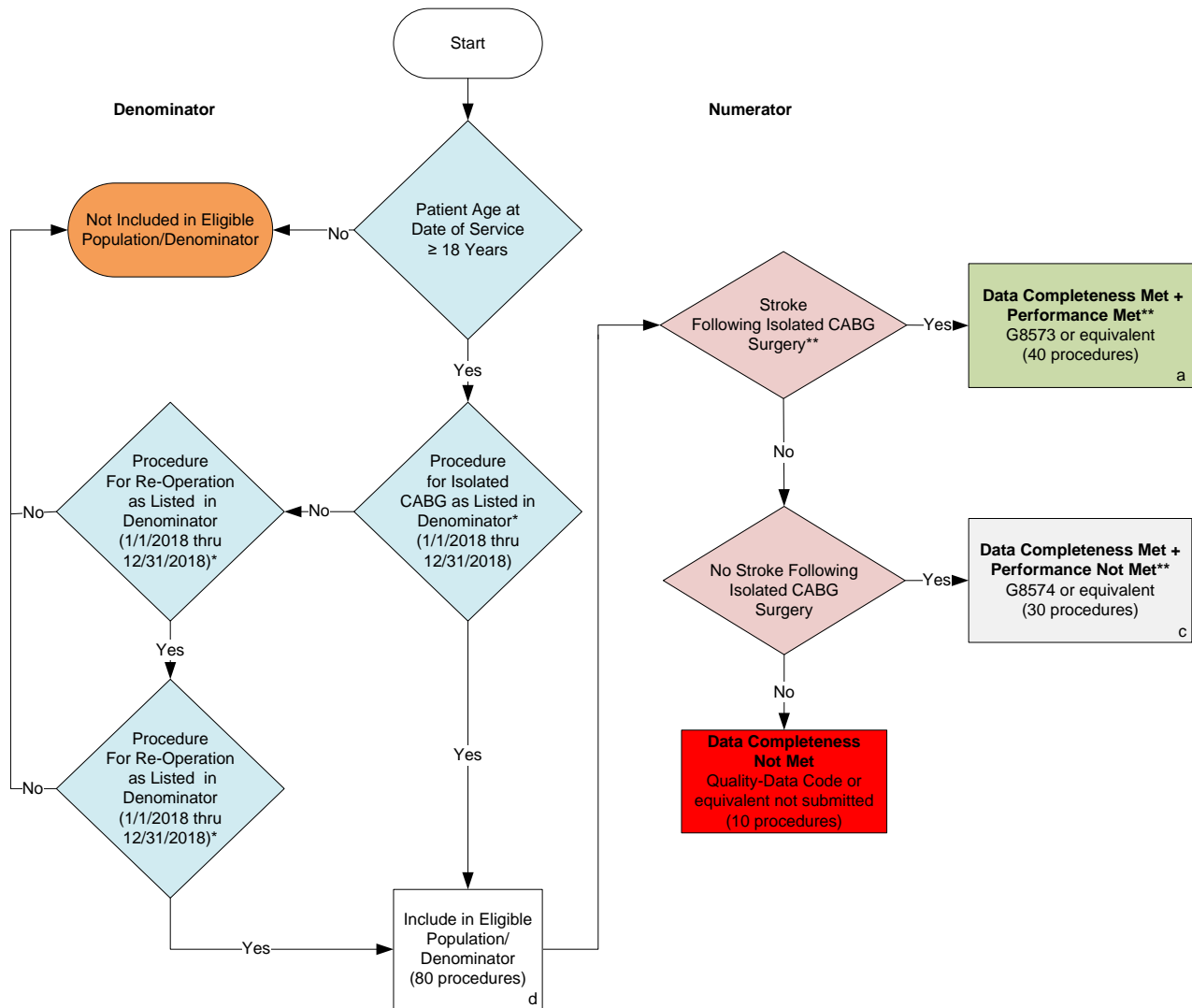
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2018 Registry Flow for Quality ID #166 NQF #0131:
Coronary Artery Bypass Graft (CABG): Stroke

Start

Denominator

Numerator

Patient Age at Date of Service ≥ 18 Years

— No → Not Included in Eligible Population/Denominator

↓ Yes

Procedure for Isolated CABG as Listed in Denominator* (1/1/2018 thru 12/31/2018)

— No → Procedure For Re-Operation as Listed in Denominator (1/1/2018 thru 12/31/2018)*

