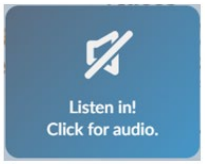
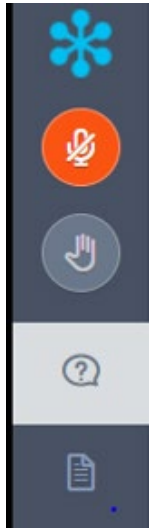
Pioneers in Quality
Expert to Expert Webinar Series

2024 Annual Updates
VTE-1 Venous Thromboembolism Prophylaxis
VTE-2 Intensive Care Unit Venous Thromboembolism Prophylaxis

November 7, 2023

Webinar Audio – Information & Tips





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Welcome!

But first things first…

"Get Started with eCQMs"

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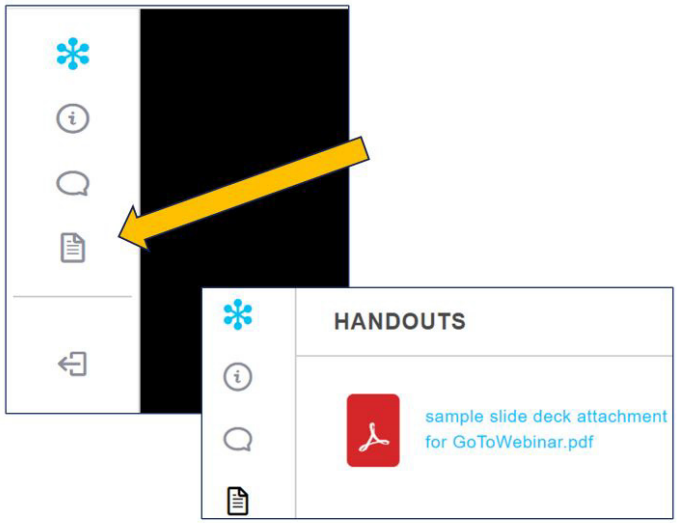
Slides are available now!



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Learning Objectives:

- Navigate to the measure specifications, value sets, measure flow diagrams and technical release notes
- Apply concepts learned about the logic and intent for the VTE-1 and VTE-2 eCQMs
- Prepare to implement the VTE-1 and VTE-2 eCQMs for the 2024 eCQM reporting period
- Identify common issues and questions regarding the VTE-1 and VTE-2 eCQMs

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Topics Not Covered in Today's Webinar

- Basic eCQM concepts
- Topics related to chart abstracted measures
- Process improvement efforts related to this measure
- eCQM validation

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Disclosure Statement

These staff and speakers 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 today's webinar content.

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Pioneers in Quality Expert to Expert Webinar Agenda: VTE eCQMs

- Demonstrate eCQI Resource Center navigation to measure specifications, value sets, measure flow diagrams and technical release notes
- Review the measure flow/algorithm
- Review changes made to VTE-1 and VTE-2 eCQMs
- Review FAQs
- Facilitated Audience Q&A Segment

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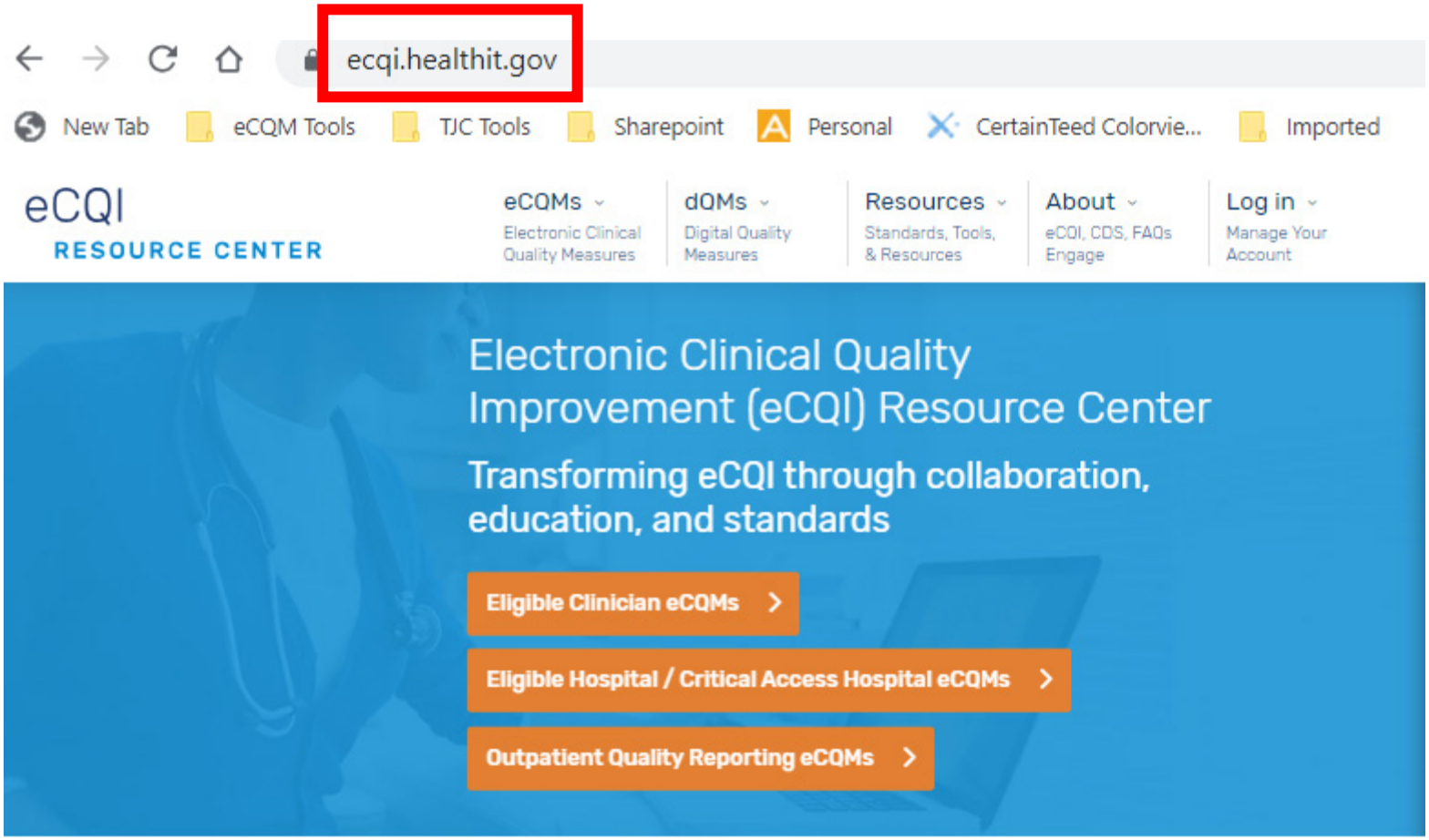
eCQI Resource Center Website Demo



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VTE-1 Venous Thromboembolism Prophylaxis
VTE-2 Intensive Care Unit Venous Thromboembolism Prophylaxis

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Rationale for the VTE Measure Set

- Venous thromboembolism (VTE) collectively refers to both pulmonary artery embolism (PE) and deep vein thrombosis (DVT).
- VTE begins as a blood clot in the proximal leg veins that can break free and travel into the pulmonary arteries blocking the pulmonary circulation of oxygen rich blood.
- Hospitalization is the most important risk factor for the development of VTE, particularly critical care admission (Achaibar, et al, 2015).

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Rationale for the VTE Measure Set (Cont. 2)

- Sudden death is the initial symptom in approximately 25% of those with VTE, resulting in about 100,000 U.S. deaths each year and 10 billion dollars or more in associated healthcare costs (CDC, 2021).
- The Agency for Healthcare Research and Quality (AHRQ) considers VTE prevention a top priority in terms of improving hospital patient safety (Maynard, 2016).

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Rationale for the VTE Measure Set (Cont. 3)

- VTE-1 and VTE-2 assess VTE prevention.
- These measures capture the proportion of patients who receive pharmacological or mechanical VTE prophylaxis or have documentation of why no VTE prophylaxis was administered.
- Patients not at risk for VTE or at low risk are included in the numerator.
- 2021 national average rates were at 84.9% for VTE-1, and 94.5% for VTE-2.

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Measure Changes from 2023 to 2024 - Clinical

Measure Components	2023 Reporting Year	2024 Reporting Year
Reference	NA	Updated references format
Value set	▪ "Graduated Compression Stockings (GCS)" ▪ "Intermittent Pneumatic Compression Devices (IPC)" ▪ "Venous Foot Pumps (VFP)" ▪ "Atrial Fibrillation/ or Flutter" ▪ "Glycoprotein IIb/IIIa Inhibitors"	Special characters are removed from the value set names. • "Graduated Compression Stockings ~~(GCS)~~" • "Intermittent Pneumatic Compression Devices ~~(IPC)~~" • "Venous Foot Pumps ~~(VFP)~~" • "Atrial Fibrillation ~~/~~ or Flutter" • "Glycoprotein IIb ~~/~~ IIIa Inhibitors"
Value set	"Medical Reason" "Obstetrics"	"Medical Reason For Not Providing Treatment" "Obstetrical or Pregnancy Related Conditions"

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Measure Changes from 2023 to 2024 - Technical

Measure Components	2023 Reporting Year	2024 Reporting Year
Initial Population definition	(Global."Inpatient Encounter" InpatientEncounter where AgeInYearsAt(date from start of InpatientEncounter.relevant Period)>= 18) intersect "Admission without VTE or Obstetrical Conditions"	"Admission without VTE or Obstetrical Conditions" EncounterWithoutConditions where AgeInYearsAt(date from start of EncounterWithoutConditions.relevantPeriod)>= 18

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Measure Changes from 2023 to 2024 – Technical (Cont. 2)

Measure Components	2023 Reporting Year	2024 Reporting Year
Definition "No Mechanical VTE Prophylaxis Performed or Ordered"	Alias name - NoVTEDevice	New alias name - NoMechanicalProphylaxis

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VTE Initial Population

VTE-1	VTE-2
• Inpatient hospitalizations ending during measurement period	• Same
• Age ≥ 18 years old	• Same
• Without diagnosis of VTE or Obstetrical conditions	• Same
• LOS ≤ 120 days	• Same

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VTE Denominator

VTE-1 (Same as Initial Population)	VTE-2
• Inpatient hospitalizations ending during measurement period	• Same
• Age ≥ 18 years old	• Same
• Without dx of VTE or Obstetrical conditions	• Same
• LOS ≤ 120 days	• Same
• NA	• Patients directly admitted to or transferred to ICU during hospitalization

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VTE Denominator Exclusions

VTE-1	VTE-2
• LOS < 2 days	• LOS < 2 days
• Transferred to ICU the day of or the day after hospital admission with ICU length of stay ≥ 1 day	• NA
• Principal diagnosis of mental disorders or stroke	• NA
• Principal procedure of Surgical Care Improvement Project (SCIP) VTE selected surgeries	• Patients with a principal procedure of SCIP VTE selected surgeries that end the day of or the day after ICU admission or transfer
• Comfort measures documented anytime between the day of arrival and the day after hospital admission	• Comfort measures documented anytime between the day of arrival and the day after ICU admission or transfer
• Comfort measures documented by the day after surgery end date for surgeries that ~~start~~ end the day of or the day after hospital admission	• Comfort measures documented by the day after surgery end date for surgeries that end the day of or day after ~~hospital~~ ICU admission or transfer

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VTE Numerator

VTE-1	VTE-2
Patients who received VTE prophylaxis: • between the day of arrival and the day after hospital admission OR • the day of or the day after surgery end date (for surgeries that end the day of or the day after hospital admission)	Patients who received VTE prophylaxis: • the day of or the day after ICU admission (or transfer) OR • the day of or the day after surgery end date (for surgeries that end the day of or the day after ICU admission or transfer)
Patients who have documentation of a reason why no VTE prophylaxis was given: • between the day of arrival and the day after hospital admission OR • the day of or the day after surgery end date (for surgeries that end the day of or the day after hospital admission)	Patients who have documentation of a reason why no VTE prophylaxis was given: • between the day of arrival and the day after ICU admission (for patients directly admitted as inpatients to the ICU) OR • the day of or the day after surgery end date (for surgeries that end the day of or the day after ICU admission or transfer)

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VTE Denominator Exceptions

VTE-1	VTE-2
• None	• ICU LOS < 1 day

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VTE-1
Venous Thromboembolism Prophylaxis

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Navigation to the Measure Flow Diagrams

