Quality ID #166 (NQF 0131): Coronary Artery Bypass Graft (CABG): Stroke
– National Quality Strategy Domain: Effective Clinical Care
– Meaningful Measure Area: Preventable Healthcare Harm

<u>**2019 COLLECTION TYPE:**</u>
MIPS CLINICAL QUALITY MEASURES (CQMS)

<u>**MEASURE TYPE:**</u>
Outcome – High Priority

<u>**DESCRIPTION:**</u>
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

<u>**INSTRUCTIONS:**</u>
This measure is to be submitted **<u>each time</u>** an isolated CABG procedure is performed during the performance period. It is anticipated that Merit-based Incentive Payment System (MIPS) 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 Type:
Measure data may be submitted by individual MIPS eligible clinicians, groups, or third-party intermediaries. 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 as allowed by the measure. The quality-data codes listed do not need to be submitted by MIPS eligible clinicians, groups, or third-party intermediaries that utilize this modality for submissions; however, these codes may be submitted for those third-party intermediaries that utilize Medicare Part B claims data. For more information regarding Application Programming Interface (API), please refer to the Quality Payment Program (QPP) website.

<u>**DENOMINATOR:**</u>
All patients undergoing isolated CABG surgery

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

> <div align="center"><u>**OR**</u></div>

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

<u>**NUMERATOR:**</u>
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

> <u>**Numerator Instructions:**</u>
> **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.
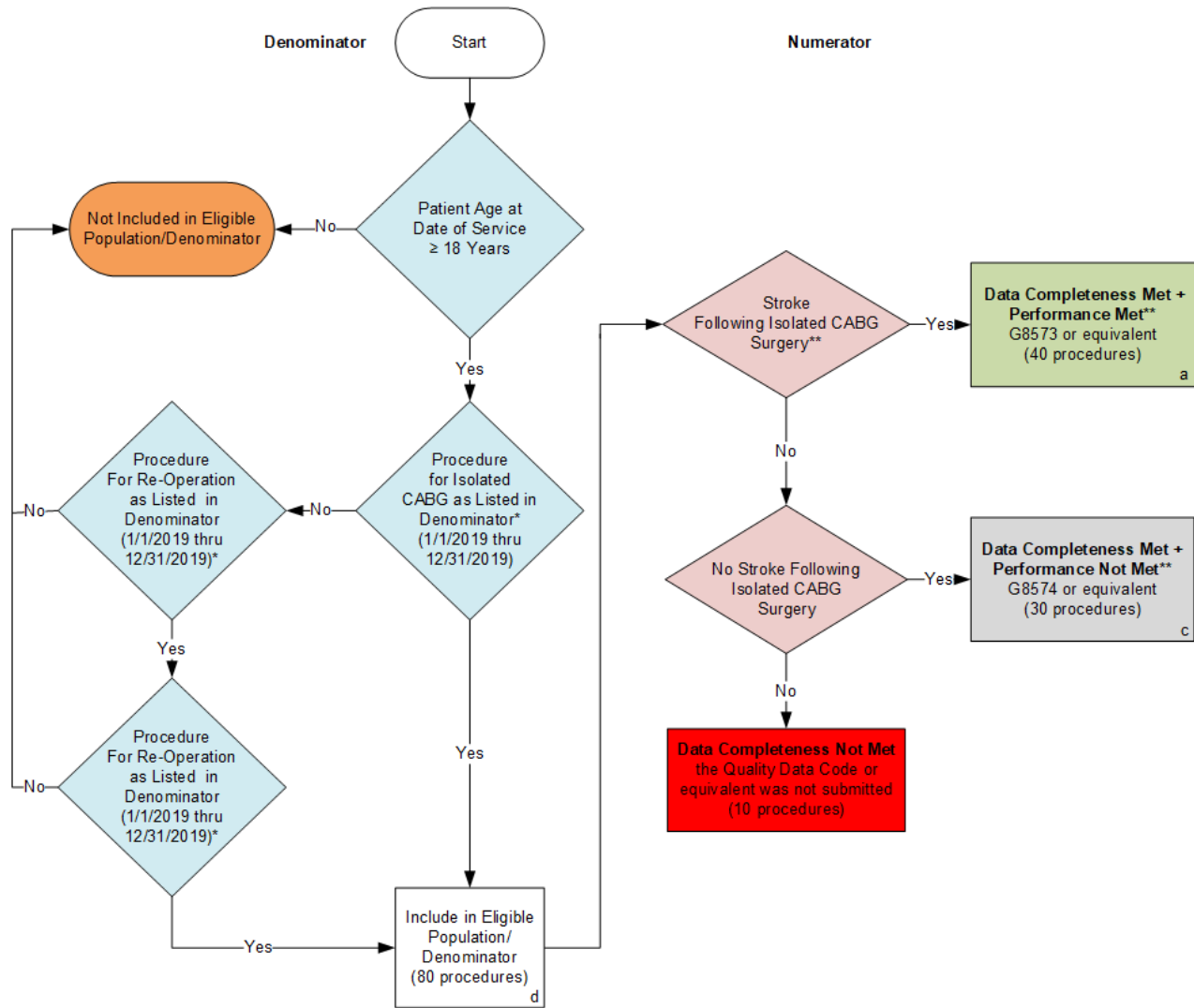
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Denominator　　　　Start　　　　**Numerator**

Patient Age at Date of Service ≥ 18 Years

Not Included in Eligible Population/Denominator — No

Procedure For Re-Operation as Listed in Denominator (1/1/2019 thru 12/31/2019)* — No

Procedure for Isolated CABG as Listed in Denominator* (1/1/2019 thru 12/31/2019) — No

Procedure For Re-Operation as Listed in Denominator (1/1/2019 thru 12/31/2019)* — No

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
the Quality Data Code or equivalent was not submitted
(10 procedures)

Include in Eligible Population/ Denominator (80 procedures) — d

Yes

SAMPLE CALCULATIONS:

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

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

*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

v3

2019 Clinical Quality Measure Flow Narrative 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.

1. Start with Denominator

2. Check Patient Age:

    a. If Patient Age at Date of Service is greater than or equal to 18 Years equals No, do not include in Eligible Population. Stop Processing.

    b. If Patient Age at Date of Service is greater than or equal to 18 Years equals Yes, proceed to check Procedure Performed.

3. Check Procedure Performed:

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

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

4. Check Procedure for Re-Operation:

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

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

5. Check Procedure for Re-Operation:

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

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

6. Denominator Population is all Eligible Procedures 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 check 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 Met and Performance Not Met.

    b.   Data Completeness Met and Performance Not Met letter is represented in the Data Completeness 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 check Data Completeness Not Met.

10. Check Data Completeness Not Met:

    a.   If Data Completeness Not Met, the Quality Data Code or equivalent was not submitted. 0 patients have been subtracted from the Data Completeness Numerator in Sample Calculation.

SAMPLE CALCULATIONS:

Data Completeness=

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

Performance Rate**=

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