

# 2019 QCDR Measure Specifications

**ANESTHESIA QUALITY INSTITUTE  
NATIONAL ANESTHESIA CLINICAL OUTCOMES REGISTRY**

**Version 2.1; February 4, 2019**

## QCDR Measure Book Version 2.1 Updates (February 4, 2019)

Language added to all measures clarifying number of performance rates and overall performance rate

## QCDR Measure Book Version 2.0 Updates (January 24, 2019)

**AQI48:** Corrected an error in the denominator portion of the flow diagram

**AQI57:** Clarifying language added to better explain how the composite measure is scored

**AQI58:** Clarifying language added to better explain how the composite measure is scored

**AQI61:** Typo corrected in denominator exclusion portion of the flow diagram

**AQI62:** Typo corrected in numerator portion of the flow diagram

**AQI63 and AQI64:** Typo corrected in denominator registry code. The correct code is “11A17: Received non-depolarizing neuromuscular blocker (NMB)”

**AQI65:** Clarifying language added to numerator Performance Not Met code. The correct code is “11A12: At least one intraoperative pulmonary artery, oropharyngeal, or nasopharyngeal temperature  $\geq 37.0$  degrees Celsius during cardiopulmonary bypass”

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**The following applies to each Measure that contains the (†) symbol within its title:**

**† The efforts and contributions of Anesthesia Business Group, ePREOP and TeamHealth to harmonize this Measure with other similar anesthesia quality measures and to update this Measure on an ongoing basis is acknowledged.**

## Measures Removed from 2019 AQI NACOR QCDR Measure Set

Please note the following measures have been removed or retired from the AQI NACOR registry for QCDR reporting.

Measure ID	Measure Title	Reason for Removal
AQI41	Coronary Artery Bypass Graft (CABG): Stroke – Inverse Measure	Rejected by CMS due to high performance rate and lack of variability for improvement
AQI42	Coronary Artery Bypass Graft (CABG): Post-Operative Renal Failure – Inverse Measure	Rejected by CMS due to high performance rate and lack of variability for improvement
AQI50	Application of Lung-Protective Ventilation during General Anesthesia	Rejected by CMS due to high performance rate and lack of variability for improvement
AQI51	Assessment of Patients for Obstructive Sleep Apnea	Replaced by new QCDR measures – AQI62: Obstructive Sleep Apnea: Patient Education AQI66: Obstructive Sleep Apnea: Mitigation Strategies
AQI53	Documentation of Anticoagulant and Antiplatelet Medications when Performing Neuraxial Anesthesia/Analgesia or Interventional Pain Procedures	Rejected by CMS due to high performance rate and lack of variability for improvement
AQI54	Use of Pencil-Point Needle for Spinal Anesthesia	Rejected by CMS due to high performance rate and lack of variability for improvement
AQI60	New Corneal Injury Not Diagnosed Prior to Discharge	Rejected by CMS due to high performance rate and lack of variability for improvement

## Modifications to 2018 QCDR Measures for 2019 AQI NACOR Measure Set

This table identifies changes that were made to AQI NACOR’s QCDR measure specifications in preparation for the 2019 performance year. This table only serves as a general reference in support of but not superseding the final measure specifications for each measure within the book. **Users must refer to the full measure specifications for complete code sets, measure criteria and instructions.**

Measure ID	Measure Title	Modifications
AQI48	Patient-Reported Experience with Anesthesia	<ul style="list-style-type: none"> <li>Instructions updated</li> </ul>
AQI56	Use of Neuraxial Techniques and/or Peripheral Nerve Blocks for Total Knee Arthroplasty (TKA)	<p><b>SIGNIFICANT CHANGES: Review Specifications</b></p> <ul style="list-style-type: none"> <li>Measure Description updated <ul style="list-style-type: none"> <li>Percentage of patients, regardless of age, that undergo primary total knee arthroplasty for whom neuraxial anesthesia and/or a peripheral nerve block is performed</li> </ul> </li> <li>Measure Denominator updated <ul style="list-style-type: none"> <li>All patients, regardless of age, who undergo primary total knee arthroplasty</li> </ul> </li> <li>Measure Exclusions added <ul style="list-style-type: none"> <li>Revision of TKA</li> <li>Prosthesis Removal</li> </ul> </li> <li>Denominator Criteria updated</li> <li>Measure Instructions updated</li> </ul>
AQI57	Safe Opioid Prescribing Practices	<ul style="list-style-type: none"> <li>Clarifying language added to explain measure scoring</li> </ul>
AQI58	Infection Control Practices for Open Interventional Pain Procedures	<ul style="list-style-type: none"> <li>Measure language updated: clarifying language (“for surgical site preparation”) added to chlorhexidine component of measure description and numerator</li> <li>Clarifying language added to explain measure scoring</li> </ul>
AQI59	Multimodal Pain Management	<ul style="list-style-type: none"> <li>Additional CPT codes added to Measure Denominator: 00102, 00120, 00124, 00126, 00160, 00162, 00170, 00172, 00174, 00190, 00222, 00300, 00320, 00326, 00450, 00470, 00472, 00700, 00730, 00750, 00754, 00756, 00800, 00820, 00860, 00862, 00870, 00872, 00873, 00880, 00906, 00910, 00912, 00914, 00916, 00918, 00920, 00940, 00942, 00948, 01120, 01160, 01170, 01173, 01210, 01360, 01392, 01400, 01480, 01482, 01484, 01740, 01742, 01744, 01760, 01830, 01832</li> </ul>

## New QCDR Measures for 2019 Reporting

The table below identifies new QCDR measures added to AQI NACOR for reporting in 2019. This table only serves as a general reference in support of but not superseding final measure specifications within this book.

Measure ID	Measure Title	Measure Description
AQI61	Ambulatory Post-Discharge Patient Follow-Up	Percentage of patients, regardless of age, who received anesthesia services in an ambulatory setting whose post-discharge status was assessed within 72 hours of discharge
AQI62	Obstructive Sleep Apnea: Patient Education	Percentage of patients aged 18 years or older, who undergo an elective procedure requiring anesthesia services who are screened for obstructive sleep apnea (OSA) AND, if positive, have documentation that they received education regarding their risk for OSA prior to PACU discharge
AQI63	Neuromuscular Blockade: Documented Assessment of Neuromuscular Function Prior to Extubation	Percentage of patients requiring anesthesia services with a documented assessment of neuromuscular blockade reversal after last dose of non-depolarizing neuromuscular blocker
AQI64	Neuromuscular Blockade: Reversal Administered	Percentage patients aged 12 years and older, requiring anesthesia services where non-depolarizing neuromuscular blockade is used and neostigmine, sugammadex, and/or edrophonium are administered prior to extubation
AQI65	Avoidance of Cerebral Hyperthermia for Procedures Involving Cardiopulmonary Bypass	Percentage of patients, aged 18 years and older, undergoing a procedure using cardiopulmonary bypass who did not have a documented intraoperative pulmonary artery, oropharyngeal, or nasopharyngeal temperature $\geq 37.0$ degrees Celsius during the period of cardiopulmonary bypass
AQI66	Obstructive Sleep Apnea: Mitigation Strategies	Percentage of patients aged 18 years or older, who undergo an elective procedure requiring anesthesia services who are screened for obstructive sleep apnea (OSA) AND, if positive, for whom two or more selected mitigation strategies were used prior to PACU discharge
AQI67	Consultation for Frail Patients	Percentage of patients aged 70 years or older, who undergo an inpatient procedure requiring anesthesia services and have a positive frailty screening result who receive a multidisciplinary consult or care during the hospital encounter



## 2019 MIPS Measures Available for Reporting through AQI NACOR

Clinicians and groups reporting via Qualified Registry or Qualified Clinical Data Registry (QCDR) can report Merit-based Incentive Payment System (MIPS) measures to fulfill requirements for the MIPS Quality component. [Download full MIPS measure specifications from CMS.](#)

Measure ID	Measure Title	Measure Type
MIPS 44*	Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery	Process
MIPS 47	Care Plan	Process
MIPS 76*	Prevention of Central Venous Catheter (CVC) – Related Bloodstream Infections	Process
MIPS 128	Preventive Care and Screening: Body Mass Index (BMI) Screening and Follow-Up Plan	Process
MIPS 130	Documentation of Current Medications in the Medical Record	Process
MIPS 131	Pain Assessment and Follow-Up	Process
MIPS 154	Falls: Risk Assessment	Process
MIPS 155	Falls: Plan of Care	Process
MIPS 182	Functional Outcome Assessment	Process
MIPS 226	Preventive Care and Screening: Tobacco Use: Screening and Cessation Intervention	Process
MIPS 317	Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented	Process
MIPS 404*	Anesthesiology Smoking Abstinence	Intermediate Outcome
MIPS 408	Opioid Therapy Follow-Up Evaluation	Process
MIPS 412	Documentation of Signed Opioid Treatment Agreement	Process
MIPS 414	Evaluation or Interview for Risk Opioid Misuse	Process
MIPS 424*	Perioperative Temperature Management	Outcome
MIPS 430*	Prevention of Post-Operative Nausea and Vomiting (PONV) – Combination Therapy	Process
MIPS 463*	Prevention of Post-Operative Vomiting (POV) – Combination Therapy (Pediatrics)	Process

\*Measures with an asterisk (\*) are included in the CMS-recommended Anesthesiology Measure Set. Eligible clinicians and groups are not required to report these measures towards the six measures required for the MIPS Quality Component but may find them applicable to their practice.

\*\*Beginning in 2019, MIPS 426: Post-Anesthetic Transfer of Care Measure: Procedure Room to Post Anesthesia Care Unit (PACU) and MIPS 427: Post-Anesthetic Transfer of Care: Use of Checklist or Protocol for Direct Transfer to Intensive Care Unit (ICU) are no longer available for reporting via MIPS.

**Measure Title****AQI18: Coronary Artery Bypass Graft (CABG): Prolonged Intubation – Inverse Measure****Measure Description**

Percentage of patients aged 18 years and older undergoing isolated CABG surgery who require postoperative intubation > 24 hours

**NQS Domain / Meaningful Measures Area**

Effective Clinical Care / Preventable Healthcare Harm

**Measure Type**

Outcome

**High Priority Status**

No

**Inverse Measure**

Yes

**Instructions**

This measure is to be reported each time an isolated CABG procedure is performed during the reporting period. It is anticipated that qualified anesthesia providers and eligible clinicians who provide services for isolated CABG will submit this measure. This measure is intended to reflect the quality of services provided for isolated CABG or isolated reoperation CABG patients.

**Measure Reporting via the Qualified Clinical Data Registry**

CPT codes and patient demographics are used to identify patients who are included in the measure's denominator. The measure must capture both the surgical and related anesthesia code. G-codes are used to report the numerator of the measure.

**Denominator**

All patients, aged 18 years and older, undergoing isolated CABG surgery

Definition: Isolated CABG refers to CABG using arterial and/or venous grafts only.

**Denominator Criteria (Eligible Cases):**

Patient aged 18 years and older on date of encounter

**AND**

**Patient encounter during the reporting period (CPT):** 33510, 33511, 33512, 33513, 33514, 33516, 33517, 33518, 33519, 33521, 33522, 33523, 33533, 33534, 33535, 33536

**AND**

00566, 00567

**OR**

**Patient encounter during the reporting period (CPT):** 33510, 33511, 33512, 33513, 33514, 33516, 33517, 33518, 33519, 33521, 33522, 33523, 33533, 33534, 33535, 33536

**AND**

**Patient encounter during the reporting period (CPT):** 33530

**AND**

00562

**Denominator Exclusions**

- Organ donors as designated by ASA Physical Status 6

**Numerator**

Patients who require intubation > 24 hours following exit from the operating room

**Numerator Quality-Data Coding Options for Reporting Satisfactorily****Performance Met:****G8569**

Prolonged postoperative intubation (&gt; 24 hrs) required

**OR****Performance Not Met:****G8570**

Prolonged postoperative intubation (&gt;24 hrs) not required

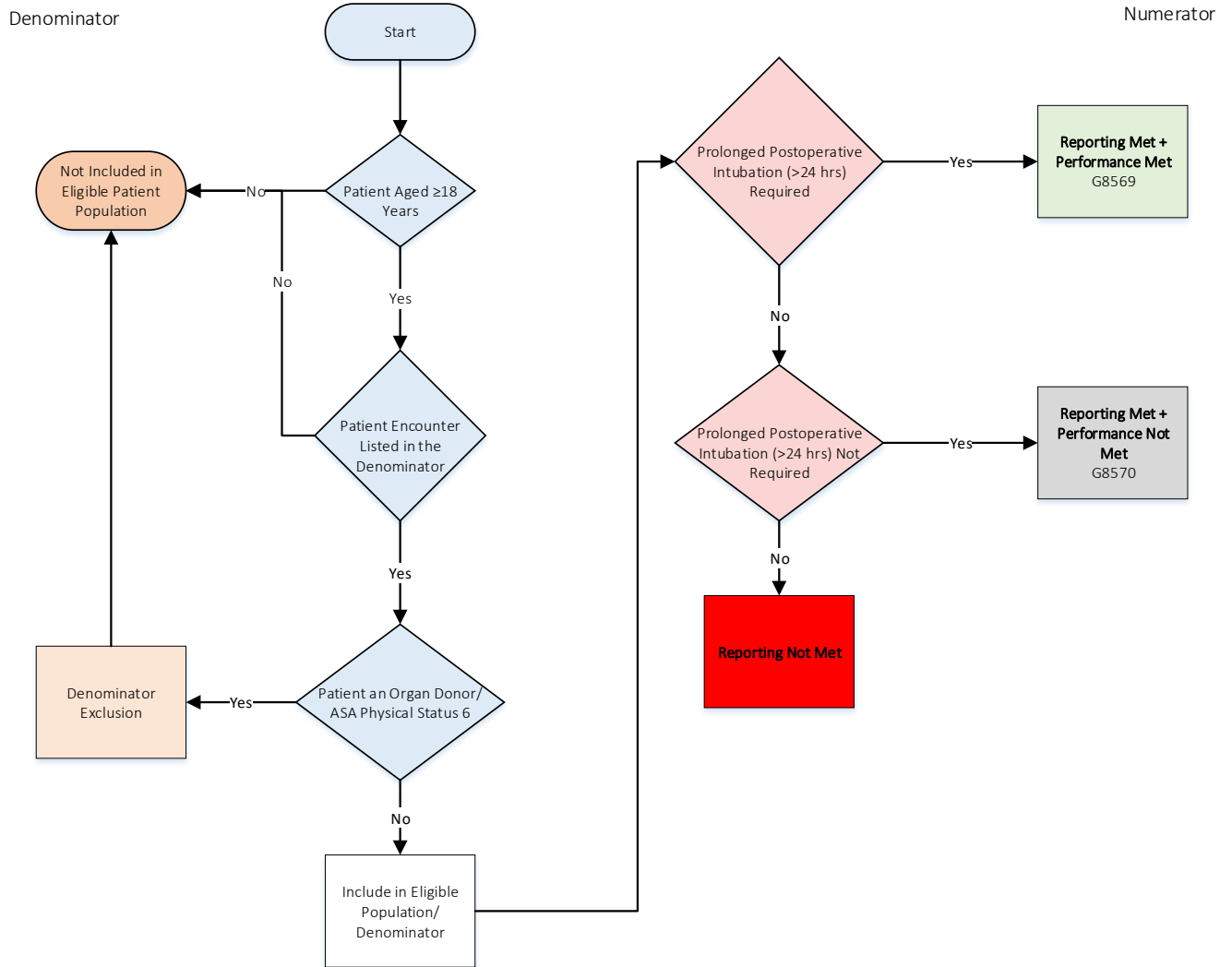
**NQF Number:** Not applicable**eCQM:** Not applicable**Rationale**

Prolonged intubation and/or prolonged ventilation following coronary artery bypass graft (CABG) surgery is associated with increased mortality and morbidity.<sup>i</sup> A review of the literature suggests several predictors associated with prolonged ventilation following CABG including increased incidence of pneumonia and pulmonary atelectasis, history of hypertension, COPD, kidney disease and endocarditis among others.<sup>i,ii</sup> Most complications were associated with prolonged length of stay in the ICU and hospital and increased resource use.<sup>i</sup>

Physician anesthesiologists and other qualified anesthesia providers must maintain respiratory function of patients throughout the perioperative period and play a critical role in patients' respiratory care. As physician anesthesiologists and other qualified anesthesia providers control the patient breathing function, their decision-making and care related to airway management can greatly impact outcomes related to prolonged intubation and ventilation. One retrospective study found that physicians in the perioperative period are altering their management of types to reduce adverse respiratory outcomes. For example, research shows aortic aneurysm, combined and valve procedures, and preoperative renal dysfunction and stroke were strong predictors for prolonged ventilation.<sup>ii</sup> Changes to care and procedures to reduce adverse respiratory outcomes require the engagement of physician anesthesiologist and other qualified anesthesia provider expertise and skill to ensure appropriate patient care.

**Data Source:** Claims/Paper Medical Record, Registry**Measure Steward:** American Society of Anesthesiologists (ASA) / Anesthesia Quality Institute (AQI)**Number of Performance Rates:** 1**Overall Performance Rate:** 1**Proportion Measure Scoring:** Yes**Continuous Measure Scoring:** No**Risk Adjustment:** No

## Coronary Artery Bypass Graft (CABG): Prolonged Intubation 2019 QCDR Measure Flow



## Measure Title

### AQI48: Patient-Reported Experience with Anesthesia†

## Measure Description

Percentage of patients aged 18 and older, who were surveyed on their patient experience and satisfaction with anesthesia care and who reported a positive experience.

This measure will consist of two performance rates:

**AQI48a:** Percentage of patients, aged 18 and older, who were surveyed on their patient experience and satisfaction with anesthesia care

**AQI48b:** Percentage of patients, aged 18 and older, who completed a survey on their patient experience and satisfaction with anesthesia care who report a positive experience with anesthesia care

**NOTE:** *The measure requires that a valid survey, as defined in the numerator, be sent to patients between discharge from the facility and within 30 days of facility discharge. To report AQI 48b, a minimum number of 20 surveys with the mandatory question completed must be reported.*

**\*\* In order to be scored on this measure, clinicians must report BOTH AQI48a AND AQI48b.**

## NQS Domain / Meaningful Measures Area

Person and Caregiver-Centered Experience and Outcomes / Patient's Experience of Care

## Measure Type

Outcome

## High Priority Status

Yes

## Inverse Measure:

No

## Instructions:

This measure, consisting of two performance rates for AQI48a and AQI48b, is to be reported each time a patient underwent a procedure\* with anesthesia during the reporting period. AQI48a should be reported each time a patient undergoes a procedure under anesthesia. In order to report AQI48b, the provider must first report AQI48a. To be scored on AQI48b, the provider must report the individual scores received on the survey as described in AQI48a. A percentage reporting a positive experience will be calculated by the registry on the provider's behalf. It is anticipated that qualified anesthesia providers and eligible clinicians who provide denominator-eligible services will submit this measure.

## Measure Reporting via the Qualified Clinical Data Registry

CPT codes and patient demographics are used to identify patients who are included in the measure denominator. Registry codes are used to report the measure numerator.

## Denominator

Patients aged 18 and older, who undergo a procedure\* under anesthesia (AQI48a) and who complete a survey on their patient experience and satisfaction with anesthesia care (AQI48b)

Definition: \*Any procedure including surgical, therapeutic or diagnostic

*Denominator Note: In order to report AQI48b, the denominator must include a minimum of 20 returned surveys.*

**Denominator Criteria (Eligible Cases):**

Patient aged 18 years or older on date of encounter

**AND**

**AQI 48a: Patient encounter during the reporting period (CPT):**

00100, 00102, 00103, 00104, 00120, 00124, 00126, 00140, 00142, 00144, 00145, 00147, 00148, 00160, 00162, 00164, 00170, 00172, 00174, 00176, 00190, 00192, 00210, 00211, 00212, 00214, 00215, 00216, 00218, 00220, 00222, 00300, 00320, 00322, 00350, 00352, 00400, 00402, 00404, 00406, 00410, 00450, 00454, 00470, 00472, 00474, 00500, 00520, 00522, 00524, 00528, 00529, 00530, 00532, 00534, 00537, 00539, 00540, 00541, 00542, 00546, 00548, 00550, 00560, 00562, 00563, 00566, 00567, 00580, 00600, 00604, 00620, 00625, 00626, 00630, 00632, 00635, 00640, 00670, 00700, 00702, 00730, 00731, 00732, 00750, 00752, 00754, 00756, 00770, 00790, 00792, 00794, 00796, 00797, 00800, 00802, 00811, 00812, 00813, 00820, 00830, 00832, 00840, 00842, 00844, 00846, 00848, 00851, 00860, 00862, 00864, 00865, 00866, 00868, 00870, 00872, 00873, 00880, 00882, 00902, 00904, 00906, 00908, 00910, 00912, 00914, 00916, 00918, 00920, 00921, 00922, 00924, 00926, 00928, 00930, 00932, 00934, 00936, 00938, 00940, 00942, 00944, 00948, 00950, 00952, 01112, 01120, 01130, 01140, 01150, 01160, 01170, 01173, 01200, 01202, 01210, 01212, 01214, 01215, 01220, 01230, 01232, 01234, 01250, 01260, 01270, 01272, 01274, 01320, 01340, 01360, 01380, 01382, 01390, 01392, 01400, 01402, 01404, 01420, 01430, 01432, 01440, 01442, 01444, 01462, 01464, 01470, 01472, 01474, 01480, 01482, 01484, 01486, 01490, 01500, 01502, 01520, 01522, 01610, 01620, 01622, 01630, 01634, 01636, 01638, 01650, 01652, 01654, 01656, 01670, 01680, 01710, 01712, 01714, 01716, 01730, 01732, 01740, 01742, 01744, 01756, 01758, 01760, 01770, 01772, 01780, 01782, 01810, 01820, 01829, 01830, 01832, 01840, 01842, 01844, 01850, 01852, 01860, 01916, 01920, 01922, 01924, 01925, 01926, 01930, 01931, 01932, 01933, 01935, 01936, 01951, 01952, 01953, 01958, 01960, 01961, 01962, 01963, 01965, 01966, 01967, 01968, 01969, 01991, 01992, 20526, 20550, 20551, 20552, 20553, 20600, 20604, 20605, 20606, 20610, 20611, 27096, 36555, 36556, 36570, 36571, 36578, 36580, 36581, 36582, 36583, 36584, 36585, 62263, 62264, 62270, 62272, 62273, 62280, 62281, 62282, 62310, 62311, 62318, 62319, 62350, 62355, 62360, 62361, 62362, 62365, 62370, 63650, 63661, 63662, 63663, 63664, 63685, 63688, 64400, 64402, 64405, 64408, 64410, 64413, 64415, 64416, 64417, 64418, 64420, 64421, 64425, 64430, 64435, 64445, 64446, 64447, 64448, 64449, 64450, 64461, 64462, 64463, 64479, 64480, 64483, 64484, 64486, 64487, 64488, 64489, 64490, 64491, 64492, 64493, 64494, 64495, 64505, 64510, 64517, 64520, 64530, 64600, 64605, 64610, 64620, 64630, 64633, 64634, 64635, 64636, 64640, 64680, 64681, 72275, 93503, 95990, 95991

**For AQI48b**

**AND**

Patient completed a survey on their patient experience and satisfaction with anesthesia care: **10A72**

**Denominator Exclusions**

- **48a:** Organ Donors as designated with ASA Physical Status 6
- **48a:** Patient died within 30 days of the procedure: **10A11**
- **48b:** Patient did not complete the mandatory anesthesia satisfaction question: **10A69**

**Numerator-AQI48a:**

Patients who received a survey within 30 days of the procedure to assess their experience and satisfaction with anesthesia.