— No → Not Included in Eligible Population/Denominator

↓ Yes

Procedure For Re-Operation as Listed in Denominator (1/1/2018 thru 12/31/2018)*

— No → Not Included in Eligible Population/Denominator

↓ Yes → Include in Eligible Population/Denominator (80 procedures) **d**

Stroke Following Isolated CABG Surgery** — Yes → **Data Completeness Met + Performance Met**** G8573 or equivalent (40 procedures) **a**

↓ No

No Stroke Following Isolated CABG Surgery — Yes → **Data Completeness Met + Performance Not Met**** G8574 or equivalent (30 procedures) **c**

↓ No

Data Completeness Not Met Quality-Data Code or equivalent not submitted (10 procedures)

SAMPLE CALCULATIONS:

Data Completeness=

Performance Met (a=40 procedures) + Performance Not Met (c=30 procedures) = 70 procedures = **87.50%**
Eligible Population / Denominator (d=80 procedures) = 80 procedures

Performance Rate**=

Performance Met (a=40 procedures) = 40 procedures = **57.14%**
Data Completeness Numerator (70 procedures) = 70 procedures

*See the posted Measure Specification for specific coding and instructions to submit this measure.
**A lower calculated performance rate for this measure indicates better clinical care or control.

NOTE: Submission Frequency: Procedure

v2

2018 Registry Flow For Quality ID
#166 NQF #0131: Coronary Artery Bypass Graft (CABG): Stroke

Please refer to the specific section of the specification to identify the denominator and numerator information for use in submitting this Individual Specification. This flow is for registry-data submission.

1. Start with Denominator

2. Check Patient Age:

    a. If the Age is greater than or equal to 18 years of age on Date of Service and equals No during the measurement period, do not include in Eligible Patient Population. Stop Processing.

    b. If the Age is greater than or equal to 18 years of age on Date of Service and equals Yes during the measurement period, proceed to check Patient Undergoing Isolated CABG.

3. Check Procedure Performed:

    a. If Procedure for Isolated CABG as Listed in Denominator equals No, proceed to Procedure for Re-Operation as Listed in Denominator.

    b. If Procedure for CABG as Listed in Denominator equals Yes, include in the Eligible Population.

4. Check Procedure for Re-Operation as Listed in Denominator:

    a. If Procedure for Re-Operation as Listed in Denominator equals No, do not include in Eligible Patient Population. Stop Processing.

    b. If Procedure for Re-Operation as Listed in Denominator equals Yes, proceed to Procedure for Re-Operation as Listed in Denominator include in the Eligible Population.

5. Check Procedure for Re-Operation as Listed in Denominator:

    a. If Procedure for Re-Operation as Listed in Denominator equals No, do not include in Eligible Patient Population. Stop Processing.

    b. If Procedure for Re-Operation as Listed in Denominator equals Yes, include in the Eligible Population Denominator Population

6. Denominator population is all Eligible Patients in the denominator. Denominator is represented as Denominator in the Sample Calculation listed at the end of this document. Letter d equals 80 procedures in the Sample Calculation.

7. Start Numerator

8. Check Stroke Following Isolated CABG Surgery:

    a. If Stroke Following Isolated CABG Surgery equals Yes, include in Data Completeness Met and Performance Met.

    b. Data Completeness Met and Performance Met letter is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter a equals 40 procedures in the Sample Calculation.

    c. If Stroke Following Isolated CABG Surgery equals No, proceed to No Stroke Following Isolated CABG Surgery.

9. Check if No Stroke Following Isolated CABG Surgery:

    a. If No Stroke Following Isolated CABG Surgery equals Yes, include in Data Completeness Not Met and Performance Not Met.

    b. Data Completeness Met and Performance Not Met letter is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter c equals 30 procedures in the Sample Calculation.

    c. If No Stroke Following Isolated CABG Surgery equals No, proceed to Data Completeness Not Met.

10. Check Data Completeness Not Met:

    a. If Data Completeness Not Met equals No, Quality Data Code or equivalent not submitted. 0 patients have been subtracted from the Data Completeness Numerator in Sample Calculation.

SAMPLE CALCULATIONS:

Data Completeness=

$$\frac{\text{Performance Met (a=40 procedures) + Performance Not Met (c=30 procedures)}}{\text{Eligible Population / Denominator (d=80 procedures)}} = \frac{70 \text{ procedures}}{80 \text{ procedures}} = \textbf{87.50\%}$$

Performance Rate=

$$\frac{\text{Performance Met (a=40 procedures)}}{\text{Data Completeness Numerator (70 procedures)}} = \frac{40 \text{ procedures}}{70 \text{ procedures}} = \textbf{57.14\%}$$