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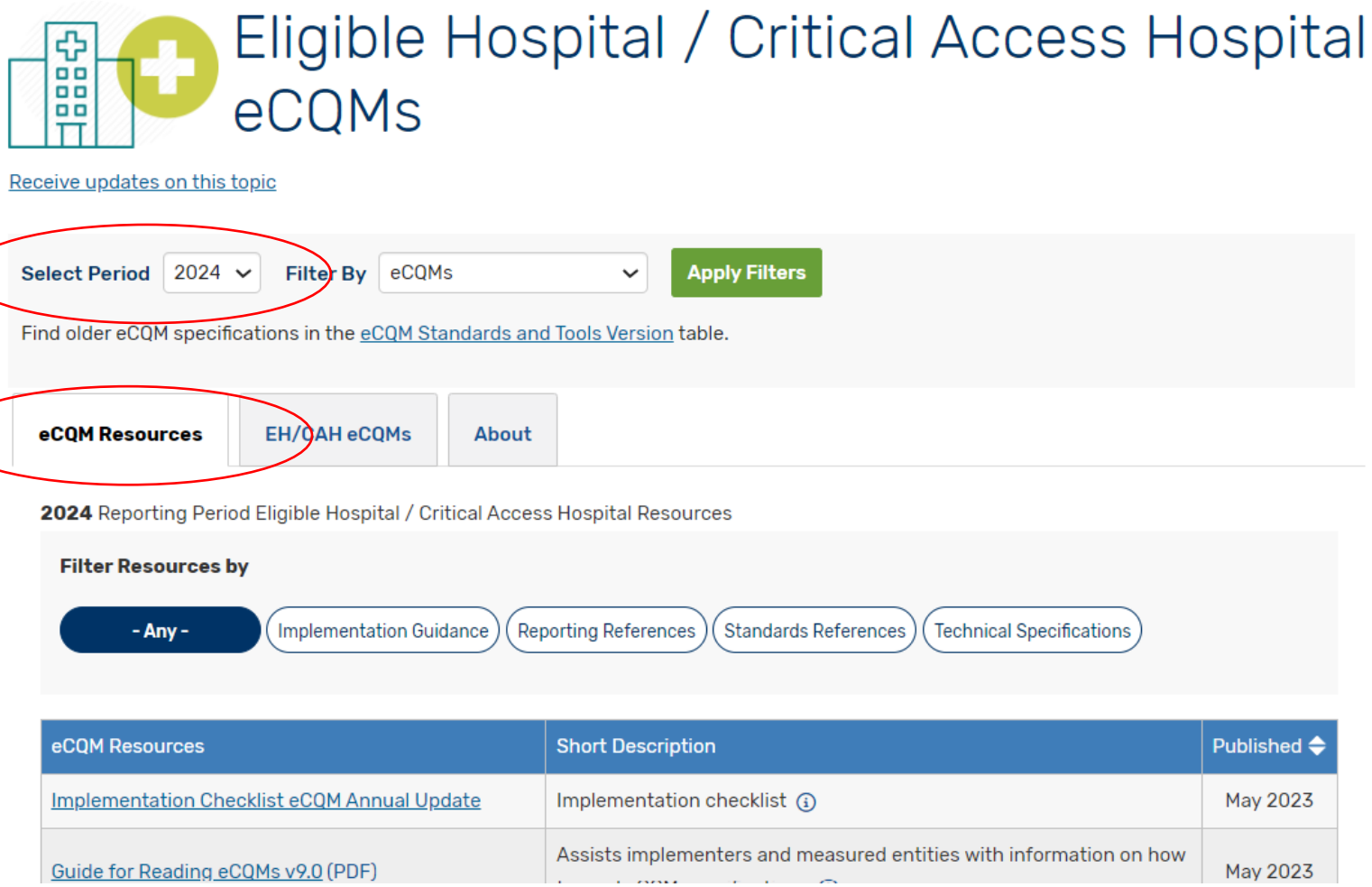
Navigation to the Measure Flow Diagrams
(continued)



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Navigation to the Measure Flow Diagrams
(continued 2)

eCQM Resources	Short Description	Published
Implementation Checklist eCQM Annual Update	Implementation checklist	May 2023
Guide for Reading eCQMs v9.0 (PDF)	Assists implementers and measured entities with information on how to read eCQM specifications	May 2023
Hospital Quality Reporting Table of eCQMs (PDF)	List of eCQMs available for use	May 2023
eCQM Specifications for Hospital Quality Reporting (ZIP)	eCQM technical specifications	May 2023
Measure Authoring Tool (MAT) Global Common Library (GCL) Technical Specifications (ZIP)	MAT-CGL specifications	May 2023
eCQM and Hybrid Measure Value Sets	Value sets used with eCQMs and Hybrid Measures	May 2023
eCQM Direct Reference Codes List	eCQM Direct Reference Codes used in eCQMs	May 2023
Binding Parameter Sp tion (BPS)	Value set metadata	May 2023
eCQM Logic and Im ntation Guidance v7.0 (PDF)	Assists implementers and measured entities with how to use eCQMs and report issues	May 2023
Standards and t rsions used for reporting/perf ce period	Tools and standards versions measure developers used to create eCQMs and versions of standards and tools used for their reporting	Mar 2023
Technical Re Notes (PDF)	Year over year changes to eCQMs, including logic and terminology	May 2023
Technic se Notes (ZIP)	Year over year changes to eCQMs, including logic and terminology	May 2023
eCQM Flows (ZIP)	Assists implementers and measured entities with steps to take to calculate an eCQM	Aug 2023

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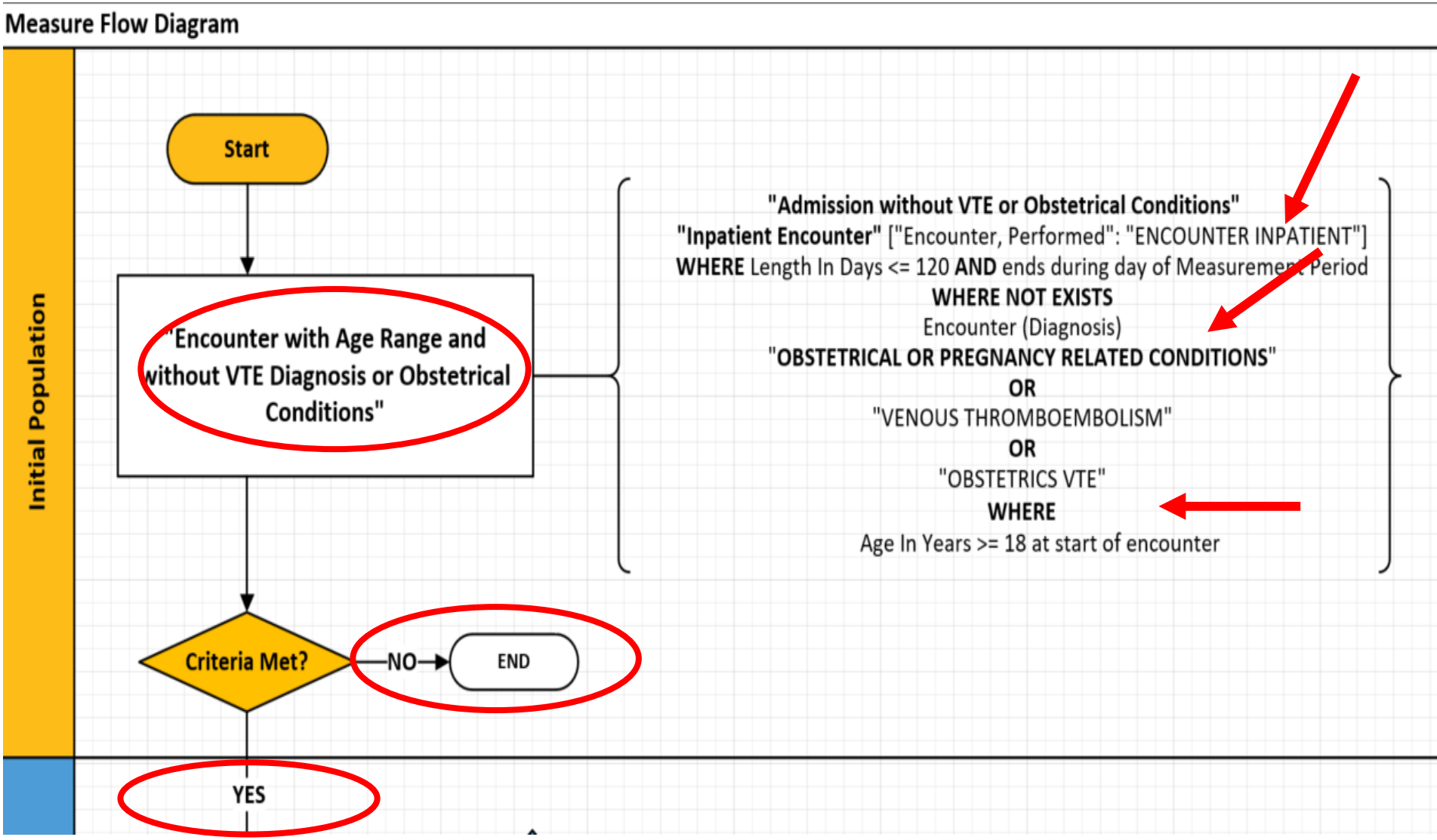
VTE-1 Measure Flow Diagram (Initial Population)



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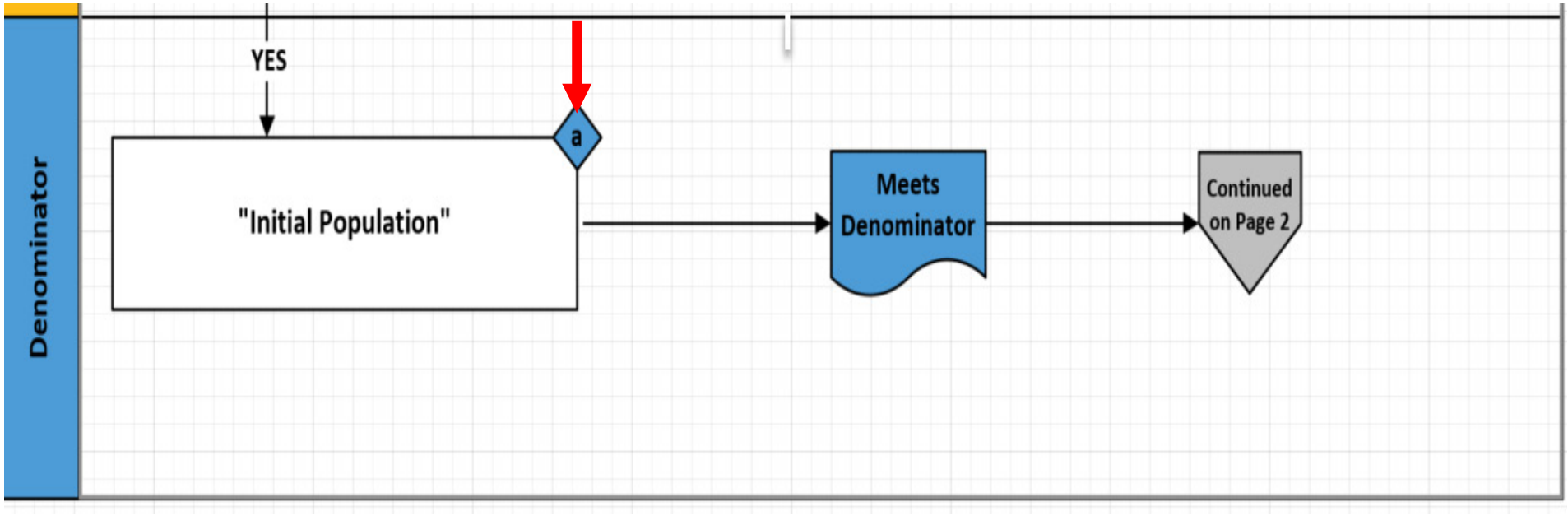
VTE-1 Measure Flow Diagram (Denominator)



