



2026 New Measure Review Webinar for Hospital Harm-Postoperative Respiratory Failure (HH-RF) (CMS1218v2) eCQM

Expert to Expert Webinar Series

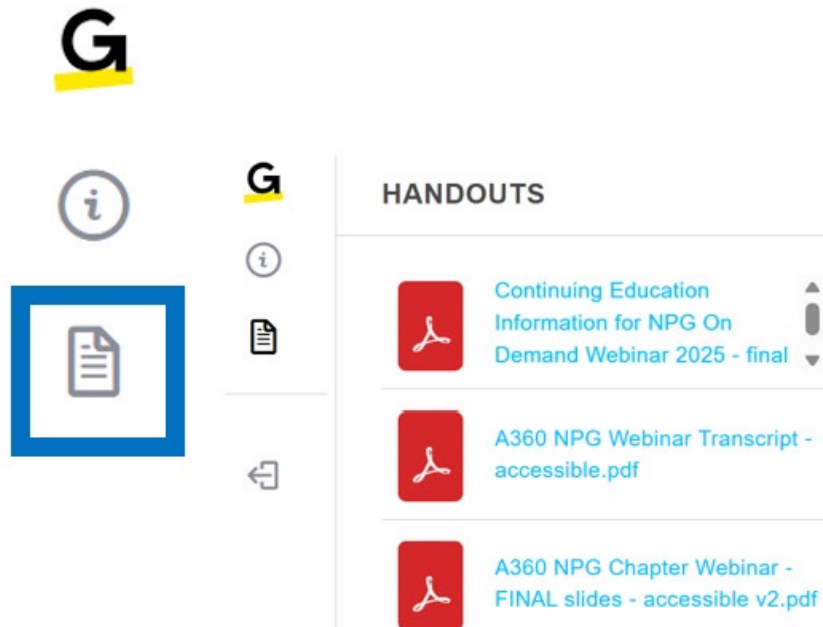
Broadcast Webinar
April 23, 2026
Continuing Education (CE)
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Access the Slides



- Click document icon in the navigation pane.
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- Two weeks after this webinar, the slides will be accessible via the eCQI Resource Center and also on Joint Commission’s website:
www.jointcommission.org/en-us/knowledge-library/support-center/measurement/quality-measurement-webinars-videos.

Continuing Education Information

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Participant Learning Objectives



- Locate eCQM resources on the eCQI Resource Center.
- Facilitate your organization’s implementation of the new Hospital Harm-Postoperative Respiratory Failure eCQM for the 2026 reporting year.
- Utilize answers to common issues/questions regarding the Hospital Harm-Postoperative Respiratory Failure eCQM to inform 2026 use/implementation.

Topics Not Covered in this Program



- Basic eCQM concepts
- Topics related to chart abstracted measures
- Process improvement efforts related to this measure
- eCQM validation
 - Ensure your data is validated before submitting
 - Ensure that extreme outlier results are verified

Disclosure Statement

- All staff and subject matter experts have disclosed that they do not have any conflicts of interest. For example, financial arrangements, affiliations with, or ownership of organizations that provide grants, consultancies, honoraria, travel, or other benefits that would impact the presentation of this webinar content.



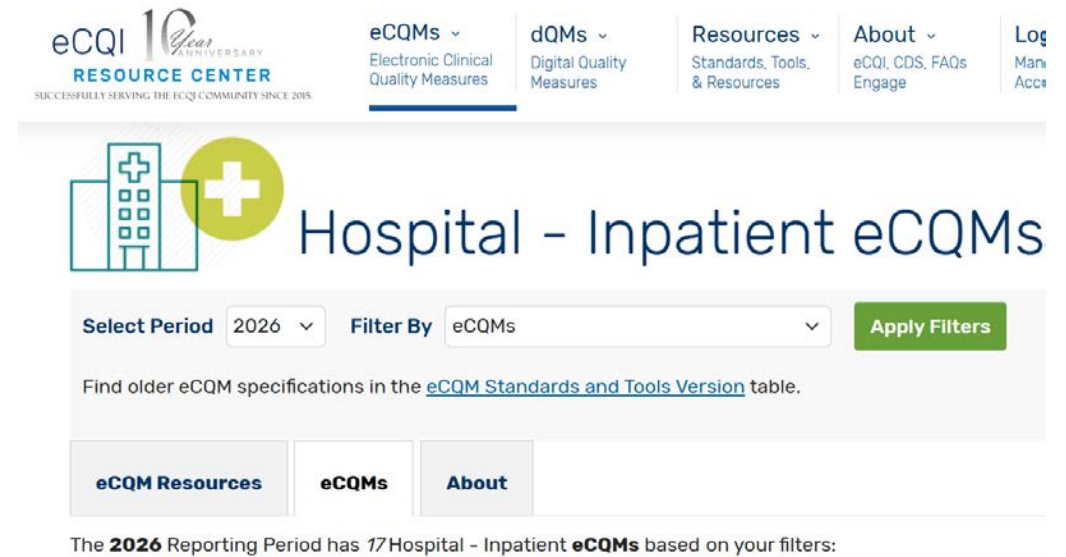
Webinar Agenda



- Review the new Hospital Harm-Postoperative Respiratory Failure (HH-RF) eCQM for Reporting Year 2026
- Overview of the measure flow/algorithm
- Live Q&A Segment

eCQM Specifications and Resources

- A PDF handout includes directions to access the eCQM specifications, value sets, measure flow diagrams, and technical release notes on the eCQI Resource Center.
- Please see the [landing page for 2026 resources](#).
- Please see the [landing page for 2026 specifications](#).



The screenshot displays the eCQI Resource Center website. At the top, there is a navigation menu with the following items: eCQI 10th Anniversary Resource Center (with a sub-tagline 'SUCCESSFULLY SERVING THE ECQI COMMUNITY SINCE 2015'), eCQMs (Electronic Clinical Quality Measures), dQMs (Digital Quality Measures), Resources (Standards, Tools, & Resources), About (eCQI, CDS, FAQs, Engage), and Log Man Acc. Below the navigation is a header section for 'Hospital - Inpatient eCQMs' featuring a hospital icon and a green plus sign. A filter section allows users to 'Select Period' (set to 2026) and 'Filter By' (set to eCQMs), with an 'Apply Filters' button. Below the filter, a message states: 'Find older eCQM specifications in the [eCQM Standards and Tools Version](#) table.' At the bottom of the filter section, there are three tabs: 'eCQM Resources', 'eCQMs', and 'About'. Below the tabs, a summary line reads: 'The 2026 Reporting Period has 17 Hospital - Inpatient eCQMs based on your filters:'

Hospital Harm-Postoperative Respiratory Failure (HH-RF) (CMS1218v2)

HH-RF Background

- CMS finalized adoption of HH-RF measure for Hospital Inpatient Quality Reporting and Promoting Interoperability programs through FY 2025 Inpatient Prospective Payment System (IPPS) final rule.
- Voluntary reporting of measure begins with the CY 2026 reporting period/FY 2028 payment determination.

HH-RF Descriptions and Intent

Measure Description: This measure assesses the number of elective inpatient hospitalizations for patients ages 18 years and older without an obstetrical condition who have a procedure resulting in postoperative respiratory failure.

Rationale and Intent:

- Postoperative respiratory failure is defined as unplanned endotracheal reintubation, prolonged inability to wean from mechanical ventilation, or inadequate oxygenation and/or ventilation
 - Surgical procedures complicated by postoperative respiratory failure increase patients' odds of death, being re-admitted to the hospital within 90 days, and having an outpatient visit with one of 44 postoperative conditions within 90 days of hospital discharge
 - Postoperative respiratory failure is associated with prolonged mechanical ventilation and the need for rehabilitation or skilled nursing facility placement upon discharge
 - The incidence of postoperative respiratory failure varies by hospital, suggesting that there remains room for improvement in hospitals reporting higher rates of postoperative respiratory failure
-

Hospital Harm-Postoperative Respiratory Failure (HH-RF) Measure Header

HH-RF Measure Header Narrative (1)

Measure Components	2026 Reporting Year
Description	This measure assesses the number of elective inpatient hospitalizations for patients aged 18 years and older without an obstetrical condition who have a procedure resulting in postoperative respiratory failure
Initial Population	Elective inpatient hospitalizations with no preceding emergency department visit that end during the measurement period for patients aged 18 and older without an obstetrical condition and at least one surgical procedure was performed within the first 3 days of the encounter
Denominator	Equals Initial Population