*Numerator Note: The survey should be administered to the patient shortly following discharge from*

*the facility.*

**Definition:** Practices and eligible clinicians may customize their patient experience and satisfaction with anesthesia surveys to meet local needs but, **at a minimum**, a valid survey must include a core set of questions that address **three of the four** following criteria related to patient experience and satisfaction **and** one mandatory question described below.

1. Pre-operative Education and Preparation
2. Patient and/or Family Communication
3. Care Team Response to Comfort and Well-Being
4. Post-operative pain control and/or management

**Mandatory question** that must be included in each valid survey (practices must also include an option for patient to indicate “Not Applicable”):

1. On a scale of 1 to 5, where 1 indicates the worst anesthesia experience and where 5 indicates the best anesthesia experience, how would you rate your overall anesthesia experience?

*Numerator Note:* Practices and eligible clinicians may wish to supplement these questions by taking into consideration the recommendations of the ASA Committee on Performance and Outcomes Measurement work product entitled “[Patient Satisfaction and Experience with Anesthesia.](#)”

*Numerator Note:* Depending on local practice, practices and eligible clinicians may wish to supplement survey questions by taking into consideration the recommendations developed as part of the Perioperative Surgical Home (PSH) that are structured in five distinct components.

1. Pre-Operative Education and Preparation (Four Indicators)
  - a. Patient comfort with instructions provided about eating better
  - b. Patient comfort with instructions provided about exercise or physical therapy
  - c. Patient comfort with instructions provided about stopping smoking (if applicable)
  - d. Patient comfort with instructions provided about what to do after surgery
2. Check-In and Pre-Procedure Experience
3. Caregiver and Family Communication during Surgery
4. Care Team Response to Comfort and Well-Being
5. Post-Operative Pain Management

For more information on these resources, visit <https://www.asahq.org/psh>.

### **Numerator Quality-Data Coding Options for Reporting Satisfactorily: AQI48a**

#### ***Performance Met:***

**10A12** Patient provided with a survey within 30 days of the procedure to assess their experience and satisfaction with anesthesia

#### **OR**

#### ***Denominator Exception***

**10A13** Documentation of patient reason(s), process reason(s) or medical reason(s) for not receiving survey (i.e. patients who are non-verbal, who are unable to be surveyed due to a medical or psychiatric reason, who are unable to be surveyed due to a language barrier, have not provided contact information, who are discharged to assisted living, skilled nursing facility or other similar location where direct access to the patient is not available, or who decline to be surveyed.

**OR**

**Performance Not Met:**

**10A14**

Patient was not provided with a survey within 30 days of the procedure to assess their experience and satisfaction with anesthesia

**Numerator- AQI 48b:**

Patients who reported a positive experience with anesthesia care.

Definition: A positive experience is defined as a response of 4 or 5 on the following mandatory patient experience and satisfaction survey question:

On a scale of 1 to 5, where 1 indicates the worst anesthesia experience and where 5 indicates the best anesthesia experience, how would you rate your overall anesthesia experience? (*Practices must include an option for patient to indicate "Not Applicable"*)

**Numerator Quality-Data Coding Options for Reporting Satisfactorily: AQI48b**

Reporting note: To report this measure, the provider must report the individual patient scores. A percentage reporting a positive experience will be calculated on the provider's behalf.

**Performance Met:**

**10A70**

Patient reported a positive anesthesia experience (i.e., a 4 or 5 on the mandatory survey question)

**OR**

**Performance Not Met:**

**10A71**

Patient did NOT report a positive anesthesia experience (i.e., a 1, 2, or 3 on the mandatory survey question)

**Rationale**

Despite the implementation of CAHPS and H-CAHPS, there is a persistent gap in the ability to adequately measure patient experience on the selection of performance measures for performance-based payment programs. To provide high quality, patient-centered care in the future, anesthesiologists and other qualified anesthesia providers should measure and respond to the patients' perception of the degree to which they felt they were treated as individuals and empowered by their anesthesiology practitioners to engage in decision-making for their care. The assessment of patient satisfaction with anesthesia care provides important feedback which enables providers to improve care delivery and quality. At present there is a vast array of tools available for practices and individuals to implement based upon local patient populations and for local quality improvement initiatives.

**Data Source:** Database, Registry

**Measure Steward:** American Society of Anesthesiologists (ASA) / Anesthesia Quality Institute (AQI)

**Number of Performance Rates:** 2

**Overall Performance Rate:** AQI48b

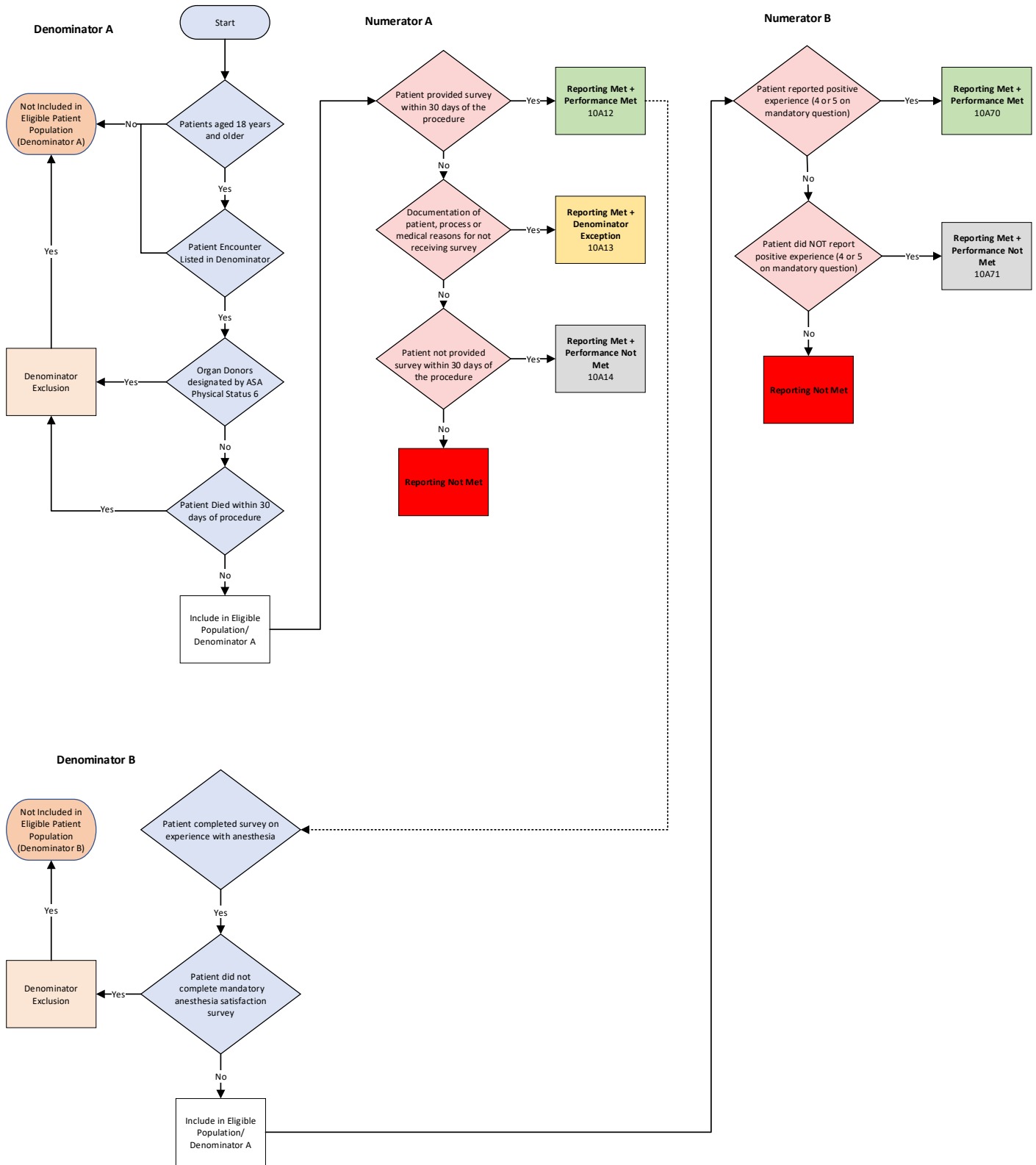
**Proportion Measure Scoring:** Yes

**Continuous Measure Scoring:** No

**Risk Adjusted:** No



## Patient-Reported Experience with Anesthesia 2019 QCDR Measure Flow



**Measure Title****AQI49: Adherence to Blood Conservation Guidelines for Cardiac Operations using Cardiopulmonary Bypass (CPB) – Composite****Measure Description**

Percentage of patients aged 18 years and older, who undergo a cardiac operation using cardiopulmonary bypass for whom selected blood conservation strategies were used.

**NQS Domain / Meaningful Measures Area**

Effective Clinical Care / Preventable Healthcare Harm

**Measure Type**

Composite – Process

**High Priority Status**

No

**Inverse Measure**

No

**Instructions**

This measure is to be reported each time a patient undergoes a cardiac operation using cardiopulmonary bypass during the reporting period. This measure has four sub-metrics which are used to calculate the total composite score. All sub-metrics are required to report to indicate performance met or performance not met. It is anticipated that qualified anesthesia providers and eligible clinicians who provide denominator-eligible services will submit this measure.

**Measure Reporting via the Qualified Clinical Data Registry**

Patient demographics, CPT codes and Registry codes are used to identify patients who are included in the measure denominator. CPT Category codes and Registry codes are used to report the numerator.

**Denominator**

Patients aged 18 years and older, who undergo a cardiac operation using cardiopulmonary bypass.

*Denominator Note:* Patients undergoing a re-operation are included in the denominator to the measure

**Denominator Criteria (Eligible Cases):**

Patient aged 18 years or older on date of encounter

**AND**

**Patient encounter during the reporting period (CPT):** 00562, 00563, 00567, 00580

**Denominator Exclusions**

- Emergent cases

**Numerator**

Patients for whom selected blood conservation strategies were used<sup>iii</sup>

**Numerator Scoring:** Each blood conservation strategy of this measure accounts for 25% of the total composite score. Each of the four blood conservation strategies must be reported to be included in the performance measurement. The total composite score will be calculated by the data source and not the individual practitioner.

### 1. Use of Lysine analogues

*Numerator Note:* As indicated by Intraoperative Antifibrinolytic med: Aminocaproic Acid or Tranexamic Acid.

#### **Numerator Quality-Data Coding Options for Reporting Satisfactorily**

***Performance Met:***

**10A01** Patients for whom lysine analogues were used.

**OR**

***Performance Not Met:***

**10A02** Patients for whom lysine analogues were NOT used.

### 2. Use of mini-circuits or Retrograde Autologous Priming (RAP) or Ultrafiltration (Minimize hemodilution caused by cardiopulmonary bypass pump priming solution)

*Numerator Note:* Record the usage of retrograde autologous priming or a miniaturized circuit volume by the cardiopulmonary perfusion team prior to the onset of cardiopulmonary bypass.

*Numerator Note:* Capture the total volume of ultrafiltrate removed by the cardiopulmonary perfusion team during cardiopulmonary bypass and during modified ultra-hemofiltration post-CPB. Record the data in milliliters.

#### **Numerator Quality-Data Coding Options for Reporting Satisfactorily**

***Performance Met:***

**10A03** Patients for whom mini-circuits or Retrograde Autologous Priming (RAP) or Ultrafiltration were used.

**OR**

***Performance Not Met:***

**10A04** Patients for whom mini-circuits or Retrograde Autologous Priming (RAP) or Ultrafiltration were NOT used.

### 3. Use of red cell salvage using centrifugation

*Numerator Note:* Capture the volume of cell saver collected and given. Do not include autologous, allogeneic, pump-residual, or chest-tube recirculated blood.

#### **Numerator Quality-Data Coding Options for Reporting Satisfactorily**

***Performance Met:***

**10A05** Patients for whom red cell salvage using centrifugation was used.

**OR**

***Performance Not Met:***

**10A06** Patients for whom red cell salvage using centrifugation were NOT used.

### 4. Use of transfusion algorithm supplemented with point-of-care testing

*Numerator Note:* Transfusion algorithm includes SCA/STS guideline recommendations or an evidence-based algorithm formulated at the local level.

## **Numerator Quality-Data Coding Options for Reporting Satisfactorily**

### ***Performance Met:***

**10A07**

Patients for whom transfusion algorithm supplemented with point-of-care testing was used.

**OR**

### ***Performance Not Met:***

**10A08**

Patients for whom transfusion algorithm supplemented with point-of-care testing was NOT used.

## **Composite Performance Score**

*Performance Score Note:* This performance score is calculated by the data source and not the individual practitioner. Eligible clinicians reporting this measure must submit numerator quality codes for each of the four blood conservation strategies identified in this measure. The performance score is the cumulative sum of performance met for each blood conservation strategy listed in the numerator of this measure.

For example, for a single patient encounter, if the eligible clinician reports performance met coding for “Use of mini-circuits or RAP or Ultrafiltration”, “Use of red cell salvage using centrifugation”, and “Use of transfusion algorithm supplemented with point-of-care testing” and performance not met for “Use of lysine analogues”, the cumulative score would be calculated as 3 performance met divided by 4 possibilities of performance met that would equal 75%. This eligible clinician for this particular patient would be assessed as “Performance Not Met” because the eligible clinician had a cumulative score less than 100%.

### ***Performance Met:***

**10A09**

Patients for whom a cumulative score of 100% of blood conservation strategies was met

**OR**

### ***Performance Not Met:***

**10A10**

Patients for whom a cumulative score of **less than** 100% of blood conservation strategies was met.

**NQF Number:** Not applicable

**eCQM:** Not applicable

### **Rationale**

Efforts to reduce blood product use have the potential to avoid transfusion-related complications and reduce health care costs. Implementation of a blood use initiative significantly improves postoperative morbidity, mortality, and resource utilization. Limiting intraoperative and postoperative blood product transfusion decreases adverse postoperative events and reduces health care costs.<sup>iv</sup> Low-risk patients have between an 8- and 10-fold excess risk of adverse outcomes when they receive a blood transfusion. We speculate that careful preoperative assessment of transfusion risk and intervention based on this assessment could minimize operative morbidity and mortality, especially because the patients at least risk are more likely to undergo elective operations and provide time for therapeutic interventions to improve transfusion risk profiles.<sup>v</sup>

## Clinical Recommendation Statements

### ***Perioperative Blood Transfusion and Blood Conservation in Cardiac Surgery: The Society of Thoracic Surgeons and The Society of Cardiovascular Anesthesiologists Clinical Practice Guideline***<sup>xi</sup>

"Lysine analogues— epsilon-aminocaproic acid (Amicar) and tranexamic acid (Cyklokapron)—reduce total blood loss and decrease the number of patients who require blood transfusion during cardiac procedures and are indicated for blood conservation. (Level of evidence A)"

"Retrograde autologous priming of the CPB circuit may be considered for blood conservation. (Level of evidence B)"

"Routine use of red cell salvage using centrifugation is helpful for blood conservation in cardiac operations using CPB. (Level of evidence A)"

"A multidisciplinary approach involving multiple stakeholders, institutional support, enforceable transfusion algorithms supplemented with point-of-care testing, and all of the already mentioned efficacious blood conservation interventions limits blood transfusion and provides optimal blood conservation for cardiac operations. (Level of evidence A)"

**Data Source:** Claims/Paper Medical Record, Registry

**Measure Steward:** American Society of Anesthesiologists (ASA) / Anesthesia Quality Institute (AQI)

**Number of Performance Rates:** 1

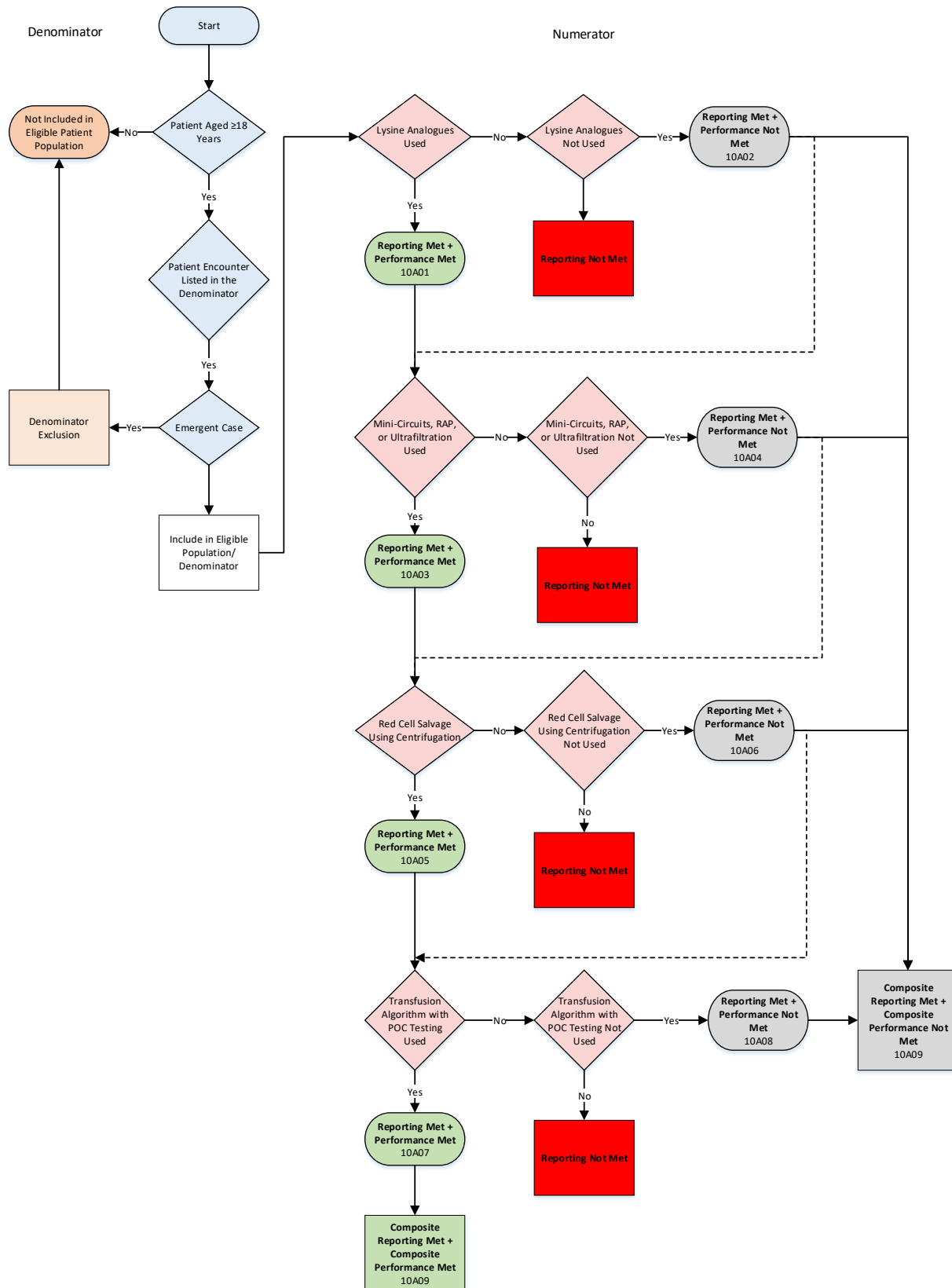
**Overall Performance Rate:** 1

**Proportion Measure Scoring:** Yes

**Continuous Measure Scoring:** No

**Risk Adjustment:** No

Adherence to Blood Conservation Guidelines for Cardiac Operations Using Cardiopulmonary Bypass (CBP)-Composite  
2019 QCDR Measure Flow



## Measure Title

### AQI55: Team-Based Implementation of a Care-and-Communication Bundle for ICU Patients

## Measure Description

Percentage of patients, regardless of age, who are admitted to an intensive care unit (ICU) for ≥48 hours and who received critical care services who have documentation by managing physician of 1) attempted or actual identification of a surrogate decision maker, 2) an advance directive, and 3) the patient's preference for cardiopulmonary resuscitation, within 48 hours of ICU admission.