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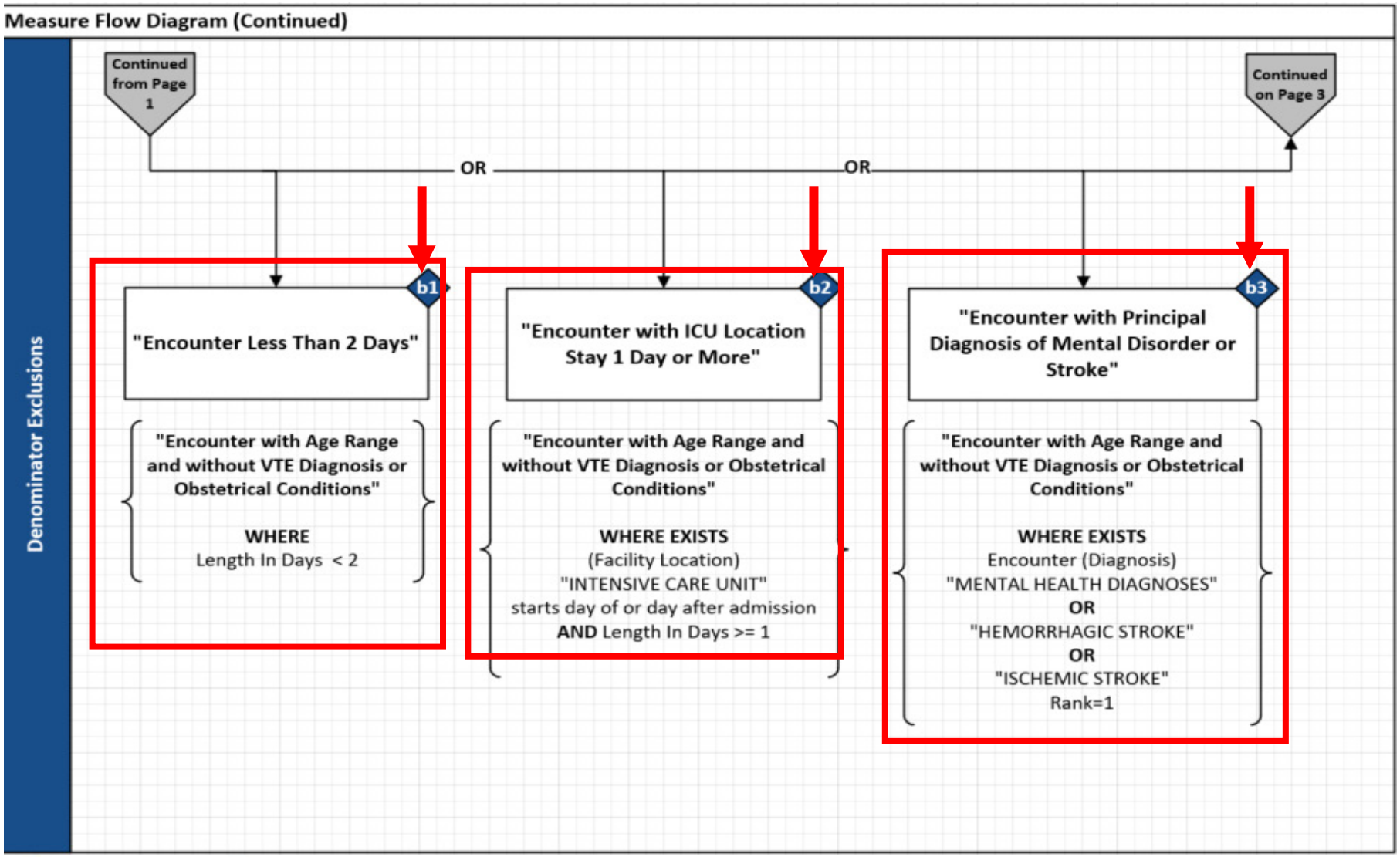
VTE-1 Measure Flow Diagram (Denominator Exclusions)



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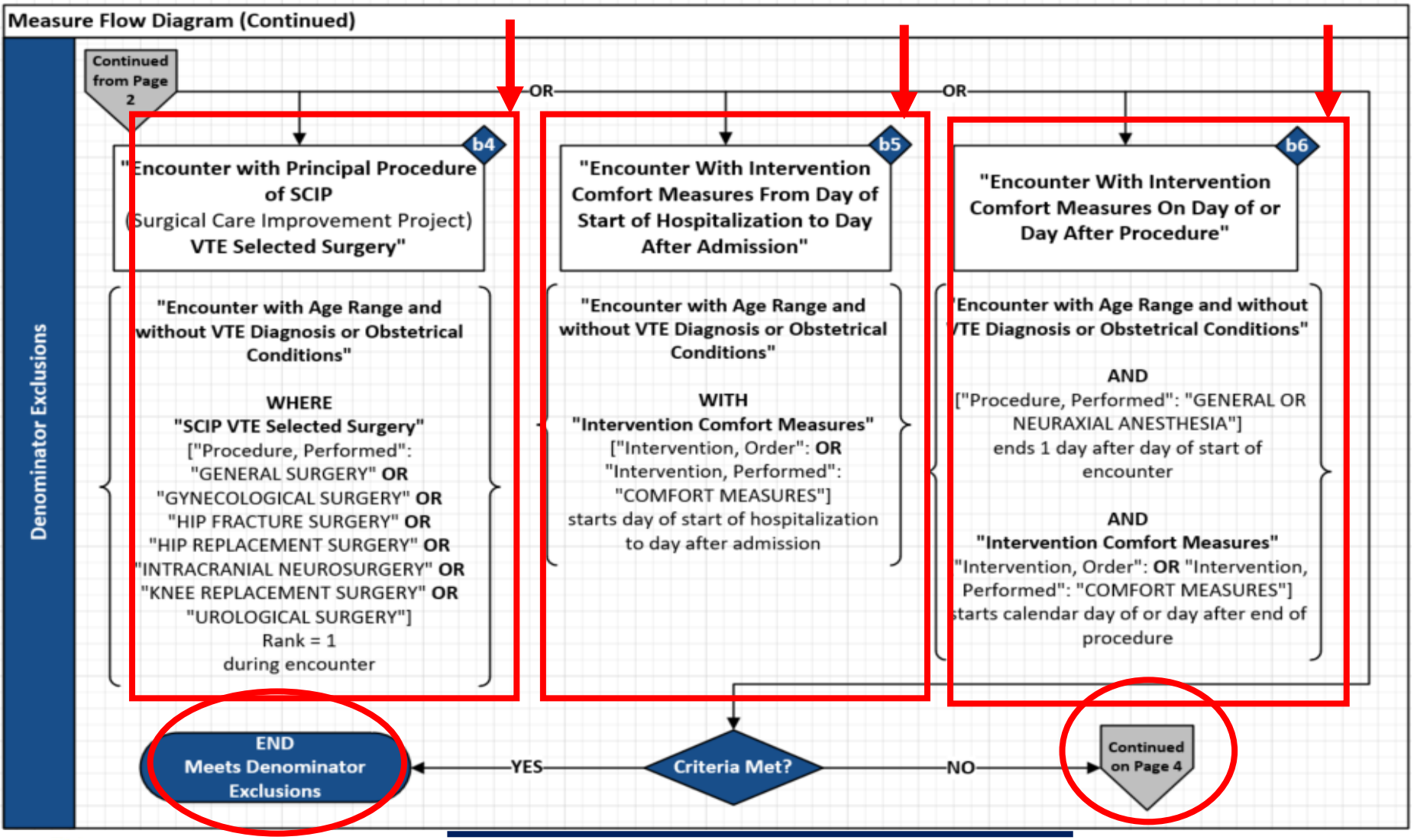
VTE-1 Measure Flow Diagram (Denominator Exclusions) (cont.2)



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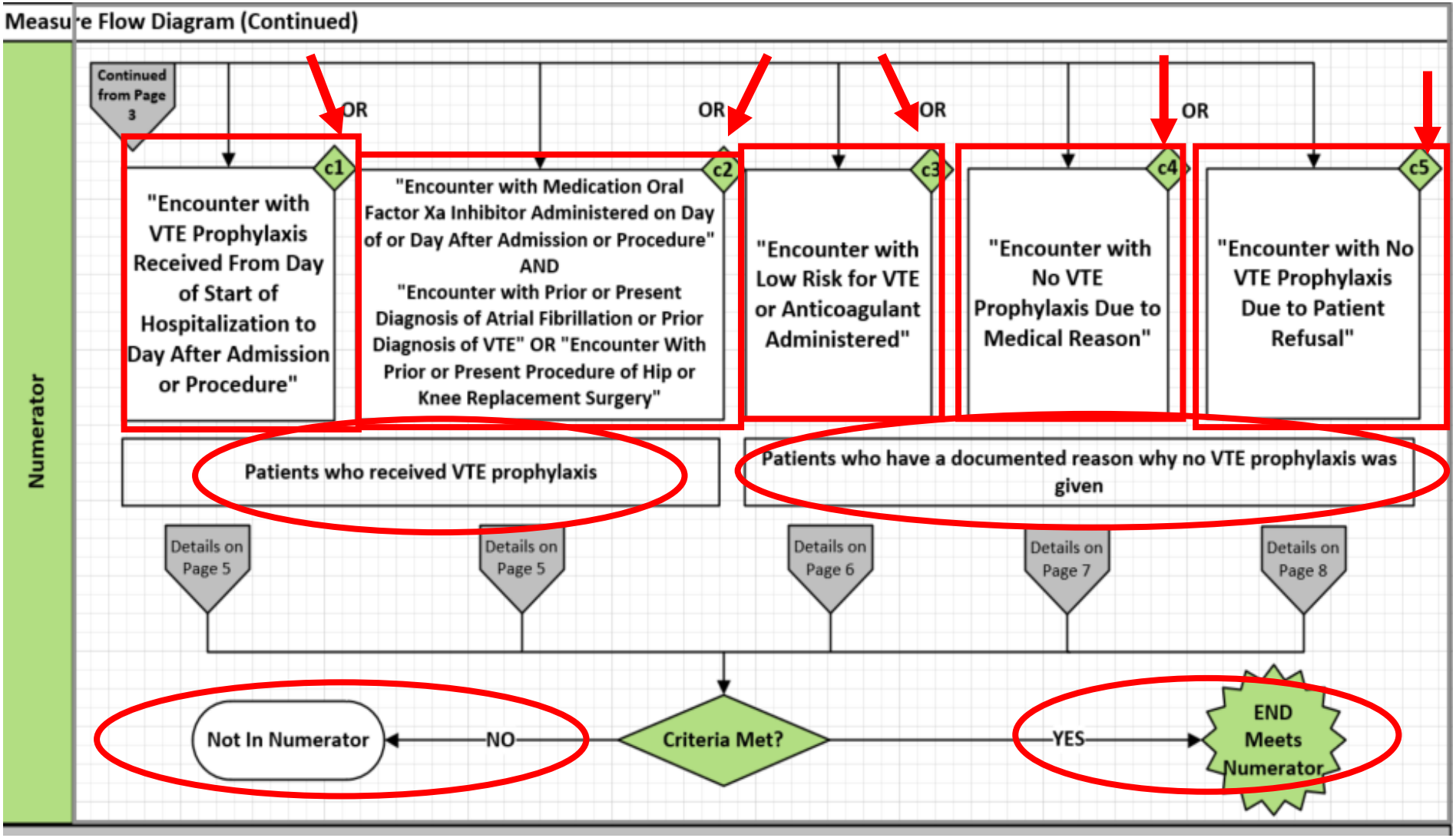
VTE-1 Measure Flow Diagram (Numerator)



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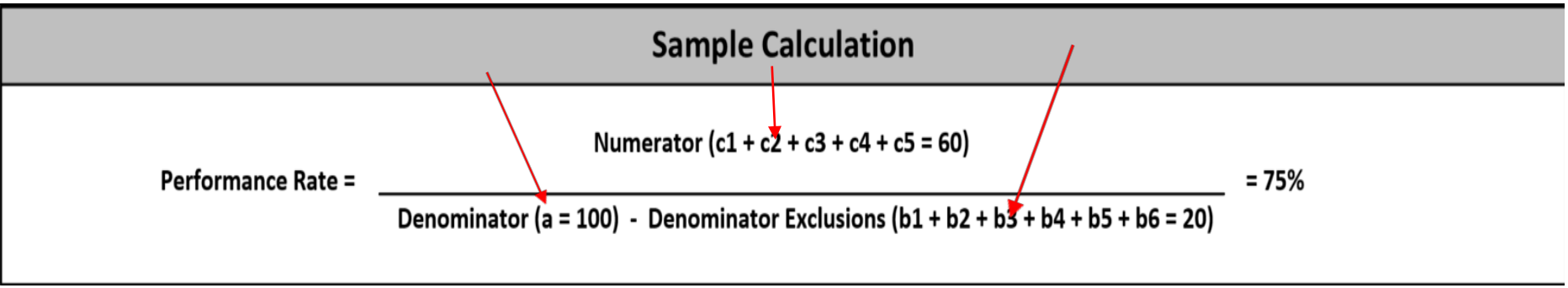
VTE-1 Measure Flow Diagram (Measure Calculation)



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Initial Population: VTE-1

Initial Population: VTE."Encounter with Age Range and without VTE Diagnosis or Obstetrical Conditions"

VTE.Encounter with Age Range and without VTE Diagnosis or Obstetrical Conditions

(~~Global."Inpatient Encounter" InpatientEncounter~~
"Admission without VTE or Obstetrical Conditions" EncounterWithoutConditions
where AgeInYearsAt(date from start of EncounterWithoutConditions.relevantPeriod) >= 18 ~~)~~
~~intersect "Admission Without VTE or Obstetrical Conditions"~~

VTE.Admission without VTE or Obstetrical Conditions

Global."Inpatient Encounter" InpatientEncounter
where not
(exists (InpatientEncounter.diagnoses EncounterDiagnoses
where (EncounterDiagnoses.code in "~~Obstetrics~~Obstetrical or Pregnancy Related Conditions" or EncounterDiagnoses.code in "Venous Thromboembolism" or EncounterDiagnoses.code in "Obstetrics VTE")))

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Initial Population: VTE-1 (cont.2)

Global.Inpatient Encounter

["Encounter, Performed": "Encounter Inpatient"] EncounterInpatient
where "LengthInDays"(EncounterInpatient.relevantPeriod) <= 120
and EncounterInpatient.relevantPeriod ends during day of
"Measurement Period"

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Initial Population: VTE-1 (cont.3)

VTE.Encounter with Age Range and without VTE Diagnosis or Obstetrical Conditions

"Admission without VTE or Obstetrical Conditions"
EncounterWithoutConditions
  where AgeInYearsAt(date from start of
      EncounterWithoutConditions.relevantPeriod) >= 18

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VTE-1 Frequently Asked Question

Question:

Does a prior history of DVT and/or Pulmonary Embolism exclude the patient from this population of VTE1 and VTE2?