Present on Admission (POA) Indicators

- Present on admission is defined as being present at the time the order for inpatient admission occurs.
 - The POA indicator is intended to differentiate conditions present at the time of admission from those conditions that develop during the inpatient admission.
 - Per CMS and the Agency for Healthcare Research and Quality (AHRQ) convention, POA indicators of “Y” and “W” are accepted indicators of a diagnosis present on admission. POA indicators of “N” and “U” are accepted indicators of a diagnosis that is not present on admission.
 - eCQMs rely on the accurate recording of codes, including POA indicators, and diagnoses in patients’ electronic health records (EHRs), which is essential for the correct calculation of this eCQM.
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HH-RF Measure Header Narrative (2)

Measure Components	2026 Reporting Year
Denominator Exclusions	<p>Inpatient hospitalizations for patients:</p> <ul style="list-style-type: none"> • With a diagnosis for a degenerative neurological disorder • With any selected head, neck, and thoracic surgery involving significant risk of airway compromise or requiring airway protection • Who have mechanical ventilation that starts more than one hour prior to the start of the first operating room (OR) procedure • With a diagnosis for a neuromuscular disorder • With arterial partial pressure of carbon dioxide (PaCO₂)>50 mmHg combined with an arterial pH<7.30 within 48 hours or less prior to the start of the first OR procedure • With arterial partial pressure of oxygen (PaO₂)<50 mmHg within 48 hours or less prior to the start of the first OR procedure • With a principal diagnosis for acute respiratory failure • With a diagnosis for acute respiratory failure present on admission • With any diagnosis present on admission for the existence of a tracheostomy • Where a tracheostomy is performed before or on the same day as the first OR procedure

HH-RF Measure Header Narrative (3)

Measure Components	2026 Reporting Year
Numerator	<p>Elective inpatient hospitalizations for patients with postoperative respiratory failure as evidenced by any of the following:</p> <p>Criterion A: Mechanical ventilation (MV) initiated within 30 days after first OR procedure, as evidenced by:</p> <p>A.1. Intubation that occurs outside of a procedural area and within 30 days after the end of the first OR procedure of the encounter.</p> <p><i>or</i></p> <p>A.2. MV that occurs outside of a procedural area within 30 days after the end of the first OR procedure of the encounter and is preceded by a period of non-invasive oxygen therapy between the end of the OR procedure and the MV occurrence, and without a subsequent OR procedure between the non-invasive oxygen therapy and the MV occurrence.</p> <p><i>(continued on next slide)</i></p>

HH-RF Measure Header Narrative (4)

Measure Components	2026 Reporting Year
Numerator <i>(continued)</i>	OR Criterion B: MV with a duration of more than 48 hours after the first OR procedure, as evidenced by: B.1. Extubation that occurs outside of a procedural area more than 48 hours after the end of an OR procedure and within 30 days after the end of the first OR procedure, and is not preceded by a period of non-invasive oxygen therapy or a subsequent OR procedure between the end of the OR procedure and the extubation occurrence. <i>or</i> B.2 Mechanical ventilation that occurs between 48 and 72 hours after the end of an OR procedure and within 30 days after the end of the first OR procedure, and is not preceded by a non-invasive oxygen therapy or a subsequent OR procedure between the end of the OR procedure and the MV occurrence.

HH-RF Measure Header Narrative (5)

Measure Components	2026 Reporting Year
Risk Adjustment	<p>Variables are collected for the development of baseline risk adjustment model</p> <p>Report the first resulted vital sign values during the encounter in the Unified Code for Units of Measure (UCUM) units specified:</p> <ul style="list-style-type: none">• Body temperature: Cel, [degF]• Heart rate: {Beats}/min• Respiratory rate: {Breaths}/min• Systolic blood pressure: mm[Hg] <p><i>(continued on next slide)</i></p>

HH-RF Measure Header Narrative (6)

Measure Components	2026 Reporting Year
Risk Adjustment <i>(continued)</i>	Report the first resulted laboratory test values during the encounter in UCUM units specified: <ul style="list-style-type: none"> • Albumin: g/dL, umol/L • Aspartate aminotransferase (AST/SGOT): U/L, IU/L • Bicarbonate: mmol/L • Bilirubin: mg/dL, umol/L • Blood urea nitrogen (BUN): mg/dL, umol/L • Carbon dioxide (partial pressure): mm[Hg] • Creatinine: mg/dL, umol/L • Hematocrit: % - Hemoglobin: g/dL, mmol/L • Leukocyte count: {cells}/uL, 10³/uL, 10⁹/L, /mm³ • Oxygen (partial pressure): mm[Hg] • pH of arterial blood: [pH] • Platelet count: 10³/uL, 10⁹/L, /mm³ • Sodium: meq/L, mmol/L • White blood cell count: {cells}/uL, 10³/uL, 10⁹/L, /mm³ <p><i>(continued on next slide)</i></p>

HH-RF Measure Header Narrative (7)

Measure Components	2026 Reporting Year
Risk Adjustment <i>(continued)</i>	Additional variables used for risk adjustment: <ul style="list-style-type: none"><li>• American Society of Anesthesiologists (ASA) physical status class assessment that starts during the encounter<li>• First Body mass index (BMI), reported using UCUM unit: kg/m2<li>• Encounter diagnoses with their present on admission (POA) indicators<li>• Most recent smoking status<li>• Principal surgical procedures that start during the encounter