## NQS Domain / Meaningful Measures Area

Communication and Care Coordination / Care is Personalized and Aligned with Patient's Goals

## Measure Type

Process

## High Priority Status

Yes

## Inverse Measure

No

## Instructions

This measure is to be reported each time a patient receives critical care services and is admitted to an intensive care unit for ≥48 hours during the reporting period. It is expected that the managing physician during the first 48 hours of the patient's intensive care unit stay will report this measure.

## Measure Reporting via the Qualified Clinical Data Registry

Patient demographics, CPT codes, and registry codes are used to identify patients who are included in the measure denominator. Registry codes are used to report the numerator of the measure.

## Denominator

All patients, regardless of age, who are admitted to an intensive care unit for ≥48 hours and who received critical care services

### Denominator Criteria (Eligible Cases):

All patients, regardless of age

#### **AND**

Admitted to an intensive care unit for ≥48 hours: **10A58**

#### **AND**

Received critical care services (CPT): 99291, +99292, 99468, 99469, 99471, 99472, 99475, 99476

## Denominator Exclusions

- None

## Numerator

Patients who have documentation by managing physician of 1) attempted or actual identification of a surrogate decision maker, 2) an advance directive, and 3) the patient's preference for cardiopulmonary resuscitation, within the first 48 hours of ICU admission.

*Numerator Note:* To meet this measure, the managing physician must either document the required information or confirm that they have reviewed existing documentation of the information.

## **Numerator Quality-Data Coding Options for Reporting Satisfactorily**

### **Performance Met:**

**10A59** Patient has documentation by managing physician of 1) attempted or actual identification of a surrogate decision maker, 2) an advance directive, and 3) the patient's preference for cardiopulmonary resuscitation within the first 48 hours of ICU admission

### **OR**

### **Denominator Exception:**

**10A60** Documentation of patient reason(s) for not documenting all three required numerator elements within the first 48 hours of ICU admission (e.g., patient declines, patient unable to participate in discussion, other patient reason(s))

### **OR**

### **Performance Not Met:**

**10A61** Patient does not have documentation by managing physician of 1) attempted or actual identification of a surrogate decision maker, 2) an advance directive, and 3) the patient's preference for cardiopulmonary resuscitation within the first 48 hours of ICU admission

**NQF Number:** Not Applicable

**eCQM:** Not Applicable

### **Rationale**

Patient and family engagement remains an important aspect of healthcare, especially in an ICU where advanced illness and pressing time demands place an especially high emotional burden on patients, families and their caregivers. Effective communication between physicians, patients and families and other intensive care unit clinicians has the potential to prevent errors and complications as well as carry out the wishes of the patients.

Research shows that over time, physician anesthesiologists' attitudes regarding automatically suspending Do-Not-Resuscitate (DNR) orders during the perioperative period have shifted and imply that not only patients, but also more anesthesiologists, value and expect a discussion of advance directives prior to surgery.<sup>vi</sup> As important members of the intensive care team, physician anesthesiologists are oftentimes responsible for or provide consultation on critically ill patients' airway management, including intubation and ventilation. Communication and documentation of patient preferences, including surrogate decision maker, advance directives and cardiopulmonary resuscitation is essential for all members of the intensive care team to appropriately deliver care and engage patients and families throughout the perioperative period.

Patient engagement strategies have been shown to be most effective when implemented together in the form of a bundle. This measure is designed to address key components of critical care that are important to patients, families and professionals. This measure is designed to align with the Care and Communication Bundle that was developed by the Society of Critical Care Medicine (SCCM) in collaboration with VHA, Inc., a national network of community-based hospitals.<sup>vii</sup>

### **Clinical Recommendation Statement**

#### ***2014 ASA Guidelines for the Practice of Critical Care by Anesthesiologists<sup>viii,ix</sup>***

"Due to the complex nature of critical illness, coordination of care is required. Therefore, one individual, either the critical care anesthesiologist or another physician, must assume global responsibilities for the patient to include all aspects of patient care, including communication with the patient, family and other providers."



“The anesthesiologist-intensivist needs to be intimately involved in the ethical dilemmas that commonly develop in the intensive care unit, in appropriately communicating with patients and their families in making decisions regarding the appropriateness of treatment, and in understanding the need to maintain patient autonomy and dignity.”

**Data Source:** Claims/Paper Medical Record, Registry

**Measure Steward:** American Society of Anesthesiologists (ASA) / Anesthesia Quality Institute (AQI)

**Number of Performance Rates:** 1

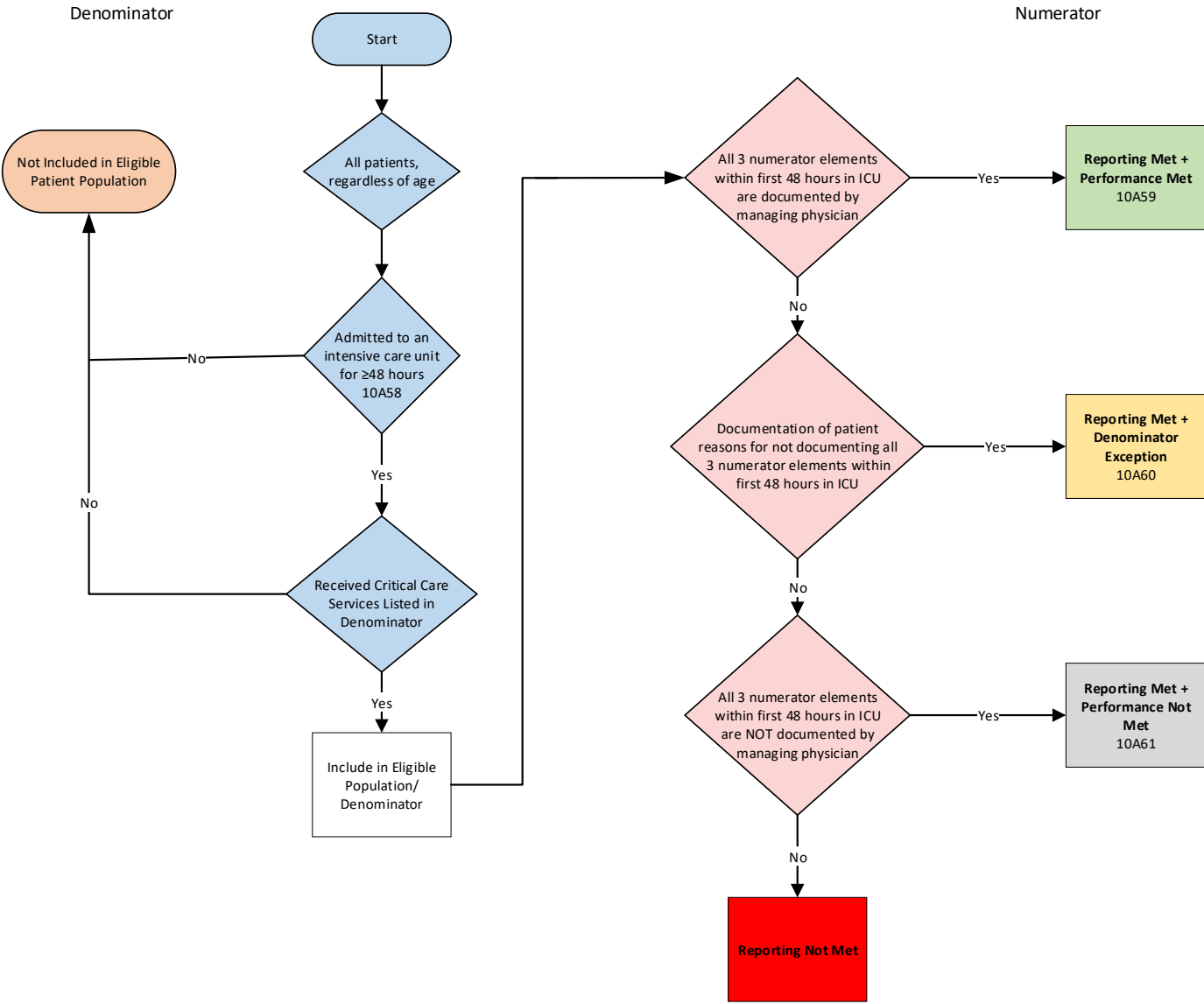
**Overall Performance Rate:** 1

**Proportion Measure Scoring:** Yes

**Continuous Measure Scoring:** No

**Risk Adjustment:** No

# Team-Based Implementation of a Care-and-Communication Bundle for ICU Communication 2019 QCDR Measure Flow



**Measure Title****AQI56: Use of Neuraxial Techniques and/or Peripheral Nerve Blocks for Total Knee Arthroplasty (TKA)****Measure Description**

Percentage of patients, regardless of age, that undergo primary total knee arthroplasty for whom neuraxial anesthesia and/or a peripheral nerve block is performed.

**NQS Domain / Meaningful Measures Area**

Effective Clinical Care / Care is Personalized and Aligned with Patient's Goals

**Measure Type**

Process

**High Priority Status**

No

**Inverse Measure**

No

**Instructions**

This measure is to be reported each time a patient undergoes primary total knee arthroplasty. It is anticipated that qualified anesthesia providers and eligible clinicians who provide denominator-eligible services will submit this measure.

**Measure Reporting via the Qualified Clinical Data Registry**

CPT codes are used to identify patients who are included in the measure denominator. Registry codes are used to report the numerator of the measure.

**Denominator**

All patients, regardless of age, who undergo primary total knee arthroplasty

**Denominator Criteria (Eligible Cases):**

All patients, regardless of age

**AND****Patient encounter during the reporting period (CPT):**

01402

**Denominator Exclusions**

- Revision of TKA: CPT 27486, 27487 or **11A09**
- Prosthesis Removal: CPT 27488 or **11A10**

**Numerator**

Patients for whom neuraxial anesthesia and/or a peripheral nerve block is performed.

*Numerator Note:* For the purposes of this measure, a peripheral nerve block performed either as primary procedural anesthesia or performed for postoperative analgesia would meet the numerator.

## Numerator Quality-Data Coding Options for Reporting Satisfactorily

### **Performance Met:**

**10A78** Neuraxial anesthesia and/or a peripheral nerve block was used

**OR**

### **Denominator Exception:**

**11A01** Documentation of patient reason(s) for not using either neuraxial anesthesia or a peripheral nerve block (e.g., patient refusal)

**OR**

### **Performance Not Met:**

**10A79** Neuraxial anesthesia and/or a peripheral nerve block was NOT used

**NQF Number:** Not Applicable

**eCQM:** Not Applicable

### **Rationale**

Regional anesthesia is associated with improved patient outcomes and lower postoperative morbidity and mortality compared to general anesthesia in patients undergoing TKA.<sup>x</sup> Patients receiving neuraxial anesthesia typically lose less blood during surgery, leading to reduced need for many blood transfusions.<sup>xi</sup> Additionally, some studies support the notion that spinal anesthesia is associated with lower incidence of surgical site infection when compared to general anesthesia.<sup>xii</sup> Peripheral nerve blocks (PNBs) can be used as part of a pain management protocol after knee replacement surgery when compared with systemic analgesia, patients receiving PNBs have better pain scores and use less opioids after surgery.<sup>xiii</sup> By requiring fewer opioids after surgery, patients also avoid opioid-related side effect such as sedation, respiratory depression, nausea, vomiting, and constipation. They also have better functional outcomes and have overall, a better perioperative experience.<sup>xiv</sup>

Strength of the evidence supporting neuraxial anesthesia and PNB is sometimes questioned as some of the supporting studies are retrospective in nature and mainly derived from analysis of administrative databases. However, evidence from randomized clinical trials either support better outcomes with regional anesthesia or show that there is no difference with the anesthesia technique.<sup>xv</sup>

### **Clinical Recommendation Statements**

#### **2015 AAOS Evidence-Based Clinical Practice Guideline for Surgical Management of Osteoarthritis of the Knee<sup>xvi</sup>**

“Strong evidence supports that peripheral nerve blockade for total knee arthroplasty (TKA) decreases postoperative pain and opioid requirements. Strength of Recommendation: Strong Evidence: 4 stars”

“Moderate evidence supports that neuraxial anesthesia could be used in total knee arthroplasty (TKA) to improve select perioperative outcomes and complication rates compared to general anesthesia. Strength of Recommendation: Moderate, Evidence: 3 stars”

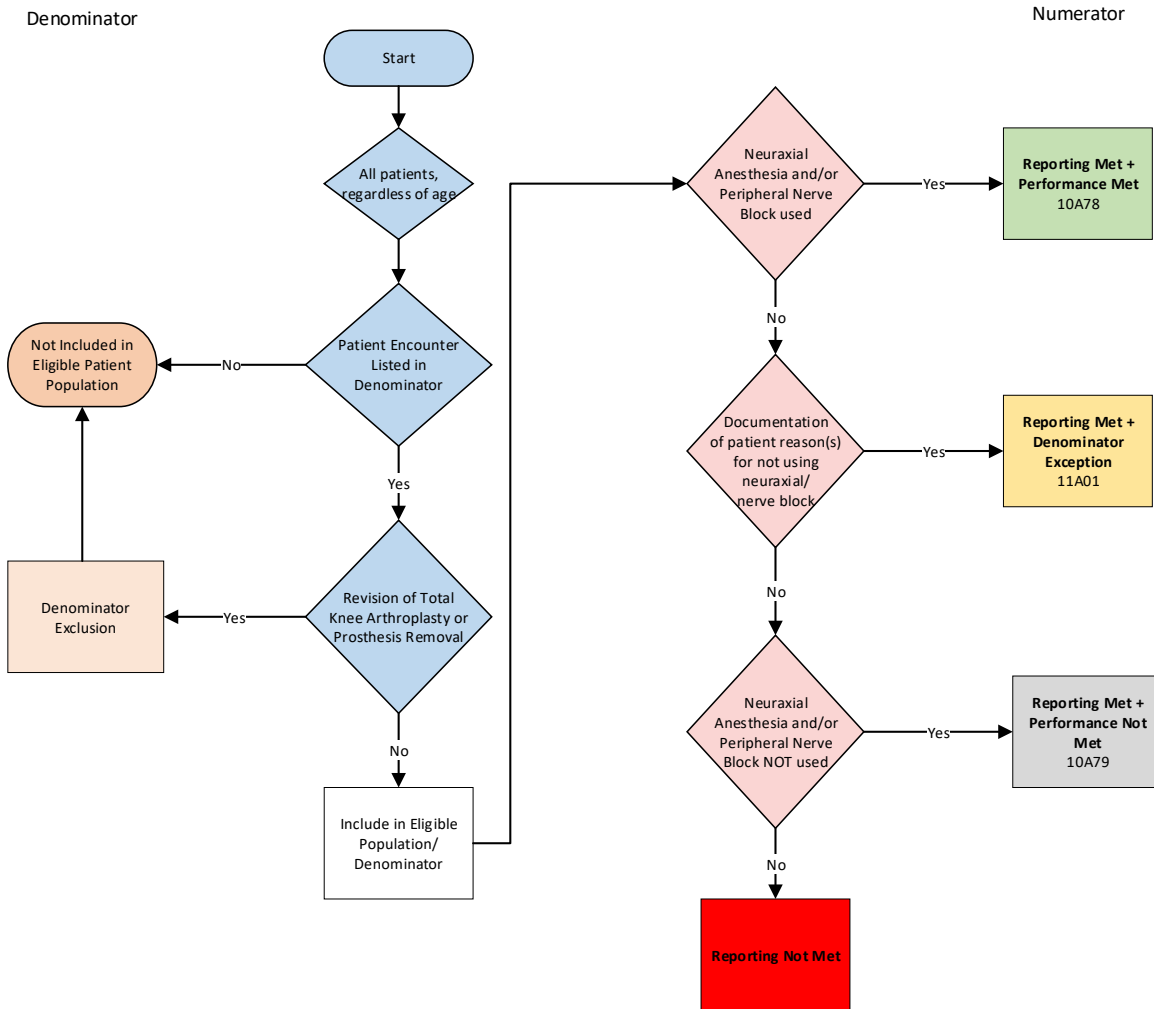
**Data Source:** Claims/Paper Medical Record, Registry

**Measure Steward:** American Society of Anesthesiologists (ASA) / Anesthesia Quality Institute (AQI)

**Number of Performance Rates:** 1

<b>Overall Performance Rate:</b>	1
<b>Proportion Measure Scoring:</b>	Yes
<b>Continuous Measure Scoring:</b>	No
<b>Risk Adjustment:</b>	No

## Use of Neuraxial Techniques and/or Peripheral Nerve Blocks for Total Knee Arthroplasty (TKA) 2019 QCDR Measure Flow



**Measure Title**  
**AQI57: Safe Opioid Prescribing Practices**

**Measure Description**

Percentage of patients, aged 18 years and older, prescribed opioid medications for longer than six weeks' duration for whom ALL of the following opioid prescribing best practices are followed:

1. Chemical dependency screening (includes laboratory testing and/or questionnaire) within the immediate 6 months prior to the encounter
2. Co-prescription of naloxone or documented discussion regarding offer of Naloxone co-prescription, if prescription is  $\geq 50$  MME/day
3. Non co-prescription of benzodiazepine medications by prescribing pain physician and documentation of a discussion with patient regarding risks of concomitant use of benzodiazepine and opioid medications.

**NQS Domain / Meaningful Measures Area**

Patient Safety / Prevention and Treatment of Opioid and Substance Use Disorders

**Measure Type**

Composite – Process

**High Priority Status**

Yes

**Inverse Measure**

No

**Instructions**

This measure is to be reported each time a patient is prescribed opioid medications for longer than six weeks' duration during the reporting period. It is anticipated that qualified anesthesia providers and eligible clinicians who provide denominator-eligible services will submit this measure.

**Measure Reporting via the Qualified Clinical Data Registry**

Patient demographics, G-codes and CPT codes are used to identify patients who are included in the measure denominator. Registry codes are used to report the numerator of the measure.

**Denominator**

All patients aged 18 years and older prescribed opioid medications for longer than six weeks' duration

**Denominator Criteria (Eligible Cases):**

Patients aged 18 years and older

**AND**

**Patient encounter during the reporting period (CPT):** 99201, 99202, 99203, 99204, 99205, 99211, 99212, 99213, 99214, 99215, 99217, 99218, 99219, 99220, 99224, 99225, 99226, 99241, 99242, 99243, 99244, 99245, 99281, 99282, 99283, 99284, 99285

**AND**

Patients prescribed opioids for longer than six weeks' duration: **G9561**

**Denominator Exclusions**

- None

## Numerator

Patients for whom ALL of the following opioid prescribing best practices are followed:

1. Chemical dependency screening (includes laboratory testing and/or questionnaire) within the immediate 6 months prior to the encounter
2. Co-prescription of Naloxone, or documented discussion regarding offer of Naloxone co-prescription, if opioid prescription is  $\geq 50$  MME/day
3. Non co-prescription of benzodiazepine medications by prescribing pain physician and documentation of a discussion with patient regarding risks of concomitant use of benzodiazepine and opioid medications.

*Numerator Note: Chemical Dependency Screening: Questionnaires for chemical dependency screening can include the Opioid Risk Tool (ORT), Screener and Opioid Assessment for Patients with Pain (SOAPP), Screener and Opioid Assessment for Patients with Pain-Revised (SOAPP-R), or the Diagnosis, Intractability, Risk, Efficacy (DIRE) tool.*

## Numerator Quality-Data Coding Options for Reporting Satisfactorily

*Measure Scoring Note: In order to receive credit for this measure, ALL three numerator criteria must be reported. See the "Composite Performance Score" section for more details on how this measure is scored.*

### Criterion 1:

**Performance Met:**

**10A92**

Chemical dependency screening (including laboratory testing and/or questionnaire) was performed within the immediate 6 months prior to the encounter

**OR**

**Performance Not Met:**

**10A93**

Chemical dependency screening (including laboratory testing and/or questionnaire) was NOT performed within the immediate 6 months prior to the encounter

### Criterion 2:

**Performance Met:**

**10A94**

Naloxone co-prescribed or documented discussion regarding offer of Naloxone co-prescription for opioid prescription  $\geq 50$  MME/day

**OR**

**10A95**

Not applicable, opioid prescription  $< 50$  MME/day

**OR**

**Performance Not Met:**

**10A96**

Naloxone NOT co-prescribed AND discussion NOT documented regarding offer of Naloxone co-prescription for opioid prescription  $\geq 50$  MME/day

### Criterion 3:

**Performance Met:**

**10A97**

Benzodiazepine medications NOT co-prescribed by prescribing pain physician AND documented discussion regarding risks of concomitant use of benzodiazepine and opioid medications

**OR**

**Performance Not Met:**



**10A98** Benzodiazepine medications co-prescribed by prescribing pain physician AND/OR no documented discussion regarding risks of concomitant use of benzodiazepine and opioid medications

**Composite Performance Score**

*Performance Score Note:* This performance score is calculated by the data source and not the individual practitioner. Eligible clinicians reporting this measure must submit numerator quality codes for each of the three numerator criteria identified in this measure. *This measure utilizes an all-or-none scoring methodology* where failure to meet performance for ANY of the three numerator criteria will result in performance not met for the measure. The performance score is the percentage of denominator-eligible cases for which ALL three numerator criteria are met.

**Performance Met:**

**10A92** Chemical dependency screening (including laboratory testing and/or questionnaire) was performed within the immediate 6 months prior to the encounter

**AND**

**10A94** Naloxone co-prescribed or documented discussion regarding offer of Naloxone co-prescription for opioid prescription  $\geq 50$  MME/day

**OR**

**10A95** Not applicable, opioid prescription  $< 50$  MME/day

**AND**

**10A97** Benzodiazepine medications NOT co-prescribed by prescribing pain physician AND documented discussion regarding risks of concomitant use of benzodiazepine and opioid medications

**OR**

**Performance Not Met:**

**10A93** Chemical dependency screening (including laboratory testing and/or questionnaire) was NOT performed within the immediate 6 months prior to the encounter

**AND/OR**

**10A96** Naloxone NOT co-prescribed AND discussion NOT documented regarding offer of Naloxone co-prescription for opioid prescription  $\geq 50$  MME/day

**AND/OR**

**10A98** Benzodiazepine medications co-prescribed by prescribing pain physician AND/OR no documented discussion regarding risks of concomitant use of benzodiazepine and opioid medications

**NQF Number:** Not Applicable

**eCQM:** Not Applicable

## Rationale

In 2016, more than 61 million patients had at least one opioid prescription filled or refilled, accounting for more than 214 million individual opioid prescriptions.<sup>xvii</sup> Use of opioid pain medication is associated with serious risks, including overdose and opioid use disorder. Given these risks, it is essential for providers who prescribe opioid medications to carefully assess the risks and benefits of opioid therapy and to follow safe prescribing practices. Through the completion of dependency screening, the provision of Naloxone, and the avoidance of co-prescription of benzodiazepine medications, providers can help mitigate some of the most serious risks associated with opioid therapy.