Answer:

There is no exclusion for patients with a history of DVT or PE. In fact, past history of DVT or PE increases the risk for developing VTE during the hospitalization and even more reason to make sure that VTE prophylaxis is administered timely.

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Denominator: VTE-1

Denominator: “Initial Population"

VTE."Encounter with Age Range and without VTE Diagnosis or Obstetrical Conditions"

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Denominator Exclusions : VTE-1

"Encounter Less Than 2 Days"
union "Encounter with ICU Location Stay 1 Day or More"
union "Encounter with Principal Diagnosis of Mental Disorder or Stroke"
union "Encounter with Principal Procedure of SCIP VTE Selected Surgery"
union "Encounter with Intervention Comfort Measures From Day of Start of Hospitalization To Day After Admission"
union "Encounter with Intervention Comfort Measures on Day of or Day After Procedure"

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Denominator Exclusions: VTE-1 (cont. 2)

Encounter Less Than 2 Days:

VTE."Encounter with Age Range and without VTE Diagnosis or Obstetrical Conditions"
QualifyingEncounter
    where Global."LengthInDays“
    (QualifyingEncounter.relevantPeriod)< 2

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Denominator Exclusions: VTE-1 (cont. 3)

Encounter with ICU Location Stay 1 Day or More

```
VTE."Encounter with Age Range and without VTE Diagnosis or
Obstetrical Conditions" QualifyingEncounter
    where exists (QualifyingEncounter.facilityLocations Location
    where Location.code in "Intensive Care Unit"
        and Global."LengthInDays"(Location.locationPeriod)>= 1
        and Location.locationPeriod starts during Interval[start
            of QualifyingEncounter.relevantPeriod,
            TJC."TruncateTime“(start of
QualifyingEncounter.relevantPeriod + 2 days)))
```


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Denominator Exclusions: VTE-1 (con. 4)

Encounter with Principal Diagnosis of Mental Disorder or Stroke

```
VTE."Encounter with Age Range and without VTE Diagnosis or
Obstetrical Conditions" QualifyingEncounter
    where exists ( QualifyingEncounter.diagnoses
                EncounterDiagnoses
     where EncounterDiagnoses.rank = 1
     and    (EncounterDiagnoses.code in "Mental Health
                 Diagnoses"
    or EncounterDiagnoses.code in "Hemorrhagic Stroke"
     or EncounterDiagnoses.code in "Ischemic Stroke"
```


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Denominator Exclusions: VTE-1 (cont. 5)

Encounter with Principal Procedure of SCIP VTE Selected Surgery

```
VTE."Encounter with Age Range and without VTE Diagnosis or Obstetrical
Conditions" QualifyingEncounter
    with ( "SCIP VTE Selected Surgery" Procedure
            where Procedure.rank = 1 ) SelectedSCIPProcedure
    such that Global."NormalizeInterval"
      (SelectedSCIPProcedure.relevantDatetime,
      SelectedSCIPProcedure.relevantPeriod )
            during QualifyingEncounter.relevantPeriod
```

SCIP VTE Selected Surgery

```
            ["Procedure, Performed": "General Surgery"]
              union ["Procedure, Performed": "Gynecological Surgery"]
              union ["Procedure, Performed": "Hip Fracture Surgery"]
              union ["Procedure, Performed": "Hip Replacement Surgery"]
              union ["Procedure, Performed": "Intracranial Neurosurgery"]
              union ["Procedure, Performed": "Knee Replacement Surgery"]
              union ["Procedure, Performed": "Urological Surgery"]
```


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Denominator Exclusions: VTE-1 (cont. 6)

Encounter with Intervention Comfort Measures From Day of Start of Hospitalization To Day After Admission

```
VTE."Encounter with Age Range and without VTE Diagnosis or Obstetrical
Conditions" QualifyingEncounter
  with "Intervention Comfort Measures" ComfortMeasures
  such that Coalesce(start of
    Global."NormalizeInterval"(ComfortMeasures.relevantDatetime,
    ComfortMeasures.relevantPeriod),
    ComfortMeasures.authorDatetime) during day of
    VTE."FromDayOfStartOfHospitalizationToDayAfterAdmission"(Qualifying
    Encounter)
```

Intervention Comfort Measures

```
["Intervention, Order": "Comfort Measures"]
union ["Intervention, Performed": "Comfort Measures"]
```


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Denominator Exclusions: VTE-1 (cont. 7)

Encounter with Intervention Comfort Measures From Day of Start of Hospitalization To Day After Admission

```
VTE."Encounter with Age Range and without VTE Diagnosis or Obstetrical
Conditions" QualifyingEncounter
  with "Intervention Comfort Measures" ComfortMeasures
  such that Coalesce(start of
    Global."NormalizeInterval"(ComfortMeasures.relevantDatetime,
    ComfortMeasures.relevantPeriod),
    ComfortMeasures.authorDatetime) during day of
    VTE."FromDayOfStartOfHospitalizationToDayAfterAdmission"(Qualifying
    Encounter)
```

VTE.FromDayOfStartOfHospitalizationToDayAfterAdmission

```
Interval[TJC."TruncateTime" ( start of
Global."HospitalizationWithObservation" ( Encounter ) ),
TJC."TruncateTime" ( start of Encounter.relevantPeriod + 2 days ) )
```


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Denominator Exclusions: VTE-1 (cont. 8)

Encounter with Intervention Comfort Measures on Day of or Day After Procedure

```
from VTE."Encounter with Age Range and without VTE Diagnosis or Obstetrical
Conditions" QualifyingEncounter,
    ["Procedure, Performed": "General or Neuraxial Anesthesia"]
      AnesthesiaProcedure,
    "Intervention Comfort Measures" ComfortMeasures
 where Global."NormalizeInterval" ( AnesthesiaProcedure.relevantDatetime,
      AnesthesiaProcedure.relevantPeriod )  ends 1
      day after day of start of QualifyingEncounter.relevantPeriod
 and Coalesce(start of
      Global."NormalizeInterval"(ComfortMeasures.relevantDatetime,
           ComfortMeasure.relevantPeriod, ComfortMeasures.authorDatetime)
           during day of TJC."CalendarDayOfOrDayAfter"(end of
            Global."NormalizeInterval" ( AnesthesiaProcedure.relevantDatetime,
            AnesthesiaProcedure.relevantPeriod ) )
return QualifyingEncounter
```


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Denominator Exclusions: VTE-1 (cont. 9)

Encounter with Intervention Comfort Measures on Day of or Day After Procedure

…….

and Coalesce(start of
Global."NormalizeInterval"(ComfortMeasures.relevantDatetime,
ComfortMeasure.relevantPeriod, ComfortMeasures.authorDatetime)
during day of TJC."CalendarDayOfOrDayAfter"(end of
Global."NormalizeInterval" (AnesthesiaProcedure.relevantDatetime,
AnesthesiaProcedure.relevantPeriod))……

TJC.CalendarDayOfOrDayAfter(StartValue DateTime)
Interval["TruncateTime"(StartValue), "TruncateTime"(StartValue + 2 days))

TJC.TruncateTime(Value DateTime)
DateTime/year from Value, month from Value, day from Value, 0,0,0,0 timezoneoffset from Value)

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Numerator: VTE-1

#1 “Encounter with VTE Prophylaxis Received From Day of Start of Hospitalization To Day after Admission or Procedure”
#2 union ("Encounter with Medication Oral Factor Xa Inhibitor Administered on Day of or Day After Admission or Procedure"
intersect ("Encounter with Prior or Present Diagnosis of Atrial Fibrillation or Prior Diagnosis of VTE"
union "Encounter with Prior or Present Procedure of Hip or Knee Replacement Surgery“))
#3 union "Encounter with Low Risk for VTE or Anticoagulant Administered"
#4 union "Encounter with No VTE Prophylaxis Due to Medical Reason"
#5 union "Encounter with No VTE Prophylaxis Due to Patient Refusal"

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Numerator: VTE-1 (Cont. 2)

Encounter with VTE Prophylaxis Received From Day of Start of Hospitalization To Day After Admission or Procedure

VTE."Encounter with Age Range and without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter
with “Pharmacological or Mechanical VTE Prophylaxis Received"
VTEProphylaxis
such that Global."NormalizeInterval"
(VTEProphylaxis.relevantDatetime, VTEProhylaxis.relevantPeriod)
starts during day of
VTE."FromDayOfStartOfHospitalizationToDayAfterAdmission“
(QualifyingEncounter.relevantPeriod)

union
(….)

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Numerator: VTE-1 (Cont. 3)

Encounter with VTE Prophylaxis Received From Day of Start of Hospitalization To Day After Admission or Procedure

```
 …
union (
  from VTE."Encounter with Age Range and without VTE Diagnosis or Obstetrical
     Conditions" QualifyingEncounter,
  ["Procedure, Performed": "General or Neuraxial Anesthesia"] AnesthesiaProcedure,
  "Pharmacological or Mechanical VTE Prophylaxis Received" VTEProphylaxis
where Global."NormalizeInterval" (AnesthesiaProcedure.relevantDatetime,
     AnesthesiaProcedure.relevantPeriod) ends 1 day after day of start of
     QualifyingEncounter.relevantPeriod
   and Global."NormalizeInterval" (VTEProphylaxis.relevantDatetime,
     VTEProphylaxis.relevantPeriod) starts during day of
     TJC."CalendarDayOfOrDayAfter“(end of Global."NormalizeInterval"
     (AnesthesiaProcedure.relevantDatetime, AnesthesiaProcedure.relevantPeriod))
return QualifyingEncounter)
```


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Numerator: VTE-1 (Cont. 4)

Pharmacological or Mechanical VTE Prophylaxis Received

(["Medication, Administered": "Low Dose Unfractionated Heparin for VTE Prophylaxis"] VTEMedication
where VTEMedication.route in "Subcutaneous route")
union ["Medication, Administered": "Low Molecular Weight Heparin for VTE Prophylaxis"]
union ["Medication, Administered": "Injectable Factor Xa Inhibitor for VTE Prophylaxis"]
union ["Medication, Administered": "Warfarin"]
union ["Medication, Administered": "Rivaroxaban for VTE Prophylaxis"]
union ["Procedure, Performed": "Application of Intermittent Pneumatic Compression Devices ~~(IPC)~~"]
union ["Procedure, Performed": "Application of Venous Foot Pumps ~~(VFP)~~"]
union ["Procedure, Performed": "Application of Graduated Compression Stockings ~~(GCS)~~"]

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VTE-1 Frequently Asked Question (Slide 1)

Question:

Why is Apixaban NOT listed in the value set as a medication for VTE prophylaxis?

Answer:

At this time, there is no approved indication to use Apixaban for VTE prophylaxis with the exception of hip or knee replacement surgery. If the FDA-approved indications for apixaban should change in the future to include all hospitalized medical and surgical patients, then the measure specifications will be updated.