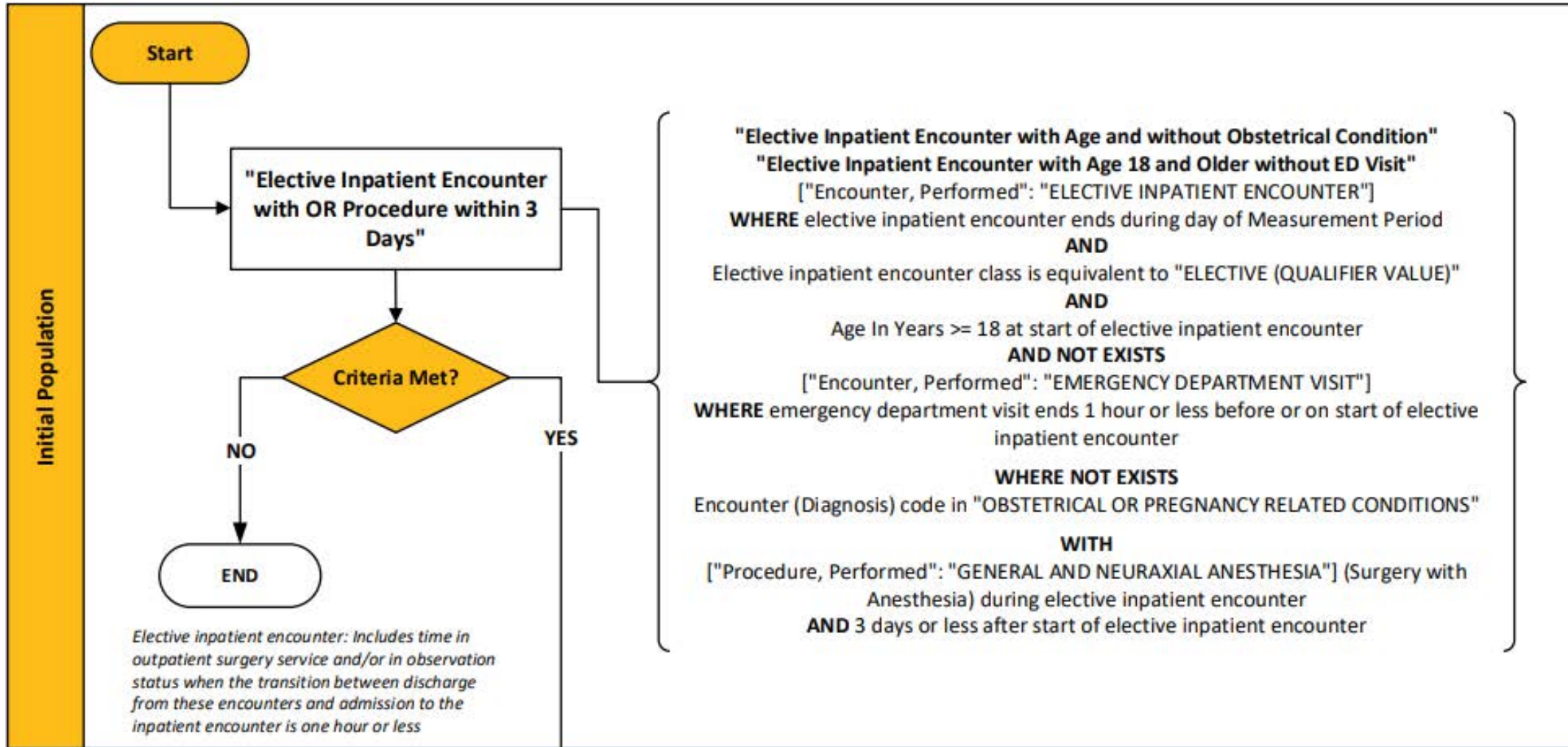


HH-RF Resources

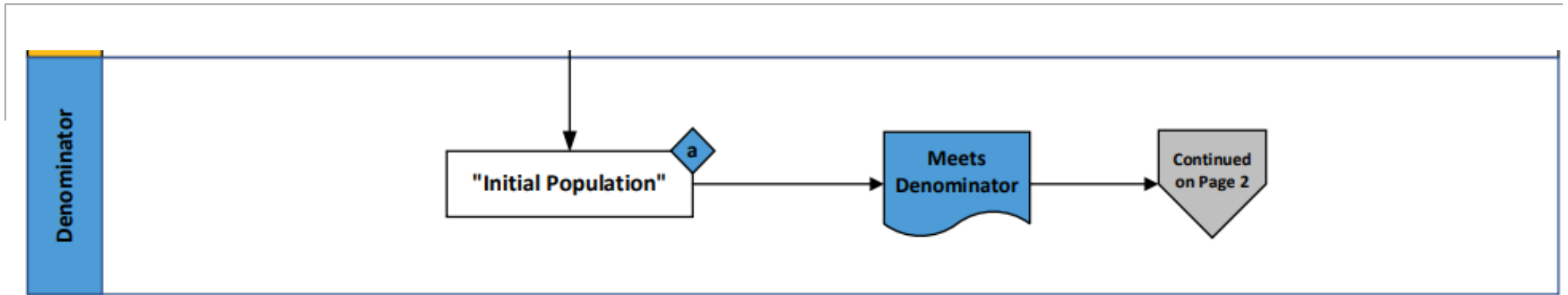
- CMS1218v2 Measure Specification for 2026 reporting
 - <https://ecqi.healthit.gov/sites/default/files/ecqm/measures/CMS1218-v2.3.000-QDM.html>
- HH-RF Risk Adjustment Methodology Report
 - https://ecqi.healthit.gov/sites/default/files/RA_PRF_CMS1218_v1.pdf