## Clinical Recommendation Statements

### **2016 CDC Guideline for Prescribing Opioids for Chronic Pain-United States<sup>xviii</sup>**

“When prescribing opioids for chronic pain, clinicians should use urine drug testing before starting opioid therapy and consider urine drug testing at least annually to assess for prescribed medications as well as other controlled prescription drugs and illicit drugs. (Recommendation category: B; evidence type: 4)”

“Before starting and periodically during continuation of opioid therapy, clinicians should evaluate risk factors for opioid-related harms. Clinicians should incorporate into the management plan strategies to mitigate risk, including considering offering naloxone when factors that increase risk for opioid overdose, such as history of overdose, history of substance use disorder, higher opioid dosages ( $\geq 50$  MME/d), or concurrent benzodiazepine use, are present. (Recommendation category: A; evidence type: 4)”

“Clinicians should avoid prescribing opioid pain medication and benzodiazepines concurrently whenever possible. (Recommendation category: A; evidence type: 3)”

### **2017 VA/DoD Clinical Practice Guideline for Opioid Therapy for Chronic Pain<sup>xix</sup>**

“We recommend implementing risk mitigation strategies upon initiation of long-term opioid therapy, starting with an informed consent conversation covering the risks and benefits of opioid therapy as well as alternative therapies. The strategies and their frequency should be commensurate with risk factors and include:

- Ongoing, random urine drug testing (including appropriate confirmatory testing)
  - Checking state prescription drug monitoring programs
  - Monitoring for overdose potential and suicidality
  - Providing overdose education
  - Prescribing of naloxone rescue and accompanying education
- (Strong for | Reviewed, New-replaced)”**

“We recommend against the concurrent use of benzodiazepines and opioids. **(Strong against | Reviewed, New-added).**”

**Data Source:** Claims/Paper Medical Record, Registry

**Measure Steward:** American Society of Anesthesiologists (ASA) / Anesthesia Quality Institute (AQI)

**Number of Performance Rates:** 1

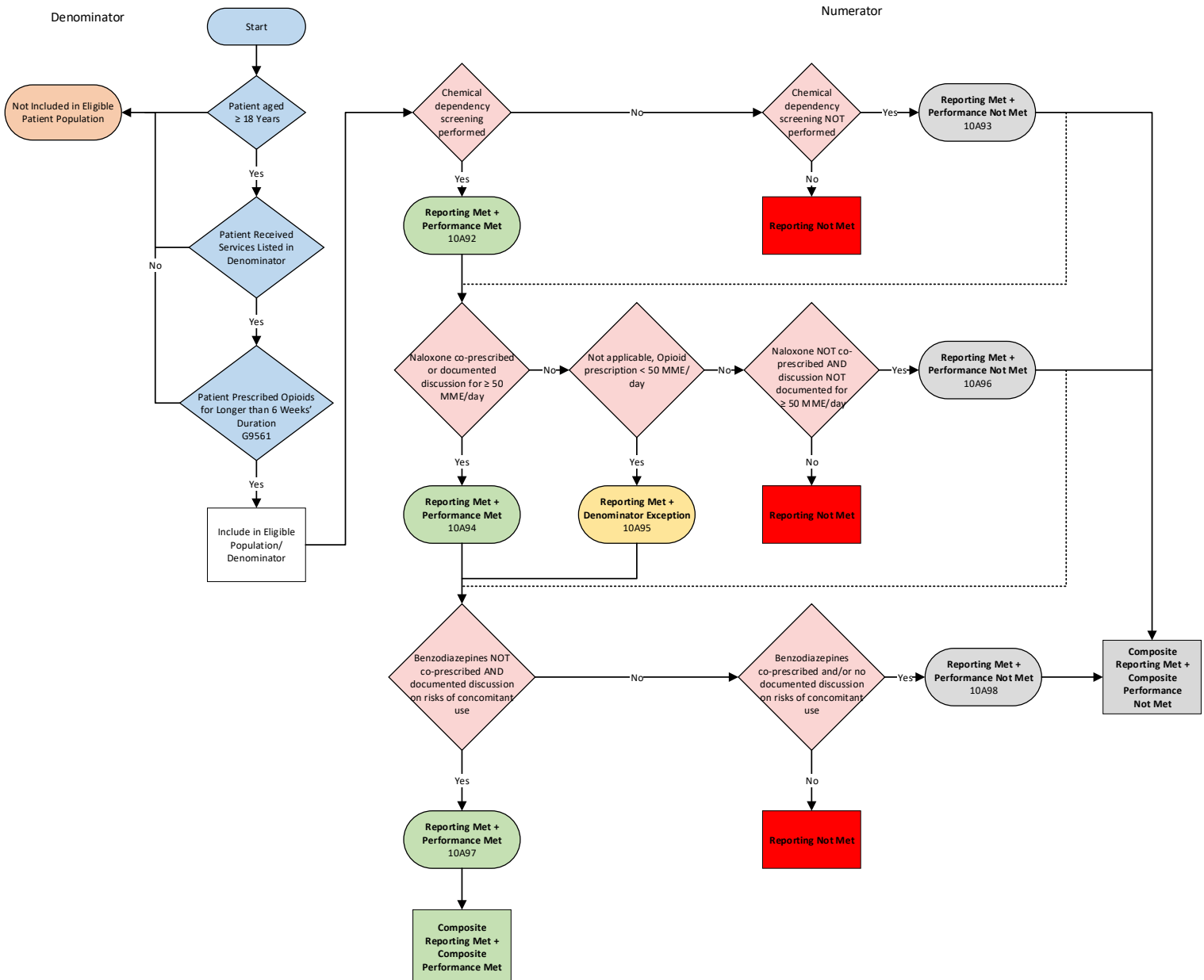
**Overall Performance Rate:** 1

**Proportion Measure Scoring:** Yes

**Continuous Measure Scoring:** No

**Risk Adjustment:** No

## Safe Opioid Prescribing Practices 2019 QCDR Measure Flow



## Measure Title

### AQI58: Infection Control Practices for Open Interventional Pain Procedures

## Measure Description

Percentage of patients, regardless of age, that undergo an open interventional pain procedure for whom ALL of the following infection control best practices are followed by anesthesiologist(s) and scrub technologist(s), in addition to standard sterile technique:

1. Double gloving (two pairs of sterile gloves are worn)
2. Chlorhexidine with alcohol used for surgical site preparation
3. Weight-based preoperative antibiotic dosing and, if indicated by procedure duration, weight-based re-dosing
4. Administration of pre-operative antibiotics within 1 hour, or 2 hours for vancomycin, prior to surgical incision

## NQS Domain / Meaningful Measures Area

Patient Safety / Healthcare-associated Infections

## Measure Type

Composite - Process

## High Priority Status

Yes

## Inverse Measure

No

## Instructions

This measure is to be reported each time a patient undergoes an open interventional pain procedure. It is anticipated that qualified anesthesia providers and eligible clinicians who provide denominator-eligible services will submit this measure.

## Measure Reporting via the Qualified Clinical Data Registry

CPT codes are used to identify patients who are included in the measure denominator. Registry codes are used to report the numerator of the measure.

## Denominator

All patients, regardless of age, who undergo an open interventional pain procedure

### Denominator Criteria (Eligible Cases):

All patients, regardless of age

### **AND**

**Patient encounter during the reporting period (CPT):** 22510, 22511, +22512, 22513, 22514, +22515, 62350, 62355, 62360, 62361, 62362, 62365, 63650, 63661, 63662, 63663, 63664, 63685, 63688

## Denominator Exclusions

- None

## Numerator

Patients for whom the ALL of the following infection control best practices are followed in addition to standard sterile technique:

1. Double gloving (two pairs of sterile gloves are worn)

2. Chlorhexidine with alcohol used for surgical site preparation
3. Weight-based preoperative antibiotic dosing and, if indicated by procedure duration, weight-based re-dosing
4. Administration of pre-operative antibiotics within 1 hour, or 2 hours for vancomycin, prior to surgical incision (or start of procedure if no incision is required)

*Numerator Note:*

Weight-based antibiotic dosing and pre-operative antibiotic timing should be performed in accordance with the below Neurostimulation Appropriateness Consensus Committee (NACC) Recommendations:

Antibiotic	Standard intravenous dosing	Timing prior to incision	Redosing interval	Indications
Cefazolin**	1 g ≤ 80 kg	Within 30-60 min	3-4 hours (CrCl > 50 mL/min)	First-line
	2 g > 80 kg		8 hours (CrCl 20-50 mL/min)	
	3 g > 120 kg		16 hours (CrCl < 20 mL/min)	
Clindamycin	600 mg ≤ 80 kg	Within 30-60 min	6 hours (CrCl > 50 mL/min)	β-lactam allergy
	900 mg > 80 kg		6 hours (CrCl 20-50 mL/min)	
	1200 mg > 120 kg		6 hours (CrCl < 20 mL/min)	
Vancomycin	1 g ≤ 80 kg	Within 120 min	8 hours (CrCl > 50 mL/min)	β-lactam allergy Known MRSA colonization
	2 g > 80 kg		16 hours (CrCl 20-50 mL/min)	
	3 g > 120 kg		None (CrCl < 20 mL/min)	

\*Modified from Bratzler et al. (89), Alexander et al. (90), and Bratzler et al. (91).  
 \*\*In an effort to simplify cefazolin weight-based dosing, the American Society of Health-System Pharmacists (ASHP) recommends 2 g for individuals weighing < 120 kg and 3 g for individuals weighing ≥ 120 kg. MRSA, methicillin-resistant *S. aureus*; CrCl, creatinine clearance.

Deer TR, Provenzano DA, Hanes M, Pope JE, Thomson SJ, Russo MA, et al. The Neurostimulation Appropriateness Consensus Committee (NACC) Recommendations for Infection Prevention and Management. *Neuromodulation*. 2017;20(1):31-50.

**Numerator Quality-Data Coding Options for Reporting Satisfactorily**

*Measure Scoring Note:* In order to receive credit for this measure, ALL four numerator criteria must be reported. See the “Composite Performance Score” section for more details on how this measure is scored.

**Criterion 1:**

**Performance Met:**

**10A80** Double gloving (i.e., two pairs of sterile gloves are worn) is performed

**OR**

**Performance Not Met:**

**10A81** Double gloving (i.e., two pairs of sterile gloves are worn) is NOT performed

**Criterion 2:**

**Performance Met:**

**10A82** Chlorhexidine with alcohol is used for surgical site preparation

**OR**

**10A83** Documented contraindication or allergy to chlorhexidine with alcohol

**OR**

**Performance Not Met:**

**10A84** Chlorhexidine with alcohol is NOT used for surgical site preparation

**Criterion 3:**

**Performance Met:**

**10A85** Weight-based preoperative antibiotic dosing and, if procedure >3 hours, weight-based re-dosing is used

**OR**

**Performance Not Met:**

**10A86** Weight-based preoperative antibiotic dosing and, if procedure >3 hours, weight-based re-dosing is NOT used

**Criterion 4:**

**Performance Met:**

**10A87** Pre-operative antibiotics administered within 1 hour, or 2 hours for vancomycin, prior to surgical incision (or start of procedure if no incision is required)

**OR**

**Performance Not Met:**

**10A88** Pre-operative antibiotics NOT administered within 1 hour prior to surgical incision (or start of procedure if no incision is required)

**Composite Performance Score**

*Performance Score Note:* This performance score is calculated by the data source and not the individual practitioner. Eligible clinicians reporting this measure must submit numerator quality codes for each of the four numerator criteria identified in this measure. This measure utilizes an all-or-none scoring methodology where failure to meet performance for ANY of the four numerator criteria will result in performance not met for the measure. The performance score is the percentage of denominator-eligible cases for which ALL three numerator criteria are met.

**Performance Met:**

**10A80** Double gloving (i.e., two pairs of sterile gloves are worn) is performed

**AND**

**10A82** Chlorhexidine with alcohol is used

**OR**

**10A83** Documented contraindication or allergy to chlorhexidine with alcohol

**AND**

**10A85** Weight-based preoperative antibiotic dosing and, if procedure >3 hours, weight-based re-dosing is used

**AND**

**10A87** Pre-operative antibiotics administered within 1 hour, or 2 hours for vancomycin, prior to surgical incision (or start of procedure if no incision is required)

**OR**

**Performance Not Met:**

**10A81** Double gloving (i.e., two pairs of sterile gloves are worn) is NOT performed

**AND/OR**

**10A84** Chlorhexidine with alcohol is NOT used for surgical site preparation

**AND/OR**

**10A86** Weight-based preoperative antibiotic dosing and, if procedure >3 hours, weight-based re-dosing is NOT used

**AND/OR**

**10A88** Pre-operative antibiotics NOT administered within 1 hour prior to surgical incision (or start of procedure if no incision is required)

**NQF Number:** Not Applicable

**eCQM:** Not Applicable

**Rationale**

Infections associated with open interventional pain procedures are associated with significant morbidity and healthcare costs. For implantable pain therapies, the reported infection rates range from 1 to 10%.<sup>xx</sup> Two large systematic reviews on spinal cord stimulation report infection rates of 3.4 to 4.6%. The infection rates reported for implantable pain therapies are often higher than those associated with other implantable therapies including total joint replacement and cardiac pacemakers. In the field of interventional pain medicine practice deficiencies have been identified. A recent international survey of 506 physicians examining infection control practices for spinal cord stimulation highlighted the need for education. The survey demonstrated a low compliance rate for infection control recommendations that have been recommended by the Centers for Disease Control, the National Institute for Health and Care Excellence (NICE) and a Surgical Care Improvement Project.<sup>xxi</sup> Only four of the 15 recommended practices surveyed demonstrated a greater than or equal to 80% compliance rates. Areas of deficiency included weight-based antibiotic dosing, hair removal strategies, double gloving, surgical dressing, skin antiseptic agent selection and inappropriate postoperative continuation of antibiotics. The compliance rates for weight-based dosing of antibiotics (47%; 95% CI: 42.6% – 51.4%), utilization of double gloving (47.8%; 95% CI: 43.4% – 52.2%), and utilization of chlorhexidine gluconate (67.7%; 95% CI: 63.6% – 71.8%) were all less than 70%.

The consequences associated with infections for implantable pain therapies and open interventional pain procedures can be devastating. For implantable pain therapy infections, the implantable device often must be removed. In addition, many patients lose therapy and are not re-implanted. A recent review of 2737 surgical site infections associated implantable pain therapies demonstrated that 77.6% were explanted.<sup>xxii</sup> A recent review of claims-based data on spinal cord stimulator implants demonstrated that only 27% of patients were re-implanted and that the cost of a surgical site infection was approximate \$59,000.<sup>xxiii</sup> Therefore, a surgical site infection with an implantable pain therapies is not only costly but often results in the end of the therapy. A recent analysis of the United States Anesthesia Close Claims project database examining injury and liability associated with implantable pain therapies from 1990 to 2013, demonstrated that infection was the most common damaging event. Infection represented 23% of all claims.<sup>xxiv</sup>

A recent publication on quality improvement for spinal cord stimulation infection demonstrated a significant reduction in surgical site infection rates when evidence-based practices were implemented. Infection rates went from 10.4% to 1% following implementation of best practices.<sup>xxv</sup>

**Clinical Recommendation Statements**

***2016 Neurostimulation Appropriateness Consensus Committee (NACC) Recommendations for Infection Prevention and Management<sup>xli</sup>***

“The NACC recommends maximal sterile barrier precautions as well as double gloving for implantation of implantable pain devices.”

“The NACC recommends the use of chlorhexidine-based products combined with isopropyl alcohol for skin preparation prior to neuromodulation procedures.”

“For antimicrobial therapy to be effective, the serum and tissue levels of the agent must exceed the minimum inhibitory concentrations (MIC) prior to incision and throughout the operation. In order to exceed MIC, customized weight-based dosing is needed for each individual.”

### **2016 American College of Surgeons/Surgical Infection Society Surgical Site Infection Guidelines<sup>xxvi</sup>**

“The use of double gloves is recommended.”

“Alcohol-containing preparation should be used unless contraindication exists (e.g. fire hazard, surfaces involving mucosa, cornea, or ear).

No clear superior agent (chlorhexidine vs iodine) when combined with alcohol.

If alcohol cannot be included in the preparation, chlorhexidine should be used instead of iodine unless contraindications exist.”

“Prophylactic antibiotic dosing should be weight adjusted.

Prophylactic antibiotic should be administered within 1 hour before incision or within 2 hours for vancomycin or fluoroquinolones.”

### **2008 NICE Surgical Site Infections: Prevention and Treatment Clinical Guidelines<sup>xxvii</sup>**

“Consider wearing two pairs of sterile gloves when there is a high risk of glove perforation and the consequences of contamination may be serious.”

“Prepare the skin at the surgical site immediately before the incision using an antiseptic (aqueous or alcohol-based) preparation: povidone-iodine or chlorhexidine are most suitable.

### **2016 WHO Surgical Site Infection Prevention Guidelines<sup>xxviii</sup>**

“The panel suggests that either sterile, disposable, non-woven or sterile, reusable woven drapes and surgical gowns can be used during surgical operations for the purpose of preventing SSI. (conditional recommendation, moderate to very low quality of evidence).”

**Data Source:** Claims/Paper Medical Record, Registry

**Measure Steward:** American Society of Anesthesiologists (ASA)

**Number of Performance Rates:** 1

**Overall Performance Rate:** 1

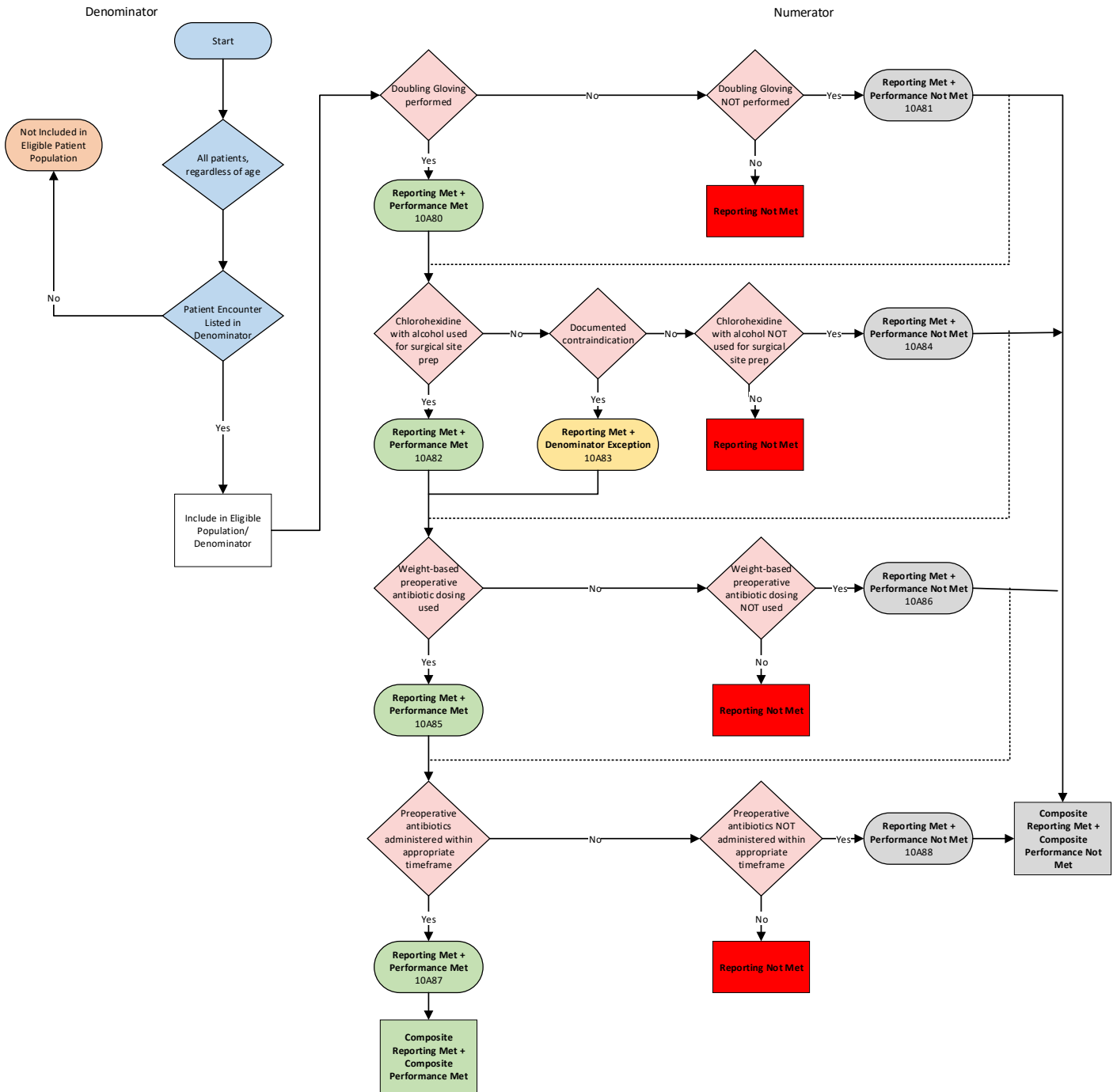
**Proportion Measure Scoring:** Yes

**Continuous Measure Scoring:** No

**Risk Adjustment:** No



Infection Control Practices for Open Interventional Pain Procedures  
2019 QCDR Measure Flow



**Measure Title****AQI59: Multimodal Pain Management****Measure Description**

Percentage of patients, regardless of age, undergoing selected elective surgical procedures that were managed with multimodal pain medicine.