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Numerator: VTE-1 (Cont. 5)

Encounter with VTE Prophylaxis Received From Day of Start of Hospitalization To Day After Admission or Procedure

```
 VTE."Encounter with Age Range and without VTE Diagnosis or Obstetrical Conditions"
QualifyingEncounter
with ”Pharmacological or Mechanical VTE Prophylaxis Received" VTEProphylaxis
such that Global."NormalizeInterval" ( VTEProphylaxis.relevantDatetime,
        VTEProphylaxis.relevantPeriod) starts during day of
        VTE."FromDayOfStartOfHospitalizationToDayAfterAdmission“
        (QualifyingEncounter.relevantPeriod)
union
    ( from VTE."Encounter with Age Range and without VTE Diagnosis or Obstetrical
        Conditions" QualifyingEncounter,
        ["Procedure, Performed": "General or Neuraxial Anesthesia"] AnesthesiaProcedure,
        "Pharmacological or Mechanical VTE Prophylaxis Received" VTEProphylaxis
        where Global."NormalizeInterval" ( AnesthesiaProcedure.relevantDatetime,
        AnesthesiaProcedure.relevantPeriod) ends 1 day after day of start of
        QualifyingEncounter.relevantPeriod and Global."NormalizeInterval" (
        VTEProphylaxis.relevantDatetime, VTEProphylaxis.relevantPeriod)  starts during day of
TJC."CalendarDayOfOrDayAfter“(end of Global."NormalizeInterval" (
        AnesthesiaProcedure.relevantDatetime, AnesthesiaProcedure.relevantPeriod))
        return QualifyingEncounter)
```


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Numerator: VTE-1 (Cont. 6)

Encounter with Medication Oral Factor Xa Inhibitor Administered on Day of or Day After Admission or Procedure

VTE."Encounter with Age Range and without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter
with ["Medication, Administered": "Oral Factor Xa Inhibitor for VTE Prophylaxis or VTE Treatment"] FactorXaMedication
such that Global."NormalizeInterval"
(FactorXaMedication.relevantDatetime, FactorXaMedication.relevantPeriod) starts during day of TJC."CalendarDayOfOrDayAfter“ (start of QualifyingEncounter.relevantPeriod)
union (…)

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Numerator: VTE-1 (Cont. 7)

Encounter with Medication Oral Factor Xa Inhibitor Administered on Day of or Day After Admission or Procedure

…union (from VTE."Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter,
["Procedure, Performed": "General or Neuraxial Anesthesia"] AnesthesiaProcedure,
["Medication, Administered": "Oral Factor Xa Inhibitor for VTE Prophylaxis or VTE Treatment"] FactorXaMedication
where Global."NormalizeInterval" (AnesthesiaProcedure.relevantDatetime, AnesthesiaProcedure.relevantPeriod) ends 1 day after day of start of QualifyingEncounter.relevantPeriod and Global."NormalizeInterval" (FactorXaMedication.relevantDatetime, FactorXaMedication.relevantPeriod) starts during day of TJC."CalendarDayOfOrDayAfter“ (end of Global."NormalizeInterval" (AnesthesiaProcedure.relevantDatetime, AnesthesiaProcedure.relevantPeriod))
return QualifyingEncounter)

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Numerator: VTE-1 (Cont. 8)

Encounter with Prior or Present Diagnosis of Atrial Fibrillation or Prior Diagnosis of VTE

(VTE."Encounter with Age Range and without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter
with ["Diagnosis": "Atrial Fibrillation ~~/~~ or Flutter"] AtrialFibrillation
such that AtrialFibrillation.prevalencePeriod starts on or before end of QualifyingEncounter.relevantPeriod)
union (VTE."Encounter with Age Range and without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter
where exists (QualifyingEncounter.diagnoses EncounterDiagnosis
where EncounterDiagnosis.code in "Atrial Fibrillation ~~/~~ or Flutter"))
union (VTE."Encounter with Age Range and without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter
with ["Diagnosis": "Venous Thromboembolism"] VTEDiagnosis
such that VTEDiagnosis.prevalencePeriod starts before start of QualifyingEncounter.relevantPeriod)

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Numerator: VTE-1 (Cont. 9)

Encounter with Prior or Present Procedure of Hip or Knee Replacement Surgery

```
VTE."Encounter with Age Range and without VTE Diagnosis or
Obstetrical Conditions" QualifyingEncounter
with ( ["Procedure, Performed": "Hip Replacement Surgery"]
    union ["Procedure, Performed": "Knee Replacement
    Surgery"] ) HipKneeProcedure
such that Global."NormalizeInterval"
    (HipKneeProcedure.relevantDatetime,
     HipKneeProcedure.relevantPeriod) starts on or before end of
    QualifyingEncounter.relevantPeriod
```


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VTE-1 Frequently Asked Question (Slide 2)

Question:

Patients with hip/knee replacement surgeries are included in the VTE-1 and VTE-2 numerator but are excluded from the VTE-1 and VTE-2 denominator. Is this possible?

Answer:

A patient with a **principal** procedure of hip/knee replacement surgery will be excluded from the measure denominator. If the hip/knee surgery is **not** a principal procedure, the patient will be included in the denominator and will continue to the numerator for further evaluation.

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Numerator: VTE-1 (Cont. 10)

Encounter with Low Risk for VTE or Anticoagulant Administered

"Low Risk for VTE or Anticoagulant Administered From Day of Start of Hospitalization To Day After Admission"

union

"Low Risk for VTE or Anticoagulant Administered on Day of or Day After Procedure"

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Numerator: VTE-1 (Cont. 11)

Low Risk for VTE or Anticoagulant Administered From Day of Start of Hospitalization To Day After Admission

VTE."Encounter with Age Range and without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter

with "Low Risk Indicator For VTE" LowRiskForVTE
such that LowRiskForVTE.LowRiskDatetime during day of
VTE."FromDayOfStartOfHospitalizationToDayAfterAdmission" (QualifyingEncounter)

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Numerator: VTE-1 (Cont. 12)

Low Risk Indicator For VTE

```
( ["Assessment, Performed": "Risk for venous thromboembolism"] VTERiskAssessment
    where VTERiskAssessment.result in "Low Risk"
    return {
      id: VTERiskAssessment.id,
      LowRiskDatetime: Global."EarliestOf" ( VTERiskAssessment.relevantDatetime,
VTERiskAssessment.relevantPeriod )})
  union ( ["Laboratory Test, Performed": "INR"] INRLabTest
      where INRLabTest.result > 3.0
      return {
        id: INRLabTest.id,
        LowRiskDatetime: INRLabTest.resultDatetime})
  union ( ( ( ["Medication, Administered": "Unfractionated Heparin"] UnfractionatedHeparin
        where UnfractionatedHeparin.route in "Intravenous route")
      union ["Medication, Administered": "Direct Thrombin Inhibitor"]
      union ["Medication, Administered": "Glycoprotein IIb/IIIa Inhibitors"] )
AnticoagulantMedication
      return {
        id: AnticoagulantMedication.id,
        LowRiskDatetime: start of Global."NormalizeInterval" (
AnticoagulantMedication.relevantDatetime,
         AnticoagulantMedication.relevantPeriod ) })
```


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Numerator: VTE-1 (Cont. 13)

Low Risk for VTE or Anticoagulant Administered on Day of or Day After Procedure

```
from
  VTE."Encounter with Age Range and without VTE Diagnosis or Obstetrical
Conditions" QualifyingEncounter,
  ["Procedure, Performed": "General or Neuraxial Anesthesia"]
AnesthesiaProcedure,
  "Low Risk Indicator For VTE" LowRiskForVTE
where Global."NormalizeInterval" ( AnesthesiaProcedure.relevantDatetime,
AnesthesiaProcedure.relevantPeriod ) ends 1 day after day of start of
QualifyingEncounter.relevantPeriod
and LowRiskForVTE.LowRiskDatetime during day of
TJC."CalendarDayOfOrDayAfter"
    (end of Global."NormalizeInterval"
(AnesthesiaProcedure.relevantDatetime,AnesthesiaProcedure.relevantPeriod ) )
  return QualifyingEncounter
```


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Numerator: VTE-1 (Cont. 14)

Encounter with No VTE Prophylaxis Due to Medical Reason
("No VTE Prophylaxis Medication Due to Medical Reason From Day of Start of Hospitalization To Day After Admission"
intersect
"No Mechanical VTE Prophylaxis Due to Medical Reason From Day of Start of Hospitalization To Day After Admission")
union
("No VTE Prophylaxis Medication Due to Medical Reason on Day of or Day After Procedure"
intersect
"No Mechanical VTE Prophylaxis Due to Medical Reason on Day of or Day After Procedure")

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Numerator: VTE-1 (Cont. 15)

No VTE Prophylaxis Medication Due to Medical Reason From Day of Start of Hospitalization To Day After Admission

VTE."Encounter with Age Range and without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter,
with
"No VTE Prophylaxis Medication Administered or Ordered" NoVTEMedication
such that
NoVTEMedication.negationRationale in "Medical Reason For Not Providing Treatment"
and NoVTEMedication.authorDatetime during day of VTE."FromDayOfStartOfHospitalizationToDayAfterAdmission“ (QualifyingEncounter)

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Numerator: VTE-1 (Cont. 16)

No VTE Prophylaxis Medication Administered or Ordered

["Medication, Not Administered": "Low Dose Unfractionated Heparin for VTE Prophylaxis"]
union ["Medication, Not Administered": "Low Molecular Weight Heparin for VTE Prophylaxis"]
union ["Medication, Not Administered": "Injectable Factor Xa Inhibitor for VTE Prophylaxis"]
union ["Medication, Not Administered": "Warfarin"]
union ["Medication, Not Administered": " Rivaroxaban for VTE Prophylaxis "]
union ["Medication, Not Ordered": "Low Dose Unfractionated Heparin for VTE Prophylaxis"]
union ["Medication, Not Ordered": "Low Molecular Weight Heparin for VTE Prophylaxis"]
union ["Medication, Not Ordered": "Injectable Factor Xa Inhibitor for VTE Prophylaxis"]
union ["Medication, Not Ordered": "Warfarin"]
union ["Medication, Not Ordered": " Rivaroxaban for VTE Prophylaxis "]

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Numerator: VTE-1 (Cont. 17)

No Mechanical VTE Prophylaxis Due to Medical Reason From Day of Start of Hospitalization To Day After Admission

VTE."Encounter with Age Range and without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter,
with "No Mechanical VTE Prophylaxis Performed or Ordered“
~~NoVTEDevice~~NoMechanicalProphylaxis
such that
~~NoVTEDevice~~NoMechanicalProphylaxis.negationRationale in "Medical Reason For Not Providing Treatment”
And
~~NoVTEDevice~~NoMechanicalProphylaxis.authorDatetime during day of
VTE."FromDayOfStartOfHospitalizationToDayAfterAdmission“ (QualifyingEncounter)

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Numerator: VTE-1 (Cont. 18)

No Mechanical VTE Prophylaxis Performed or Ordered

["Procedure, Not Performed": "Application of Intermittent Pneumatic Compression Devices ~~(IPC)~~"]
union ["Procedure, Not Performed": "Application of Venous Foot Pumps ~~(VFP)~~"]
union ["Procedure, Not Performed": "Application of Graduated Compression Stockings ~~(GCS)~~"]
union ["Device, Not Ordered": "Intermittent pneumatic compression devices ~~(IPC)~~"]
union ["Device, Not Ordered": "Venous foot pumps ~~(VFP)~~ "]
union ["Device, Not Ordered": "Graduated compression stockings ~~(GCS)~~"]

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Numerator: VTE-1 (Cont. 19)

No VTE Prophylaxis Medication Due to Medical Reason on Day of or Day After Procedure

from VTE."Encounter with Age Range and without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter,
["Procedure, Performed": "General or Neuraxial Anesthesia"] AnesthesiaProcedure,
"No VTE Prophylaxis Medication Administered or Ordered" NoVTEMedication
where NoVTEMedication.negationRationale in "Medical Reason For Not Providing Treatment"
and Global."NormalizeInterval" (AnesthesiaProcedure.relevantDatetime, AnesthesiaProcedure.relevantPeriod) ends 1 day after day of start of QualifyingEncounter.relevantPeriod and NoVTEMedication.authorDatetime during day of TJC."CalendarDayOfOrDayAfter"(end of Global."NormalizeInterval" (AnesthesiaProcedure.relevantDatetime, AnesthesiaProcedure.relevantPeriod))
return QualifyingEncounter

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Numerator: VTE-1 (Cont. 20)

No Mechanical VTE Prophylaxis Due to Medical Reason on Day of or Day After Procedure

from VTE."Encounter with Age Range and without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter,
["Procedure, Performed": "General or Neuraxial Anesthesia"] AnesthesiaProcedure,
"No Mechanical VTE Prophylaxis Performed or Ordered" ~~NoVTEDevice~~NoMechanicalProphylaxis
where ~~NoVTEDevice~~NoMechanicalProphylaxis.negationRationale in "Medical Reason For Not Providing Treatment"
and Global."NormalizeInterval" (AnesthesiaProcedure.relevantDatetime, AnesthesiaProcedure.relevantPeriod) ends 1 day after day of start of QualifyingEncounter.relevantPeriod
and ~~NoVTEDevice~~NoMechanicalProphylaxis.authorDatetime during day of TJC."CalendarDayOfOrDayAfter"(end of
    Global."NormalizeInterval" (AnesthesiaProcedure.relevantDatetime, AnesthesiaProcedure.relevantPeriod))
    return QualifyingEncounter