Hospital Harm-Postoperative Respiratory Failure (HH-RF) Measure Flow

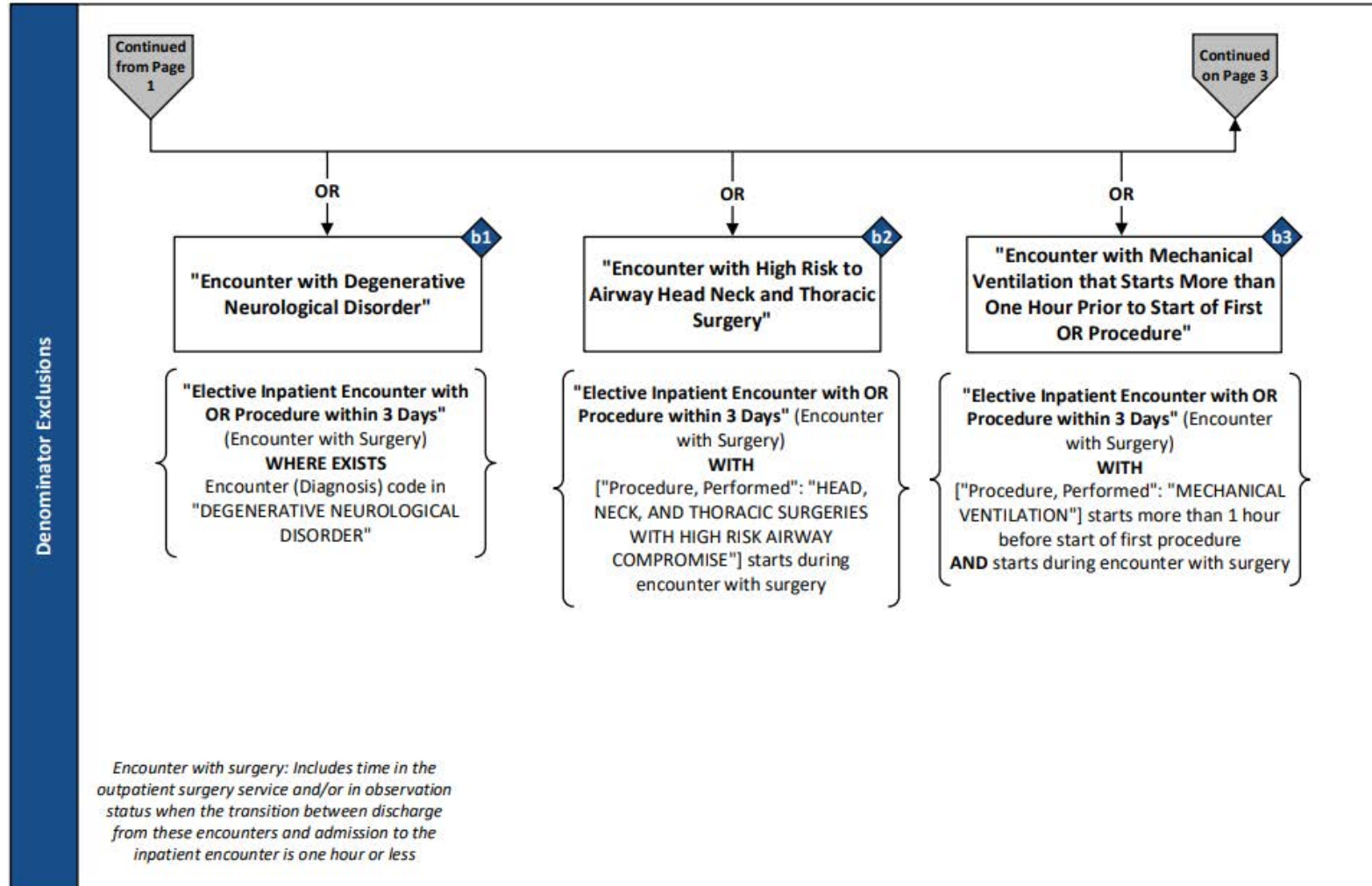
HH-RF Measure Flow – Initial Population



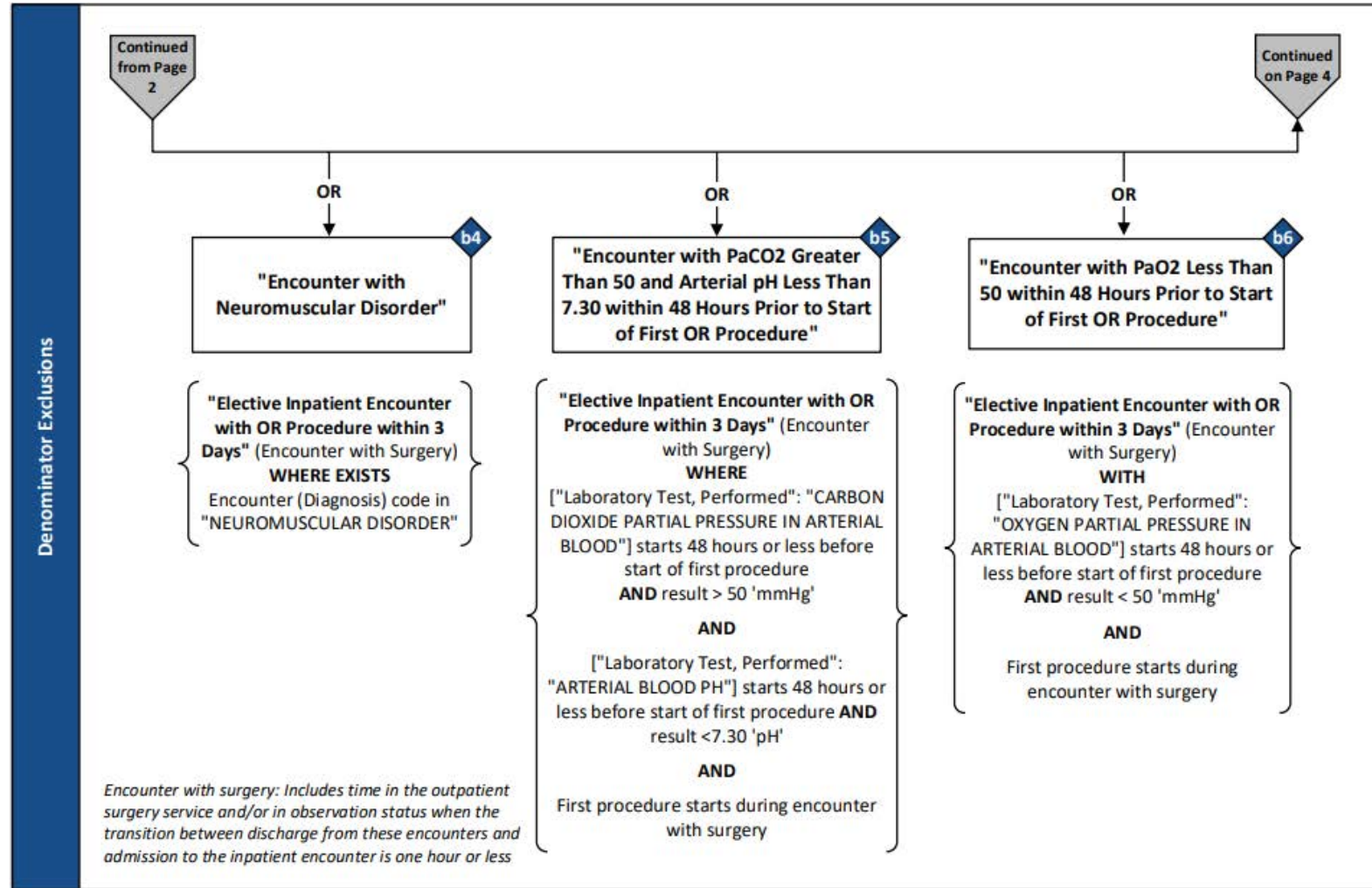
HH-RF Measure Flow - Denominator



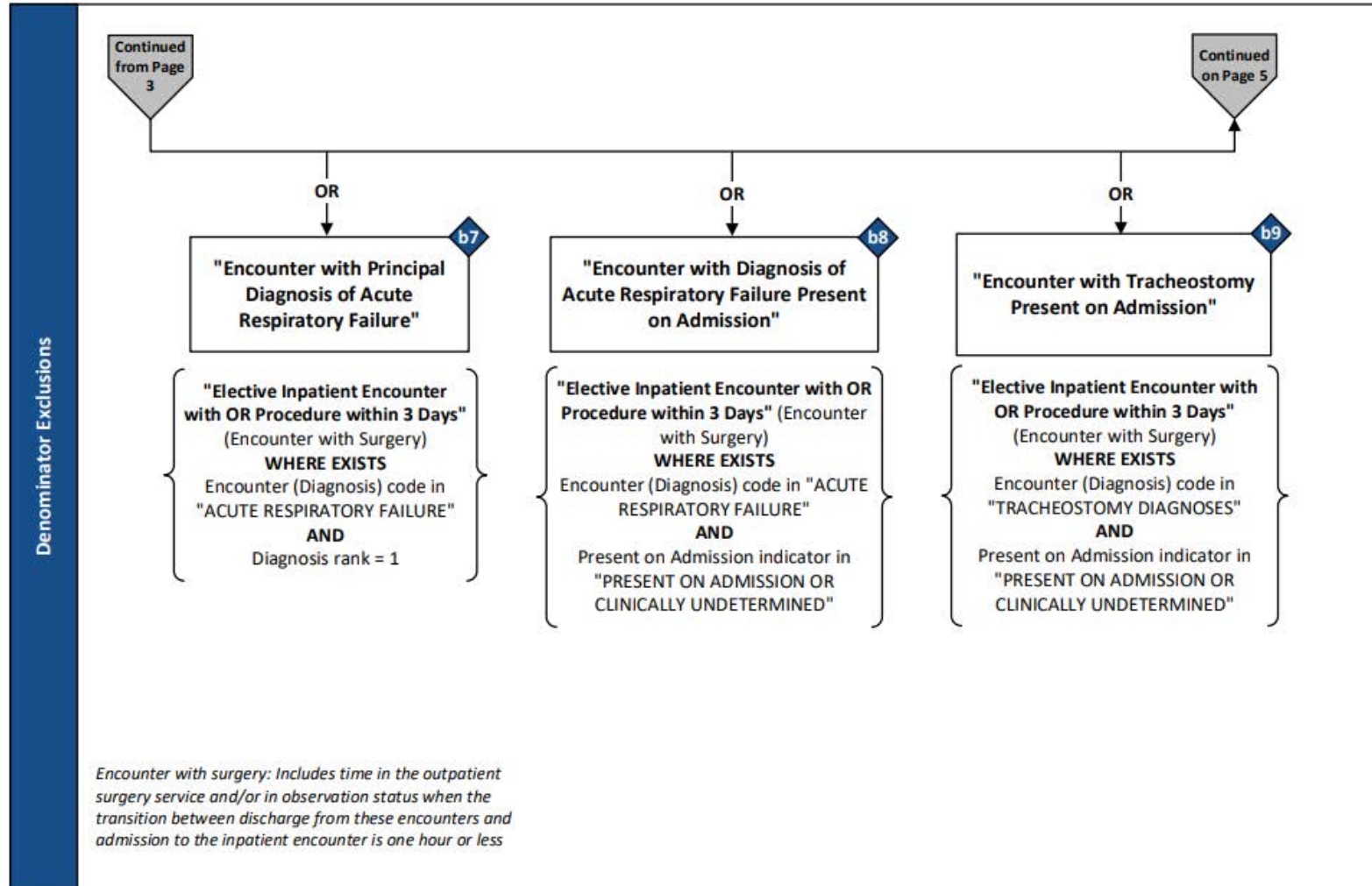
HH-RF Measure Flow – Denominator Exclusions (1)



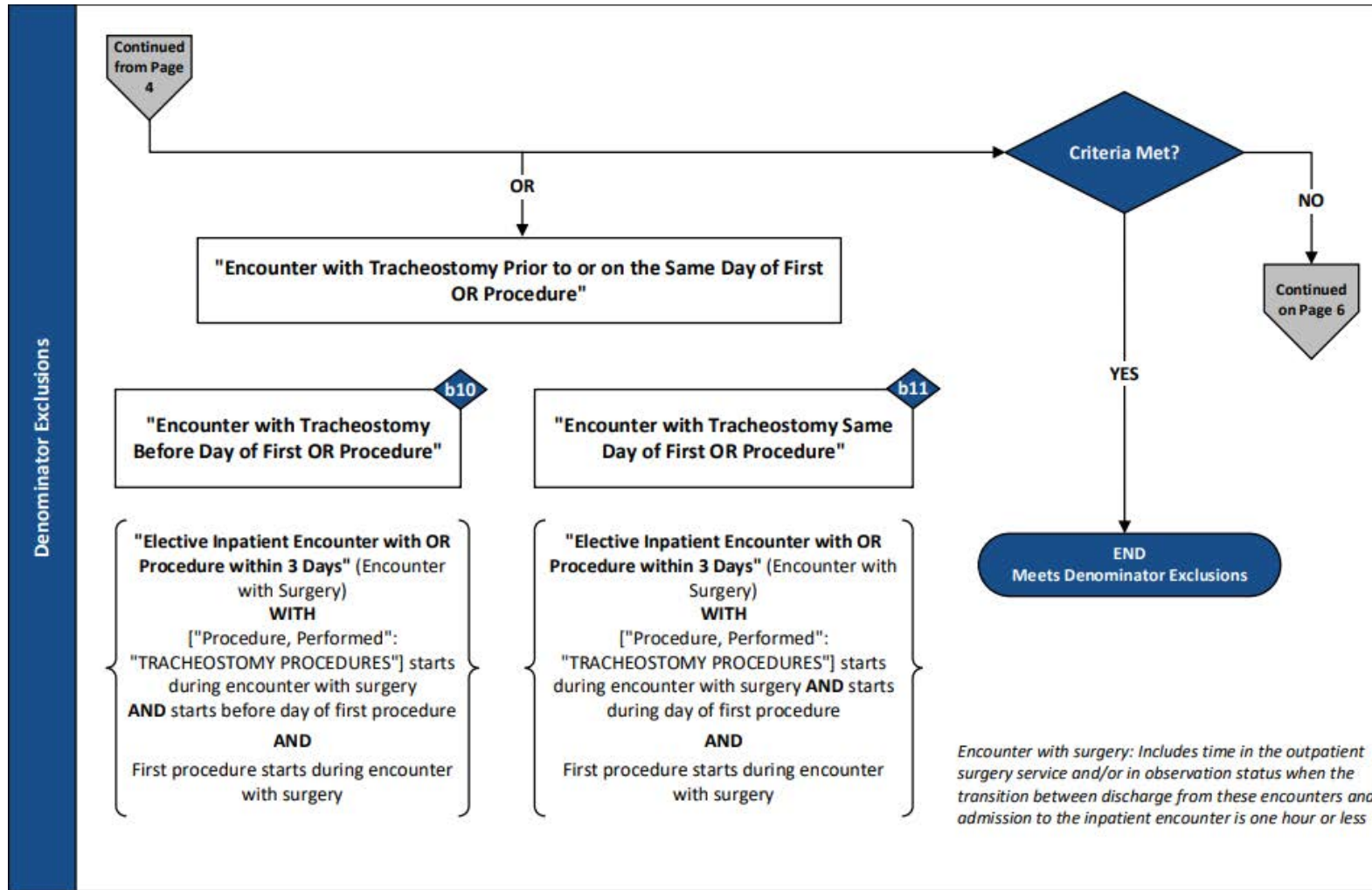
HH-RF Measure Flow – Denominator Exclusions (2)