**NQS Domain / Meaningful Measures Area**

Effective Clinical Care / Prevention and Treatment of Opioid and Substance Use Disorders

**Measure Type**

Process

**High Priority Status**

No

**Inverse Measure**

No

**Instructions**

This measure is to be reported each time a patient undergoes an elective surgical procedure during the reporting period. It is anticipated that qualified anesthesia providers and eligible clinicians who provide denominator-eligible services will submit this measure.

**Measure Reporting via the Qualified Clinical Data Registry**

G-codes and CPT codes are used to identify patients who are included in the measure denominator. Registry codes are used to report the numerator of the measure.

**Denominator**

Patients, regardless of age, who undergo selected elective surgical procedures

*Denominator note: Selected surgical procedures include open and laparoscopic intraabdominal, spinal, pelvic, thoracic, breast, joint, head, neck, orthopedic and fracture repair surgeries.*

**Denominator Criteria (Eligible Cases):**

All patients, regardless of age

**AND**

Elective Surgery: **G9643**

**AND****Patient encounter during the reporting period (CPT):**

00102, 00120, 00124, 00126, 00160, 00162, 00170, 00172, 00174, 00190, 00222, 00300, 00320, 00326, 00402, 00404, 00406, 00450, 00470, 00472, 00500, 00528, 00529, 00539, 00540, 00541, 00542, 00546, 00548, 00600, 00620, 00625, 00626, 00630, 00670, 00700, 00730, 00750, 00752, 00754, 00756, 00770, 00790, 00792, 00794, 00797, 00800, 00820, 00830, 00832, 00834, 00836, 00840, 00844, 00846, 00848, 00860, 00862, 00864, 00865, 00866, 00870, 00872, 00873, 00880, 00902, 00906, 00910, 00912, 00914, 00916, 00918, 00920, 00940, 00942, 00948, 01120, 01160, 01170, 01173, 01210, 01214, 01215, 01220, 01230, 01360, 01392, 01400, 01402, 01480, 01482, 01484, 01486, 01630, 01634, 01636, 01638, 01740, 01742, 01744, 01760, 01830, 01832, 01961

**Denominator Exclusions**

- None

## Numerator

Patients for whom multimodal pain management is administered in the perioperative period from six hours prior to anesthesia start time until discharged from the postanesthesia care unit.

*Numerator Definition: Multimodal pain management is defined as the use of two or more drugs and/or interventions, NOT including systemic opioids, that act by different mechanisms for providing analgesia. These drugs and/or interventions can be administered via the same route or by different routes. Opioids may be administered for pain relief when indicated but will not count towards this measure.*

*Numerator note: Documentation of qualifying medications or interventions provided from six hours prior to anesthesia start time through PACU discharge count toward meeting the numerator.*

### Numerator Quality-Data Coding Options for Reporting Satisfactorily

**Performance Met:**

**10A89**

Multimodal pain management was used

**OR**

**Denominator Exception:**

**10A90**

Documented allergy to multiple classes of analgesics

**OR**

**Performance Not Met:**

**10A91**

Multimodal pain management was not used

**NQF Number:** Not Applicable

**eCQM:** Not Applicable

## Rationale

Besides providing anesthesia care in the operating room, anesthesiologists are dedicated to providing the best perioperative pain management in order to improve patients' function and facilitate rehabilitation after surgery. In the past, pain management was limited to the use of opioids (also called narcotics). Opioids provide analgesia primarily through a unitary mechanism, and just adding more opioids does not usually lead to better pain control or improve outcomes. In fact, opioids are responsible for a host of side effects that can be a threat to life and increasing rates of complications after surgery can be attributed to the overuse and abuse of opioids. In 2012, the American Society of Anesthesiologists (ASA) published its guidelines for acute pain management in the perioperative setting (1), and ASA along with the American Society of Regional Anesthesia and Pain Medicine (ASRA) and American Pain Society collaborated on the 2016 clinical practice guidelines for the management of postoperative pain (2). These documents endorse the routine use of "**multimodal analgesia**" which means employing multiple classes of pain medications or therapies, working with different mechanisms of action, in the treatment of acute pain instead of relying on opioids alone.

While opioids may continue to be important pain medications, they must be combined with other classes of medications known to prevent and help relieve postoperative pain unless contraindicated. The list includes but is not limited to:

- **Non-steroidal anti-inflammatory drugs (NSAIDs):** Examples include ibuprofen, diclofenac, ketorolac, celecoxib, nabumetone. NSAIDs act on the prostaglandin system peripherally and work to decrease inflammation.

- **Ketamine:** When administered in low dose, ketamine acts on the N-methyl-D-aspartate receptors in the central nerve system to decrease acute pain and hyperalgesia.
- **Acetaminophen:** Acetaminophen acts on central prostaglandin synthesis and provides pain relief through multiple mechanisms.
- **Gabapentinoids:** Examples include gabapentin and pregabalin. These medications are membrane stabilizers that essentially decrease nerve firing.
- **Regional block:** The ASA and ASRA also strongly recommend the use of target-specific local anesthetic applications in the form of regional analgesic techniques as part of the multimodal analgesic protocol whenever indicated.
- **Local anesthetics:** Injection of local anesthetic in or around the surgical site by the surgeon is an example. Systemic lidocaine administered via an intravenous infusion represents an alternative to regional analgesic techniques.

## Clinical Recommendation Statements

### **2012 ASA Practice Guidelines for Acute Pain Management in the Perioperative Setting<sup>xxix</sup>**

“Multimodal techniques for pain management include the administration of two or more drugs that act by different mechanisms for providing analgesia. These drugs may be administered *via* the same route or by different routes.”

“Whenever possible, anesthesiologists should use multimodal pain management therapy. Central regional blockade with local anesthetics should be considered. Unless contraindicated, patients should receive an around-the-clock regimen of COXIBs, NSAIDs, or acetaminophen. Dosing regimens should be administered to optimize efficacy while minimizing the risk of adverse events. The choice of medication, dose, route, and duration of therapy should be individualized.”

### **2016 ASRA Guidelines on the Management of Postoperative Pain<sup>xxx</sup>**

“The panel recommends that clinicians offer multi-modal analgesia, or the use of a variety of analgesic medications and techniques combined with non-pharmacological interventions, for the treatment of postoperative pain in children and adults (strong recommendation, high-quality evidence)”

**Data Source:** Claims/Paper Medical Record, Registry

**Measure Steward:** American Society of Anesthesiologists (ASA) / Anesthesia Quality Institute (AQI)

**Number of Performance Rates:** 1

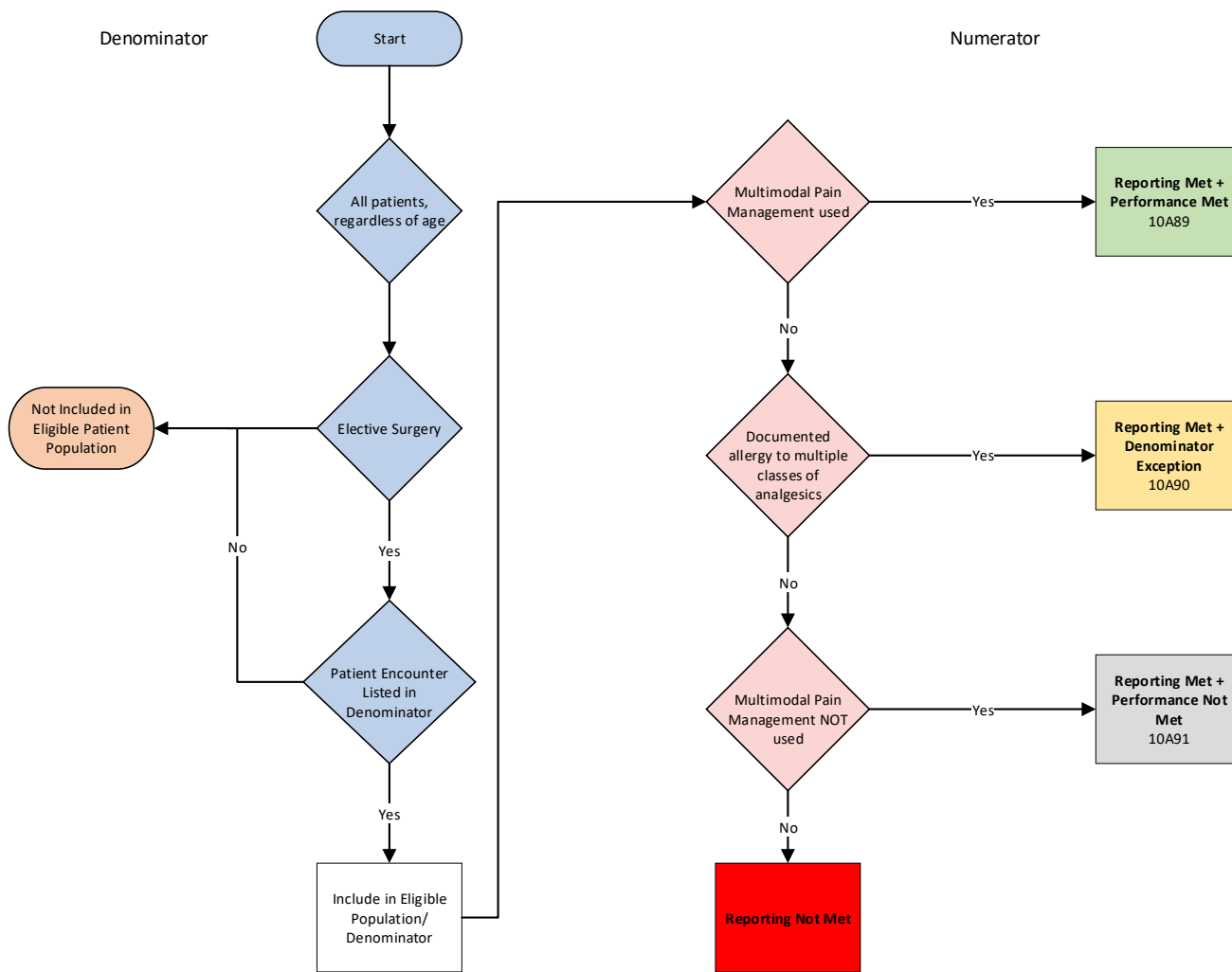
**Overall Performance Rate:** 1

**Proportion Measure Scoring:** Yes

**Continuous Measure Scoring:** No

**Risk Adjustment:** No

## Multimodal Pain Management 2019 QCDR Measure Flow



**Measure Title****AQI61: Ambulatory Post-Discharge Patient Follow-Up**

**Measure Description:** Percentage of patients, regardless of age, who received anesthesia services in an ambulatory setting whose post-discharge status was assessed within 72 hours of discharge

**NQS Domain / Meaningful Measures Area**

Person and Care-giver Centered Experiences and Outcomes / Patient’s Experience of Care

**Measure Type**

Process

**High Priority Status**

Yes

**Inverse Measure**

No

**Instructions**

This measure is to be reported each time a patient undergoes a procedure in an ambulatory setting with anesthesia services during the reporting period. It is anticipated that qualified anesthesia providers and eligible clinicians who provide denominator-eligible services will submit this measure.

**Measure Reporting via the Qualified Clinical Data Registry**

Patient demographics, Place of Service codes and CPT codes are used to identify patients who are included in the measure denominator. Registry codes are used to report the numerator.

**Denominator**

Patients, regardless of age, who received anesthesia services in an ambulatory setting

**Denominator Criteria (Eligible Cases):**

Patients regardless of age

**AND**

Place of Service code: **19, 22, 24**

**AND****Patient encounter during the reporting period (CPT):**

00100, 00102, 00103, 00104, 00120, 00124, 00126, 00140, 00142, 00144, 00145, 00147, 00148, 00160, 00162, 00164, 00170, 00172, 00174, 00176, 00190, 00192, 00210, 00211, 00212, 00214, 00215, 00216, 00218, 00220, 00222, 00300, 00320, 00322, 00350, 00352, 00400, 00402, 00404, 00406, 00410, 00450, 00454, 00470, 00472, 00474, 00500, 00520, 00522, 00524, 00528, 00529, 00530, 00532, 00534, 00537, 00539, 00540, 00541, 00542, 00546, 00548, 00550, 00560, 00562, 00563, 00566, 00567, 00580, 00600, 00604, 00620, 00625, 00626, 00630, 00632, 00635, 00640, 00670, 00700, 00702, 00730, 00731, 00732, 00750, 00752, 00754, 00756, 00770, 00790, 00792, 00794, 00796, 00797, 00800, 00802, 00811, 00812, 00813, 00820, 00830, 00832, 00840, 00842, 00844, 00846, 00848, 00851, 00860, 00862, 00864, 00865, 00866, 00868, 00870, 00872, 00873, 00880, 00882, 00902, 00904, 00906, 00908, 00910, 00912, 00914, 00916, 00918, 00920, 00921, 00922, 00924, 00926, 00928, 00930, 00932, 00934, 00936, 00938, 00940, 00942, 00944, 00948, 00950, 00952, 01112, 01120, 01130, 01140, 01150, 01160, 01170, 01173, 01200, 01202, 01210, 01212, 01214, 01215, 01220, 01230, 01232, 01234, 01250, 01260, 01270, 01272, 01274, 01320,

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### Denominator Exclusions

- Patients who were transferred to a higher level of care: **11A34**
- Patients who were unable to be contacted or did not complete assessment after at least 2 contact attempts: **11A35**

### Numerator

Patients whose post-discharge status was assessed within 72 hours of discharge. The post-discharge status assessment must address at least four of the following domains:

- *Pain Management*; including an assessment of patient satisfaction with pain control
- *Nausea/Vomiting*; including an assessment of severity.
- *Activities of Daily Living*; including an assessment of the patient's ability to return to baseline ADLs
- *Satisfaction with Care*; including an assessment of the patient's overall satisfaction with their anesthetic care
- *Questions or Concerns Regarding Discharge Instructions*; including an assessment of compliance with anesthetic discharge instructions.
- *Questions assessing complications related to anesthetic care* (e.g. possible nerve catheter infections, etc.)

*Numerator Note:* A post-discharge assessment can be conducted by any member of the care team via a range of communication modalities, including phone call, email, patient portal interaction, patient survey, or other means of communicating with the patient. When documenting the assessment, the provider should be sure to document any recommendations or follow-up instructions that were provided to address any problems identified during the assessment.

### Numerator Quality-Data Coding Options for Reporting Satisfactorily

#### **Performance Met:**

**11A36**

Patient post-discharge status was assessed within 72 hours of discharge

**OR**

#### **Performance Not Met:**

**11A37**

Patient post-discharge status was NOT assessed within 72 hours of discharge

**NQF Number:** Not applicable

**eCQM:** Not applicable

**Rationale**

With increasingly complex procedures being performed in ambulatory settings, timely and comprehensive follow-up after discharge is essential to identify and manage any post-operative complications, as well as to help patients manage their recovery at home. A post-discharge conversation with the patient is also an opportunity to assess patient-reported outcomes such as pain, nausea, vomiting, and return to functional status, which can give anesthesiologists and other qualified anesthesia providers valuable information for use in ongoing practice improvement.

**Data Source:** Claims/Paper Medical Record, Registry

**Measure Steward:** American Society of Anesthesiologists (ASA)/Anesthesia Quality Institute (AQI)

**Number of Performance Rates:** 1

**Overall Performance Rate:** 1

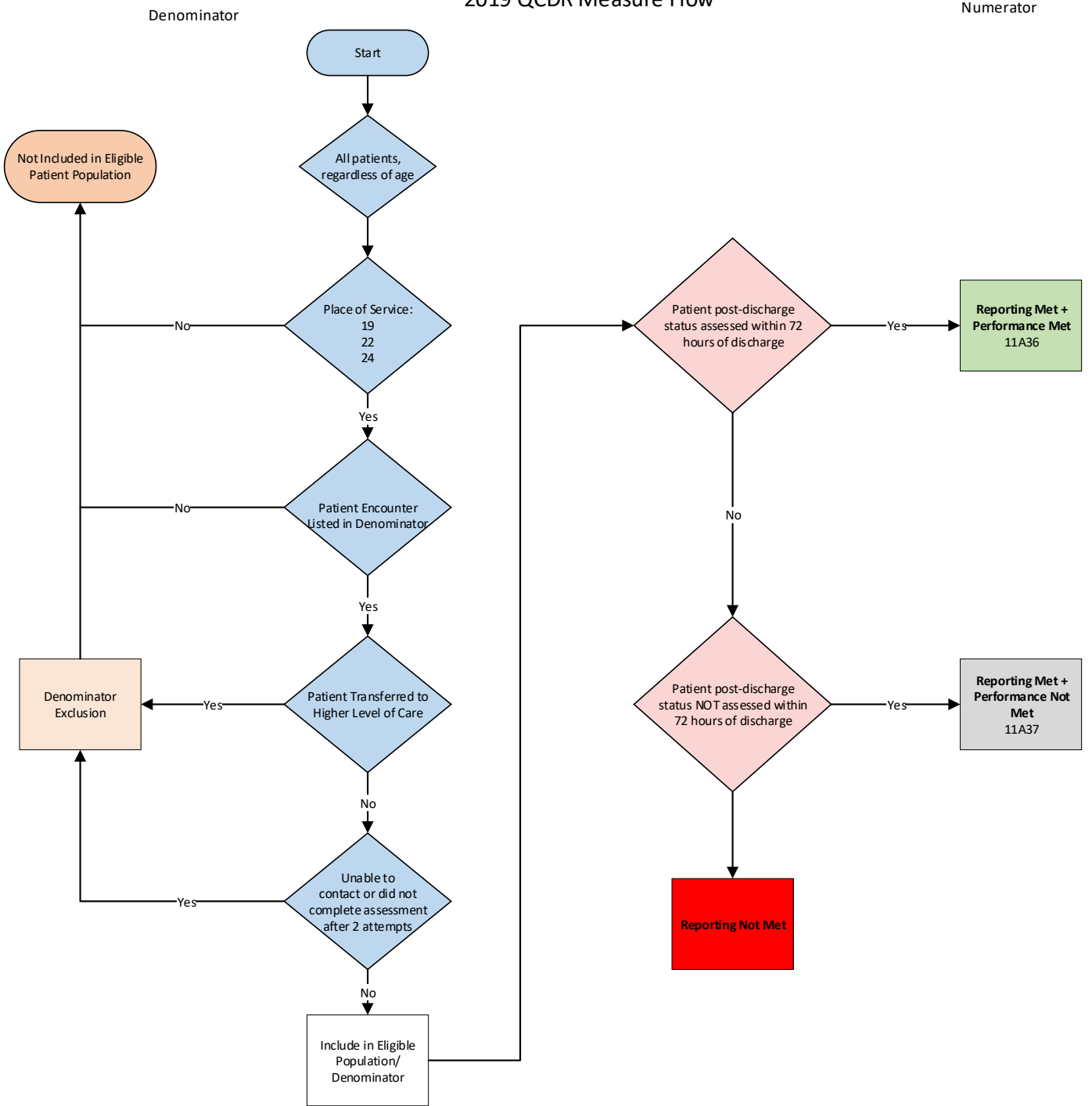
**Proportion Measure Scoring:** Yes

**Continuous Measure Scoring:** No

**Risk Adjustment:** No



## Ambulatory Post-Discharge Patient Follow-Up 2019 QCDR Measure Flow



**Measure Title**  
**AQI62: Obstructive Sleep Apnea: Patient Education**

**Measure Description:** Percentage of patients aged 18 years or older, who undergo an elective procedure requiring anesthesia services who are screened for obstructive sleep apnea AND, if positive, have documentation that they received education regarding their risk for obstructive sleep apnea (OSA) prior to PACU discharge

**NQS Domain / Meaningful Measures Area**  
Patient Safety / Preventable Healthcare Harm

**Measure Type**  
Process

**High Priority Status**  
Yes

**Inverse Measure**  
No

**Instructions**  
This measure is to be reported each time a patient undergoes an elective procedure under anesthesia during the reporting period. It is anticipated that qualified anesthesia providers and eligible clinicians who provide denominator-eligible services will submit this measure.

**Measure Reporting via the Qualified Clinical Data Registry**  
Patient demographics and CPT codes are used to identify patients who are included in the measure denominator. G-codes and Registry Codes are used to capture the numerator.