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Numerator: VTE-1 (Cont. 21)

Encounter with No VTE Prophylaxis Due to Patient Refusal

"No VTE Prophylaxis Due to Patient Refusal From Day of Start of Hospitalization To Day After Admission“

union

"No VTE Prophylaxis Due to Patient Refusal on Day of or Day After Procedure"

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Numerator: VTE-1 (Cont. 22)

No VTE Prophylaxis Due to Patient Refusal From Day of Start of Hospitalization To Day After Admission

VTE."Encounter with Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter
with
    "No Mechanical or Pharmacological VTE Prophylaxis Due to Patient Refusal" PatientRefusal
such that
    PatientRefusal.authorDatetime during day of VTE."FromDayOfStartOfHospitalizationToDayAfterAdmission"(QualifyingEncounter)

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Numerator: VTE-1 (Cont. 23)

No Mechanical or Pharmacological VTE Prophylaxis Due to Patient Refusal

("No VTE Prophylaxis Medication Administered or Ordered"
union
"No Mechanical VTE Prophylaxis Performed or Ordered"
) NoVTEProphylaxis
where
NoVTEProphylaxis.negationRationale in "Patient Refusal"

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Numerator: VTE-1 (Cont. 24)

No VTE Prophylaxis Due to Patient Refusal On Day of or Day After Procedure

```
from
  VTE."Encounter with Age Range and without VTE Diagnosis or Obstetrical
Conditions" QualifyingEncounter,
  ["Procedure, Performed": "General or Neuraxial Anesthesia"]
AnesthesiaProcedure,
  "No Mechanical or Pharmacological VTE Prophylaxis Due to Patient Refusal"
PatientRefusal
  where Global."NormalizeInterval" ( AnesthesiaProcedure.relevantDatetime,
AnesthesiaProcedure.relevantPeriod ) ends 1 day after day of start of
QualifyingEncounter.relevantPeriod
    and PatientRefusal.authorDatetime during day of
TJC."CalendarDayOfOrDayAfter" (
    end of Global."NormalizeInterval" ( AnesthesiaProcedure.relevantDatetime,
AnesthesiaProcedure.relevantPeriod ) )
  return QualifyingEncounterWith
```


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VTE-2
Intensive Care Unit Venous Thromboembolism Prophylaxis Logic

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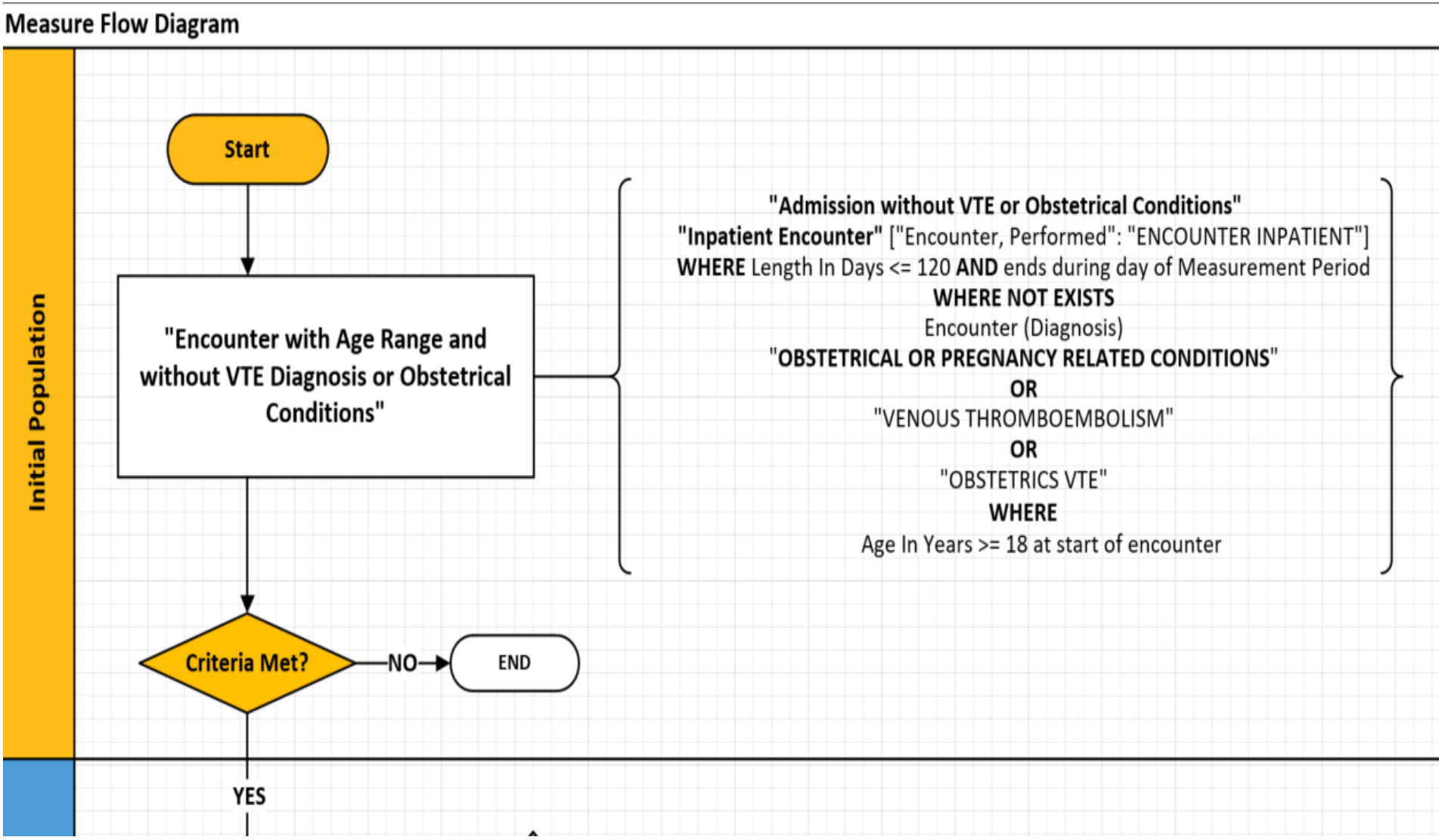
VTE-2 Measure Flow Diagram (Initial Population)



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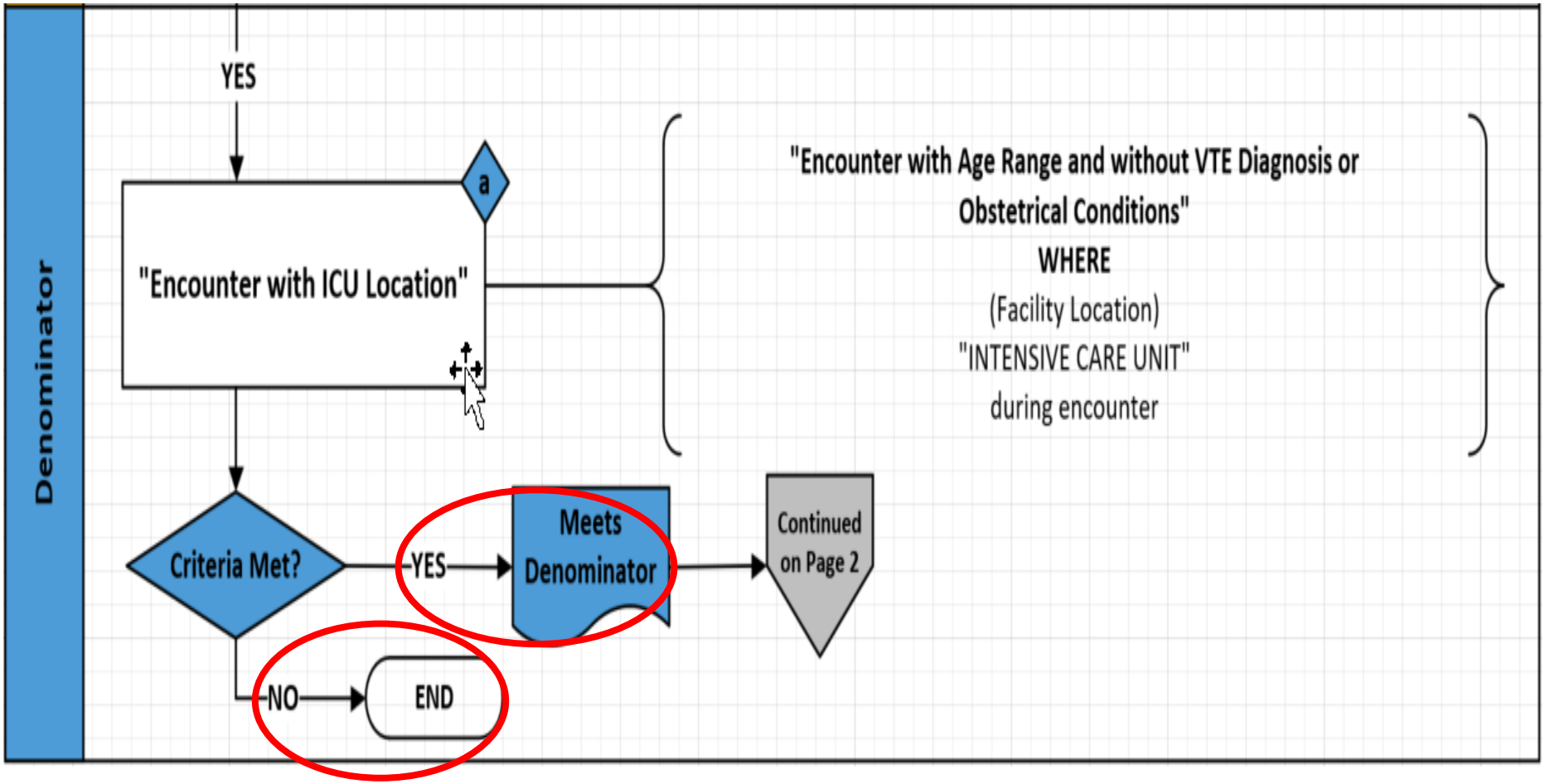
VTE -2 Measure Flow Diagram (Denominator)



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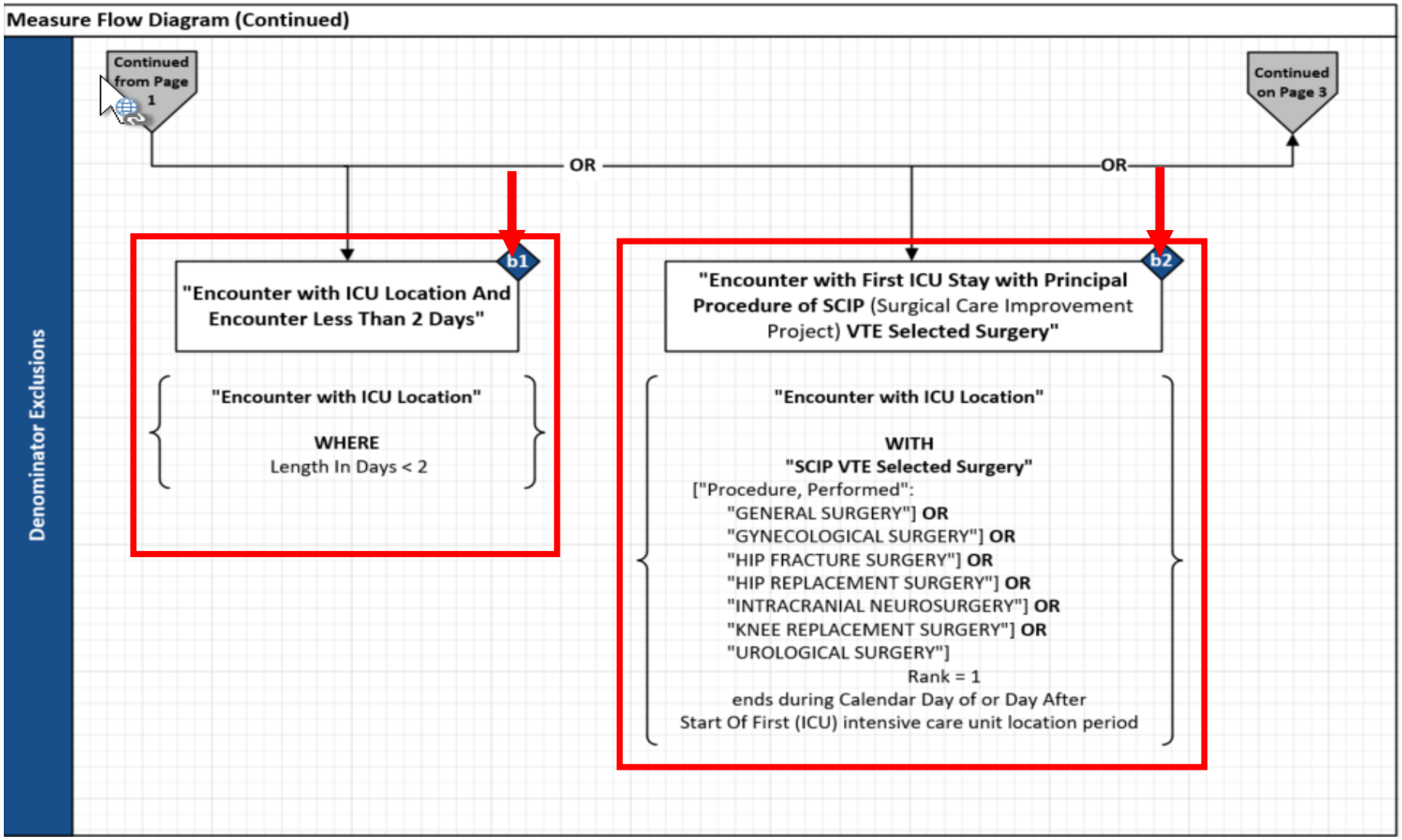
VTE -2 Measure Flow Diagram (Denominator Exclusions)