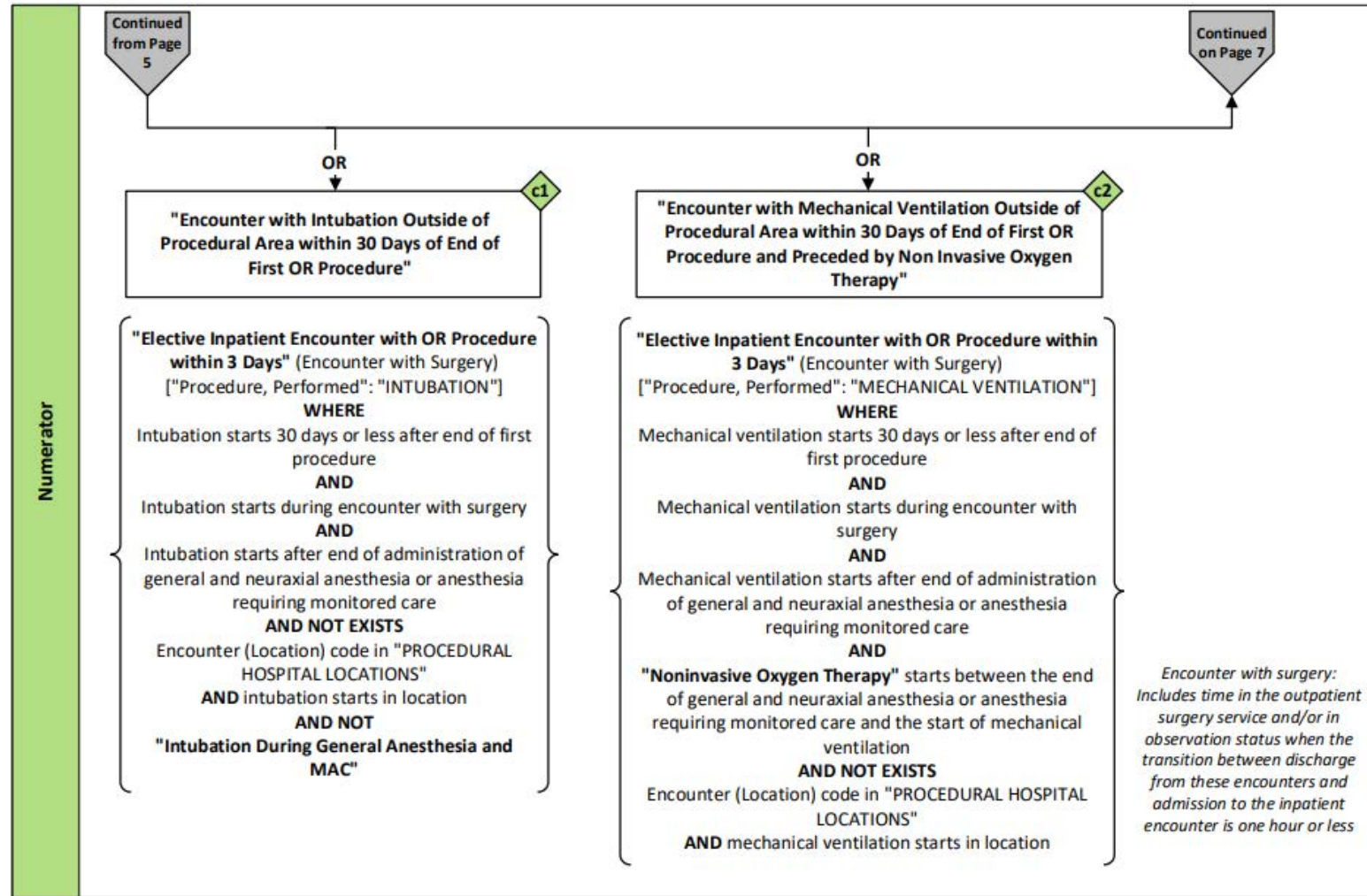
HH-RF Measure Flow – Denominator Exclusions (3)



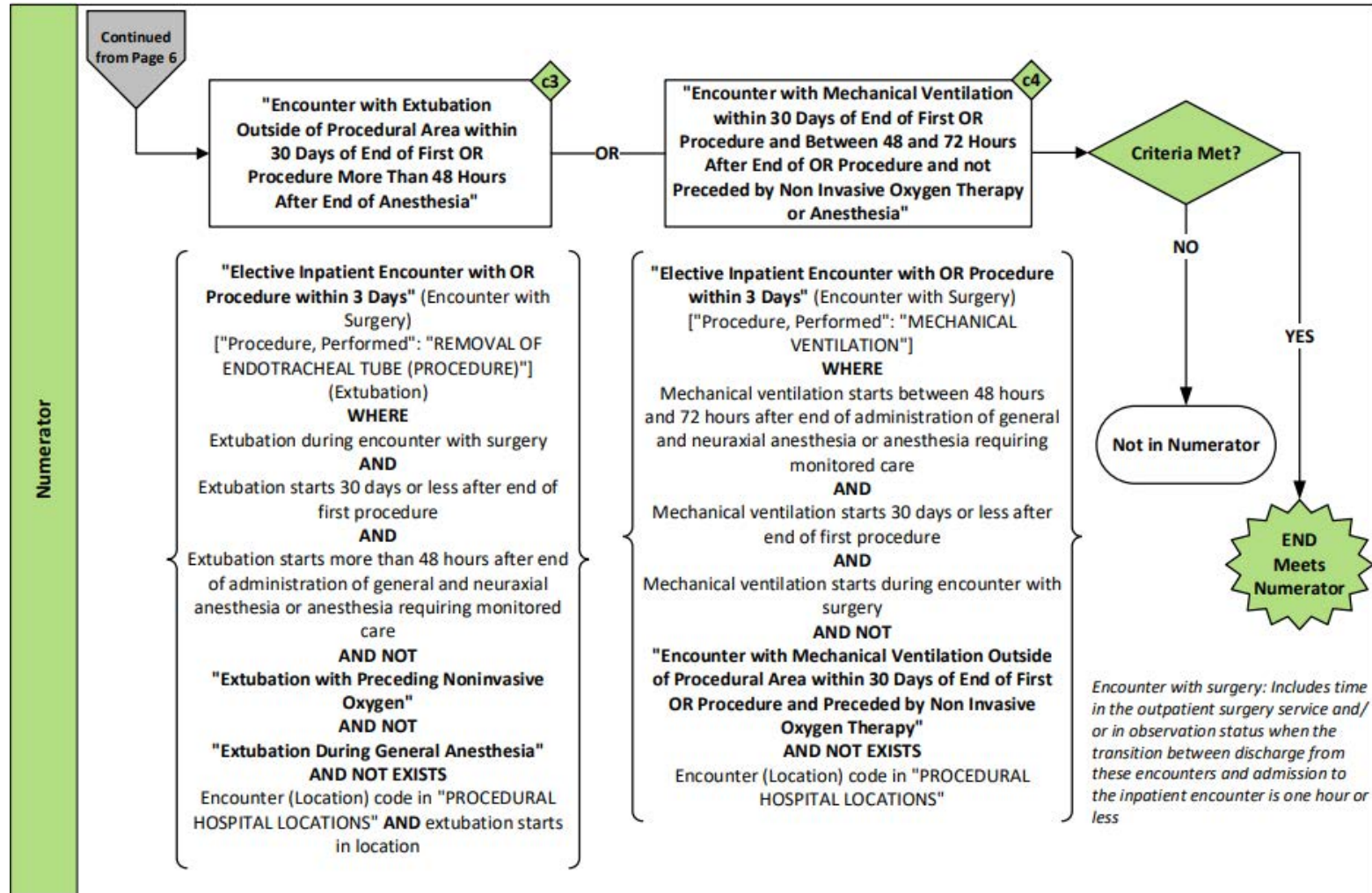
HH-RF Measure Flow – Denominator Exclusions (4)