**Denominator**  
All patients aged 18 years or older, who undergo an elective procedure requiring anesthesia services

*Denominator Note:* For the purposes of this measure, anesthesia services only include cases using general anesthesia, neuraxial anesthesia and monitored anesthesia care (MAC)

**Denominator Criteria (Eligible Cases):**  
Patients aged 18 years and older

**AND**

Elective procedure: **G9643**

**AND**

**Patient encounter during the reporting period (CPT):**

00100, 00102, 00103, 00104, 00120, 00124, 00126, 00140, 00142, 00144, 00145, 00147, 00148, 00160, 00162, 00164, 00170, 00172, 00174, 00176, 00190, 00192, 00210, 00211, 00212, 00214, 00215, 00216, 00218, 00220, 00222, 00300, 00320, 00322, 00350, 00352, 00400, 00402, 00404, 00406, 00410, 00450, 00454, 00470, 00472, 00474, 00500, 00520, 00522, 00524, 00528, 00529, 00530, 00532, 00534, 00537, 00539, 00540, 00541, 00542, 00546, 00548, 00550, 00560, 00562, 00563, 00566, 00567, 00580, 00600, 00604, 00620, 00625, 00626, 00630, 00632, 00635, 00640,

00670, 00700, 00702, 00730, 00731, 00732, 00750, 00752, 00754, 00756, 00770, 00790, 00792, 00794, 00796, 00797, 00800, 00802, 00811, 00812, 00813, 00820, 00830, 00832, 00840, 00842, 00844, 00846, 00848, 00851, 00860, 00862, 00864, 00865, 00866, 00868, 00870, 00872, 00873, 00880, 00882, 00902, 00904, 00906, 00908, 00910, 00912, 00914, 00916, 00918, 00920, 00921, 00922, 00924, 00926, 00928, 00930, 00932, 00934, 00936, 00938, 00940, 00942, 00944, 00948, 00950, 00952, 01112, 01120, 01130, 01140, 01150, 01160, 01170, 01173, 01200, 01202, 01210, 01212, 01214, 01215, 01220, 01230, 01232, 01234, 01250, 01260, 01270, 01272, 01274, 01320, 01340, 01360, 01380, 01382, 01390, 01392, 01400, 01402, 01404, 01420, 01430, 01432, 01440, 01442, 01444, 01462, 01464, 01470, 01472, 01474, 01480, 01482, 01484, 01486, 01490, 01500, 01502, 01520, 01522, 01610, 01620, 01622, 01630, 01634, 01636, 01638, 01650, 01652, 01654, 01656, 01670, 01680, 01710, 01712, 01714, 01716, 01730, 01732, 01740, 01742, 01744, 01756, 01758, 01760, 01770, 01772, 01780, 01782, 01810, 01820, 01829, 01830, 01832, 01840, 01842, 01844, 01850, 01852, 01860, 01916, 01920, 01922, 01924, 01925, 01926, 01930, 01931, 01932, 01933, 01935, 01936, 01951, 01952, 01953, 01958, 01960, 01961, 01962, 01963, 01965, 01966, 01967, 01968, 01969, 01991, 01992

### Denominator Exclusions

- Patient has an existing diagnosis of OSA: **G47.33 or 11A29**
- Documentation of patient reason for not providing education regarding risk for OSA (e.g., severe dementia, patient is intubated, patient is not alert or responsive enough to participate in education, other patient reason(s)): **11A30**

### Numerator

Patients who are screened for obstructive sleep apnea AND, if positive, have documented education regarding their risk for obstructive sleep apnea prior to PACU discharge

Numerator Definition: Patient education regarding OSA must include documentation that a conversation addressing potential implications of OSA on the patient’s perioperative course and any applicable recommendations for follow-up care and disease management occurred. Self-help materials (e.g., brochures, audio/video materials, pamphlets) alone are not sufficient to meet the numerator.

### Numerator Quality-Data Coding Options for Reporting Satisfactorily

**Performance Met:**

**11A31**

Positive patient OSA screen AND documented education regarding risk for obstructive sleep apnea prior to PACU discharge

**OR**

**Performance Met:**

**11A32**

Negative patient screen for OSA

**OR**

**Performance Not Met:**

**11A33**

No patient screen for OSA OR positive OSA screen result and no documented education regarding risk for obstructive sleep apnea prior to PACU discharge

**NQF Number:** Not applicable

**eCQM:** Not applicable

### Rationale

Obstructive Sleep Apnea (OSA) is a common problem in the surgical population, though many patients with OSA are undiagnosed. With improved preoperative assessment for OSA, surgery presents an important opportunity for providers to counsel patients about their risk for OSA and to educate them on the associated perioperative risks associated with the condition. This education is an opportunity to manage patient and family expectations regarding their postoperative course and is a chance to discuss anticipated complications, changes in management, and recommended follow-up care that might be appropriate.

**Clinical Recommendation Statements:**

**2014 ASA Guidelines on Perioperative Management of Patients with Obstructive Sleep Apnea <sup>lix</sup>**

“If any characteristics noted during the preoperative evaluation suggest that the patient has OSA, the anesthesiologist and surgeon should jointly decide whether to (1) manage the patient perioperatively based on clinical criteria alone or (2) obtain sleep studies, conduct a more extensive airway examination, and initiate indicated OSA treatment in advance of surgery.”

“The patient and his or her family as well as the surgeon should be informed of the potential implications of OSA on the patient’s perioperative course.”

**Data Source:** Claims/Paper Medical Record, Registry

**Measure Steward:** American Society of Anesthesiologists (ASA)/Anesthesia Quality Institute (AQI)

**Number of Performance Rates:** 1

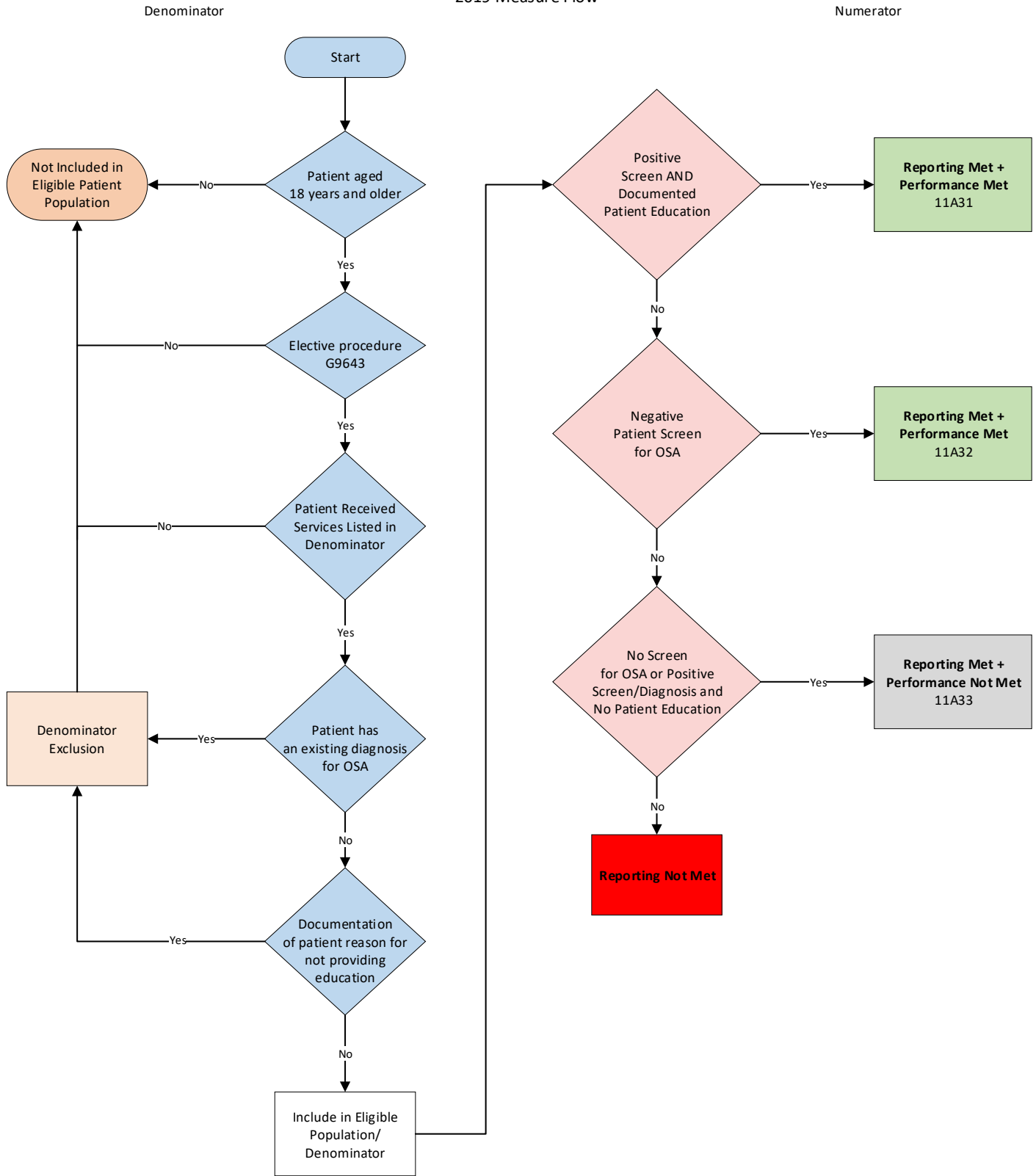
**Overall Performance Rate:** 1

**Proportion Measure Scoring:** Yes

**Continuous Measure Scoring:** No

**Risk Adjustment:** No

Obstructive Sleep Apnea: Patient Education  
2019 Measure Flow



**Measure Title****AQI63: Neuromuscular Blockade: Documented Assessment of Neuromuscular Function Prior to Extubation**

**Measure Description:** Percentage of patients requiring anesthesia services with a documented assessment of neuromuscular blockade reversal after last dose of non-depolarizing neuromuscular blocker

**NQS Domain / Meaningful Measures Area**

Patient Safety / Preventable Healthcare Harm

**Measure Type**

Process

**High Priority Status**

Yes

**Inverse Measure**

No

**Instructions**

This measure is to be reported each time a patient undergoes a procedure with anesthesia services during the reporting period. It is anticipated that qualified anesthesia providers and eligible clinicians who provide denominator-eligible services will submit this measure.

**Measure Reporting via the Qualified Clinical Data Registry**

Patient demographics, CPT codes and Registry codes are used to identify patients who are included in the measure denominator. Registry codes are used to report the numerator of the measure.

**Denominator**

All patients requiring anesthesia services that have received, either by bolus or infusion, a non-depolarizing neuromuscular blocker (NMB) and were extubated post-operatively or in the PACU

Denominator Definition: For the purposes of this measure, qualifying neuromuscular blocker medications include:

- Atracurium
- Cisatracurium
- Pancuronium
- Rocuronium
- Vecuronium

**Denominator Criteria (Eligible Cases):**

Patient regardless of age

**AND**

**Patient encounter during the reporting period (CPT):** 00100, 00102, 00103, 00104, 00120, 00124, 00126, 00140, 00142, 00144, 00145, 00147, 00148, 00160, 00162, 00164, 00170, 00172, 00174, 00176, 00190, 00192, 00210, 00211, 00212, 00214, 00215, 00216, 00218, 00220, 00222, 00300, 00320, 00322, 00350, 00352, 00400, 00402, 00404, 00406, 00410, 00450, 00454, 00470, 00472, 00474, 00500, 00520, 00522, 00524, 00528, 00529, 00530, 00532, 00534, 00537, 00539, 00540, 00541, 00542, 00546, 00548, 00550, 00566, 00600, 00604, 00620, 00625, 00626, 00630, 00632,

00635, 00640, 00670, 00700, 00702, 00730, 00731, 00732, 00750, 00752, 00754, 00756, 00770, 00790, 00792, 00794, 00796, 00797, 00800, 00802, 00811, 00812, 00813, 00820, 00830, 00832, 00840, 00842, 00844, 00846, 00848, 00851, 00860, 00862, 00864, 00865, 00866, 00868, 00870, 00872, 00873, 00880, 00882, 00902, 00904, 00906, 00908, 00910, 00912, 00914, 00916, 00918, 00920, 00921, 00922, 00924, 00926, 00928, 00930, 00932, 00934, 00936, 00938, 00940, 00942, 00944, 00948, 00950, 00952, 01112, 01120, 01130, 01140, 01150, 01160, 01170, 01173, 01200, 01202, 01210, 01212, 01214, 01215, 01220, 01230, 01232, 01234, 01250, 01260, 01270, 01272, 01274, 01320, 01340, 01360, 01380, 01382, 01390, 01392, 01400, 01402, 01404, 01420, 01430, 01432, 01440, 01442, 01444, 01462, 01464, 01470, 01472, 01474, 01480, 01482, 01484, 01486, 01490, 01500, 01502, 01520, 01522, 01610, 01620, 01622, 01630, 01634, 01636, 01638, 01650, 01652, 01654, 01656, 01670, 01680, 01710, 01712, 01714, 01716, 01730, 01732, 01740, 01742, 01744, 01756, 01758, 01760, 01770, 01772, 01780, 01782, 01810, 01820, 01829, 01830, 01832, 01840, 01842, 01844, 01850, 01852, 01860, 01916, 01920, 01922, 01924, 01925, 01926, 01930, 01931, 01932, 01933, 01935, 01936, 01951, 01952, 01953, 01958, 01960, 01961, 01962, 01963, 01965, 01966, 01967, 01968, 01969, 01991, 01992

**AND**

Received non-depolarizing neuromuscular blocker (NMB): **11A17**

**AND**

Patient was extubated post-operatively or in the PACU: **11A18**

**Denominator Exclusions**

- ASA Physical Status 5 or 6

**Numerator**

Cases with a documented assessment of neuromuscular blockade AFTER last dose or stopping of infusion of neuromuscular blocker and before earliest extubation

Numerator Definition: A documented assessment of neuromuscular blockade can include

- Train of Four Count (1,2,3, or 4). A Train of Four value of '0' is accepted for cases in which sugammadex will be administered for reversal.
- Assessment for tetany
- TOF ratio provided by acceleromyography
- Double-burst stimulation

**Numerator Quality-Data Coding Options for Reporting Satisfactorily**

***Performance Met:***

**11A19**

Patient had documented assessment of neuromuscular blockade AFTER last dose or stopping of infusion of neuromuscular blocker and before earliest extubation

**OR**

***Performance Not Met:***

**11A20**

Patient did not have documented assessment of neuromuscular blockade AFTER last dose or stopping of infusion of neuromuscular blocker and before earliest extubation

**NQF Number:** Not applicable

**eCQM:** Not applicable

## Rationale

Postoperative residual neuromuscular blockade can lead to significant complications. Several studies have found associations between the use of neuromuscular blockade agents (NMBA) and residual neuromuscular blockade in the recovery room. Adverse postoperative respiratory outcomes are even more frequent when patients receive NMBA and reversal agents are not used. A mainstay of residual blockade prevention continues to be monitoring neuromuscular depth, to guide appropriate usage of reversal agents like neostigmine and sugammadex. Due to variability in duration of muscle relaxants, even in defasciculating doses, we recommend that TOF is monitored when any non-depolarizing neuromuscular blockers are administered.

This measure was developed as an adaptation from the Multicenter Perioperative Outcomes Group (MPOG) QCDR measure NMB01: Train of Four Taken. ASA worked with MPOG during the development of this measure to ensure the measures are aligned and harmonized.

## Clinical Recommendation Statements:

### ***2013 ASA Practice Guidelines for Postanesthetic Care<sup>xxxii</sup>***

“Assessment of neuromuscular function should be performed during emergence and recovery for patients who have received nondepolarizing neuromuscular blocking agents or who have medical conditions associated with neuromuscular dysfunction.”

**Data Source:** Claims/Paper Medical Record, Registry

**Measure Steward:** American Society of Anesthesiologists (ASA)/Anesthesia Quality Institute (AQI)

**Number of Performance Rates:** 1

**Overall Performance Rate:** 1

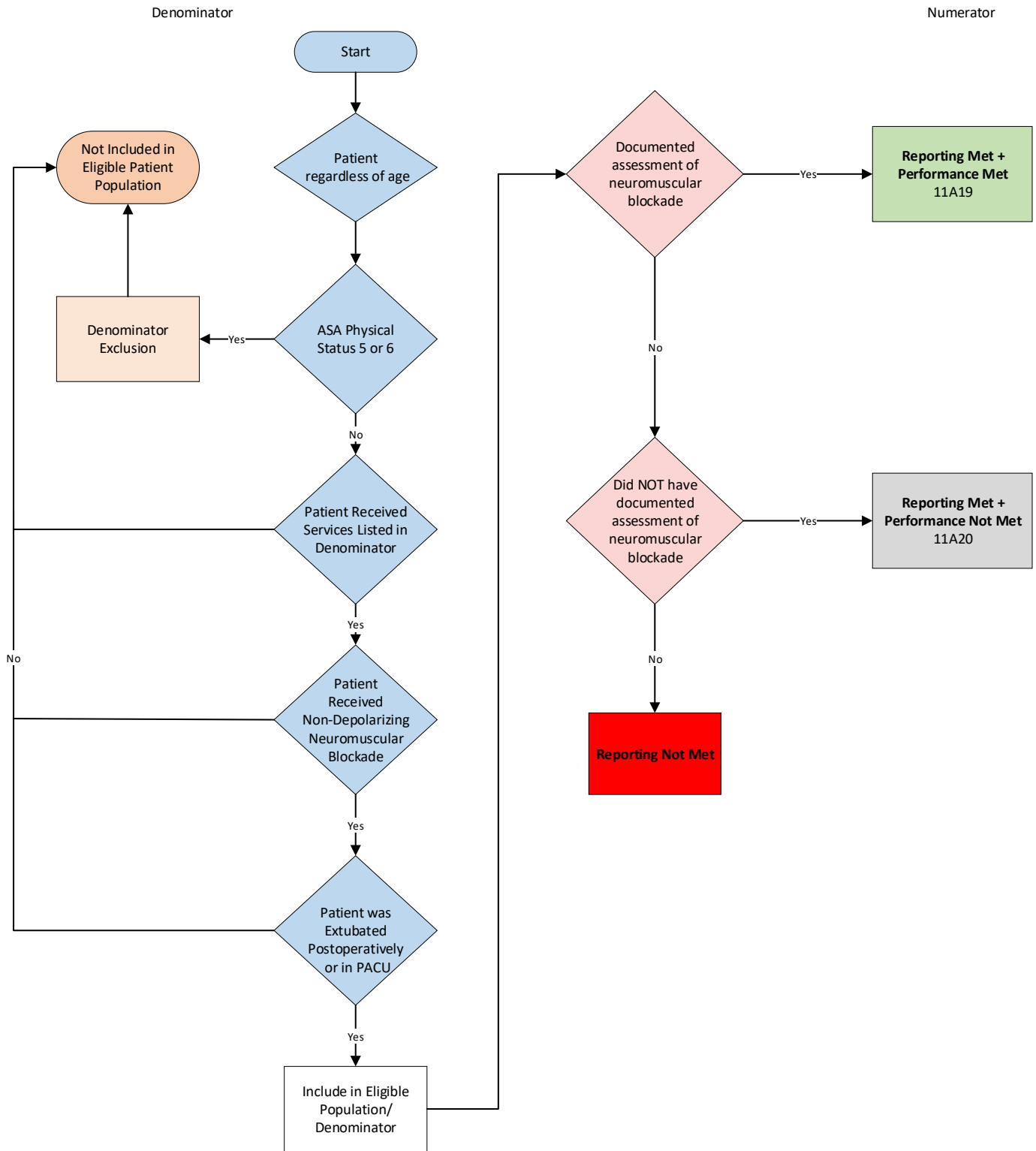
**Proportion Measure Scoring:** Yes

**Continuous Measure Scoring:** No

**Risk Adjustment:** No



Neuromuscular Blockade: Documented Assessment of Neuromuscular Function Prior to Extubation  
2019 Measure Flow



**Measure Title****AQI64: Neuromuscular Blockade: Reversal Administered**

**Measure Description:** Percentage patients aged 12 years and older, requiring anesthesia services where non-depolarizing neuromuscular blockade is used and neostigmine, sugammadex, and/or edrophonium are administered prior to extubation

**NQS Domain / Meaningful Measures Area**

Patient Safety / Preventable Healthcare Harm

**Measure Type**

Process

**High Priority Status**

Yes

**Inverse Measure**

No

**Instructions**

This measure is to be reported each time a patient undergoes a procedure with anesthesia services during the reporting period. It is anticipated that qualified anesthesia providers and eligible clinicians who provide denominator-eligible services will submit this measure.

**Measure Reporting via the Qualified Clinical Data Registry**

Patient demographics, CPT codes and Registry codes are used to identify patients who are included in the measure denominator. Registry codes are used to report the numerator of the measure.

**Denominator**

All patients aged 12 years and older, requiring anesthesia services that have received, either by bolus or infusion, a non-depolarizing neuromuscular blocker (NMB) AND were extubated post-operatively or in the PACU

Denominator Definition: For the purposes of this measure, qualifying neuromuscular blocker medications include:

- Atracurium
- Cisatracurium
- Pancuronium
- Rocuronium
- Vecuronium

Mivacurium and Doxacurium are not included in this measure.