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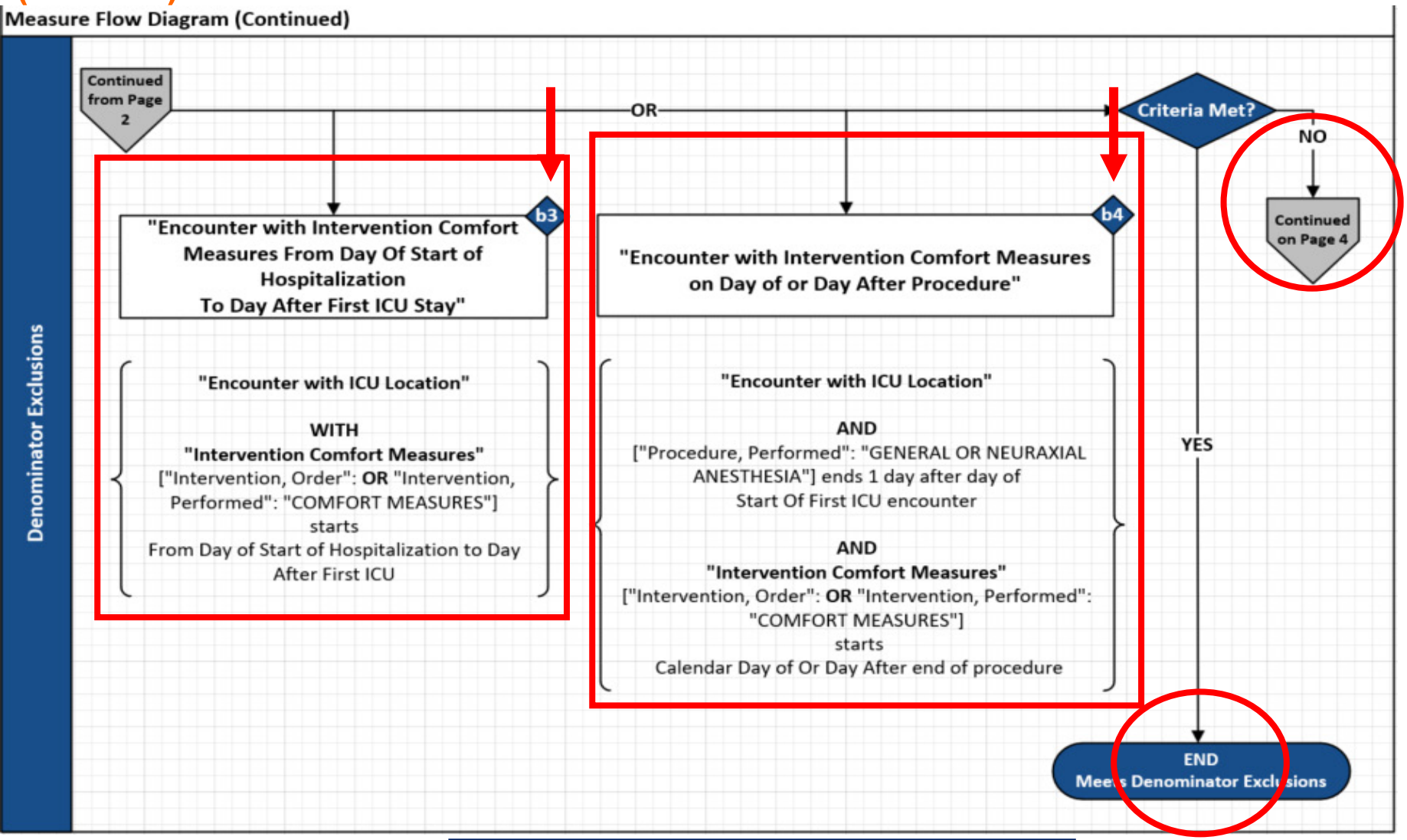
VTE -2 Measure Flow Diagram (Denominator Exclusions) (Cont. 2)



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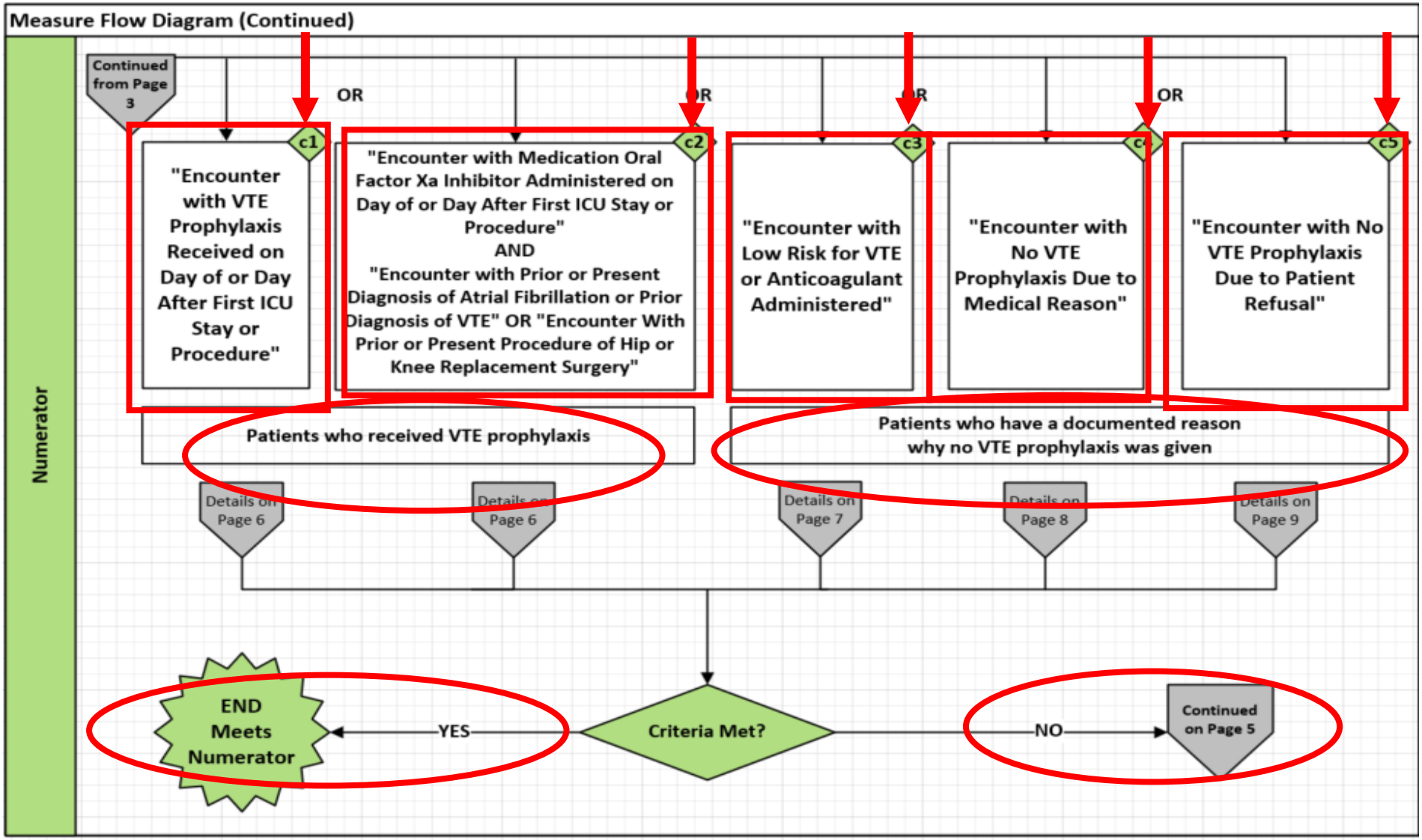
VTE -2 Measure Flow Diagram (Numerator)



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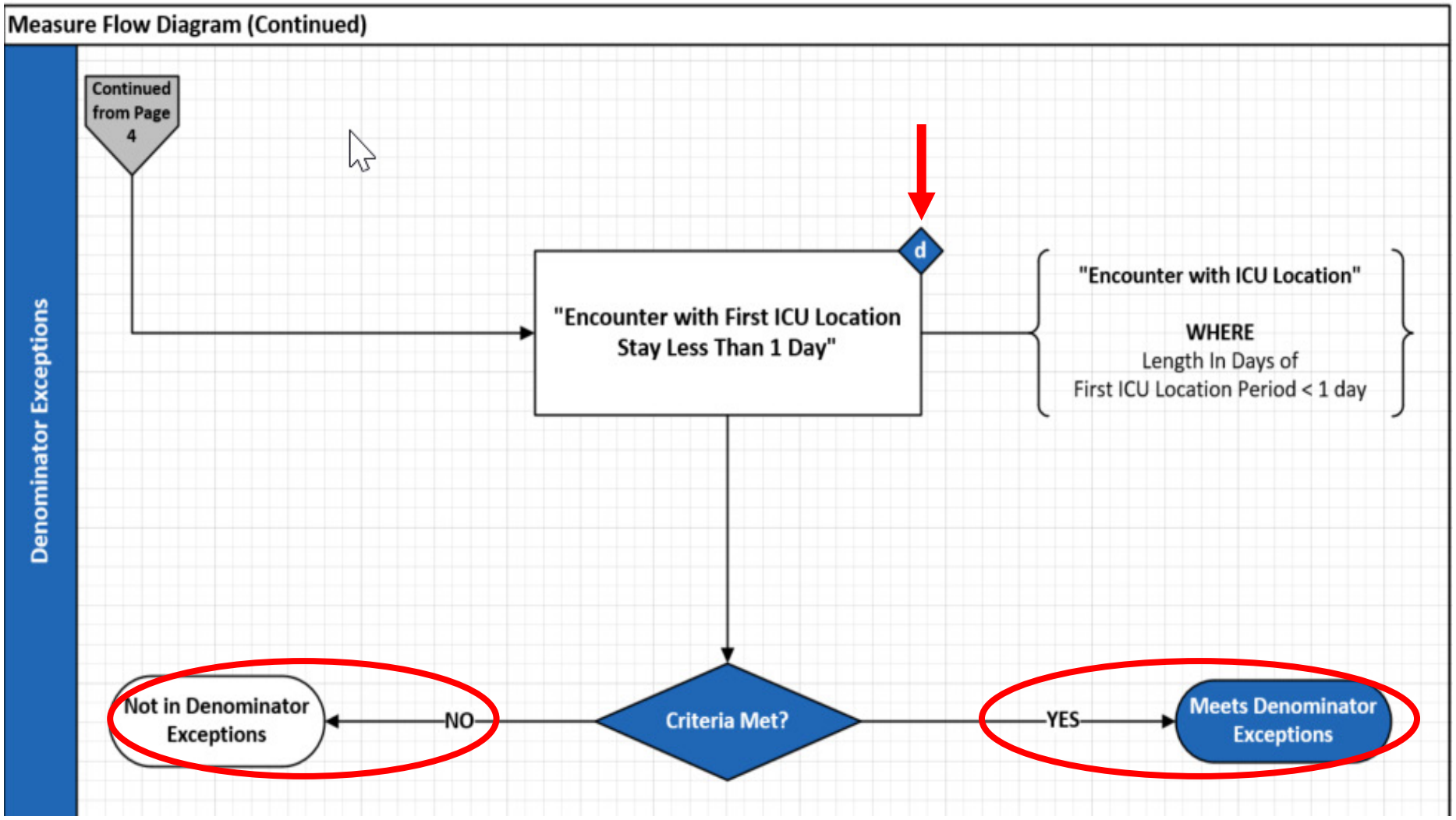
VTE -2 Measure Flow Diagram (Denominator Exceptions)