HH-RF Measure Flow – Numerator (1)



HH-RF Measure Flow – Numerator (2)



Sample Calculation

Sample Calculation		
Performance Rate =	$\frac{\text{Numerator (c1 + c2 + c3 + c4 = 40)}}{\text{Denominator (a = 100) - Denominator Exclusions (b1 + b2 + b3 + b4 + b5 + b6 + b7 + b8 + b9 + b10 + b11 = 20)}}$	= 50%

Hospital Harm-Postoperative Respiratory Failure (HH-RF) Measure Logic

HH-RF Logic – Initial Population (1)

Initial Population

"Elective Inpatient Encounter with OR Procedure within 3 Days"

Elective Inpatient Encounter with OR Procedure within 3 Days

"Elective Inpatient Encounter with Age and without Obstetrical Condition" ElectiveEncounter with ["Procedure, Performed": "General and Neuraxial Anesthesia"] SurgeryWithAnesthesia such that Global."EarliestOf" (SurgeryWithAnesthesia.relevantDatetime, SurgeryWithAnesthesia.relevantPeriod) during Global."HospitalizationWithObservationAndOutpatientSurgeryService" (ElectiveEncounter) and Global."EarliestOf" (SurgeryWithAnesthesia.relevantDatetime, SurgeryWithAnesthesia.relevantPeriod) 3 days or less after start of Global."HospitalizationWithObservationAndOutpatientSurgeryService" (ElectiveEncounter)

Elective Inpatient Encounter with Age and without Obstetrical Condition

"Elective Inpatient Encounter with Age 18 and Older without ED Visit" ElectiveEncounter where not exists ElectiveEncounter.diagnoses EncounterDiagnoses where EncounterDiagnoses.code in "Obstetrical or Pregnancy Related Conditions"

HH-RF Logic – Initial Population (2)

Elective Inpatient Encounter with Age and without Obstetrical Condition

"Elective Inpatient Encounter with Age 18 and Older without ED Visit" ElectiveEncounter
where not exists ElectiveEncounter.diagnoses EncounterDiagnoses
where EncounterDiagnoses.code in "Obstetrical or Pregnancy Related Conditions"

Elective Inpatient Encounter with Age 18 and Older without ED Visit

["Encounter, Performed": "Elective Inpatient Encounter"] ElectiveEncounter
where ElectiveEncounter.relevantPeriod ends during day of "Measurement Period"
and ElectiveEncounter.class ~ "Elective (qualifier value)"
and AgeInYearsAt(date from start of ElectiveEncounter.relevantPeriod) >= 18
and not exists (["Encounter, Performed": "Emergency Department Visit"] EDVisit
where EDVisit.relevantPeriod ends 1 hour or less before or on start of ElectiveEncounter.relevantPeriod
)

HH-RF Logic – Denominator

Denominator

"Initial Population"

HH-RF Logic – Denominator Exclusions (1)

Denominator Exclusions

- "Encounter with Degenerative Neurological Disorder"
 - union "Encounter with High Risk to Airway Head Neck and Thoracic Surgery"
 - union "Encounter with Mechanical Ventilation that Starts More than One Hour Prior to Start of First OR Procedure"
 - union "Encounter with Neuromuscular Disorder"
 - union "Encounter with PaCO₂ Greater Than 50 and Arterial pH Less Than 7.30 within 48 Hours Prior to Start of First OR Procedure"
 - union "Encounter with PaO₂ Less Than 50 within 48 Hours Prior to Start of First OR Procedure"
 - union "Encounter with Principal Diagnosis of Acute Respiratory Failure"
 - union "Encounter with Diagnosis of Acute Respiratory Failure Present on Admission"
 - union "Encounter with Tracheostomy Present on Admission"
 - union "Encounter with Tracheostomy Prior to or on the Same Day of First OR Procedure"
-

HH-RF Logic – Denominator Exclusions (2)

Encounter with Degenerative Neurological Disorder

"Elective Inpatient Encounter with OR Procedure within 3 Days" EncounterWithSurgery
where exists (EncounterWithSurgery.diagnoses EncounterDiagnosis
where EncounterDiagnosis.code in "Degenerative Neurological Disorder"
)

HH-RF Logic – Denominator Exclusions (3)

Encounter with High Risk to Airway Head Neck and Thoracic Surgery

"Elective Inpatient Encounter with OR Procedure within 3 Days" EncounterWithSurgery with ["Procedure, Performed": "Head, Neck, and Thoracic Surgeries with High Risk Airway Compromise"] HeadNeckProcedures such that Global."NormalizeInterval" (HeadNeckProcedures.relevantDatetime, HeadNeckProcedures.relevantPeriod) starts during Global."HospitalizationWithObservationAndOutpatientSurgeryService" (EncounterWithSurgery)

HH-RF Logic – Denominator Exclusions (4)

Encounter with Mechanical Ventilation that Starts More than One Hour Prior to Start of First OR Procedure

"Elective Inpatient Encounter with OR Procedure within 3 Days" EncounterWithSurgery with ["Procedure, Performed": "Mechanical Ventilation"] Ventilation such that Global."NormalizeInterval" (Ventilation.relevantDatetime, Ventilation.relevantPeriod) starts more than 1 hour before start of Global."NormalizeInterval" ("FirstProcedure"(EncounterWithSurgery).relevantDatetime, "FirstProcedure"(EncounterWithSurgery).relevantPeriod) and Global."NormalizeInterval" (Ventilation.relevantDatetime, Ventilation.relevantPeriod) starts during Global."HospitalizationWithObservationAndOutpatientSurgeryService" (EncounterWithSurgery)

HH-RF Logic – Denominator Exclusions (5)

Encounter with Neuromuscular Disorder

"Elective Inpatient Encounter with OR Procedure within 3 Days" EncounterWithSurgery
where exists (EncounterWithSurgery.diagnoses EncounterDiagnosis
where EncounterDiagnosis.code in "Neuromuscular Disorder"
)

HH-RF Logic – Denominator Exclusions (6)

Encounter with PaCO2 Greater Than 50 and Arterial pH Less Than 7.30 within 48 Hours Prior to Start of First OR Procedure

from
"Elective Inpatient Encounter with OR Procedure within 3 Days" EncounterWithSurgery,
["Laboratory Test, Performed": "Carbon Dioxide Partial Pressure in Arterial Blood"] CarbonDioxide,
["Laboratory Test, Performed": "Arterial Blood pH"] BloodpH
where Global."NormalizeInterval" (CarbonDioxide.relevantDatetime, CarbonDioxide.relevantPeriod) starts 48 hours or less before start of Global."NormalizeInterval" ("FirstProcedure"(EncounterWithSurgery).relevantDatetime, "FirstProcedure"(EncounterWithSurgery).relevantPeriod)
and CarbonDioxide.result as Quantity > 50 'mm[Hg]'
and Global."NormalizeInterval" (BloodpH.relevantDatetime, BloodpH.relevantPeriod) starts 48 hours or less before start of Global."NormalizeInterval" ("FirstProcedure"(EncounterWithSurgery).relevantDatetime, "FirstProcedure"(EncounterWithSurgery).relevantPeriod)
and BloodpH.result as Quantity < 7.30 '[pH]'
and (Global."NormalizeInterval" ("FirstProcedure"(EncounterWithSurgery).relevantDatetime, "FirstProcedure"(EncounterWithSurgery).relevantPeriod) starts during
Global."HospitalizationWithObservationAndOutpatientSurgeryService" (EncounterWithSurgery))
return EncounterWithSurgery

HH-RF Logic – Denominator Exclusions (7)

Encounter with PaO2 Less Than 50 within 48 Hours Prior to Start of First OR Procedure