**Denominator Criteria (Eligible Cases):**

Patient aged 12 years and older

**AND**

**Patient encounter during the reporting period (CPT):** 00100, 00102, 00103, 00104, 00120, 00124, 00126, 00140, 00142, 00144, 00145, 00147, 00148, 00160, 00162, 00164, 00170, 00172, 00174, 00176, 00190, 00192, 00210, 00211, 00212, 00214, 00215, 00216, 00218, 00220, 00222, 00300, 00320, 00322, 00350, 00352, 00400, 00402, 00404, 00406, 00410, 00450, 00454, 00470,

00472, 00474, 00500, 00520, 00522, 00524, 00528, 00529, 00530, 00532, 00534, 00537, 00539, 00540, 00541, 00542, 00546, 00548, 00550, 00566, 00600, 00604, 00620, 00625, 00626, 00630, 00632, 00635, 00640, 00670, 00700, 00702, 00730, 00731, 00732, 00750, 00752, 00754, 00756, 00770, 00790, 00792, 00794, 00796, 00797, 00800, 00802, 00811, 00812, 00813, 00820, 00830, 00832, 00840, 00842, 00844, 00846, 00848, 00851, 00860, 00862, 00864, 00865, 00866, 00868, 00870, 00872, 00873, 00880, 00882, 00902, 00904, 00906, 00908, 00910, 00912, 00914, 00916, 00918, 00920, 00921, 00922, 00924, 00926, 00928, 00930, 00932, 00934, 00936, 00938, 00940, 00942, 00944, 00948, 00950, 00952, 01112, 01120, 01130, 01140, 01150, 01160, 01170, 01173, 01200, 01202, 01210, 01212, 01214, 01215, 01220, 01230, 01232, 01234, 01250, 01260, 01270, 01272, 01274, 01320, 01340, 01360, 01380, 01382, 01390, 01392, 01400, 01402, 01404, 01420, 01430, 01432, 01440, 01442, 01444, 01462, 01464, 01470, 01472, 01474, 01480, 01482, 01484, 01486, 01490, 01500, 01502, 01520, 01522, 01610, 01620, 01622, 01630, 01634, 01636, 01638, 01650, 01652, 01654, 01656, 01670, 01680, 01710, 01712, 01714, 01716, 01730, 01732, 01740, 01742, 01744, 01756, 01758, 01760, 01770, 01772, 01780, 01782, 01810, 01820, 01829, 01830, 01832, 01840, 01842, 01844, 01850, 01852, 01860, 01916, 01920, 01922, 01924, 01925, 01926, 01930, 01931, 01932, 01933, 01935, 01936, 01951, 01952, 01953, 01958, 01960, 01961, 01962, 01963, 01965, 01966, 01967, 01968, 01969, 01991, 01992

**AND**

Received non-depolarizing neuromuscular blocker (NMB): **11A17**

**AND**

Patient was extubated post-operatively or in the PACU: **11A18**

**Denominator Exclusions:**

- ASA Physical Status 5 or 6
- Patient (age > 12 years) received defasciculating dose of: Vecuronium ≤1mg, Cisatracurium ≤2mg, Rocuronium ≤10mg: **11A21**

**Numerator**

Cases with documentation of neostigmine, Sugammadex, and/or edrophonium administered before earliest extubation OR a period of >3 hours between last dose of non-depolarizing medication and extubation OR documentation of sufficient neuromuscular blockade reversal after last dose of NMB and before earliest extubation

**Numerator Quality-Data Coding Options for Reporting Satisfactorily**

***Performance Met:***

**11A22**

Documentation of neostigmine, Sugammadex, and/or edrophonium administered before earliest extubation

**OR**

***Performance Met:***

**11A23**

Period of >3 hours between last dose of non-depolarizing medication and extubation

**OR**

***Performance Met:***

**11A24**

Documentation of sufficient neuromuscular blockade reversal after last dose of NMB and before earliest extubation

**OR**

***Performance Not Met:***

**11A25**

No documentation of neostigmine, Sugammadex, and/or edrophonium administered or sufficient neuromuscular blockade reversal after last dose of NMB and before earliest extubation AND <3 hours between last dose of non-depolarizing medication and extubation

**NQF Number:** Not applicable

**eCQM:** Not applicable

**Rationale**

Postoperative residual neuromuscular blockade can lead to significant complications. Several studies have found associations between the use of neuromuscular blockade agents (NMBA) and residual neuromuscular blockade in the recovery room. Adverse postoperative respiratory outcomes are even more frequent when patients receive NMBA and reversal agents are not used. A mainstay of residual blockade prevention continues to be monitoring neuromuscular depth, to guide appropriate usage of reversal agents like neostigmine and sugammadex. Due to variability in duration of muscle relaxants, even in defasciculating doses, we recommend that TOF is monitored when any nondepolarizing neuromuscular blockers are administered.

This measure was developed as an adaptation from the Multicenter Perioperative Outcomes Group (MPOG) QCDR measure NMB02: Reversal Administered. ASA worked with MPOG during the development of this measure to ensure the measures are aligned and harmonized.

**Clinical Recommendation Statements:****2013 ASA Practice Guidelines for Postanesthetic Care <sup>lviii</sup>**

“Specific antagonists should be administered for reversal of residual neuromuscular blockade when indicated.”

**Data Source:** Claims/Paper Medical Record, Registry

**Measure Steward:** American Society of Anesthesiologists (ASA)/Anesthesia Quality Institute (AQI)

**Number of Performance Rates:** 1

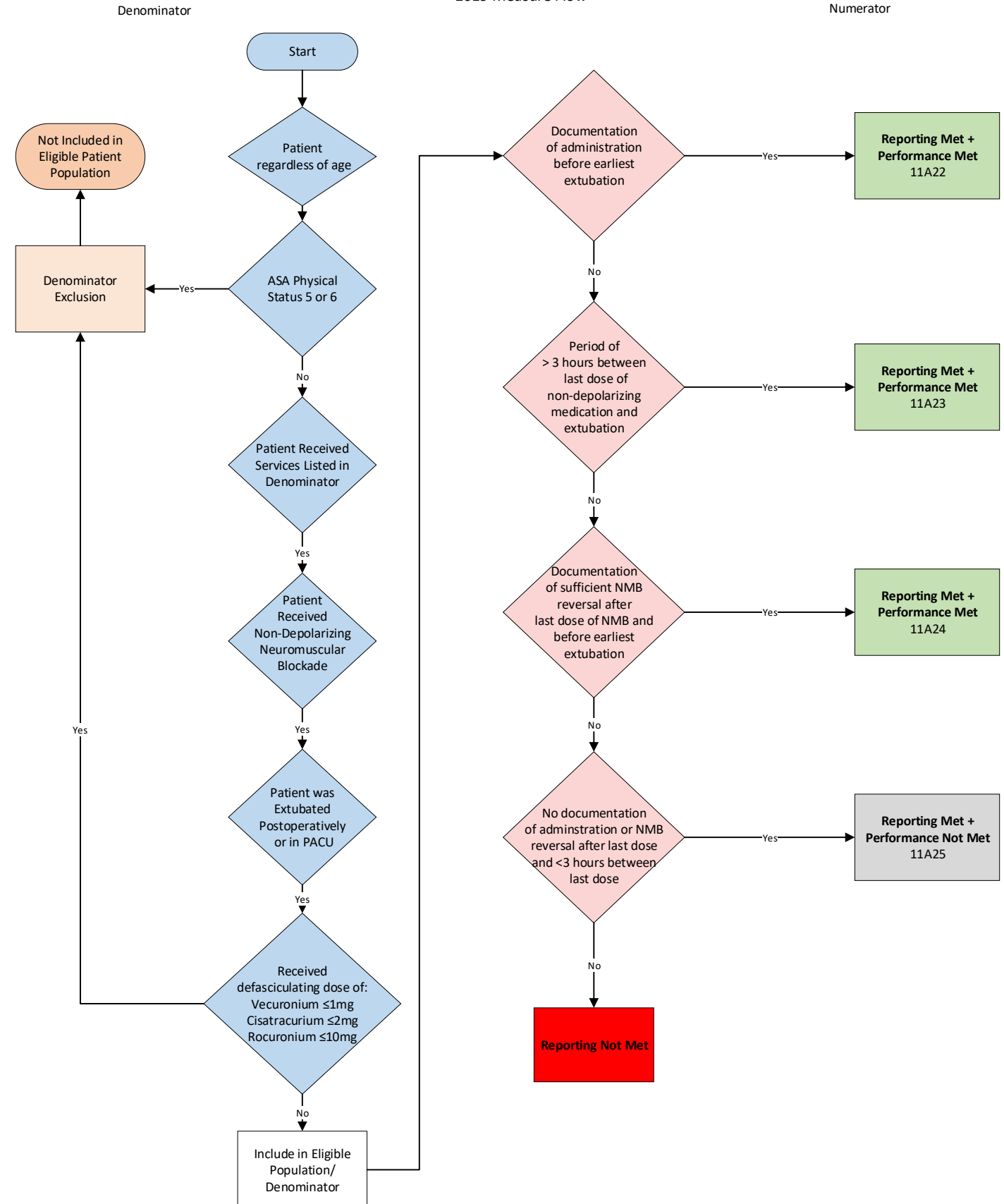
**Overall Performance Rate:** 1

**Proportion Measure Scoring:** Yes

**Continuous Measure Scoring:** No

**Risk Adjustment:** No

Neuromuscular Blockade: Reversal Administered  
2019 Measure Flow



**Measure Title****AQI65: Avoidance of Cerebral Hyperthermia for Procedures Involving Cardiopulmonary Bypass**

**Measure Description:** Percentage of patients, aged 18 years and older, undergoing a procedure using cardiopulmonary bypass who did not have a documented intraoperative pulmonary artery, oropharyngeal, or nasopharyngeal temperature  $\geq 37.0$  degrees Celsius during the period of cardiopulmonary bypass

**NQS Domain / Meaningful Measures Area**

Patient Safety / Preventable Healthcare Harm

**Measure Type**

Outcome

**High Priority Status**

Yes

**Inverse Measure**

No

**Instructions**

This measure is to be reported each time a patient undergoes a cardiac operation using cardiopulmonary bypass during the reporting period. It is anticipated that qualified anesthesia providers and eligible clinicians who provide denominator-eligible services will submit this measure.

**Measure Reporting via the Qualified Clinical Data Registry**

CPT codes and patient demographics are used to identify patients who are included in the measure's denominator. Registry codes are used to report the numerator.

**Denominator**

All patients aged 18 years or older, who undergo a procedure using cardiopulmonary bypass

**Denominator Criteria (Eligible Cases):**

Patient aged 18 years and older

**AND**

Patient encounter during the reporting period (CPT): 00562, 00563, 00567, 00580

**Denominator Exclusions:** None

**Numerator:** Patients who did not have an intraoperative pulmonary artery, oropharyngeal, or nasopharyngeal temperature  $\geq 37.0$  degrees Celsius during cardiopulmonary bypass

**Numerator Quality-Data Coding Options for Reporting Satisfactorily*****Performance Met:***

**11A11**

All intraoperative pulmonary artery, oropharyngeal, or nasopharyngeal temperatures  $< 37.0$  degrees Celsius during cardiopulmonary bypass

**OR*****Performance Not Met:***

<b>11A12</b>	At least one intraoperative pulmonary artery, oropharyngeal, or nasopharyngeal temperature $\geq 37.0$ degrees Celsius
<b><u>OR</u></b>	
<b>11A13</b>	No documented pulmonary artery, oropharyngeal, or nasopharyngeal temperatures during cardiopulmonary bypass

**NQF Number:** Not applicable

**eCQM:** Not applicable

**Rationale:** Appropriate temperature management in the setting of cardiopulmonary bypass (CPB) is important to avoid cerebral hyperthermia and associated cerebral injury. Studies have associated cerebral hyperthermia with complications such as cognitive dysfunction, mediastinitis, and acute kidney injury. Through careful monitoring, good communication with perfusionists, and the assurance of appropriate rewarming strategies, anesthesiologists can prevent cerebral hyperthermia.

**Clinical Recommendation Statements:**

***2015 STS/SCA/ASECT Guidelines on Temperature Management During Cardiopulmonary Bypass<sup>xxxii</sup>***

“Surgical teams should limit arterial outlet blood temperature to  $< 37^{\circ}\text{C}$  to avoid cerebral hyperthermia. (Class I, Level C)”

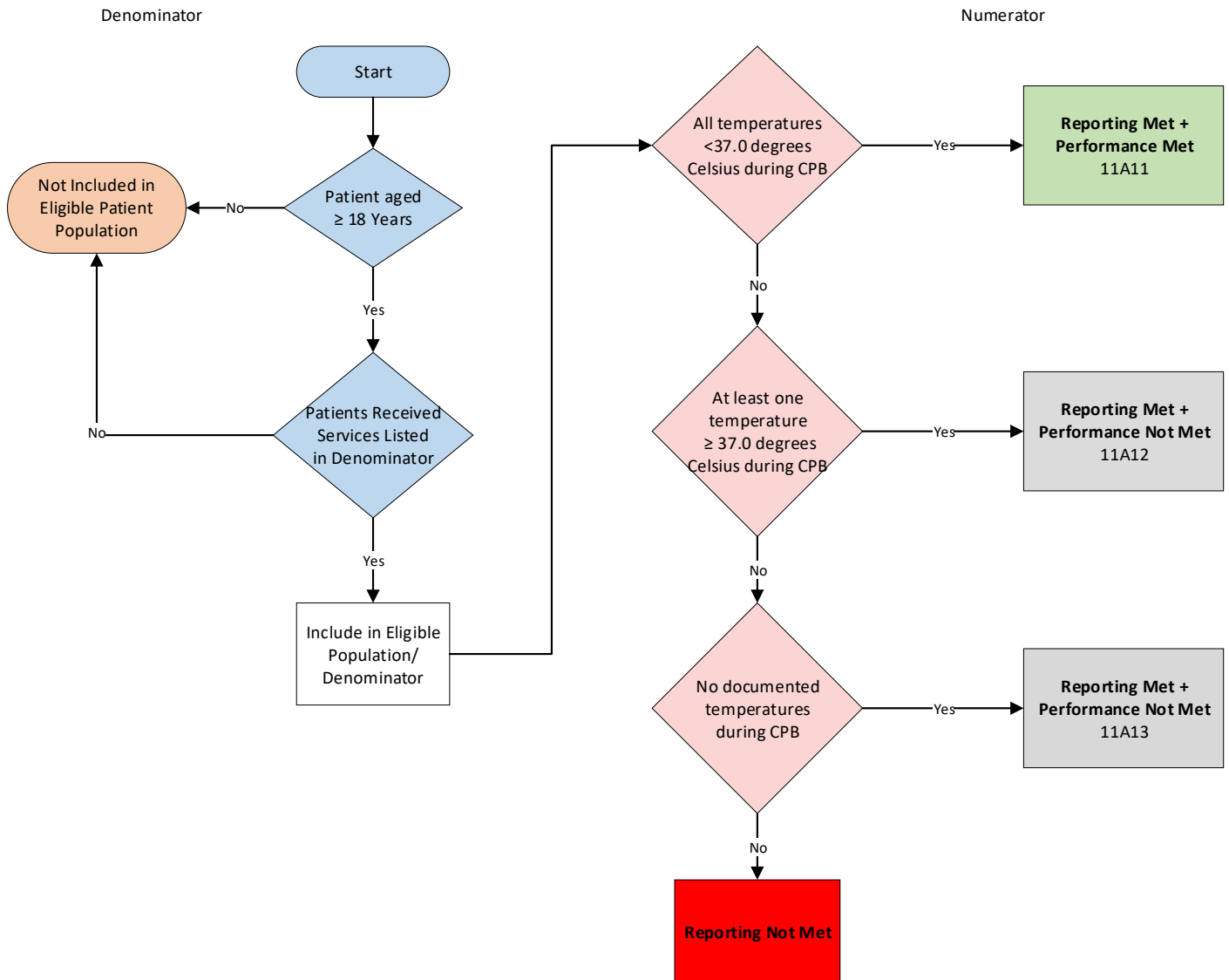
“Pulmonary artery or NP temperature recording is reasonable for core temperature measurement. (Class IIa, Level C)”

**Data Source:** Claims/Paper Medical Record, Registry

**Measure Steward:** American Society of Anesthesiologists (ASA) / Anesthesia Quality Institute (AQI)

<b>Number of Performance Rates:</b>	1
<b>Overall Performance Rate:</b>	1
<b>Proportion Measure Scoring:</b>	Yes
<b>Continuous Measure Scoring:</b>	No
<b>Risk Adjustment:</b>	No

Avoidance of Cerebral Hyperthermia for Procedures Involving Cardiopulmonary Bypass (CPB)  
2019 Measure Flow





**Measure Title****AQI66: Obstructive Sleep Apnea: Mitigation Strategies**

**Measure Description:** Percentage of patients aged 18 years or older, who undergo an elective procedure requiring anesthesia services who are screened for obstructive sleep apnea (OSA) AND, if positive, for whom two or more selected mitigation strategies were used prior to PACU discharge

**NQS Domain / Meaningful Measures Area**

Patient Safety / Preventable Healthcare Harm

**Measure Type**

Process

**High Priority Status**

Yes

**Inverse Measure**

No

**Instructions**

This measure is to be reported each time a patient undergoes an elective procedure under anesthesia during the reporting period. It is anticipated that qualified anesthesia providers and eligible clinicians who provide denominator-eligible services will submit this measure.

**Measure Reporting via the Qualified Clinical Data Registry**

Patient demographics, G-codes and CPT codes are used to identify patients who are included in the measure denominator. Registry Codes are used to capture the numerator.

**Denominator:** All patients aged 18 years or older, who undergo an elective procedure requiring anesthesia services

*Denominator Note:* For the purposes of this measure, anesthesia services only include cases using general anesthesia, neuraxial anesthesia and monitored anesthesia care (MAC)

**Denominator Criteria (Eligible Cases):**

Patients aged 18 years and older

**AND**

Elective procedure: **G9643**

**AND****Patient encounter during the reporting period (CPT):**

00100, 00102, 00103, 00104, 00120, 00124, 00126, 00140, 00142, 00144, 00145, 00147, 00148, 00160, 00162, 00164, 00170, 00172, 00174, 00176, 00190, 00192, 00210, 00211, 00212, 00214, 00215, 00216, 00218, 00220, 00222, 00300, 00320, 00322, 00350, 00352, 00400, 00402, 00404, 00406, 00410, 00450, 00454, 00470, 00472, 00474, 00500, 00520, 00522, 00524, 00528, 00529, 00530, 00532, 00534, 00537, 00539, 00540, 00541, 00542, 00546, 00548, 00550, 00560, 00562, 00563, 00566, 00567, 00580, 00600, 00604, 00620, 00625, 00626, 00630, 00632, 00635, 00640, 00670, 00700, 00702, 00730, 00731, 00732, 00750, 00752, 00754, 00756, 00770, 00790, 00792, 00794, 00796, 00797, 00800, 00802, 00811, 00812, 00813, 00820, 00830, 00832, 00840, 00842, 00844, 00846, 00848, 00851, 00860, 00862, 00864, 00865, 00866, 00868, 00870, 00872, 00873, 00880, 00882, 00902, 00904, 00906, 00908, 00910, 00912, 00914, 00916, 00918, 00920, 00921,

00922, 00924, 00926, 00928, 00930, 00932, 00934, 00936, 00938, 00940, 00942, 00944, 00948, 00950, 00952, 01112, 01120, 01130, 01140, 01150, 01160, 01170, 01173, 01200, 01202, 01210, 01212, 01214, 01215, 01220, 01230, 01232, 01234, 01250, 01260, 01270, 01272, 01274, 01320, 01340, 01360, 01380, 01382, 01390, 01392, 01400, 01402, 01404, 01420, 01430, 01432, 01440, 01442, 01444, 01462, 01464, 01470, 01472, 01474, 01480, 01482, 01484, 01486, 01490, 01500, 01502, 01520, 01522, 01610, 01620, 01622, 01630, 01634, 01636, 01638, 01650, 01652, 01654, 01656, 01670, 01680, 01710, 01712, 01714, 01716, 01730, 01732, 01740, 01742, 01744, 01756, 01758, 01760, 01770, 01772, 01780, 01782, 01810, 01820, 01829, 01830, 01832, 01840, 01842, 01844, 01850, 01852, 01860, 01916, 01920, 01922, 01924, 01925, 01926, 01930, 01931, 01932, 01933, 01935, 01936, 01951, 01952, 01953, 01958, 01960, 01961, 01962, 01963, 01965, 01966, 01967, 01968, 01969, 01991, 01992

### Denominator Exclusions

- None

### Numerator

Patients who are screened for obstructive sleep apnea AND, if positive, have documentation that two or more of the following mitigation strategies were used prior to PACU discharge:

- Preoperative initiation of continuous positive airway pressure (CPAP) or non-invasive positive pressure ventilation (NIPPV)
- Preoperative use of mandibular advancement devices or oral appliances
- Intraoperative administration of CPAP, nasopharyngeal airway, or oral appliance during sedation
- Use of major conduction anesthesia (spinal/epidural) or peripheral nerve block
- Multimodal analgesia
- Extubation while patient is awake
- Verification of full reversal of neuromuscular block
- Extubation and recovery carried out in lateral, semiupright, or other nonsupine position
- Postoperative administration of CPAP, nasopharyngeal airway, or oral appliance in the postanesthesia care unit (PACU)

### Numerator Quality-Data Coding Options for Reporting Satisfactorily

#### **Performance Met:**

**11A26**

Positive patient screen for OSA OR existing OSA diagnosis AND documentation of two or more mitigation strategies used prior to PACU discharge

**OR**

#### **Performance Met:**

**11A27**

Negative patient screen for OSA

**OR**

#### **Performance Not Met:**

**11A28**

No patient screen for OSA OR positive OSA screen result and Documentation of less than 2 mitigation strategies used prior to PACU discharge

**NQF Number:** Not applicable

**eCQM:** Not applicable

## Rationale

Undiagnosed OSA may pose a variety of problems for anesthesiologists and qualified anesthesia providers. A number of case reports have documented an increase in the incidence of postoperative complications and deaths among patients suspected of having OSA. Untreated OSA patients are known to have a higher incidence of difficult intubation, postoperative complications, increased intensive care unit admissions, and greater duration of hospital stay. Identifying patients with OSA is the first step in preventing postoperative complications due to OSA. Moderate-to-severe sleep apnea is independently associated with a large increased risk of all-cause mortality, incident stroke, and cancer incidence and mortality in this community-based sample. With improved preoperative assessment of OSA risk, anesthesiologists are better able to tailor their care to the individual patient's needs through a variety of techniques and mitigation strategies.

## Clinical Recommendation Statements:

### *2014 Guidelines on Perioperative Management of Patients with Obstructive Sleep Apnea<sup>xxxiii</sup>*

“Preoperative initiation of continuous positive airway pressure (CPAP) should be considered, particularly if OSA is severe. For patients who do not respond adequately to CPAP, NIPPV should be considered. The preoperative use of mandibular advancement devices or oral appliances and preoperative weight loss should be considered when feasible.”

“For superficial procedures, consider the use of local anesthesia or peripheral nerve blocks, with or without moderate sedation.

If moderate sedation is used, ventilation should be continuously monitored by capnography or another automated method if feasible because of the increased risk of undetected airway obstruction in these patients.

Consider administering CPCP or using an oral appliance during sedation to patients previously treated with these modalities.”

“Major conduction anesthesia (spinal/epidural) should be considered for peripheral procedures. Unless there is a medical or surgical contraindication, patients at increased perioperative risk from OSA should be extubated while awake.

Full reversal of neuromuscular block should be verified before extubation. When possible, extubation and recovery should be carried out in the lateral, semiupright, or other nonsupine position.”