"Elective Inpatient Encounter with OR Procedure within 3 Days" EncounterWithSurgery
with ["Laboratory Test, Performed": "Oxygen Partial Pressure in Arterial Blood"] Oxygen
such that Global."NormalizeInterval" (Oxygen.relevantDatetime, Oxygen.relevantPeriod) starts
48 hours or less before start of Global."NormalizeInterval" (
"FirstProcedure"(EncounterWithSurgery).relevantDatetime,
"FirstProcedure"(EncounterWithSurgery).relevantPeriod)
and Oxygen.result as Quantity < 50 'mm[Hg]'
and Global."NormalizeInterval" ("FirstProcedure"(EncounterWithSurgery).relevantDatetime,
"FirstProcedure"(EncounterWithSurgery).relevantPeriod) starts during
Global."HospitalizationWithObservationAndOutpatientSurgeryService" (EncounterWithSurgery)
return EncounterWithSurgery

HH-RF Logic – Denominator Exclusions (8)

Encounter with Principal Diagnosis of Acute Respiratory Failure

"Elective Inpatient Encounter with OR Procedure within 3 Days" EncounterWithSurgery
where exists (EncounterWithSurgery.diagnoses Diagnosis
where Diagnosis.code in "Acute Respiratory Failure"
and Diagnosis.rank = 1
)

HH-RF Logic – Denominator Exclusions (9)

Encounter with Diagnosis of Acute Respiratory Failure Present on Admission

"Elective Inpatient Encounter with OR Procedure within 3 Days" EncounterWithSurgery
where exists (EncounterWithSurgery.diagnoses Diagnosis
where Diagnosis.code in "Acute Respiratory Failure"
and Diagnosis.presentOnAdmissionIndicator in "Present on Admission or Clinically
Undetermined"
)

HH-RF Logic – Denominator Exclusions (10)

Encounter with Tracheostomy Present on Admission

"Elective Inpatient Encounter with OR Procedure within 3 Days" EncounterWithSurgery
where exists (EncounterWithSurgery.diagnoses Dx
where Dx.code in "Tracheostomy Diagnoses"
and Dx.presentOnAdmissionIndicator in "Present on Admission or Clinically
Undetermined"
)

HH-RF Logic – Denominator Exclusions (11)

Encounter with Tracheostomy Prior to or on the Same Day of First OR Procedure

"Encounter with Tracheostomy Before Day of First OR Procedure"
union "Encounter with Tracheostomy Same Day of First OR Procedure"

Encounter with Tracheostomy Before Day of First OR Procedure

"Elective Inpatient Encounter with OR Procedure within 3 Days" EncounterWithSurgery
with ["Procedure, Performed": "Tracheostomy Procedures"] TracheostomySurgery
such that Global."NormalizeInterval" (TracheostomySurgery.relevantDatetime,
TracheostomySurgery.relevantPeriod) starts during
Global."HospitalizationWithObservationAndOutpatientSurgeryService" (EncounterWithSurgery)
and Global."NormalizeInterval" (TracheostomySurgery.relevantDatetime, TracheostomySurgery.relevantPeriod
) starts before day of Global."NormalizeInterval" ("FirstProcedure"(EncounterWithSurgery).relevantDatetime,
"FirstProcedure"(EncounterWithSurgery).relevantPeriod)
and Global."NormalizeInterval" ("FirstProcedure"(EncounterWithSurgery).relevantDatetime,
"FirstProcedure"(EncounterWithSurgery).relevantPeriod) starts during
Global."HospitalizationWithObservationAndOutpatientSurgeryService" (EncounterWithSurgery)

HH-RF Logic – Denominator Exclusions (12)

Encounter with Tracheostomy Prior to or on the Same Day of First OR Procedure

"Encounter with Tracheostomy Before Day of First OR Procedure"

union "Encounter with Tracheostomy Same Day of First OR Procedure"

Encounter with Tracheostomy Same Day of First OR Procedure

"Elective Inpatient Encounter with OR Procedure within 3 Days" EncounterWithSurgery
with ["Procedure, Performed": "Tracheostomy Procedures"] TracheostomySurgery
such that Global."NormalizeInterval" (TracheostomySurgery.relevantDatetime, TracheostomySurgery.relevantPeriod)
starts during Global."HospitalizationWithObservationAndOutpatientSurgeryService" (EncounterWithSurgery)
and Global."NormalizeInterval" (TracheostomySurgery.relevantDatetime, TracheostomySurgery.relevantPeriod)
starts during day of Global."NormalizeInterval" ("FirstProcedure"(EncounterWithSurgery).relevantDatetime,
"FirstProcedure"(EncounterWithSurgery).relevantPeriod)
and Global."NormalizeInterval" ("FirstProcedure"(EncounterWithSurgery).relevantDatetime,
"FirstProcedure"(EncounterWithSurgery).relevantPeriod) starts during
Global."HospitalizationWithObservationAndOutpatientSurgeryService" (EncounterWithSurgery)

HH-RF Logic – Numerator (1)

Numerator

"Encounter with Intubation Outside of Procedural Area within 30 Days of End of First OR Procedure"
union "Encounter with Mechanical Ventilation Outside of Procedural Area within 30 Days of End of First OR Procedure and Preceded by Non Invasive Oxygen Therapy"
union "Encounter with Extubation Outside of Procedural Area within 30 Days of End of First OR Procedure More Than 48 Hours After End of Anesthesia"
union "Encounter with Mechanical Ventilation within 30 Days of End of First OR Procedure and Between 48 and 72 Hours After End of OR Procedure and not Preceded by Non Invasive Oxygen Therapy or Anesthesia"

HH-RF Logic – Numerator (2)

Encounter with Intubation Outside of Procedural Area within 30 Days of End of First OR Procedure

from
"Elective Inpatient Encounter with OR Procedure within 3 Days" EncounterWithSurgery,
["Procedure, Performed": "Intubation"] EndotrachealTubeIn
let IntubationTime: Global."NormalizeInterval" (EndotrachealTubeIn.relevantDatetime, EndotrachealTubeIn.relevantPeriod),
FirstProcedureTime: Global."NormalizeInterval" ("FirstProcedure"(EncounterWithSurgery).relevantDatetime,
"FirstProcedure"(EncounterWithSurgery).relevantPeriod),
GATime: Global."NormalizeInterval" ("LatestGeneralAnesthesiaOrMAC"(EndotrachealTubeIn).relevantDatetime,
"LatestGeneralAnesthesiaOrMAC"(EndotrachealTubeIn).relevantPeriod),
HospitalizationPeriod: Global."HospitalizationWithObservationAndOutpatientSurgeryService" (EncounterWithSurgery)
where IntubationTime starts 30 days or less after end of FirstProcedureTime
and IntubationTime starts during HospitalizationPeriod
and IntubationTime starts after end of GATime
and not exists (EncounterWithSurgery.facilityLocations EncounterLocation
where EncounterLocation.code in "Procedural Hospital Locations"
and IntubationTime starts during EncounterLocation.locationPeriod
)
and not ("Intubation During General Anesthesia and MAC".id contains EndotrachealTubeIn.id)
return EncounterWithSurgery

HH-RF Logic – Numerator (3)

Encounter with Mechanical Ventilation Outside of Procedural Area within 30 Days of End of First OR Procedure and Preceded by Non Invasive Oxygen Therapy

from

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"Elective Inpatient Encounter with OR Procedure within 3 Days" EncounterWithSurgery,  
["Procedure, Performed": "Mechanical Ventilation"] Ventilation,  
"Noninvasive Oxygen Therapy" OxygenSupport  
let MVTime: Global."NormalizeInterval" ( Ventilation.relevantDatetime, Ventilation.relevantPeriod ),  
FirstProcedureTime: Global."NormalizeInterval" ( "FirstProcedure"(EncounterWithSurgery).relevantDatetime,  
"FirstProcedure"(EncounterWithSurgery).relevantPeriod ),  
GATime: Global."NormalizeInterval" ( "LatestGeneralAnesthesiaOrMAC"(Ventilation).relevantDatetime,  
"LatestGeneralAnesthesiaOrMAC"(Ventilation).relevantPeriod ),  
HospitalizationPeriod: Global."HospitalizationWithObservationAndOutpatientSurgeryService" ( EncounterWithSurgery ),  
OxygenTime: Global."NormalizeInterval" ( OxygenSupport.relevantDatetime, OxygenSupport.relevantPeriod )  
where MVTime starts 30 days or less after end of FirstProcedureTime  
and MVTime starts during HospitalizationPeriod  
and MVTime starts after end of GATime  
and OxygenTime starts during Interval[end of GATime, start of MVTime]  
and not exists ( EncounterWithSurgery.facilityLocations EncounterLocation  
where EncounterLocation.code in "Procedural Hospital Locations"  
and MVTime starts during EncounterLocation.locationPeriod  
)  
return EncounterWithSurgery
```

HH-RF Logic – Numerator (4)

Encounter with Extubation Outside of Procedural Area within 30 Days of End of First OR Procedure More Than 48 Hours After End of Anesthesia

from
"Elective Inpatient Encounter with OR Procedure within 3 Days" EncounterWithSurgery,
["Procedure, Performed": "Removal of endotracheal tube (procedure)"] Extubation
let ExtubationTime: Global."NormalizeInterval" (Extubation.relevantDatetime, Extubation.relevantPeriod),
FirstProcedureTime: Global."NormalizeInterval" ("FirstProcedure"(EncounterWithSurgery).relevantDatetime,
"FirstProcedure"(EncounterWithSurgery).relevantPeriod),
GATime: Global."NormalizeInterval" ("LatestGeneralAnesthesiaOrMAC"(Extubation).relevantDatetime,
"LatestGeneralAnesthesiaOrMAC"(Extubation).relevantPeriod),
HospitalizationPeriod: Global."HospitalizationWithObservationAndOutpatientSurgeryService" (EncounterWithSurgery)
where ExtubationTime during HospitalizationPeriod
and ExtubationTime starts 30 days or less after end of FirstProcedureTime
and ExtubationTime starts more than 48 hours after end of GATime
and not (("Extubation with Preceding Noninvasive Oxygen".id contains Extubation.id)
and not ("Extubation During General Anesthesia".id contains Extubation.id)
)
and not exists (EncounterWithSurgery.facilityLocations EncounterLocation
where EncounterLocation.code in "Procedural Hospital Locations"
and ExtubationTime starts during EncounterLocation.locationPeriod
)
return EncounterWithSurgery

HH-RF Logic – Numerator (5)

Encounter with Mechanical Ventilation within 30 Days of End of First OR Procedure and Between 48 and 72 Hours After End of OR Procedure and not Preceded by Non Invasive Oxygen Therapy or Anesthesia

from
"Elective Inpatient Encounter with OR Procedure within 3 Days" EncounterWithSurgery,
["Procedure, Performed": "Mechanical Ventilation"] Ventilation
let MVTime: Global."NormalizeInterval" (Ventilation.relevantDatetime, Ventilation.relevantPeriod),
GATime: Global."NormalizeInterval" ("LatestGeneralAnesthesiaOrMAC"(Ventilation).relevantDatetime,
"LatestGeneralAnesthesiaOrMAC"(Ventilation).relevantPeriod),
FirstProcedureTime: Global."NormalizeInterval" ("FirstProcedure"(EncounterWithSurgery).relevantDatetime,
"FirstProcedure"(EncounterWithSurgery).relevantPeriod),
HospitalizationPeriod: Global."HospitalizationWithObservationAndOutpatientSurgeryService" (EncounterWithSurgery)
where MVTime starts during Interval (end of GATime + 48 hours, end of GATime + 72 hours)
and MVTime starts 30 days or less after end of FirstProcedureTime
and MVTime starts during HospitalizationPeriod
and not ("Encounter with Mechanical Ventilation Outside of Procedural Area within 30 Days of End of First OR Procedure and
Preceded by Non Invasive Oxygen Therapy".id contains EncounterWithSurgery.id)
and not exists (EncounterWithSurgery.facilityLocations EncounterLocation
where EncounterLocation.code in "Procedural Hospital Locations"
)
return EncounterWithSurgery

HH-RF Logic – Definitions of Risk Adjustment Variables

- ASA Physical Status Class
 - All Encounter Diagnoses with POA Indication
 - Encounter Procedures
 - First AST in Encounter
 - First Albumin in Encounter
 - First Arterial pH in Encounter
 - First BMI
 - First Bicarbonate in Encounter
 - First Bilirubin in Encounter
 - First Blood Urea Nitrogen in Encounter
 - First Body Temperature in Encounter
 - First Carbon Dioxide in Encounter
 - First Creatinine in Encounter
 - First Heart Rate in Encounter
 - First Hematocrit in Encounter
 - First Hemoglobin in Encounter
 - First Leukocyte Count in Encounter
 - First Oxygen in Encounter
 - First Platelet Count in Encounter
 - First Respiratory Rate in Encounter
 - First Sodium in Encounter
 - First Systolic Blood Pressure in Encounter
 - First White Blood Cell Count in Encounter
 - Smoking Status
 - Principal Procedure
-

Resources

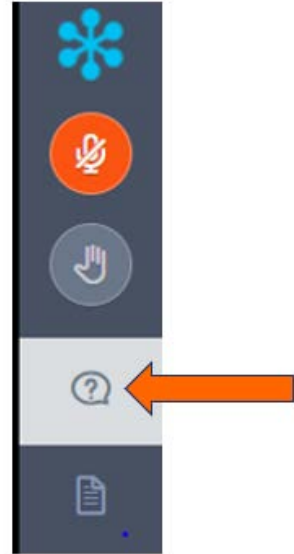
- **eCQI Resource Center – CMS EH Measures –**
<https://ecqi.healthit.gov/eh-cah/ecqms>
- **Get Started with eCQMs –** <https://ecqi.healthit.gov/ecqms?qt-tak>
- **Teach Me Clinical Quality Language (CQL) Video Series –**
<https://ecqi.healthit.gov/cql/education>
- **Hospitalization with Observation –**
https://www.youtube.com/watch?v=3yqwOU2XcZM&ab_channel=CMSHHSgov
- **What is a Value Set? –**
<https://register.gotowebinar.com/recording/4766956164118938369>



Additional Resources

- **Value Set Authority Center (VSAC) Support** – <https://www.nlm.nih.gov/vsac/support/index.html>
- **Expert to Expert Webinar Series** – <https://www.jointcommission.org/en-us/knowledge-library/support-center/measurement/quality-measurement-webinars-videos>
- **ASTP/ONC Issue Tracking System** – <https://oncprojecttracking.healthit.gov/>

Live Q&A Segment



- Please submit questions via the question pane.
- Click the Question mark icon in the toolbar.
- Type and submit your question.
- Include slide reference number when possible.
- All questions not answered verbally during the live event will be addressed in a written follow-up Q&A document.
- The follow-up document will be posted to the Joint Commission website in several weeks after CMS approval.



Expert to Expert Webinar Series Slides and Operations Questions

- To access webinar recording links, slides, and transcripts, visit <https://www.jointcommission.org/en-us/knowledge-library/support-center/measurement/quality-measurement-webinars-videos>) and scroll down.
- Questions about webinar operations or obtaining Continuing Education credit: tjcwebinarnotifications@jointcommission.org.

Webinars & Videos

The Joint Commission offers a variety of educational measurement-related webinars (live and on-demand), and other recorded video content. Topics include specific performance measures, reporting requirements, and topics that are clinically-, technically-, or statistically-focused. Webinars and videos address electronic clinical quality measures (eCQMs) and chart-abstracted measures used for accreditation and certification purposes. For additional information on each webinar or video series, see below.



Webinar Series



Pioneers in Quality General Sessions

Pioneers in Quality General Sessions provide information such as measurement requirements, changes in reporting, opportunities for engagement and/or recognition, and insights regarding data analysis of national clinical quality measurement data received. This generalized content is meant as education for hospitals and health systems to assist them in meeting current and future requirements.



eCQM Expert to Expert Series

Expert to Expert Webinar Series provides a deep-dive into measure intent, logic, and other clinical/technical aspects of electronic clinical quality measures (eCQMs) to assist hospitals and health systems in their efforts to improve eCQM data use for quality improvement. This series incorporates expertise from Joint Commission and other key stakeholders.



Video Shorts

Joint Commission produces a series of on-demand educational video shorts about electronic Clinical Quality Measures (eCQMs). Episodes are approximately 2-3 minutes in length and offer an engaging and contemporary approach to teach these complex and comprehensive topics. The eCQM video shorts lead the viewer to understand application of eCQM resources, eCQM constructs and Logic expression language concepts (CQL, FHIR).



Measure-Specific Webinars



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- Also see the separate handout detailing the CE requirements.



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Survey open for 2 weeks

CEs are available for live broadcast participation only. Promptly complete the survey.



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Acronyms

Acronym	Definition/Phrase
CBE	Consensus-Based Entity
CY	Calendar Year
eCQM	Electronic Clinical Quality Measure
ED	Emergency Department
EHR	Electronic Health Record
FY	Fiscal Year
HIQR	Hospital Inpatient Quality Reporting
IP	Initial Population
ICD-10	International Classification of Diseases, Tenth Revision
MV	Mechanical Ventilation
OR	Operating Room
POA	Present on Admission
RF	Respiratory Failure
SNOMED CT	Systematized Nomenclature of Medicine - Clinical Terms
VSAC	Value Set Authority Center