**Data Source:** Claims/Paper Medical Record, Registry

**Measure Steward:** American Society of Anesthesiologists (ASA)/Anesthesia Quality Institute (AQI)

**Number of Performance Rates:** 1

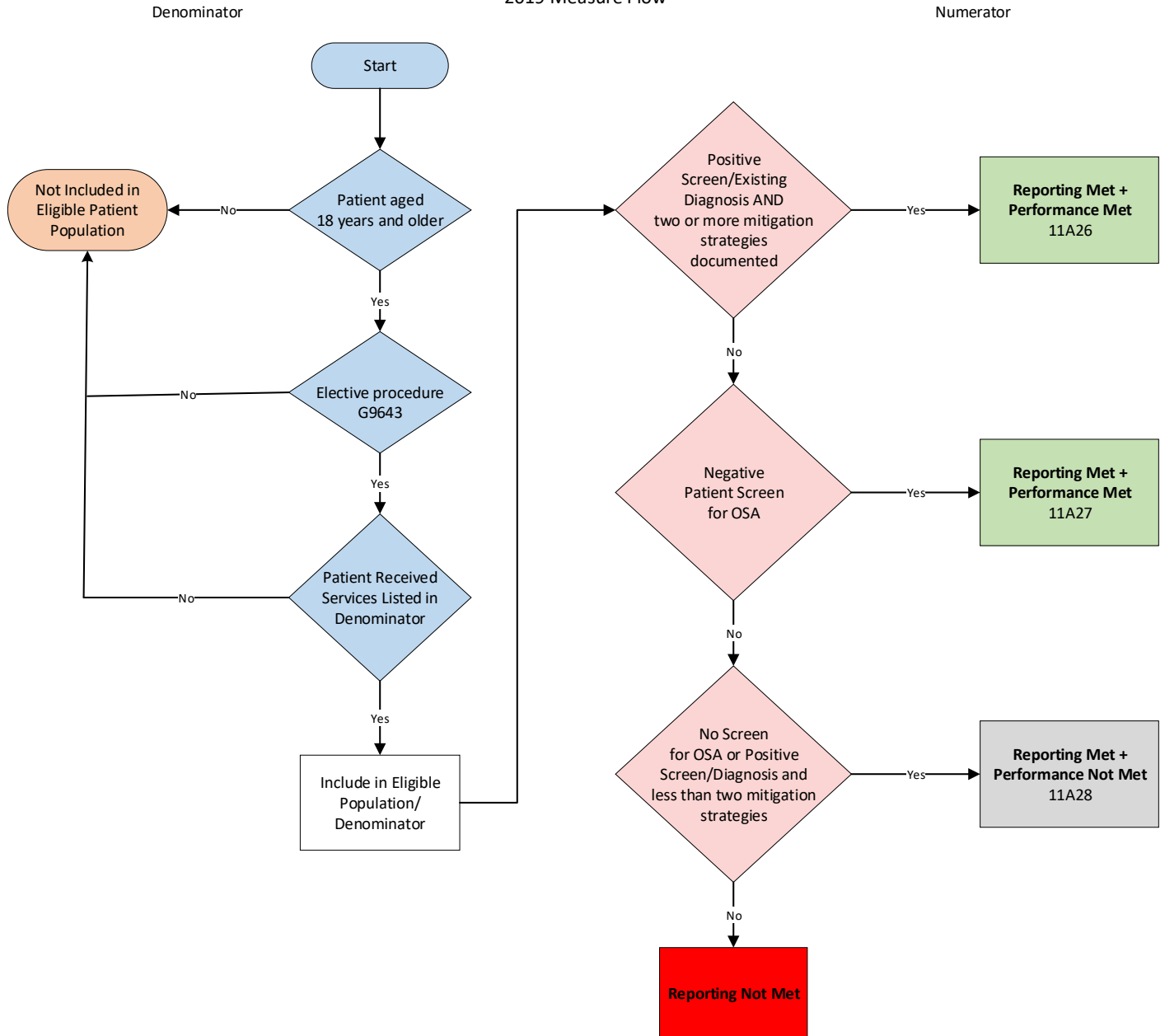
**Overall Performance Rate:** 1

**Proportion Measure Scoring:** Yes

**Continuous Measure Scoring:** No

**Risk Adjustment:** No

Obstructive Sleep Apnea: Mitigation Strategies  
2019 Measure Flow



**Measure Title**  
**AQI67: Consultation for Frail Patients**

**Measure Description:** Percentage of patients aged 70 years or older, who undergo an inpatient procedure requiring anesthesia services and have a positive frailty screening result who receive a multidisciplinary consult or care during the hospital encounter

**NQS Domain / Meaningful Measures Area**  
Communication and Care Coordination / Management of Chronic Conditions

**Measure Type**  
Process

**High Priority Status**  
Yes

**Inverse Measure**  
No

**Instructions**

This measure is to be reported each time a frail patient undergoes an inpatient procedure during the reporting period. It is anticipated that qualified anesthesia providers and eligible clinicians who provide denominator-eligible services will submit this measure.

**Measure Reporting via the Qualified Clinical Data Registry**

Patient demographics, Place of Service codes, CPT codes and Registry codes are used to identify patients who are included in the measure denominator. Registry codes are used to report the numerator.

**Denominator:** All patients aged 70 years or older, who undergo an inpatient procedure requiring anesthesia services and have a positive frailty screening result

Denominator Definition: Frailty can be screened using an established tool including but not limited to following tools:

- Fried Frailty Phenotype Criteria
- Modified Frailty Index
- The Vulnerable Elders Survey
- Initial Clinical Impression (“First Minute Impression”)

**Denominator Criteria (Eligible Cases):**

All patients aged 70 years and older

**AND**

Place of Service Code: 21

**AND**

**Patient encounter during the reporting period (CPT):**

00100, 00102, 00103, 00104, 00120, 00124, 00126, 00140, 00142, 00144, 00145, 00147, 00148, 00160, 00162, 00164, 00170, 00172, 00174, 00176, 00190, 00192, 00210, 00211, 00212, 00214, 00215, 00216, 00218, 00220, 00222, 00300, 00320, 00322, 00350, 00352, 00400, 00402, 00404, 00406, 00410, 00450, 00454, 00470, 00472, 00474, 00500, 00520, 00522, 00524, 00528, 00529, 00530, 00532, 00534, 00537, 00539, 00540, 00541, 00542, 00546, 00548, 00550, 00560, 00562, 00563, 00566, 00567, 00580, 00600, 00604, 00620, 00625, 00626, 00630, 00632, 00635, 00640,

00670, 00700, 00702, 00730, 00731, 00732, 00750, 00752, 00754, 00756, 00770, 00790, 00792, 00794, 00796, 00797, 00800, 00802, 00811, 00812, 00813, 00820, 00830, 00832, 00840, 00842, 00844, 00846, 00848, 00851, 00860, 00862, 00864, 00865, 00866, 00868, 00870, 00872, 00873, 00880, 00882, 00902, 00904, 00906, 00908, 00910, 00912, 00914, 00916, 00918, 00920, 00921, 00922, 00924, 00926, 00928, 00930, 00932, 00934, 00936, 00938, 00940, 00942, 00944, 00948, 00950, 00952, 01112, 01120, 01130, 01140, 01150, 01160, 01170, 01173, 01200, 01202, 01210, 01212, 01214, 01215, 01220, 01230, 01232, 01234, 01250, 01260, 01270, 01272, 01274, 01320, 01340, 01360, 01380, 01382, 01390, 01392, 01400, 01402, 01404, 01420, 01430, 01432, 01440, 01442, 01444, 01462, 01464, 01470, 01472, 01474, 01480, 01482, 01484, 01486, 01490, 01500, 01502, 01520, 01522, 01610, 01620, 01622, 01630, 01634, 01636, 01638, 01650, 01652, 01654, 01656, 01670, 01680, 01710, 01712, 01714, 01716, 01730, 01732, 01740, 01742, 01744, 01756, 01758, 01760, 01770, 01772, 01780, 01782, 01810, 01820, 01829, 01830, 01832, 01840, 01842, 01844, 01850, 01852, 01860, 01916, 01920, 01922, 01924, 01925, 01926, 01930, 01931, 01932, 01933, 01935, 01936, 01951, 01952, 01953, 01991, 01992, 20526, 20550, 20551, 20552, 20553, 20600, 20604, 20605, 20606, 20610, 20611, 27096, 36555, 36556, 36570, 36571, 36578, 36580, 36581, 36582, 36583, 36584, 36585, 62263, 62264, 62270, 62272, 62273, 62280, 62281, 62282, 62310, 62311, 62318, 62319, 62350, 62355, 62360, 62361, 62362, 62365, 62370, 63650, 63661, 63662, 63663, 63664, 63685, 63688, 64400, 64402, 64405, 64408, 64410, 64413, 64415, 64416, 64417, 64418, 64420, 64421, 64425, 64430, 64435, 64445, 64446, 64447, 64448, 64449, 64450, 64461, 64462, 64463, 64479, 64480, 64483, 64484, 64486, 64487, 64488, 64489, 64490, 64491, 64492, 64493, 64494, 64495, 64505, 64510, 64517, 64520, 64530, 64600, 64605, 64610, 64620, 64630, 64633, 64634, 64635, 64636, 64640, 64680, 64681, 72275, 93503, 95990, 95991

**AND**

Positive Frailty Screening Result: **11A14**

**Denominator Exclusions**

- Emergent cases

**Numerator:** Patients who receive a multidisciplinary consult and/or multidisciplinary care during the hospital encounter

Numerator Definition: A multidisciplinary consult should include documentation of a discussion of the frailty screening result and can include consultation initiated by the anesthesiologist or other qualified anesthesia provider with surgery, geriatrics, hospital medicine, palliative care, or other appropriate specialty to help manage the perioperative care of a frail patient.

**Numerator Quality-Data Coding Options for Reporting Satisfactorily**

***Performance Met:***

**11A15**

Patient received multidisciplinary consult and/or multidisciplinary care

**OR**

***Performance Not Met:***

**11A16**

Patient did not receive multidisciplinary consult or multidisciplinary care

**NQF Number:** Not applicable

**eCQM:** Not applicable

## Rationale

Frailty is a health state that makes a patient particularly vulnerable to stressors, such as surgery. Among elderly surgical patients, frailty has been well-associated with post-operative complications and mortality. While evidence is still evolving regarding appropriate interventions to best manage frailty in the perioperative setting and to optimize patient outcomes, there is agreement that preoperative assessment and identification of frailty is an important first step to ensure coordinated and patient-centric care for the frail patient throughout their perioperative course. Preoperative identification of frailty and appropriate multi-disciplinary consultation allows for the care team to provide appropriate counseling regarding the anticipated outcomes of surgery, better anticipate post-operative complications, and better prepare patients and families for their postoperative course. Multi-disciplinary consultation for frail patients can also allow for the implementation of appropriate team-based care pathways to manage complications such as post-operative delirium, as well as help patients and families define their care goals and expectations.

## Clinical Recommendation Statements:

### ***2016 ACS NSQIP/AGS Guidelines on Perioperative Management of the Geriatric Patient*<sup>xxxiv</sup>**

“In the immediate preoperative period the patient’s goals and treatment preferences should be confirmed and documented. Also, during this time, fasting recommendations should be followed, appropriate prophylactic medications should be given, and medications lists should be reviewed for nonessential and inappropriate medications.

The healthcare team can also take this opportunity to begin proactive, postoperative planning, especially with regard to analgesia strategies and minimization of opioids, prevention of functional decline and delirium, early multispecialty consultation where indicated, early involvement of allied health staff such as physical or occupational therapy and anticipating home health needs at discharge.”

### ***2018 Preoperative Frailty Management Recommendations from the Society for Perioperative Assessment and Quality Improvement (SPAQI)*<sup>xxxv</sup>**

“A positive frailty screen is best followed up with a diagnostic assessment of frailty and when feasible a comprehensive geriatric assessment with a tailored intervention, ideally by a geriatric specialist.”

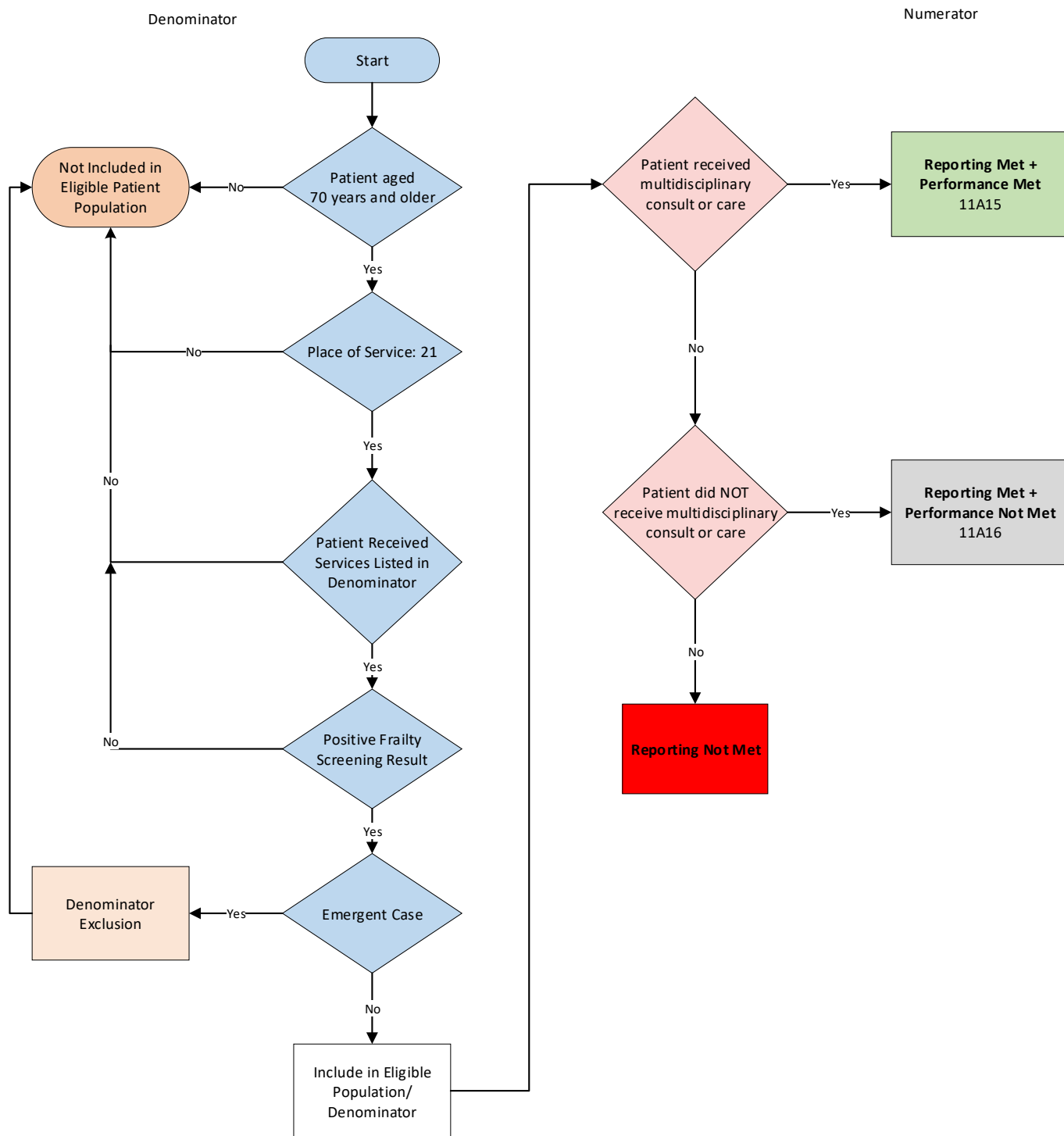
“The degree of frailty will help select the target population for highly-specialized geriatric co-management programs (involving anesthesiology, surgery, and geriatric medicine) that have already been demonstrated to improve the outcomes of elderly patients in non-elective surgeries.”

**Data Source:** Claims/Paper Medical Record, Registry

**Measure Steward:** American Society of Anesthesiologists (ASA)/Anesthesia Quality Institute (AQI)

<b>Number of Performance Rates:</b>	1
<b>Overall Performance Rate:</b>	1
<b>Proportion Measure Scoring:</b>	Yes
<b>Continuous Measure Scoring:</b>	No
<b>Risk Adjustment:</b>	No

Consultation for Frail Patients  
2019 Measure Flow





**Measure Title**  
**Quantum31: Central Line Ultrasound Guidance**

**\*ASA LICENSED THIS MEASURE FROM MEDNAX\***

**Measure Description**

Percentage of patients, regardless of age, in whom ultrasound guidance is used by the anesthesia clinician when placing a central line for those central lines that are placed in the internal jugular location.

**NQS Domain / Meaningful Measures Area**

Patient Safety / Preventable Healthcare Harm

**Measure Type**

Process

**High Priority Status**

Yes

**Inverse Measure**

No

**Instructions**

This measure is to be reported each time an anesthesia clinician places a central line in the internal jugular location. Performance of this metric requires clinician documentation that ultrasound guidance was performed at the time of central line placement.

**Measure Reporting via the Qualified Clinical Data Registry**

CPT codes and patient demographics are used to identify patients who are included in the measure's denominator. Registry codes are used to report the numerator of the measure.

**Denominator**

All patients, regardless of age, who undergo internal jugular central line placement by the anesthesia clinician.

**Denominator Criteria (Eligible Cases):**

All patients, regardless of age

AND

**Patient encounter during the reporting period (CPT):**

36555, 36556, 36557, 36558, 36560, 36561, 36563, 36565, 36566, +76937, 93503

AND

Internal jugular site insertion **10A66**

**Denominator Exclusions / Exceptions**

- None

**Numerator**

Use of ultrasound guidance during the central line insertion when central line is placed at the internal jugular site.

## **Numerator Quality-Data Coding Options for Reporting Satisfactorily**

### ***Performance Met:***

**10A67**

Clinician used ultrasound guidance during central line placement when internal jugular site used

### **OR**

### ***Performance Not Met:***

**10A68**

Clinician did not use ultrasound guidance during central line placement when internal jugular site used

**NQF Number:** Not Applicable

**eCQM:** Not Applicable

### **Rationale**

The use of ultrasound to guide central venous cannulation has been shown to decrease adverse events including but not limited to decreased risks of cannulation failure, arterial puncture, hematoma, and hemothorax. Benefits that relate to ultrasound guidance are most appreciable for internal jugular site insertion in contrast to either subclavian or femoral insertion.<sup>xxxvi,xxxvii,xxxviii,xxxix</sup>

**Data Source:** Claims, Medical Record, Registry

**Measure Steward:** MEDNAX Services, Inc.

**Number of Performance Rates:** 1

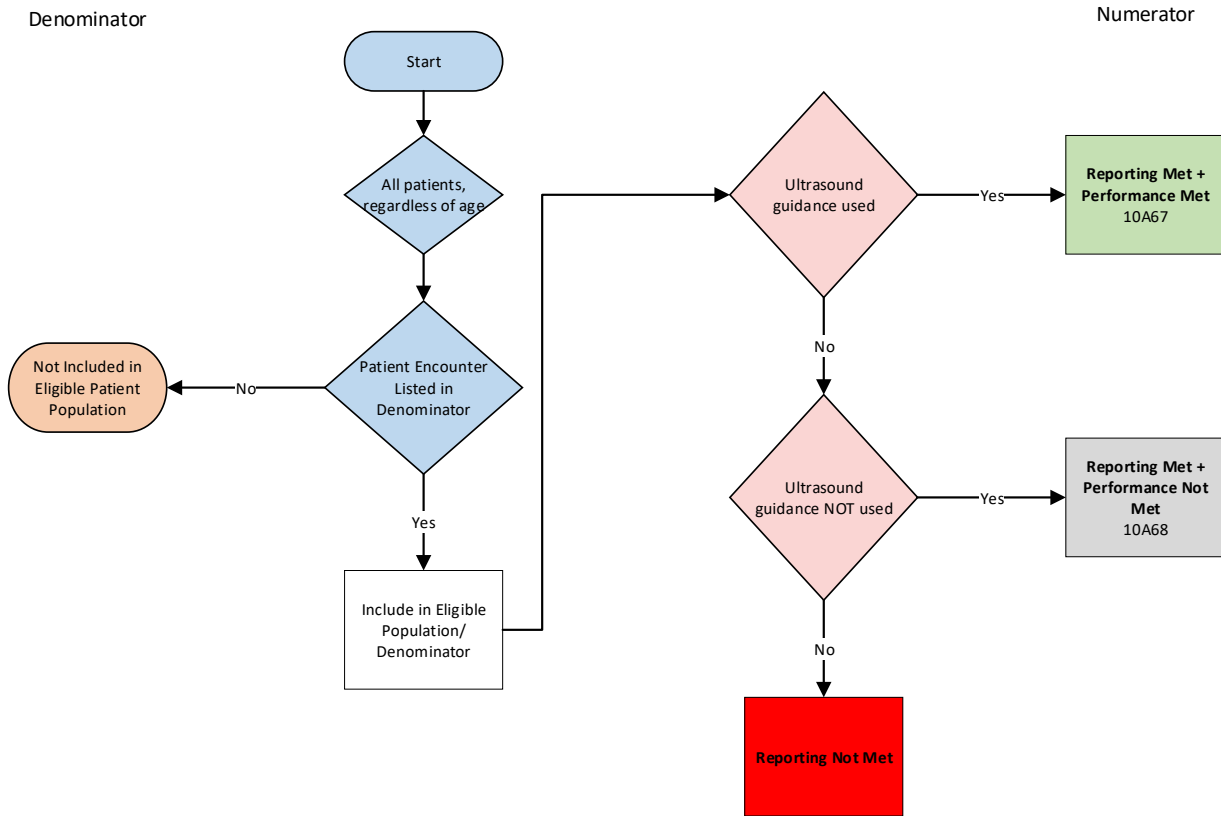
**Overall Performance Rate:** 1

**Proportion Measure Scoring:** Yes

**Continuous Measure Scoring:** No

**Risk Adjustment:** No

# Central Line Ultrasound Guidance 2019 QCDR Measure Flow



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