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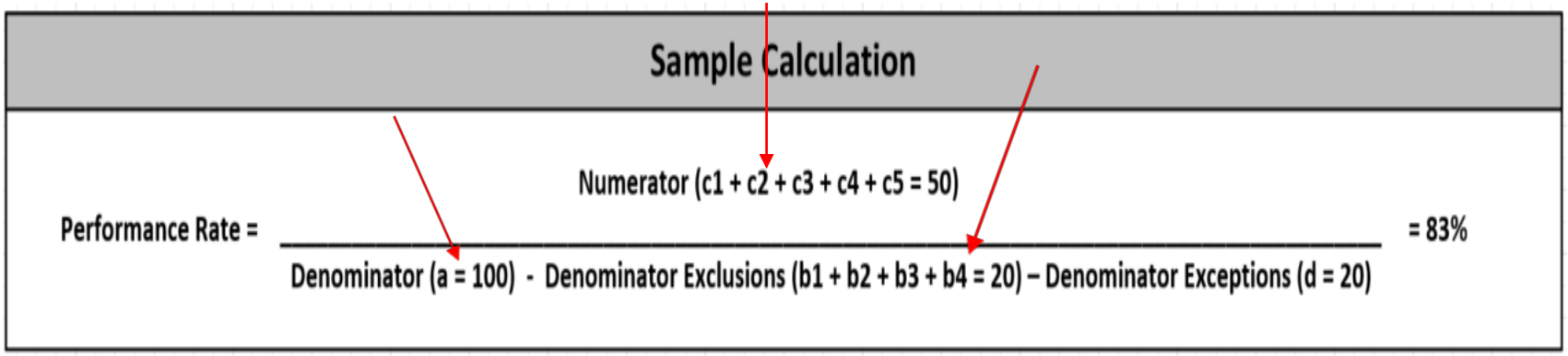
VTE -2 Measure Flow Diagram (Measure Calculation)



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Initial Population: VTE-2

Initial Population: VTE."Encounter with Age Range and without VTE Diagnosis or Obstetrical Conditions"

VTE.Encounter with Age Range and without VTE Diagnosis or Obstetrical Conditions

(~~Global."Inpatient Encounter" InpatientEncounter~~
"Admission without VTE or Obstetrical Conditions" EncounterWithoutConditions
where AgeInYearsAt(date from start of EncounterWithoutConditions.relevantPeriod) >= 18 ~~)~~
~~intersect "Admission Without VTE or Obstetrical Conditions"~~

VTE.Admission without VTE or Obstetrical Conditions

Global."Inpatient Encounter" InpatientEncounter
where not
(exists (InpatientEncounter.diagnoses EncounterDiagnoses
where (EncounterDiagnoses.code in "~~Obstetrics~~Obstetrical or Pregnancy Related Conditions" or EncounterDiagnoses.code in "Venous Thromboembolism" or EncounterDiagnoses.code in "Obstetrics VTE")))

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Denominator: VTE-2

"Encounter with ICU Location"

Encounter with ICU Location

VTE."Encounter with Age Range and without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter
where exists (QualifyingEncounter.facilityLocations Location
where Location.code in "Intensive Care Unit"
and Location.locationPeriod during QualifyingEncounter.relevantPeriod)

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Denominator Exclusions: VTE-2

"Encounter with ICU Location And Encounter Less Than 2 Days"
union
"Encounter with First ICU Stay with Principal Procedure of SCIP VTE Selected Surgery"
union
"Encounter with Intervention Comfort Measures From Day of Start of Hospitalization To Day After First ICU Stay"
union
"Encounter with Intervention Comfort Measures on Day of or Day After Procedure"

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Denominator Exclusions: VTE-2 (Cont. 2)

Encounter with ICU Location And Encounter Less Than 2 Days

“Encounter with ICU Location" QualifyingEncounterICU
where Global."LengthInDays“
(QualifyingEncounterICU.relevantPeriod) < 2

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Denominator Exclusions: VTE-2 (Cont. 3)

Encounter with First ICU Stay with Principal Procedure of SCIP VTE Selected Surgery

“Encounter with ICU Location" QualifyingEncounterICU
with ("SCIP VTE Selected Surgery" Procedure
    where Procedure.rank = 1) SelectedSCIPProcedure
such that Global."NormalizeInterval"
    (SelectedSCIPProcedure.relevantDatetime,
    SelectedSCIPProcedure.relevantPeriod) ends during day of
    TJC."CalendarDayOfOrDayAfter“(VTE."StartOfFirstICU“
    (QualifyingEncounterICU))

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Denominator Exclusions: VTE-2 (Cont. 4)

VTE.StartofFirstICU(Encounter "Encounter, Performed")

start of "FirstICULocationPeriod"(Encounter)

VTE.FirstICULocationPeriod(Encounter "Encounter, Performed")

Global."FirstInpatientIntensiveCareUnit"(Encounter).
locationPeriod

Global."FirstInpatientIntensiveCareUnit"(Encounter "Encounter, Performed")

```
First((Encounter.facilityLocations)HospitalLocation
   where HospitalLocation.code in "Intensive Care Unit"
   and HospitalLocation.locationPeriod during
Encounter.relevantPeriod
   sort by start of locationPeriod))
```


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Denominator Exclusions: VTE-2 (Cont. 5)

Encounter with Intervention Comfort Measures From Day Of Start of Hospitalization To Day After First ICU Stay

"Encounter with ICU Location" QualifyingEncounterICU with
    "Intervention Comfort Measures" ComfortMeasures
such that Coalesce(start of Global."NormalizeInterval"
    (ComfortMeasures.relevantDatetime, ComfortMeasures.relevantPeriod),
    ComfortMeasures.authorDatetime)
during day of
    VTE."FromDayOfStartOfHospitalizationToDayAfterFirstICU"
    (QualifyingEncounterICU)

VTE.FromDayOfStartOfHospitalizationToDayAfterFirstICU (Encounter "Encounter, Performed")
Interval[TJC."TruncateTime" (start of Global."HospitalizationWithObservation"(Encounter)), TJC."TruncateTime" (StartOfFirstICU(Encounter)+ 2 days))

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Denominator Exclusions: VTE-2 (Cont. 6)

Encounter with Intervention Comfort Measures on Day of or Day After Procedure

```
from "Encounter with ICU Location" QualifyingEncounterICU,
    ["Procedure, Performed": "General or Neuraxial Anesthesia"]
    AnesthesiaProcedure,
    "Intervention Comfort Measures" ComfortMeasures
where Global."NormalizeInterval" ( AnesthesiaProcedure.relevantDatetime,
    AnesthesiaProcedure.relevantPeriod ) ends 1 day after day of
    VTE."StartOfFirstICU"(QualifyingEncounterICU).locationPeriod and
Coalesce(start of  Global."NormalizeInterval"
    (ComfortMeasures.relevantDatetime,
    ComfortMeasures.relevantPeriod),  ComfortMeasures.authorDatetime)
    during day of TJC."CalendarDayOfOrDayAfter"( end of
    Global."NormalizeInterval" ( AnesthesiaProcedure.relevantDatetime,
    AnesthesiaProcedure.relevantPeriod ) )
return QualifyingEncounterICU
```


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VTE-1/VTE-2 Numerator

VTE-1	VTE-2
Patients who received VTE prophylaxis: • between the day of arrival and the day after hospital admission OR • the day of or the day after surgery end date (for surgeries that end the day of or the day after hospital admission)	Patients who received VTE prophylaxis: • the day of or the day after ICU admission (or transfer) OR • the day of or the day after surgery end date (for surgeries that end the day of or the day after ICU admission or transfer)
Patients who have documentation of a reason why no VTE prophylaxis was given: • between the day of arrival and the day after hospital admission OR • the day of or the day after surgery end date (for surgeries that end the day of or the day after hospital admission)	Patients who have documentation of a reason why no VTE prophylaxis was given: • between the day of arrival and the day after ICU admission (for patients directly admitted as inpatients to the ICU) OR • the day of or the day after surgery end date (for surgeries that end the day of or the day after ICU admission or transfer)

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Denominator Exceptions : VTE-2

Encounter with First ICU Location Stay less than 1 day:

Encounter with First ICU Location Stay less than 1 day

Encounter With ICU Location" QualifyingEncounterICU
where Global."LengthInDays"
(VTE."FirstICULocationPeriod"(QualifyingEncounterICU))< 1

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Additional Resources

eCQI Resource Center – EH Measures:
https://ecqi.healthit.gov/eligible-hospital/critical-access-hospital-ecqms

Teach Me Clinical Quality Language (CQL) Video Series
https://ecqi.healthit.gov/cql?qt-tabs_cql=2

- Coalesce
- Normalize Interval
- Time Zone Considerations
- Latest, LatestOf, Earliest, EarliestOf, HasStart, HasEnd

Pioneers In Quality
https://www.jointcommission.org/measurement/pioneers-in-quality/

Expert to Expert
https://www.jointcommission.org/measurement/quality-measurement-webinars-and-videos/expert-to-expert-webinars/

ONC Issue Tracking System
https://oncprojectracking.healthit.gov/

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Live Q&A Segment

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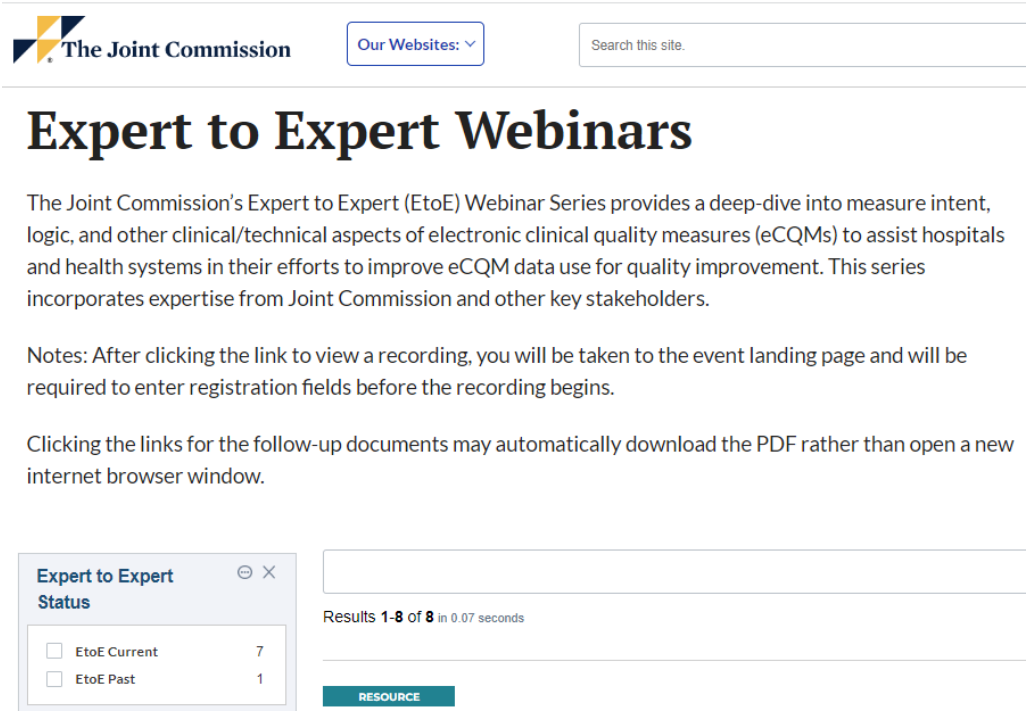

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VTE-2 Numerator Detail

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Numerator: VTE-2

#1 "Encounter with VTE Prophylaxis Received on Day of or Day After First ICU Stay or Procedure"
#2 union ("Encounter with Medication Oral Factor Xa Inhibitor Administered on Day of or Day After First ICU Stay or Procedure"
intersect ("Encounter with Prior or Present Diagnosis of Atrial Fibrillation or Prior Diagnosis of VTE"
union "Encounter with Prior or Present Procedure of Hip or Knee Replacement Surgery"))
#3 union "Encounter with Low Risk for VTE or Anticoagulant Administered“
#4 union "Encounter with No VTE Prophylaxis Due to Medical Reason“
#5 union "Encounter with No VTE Prophylaxis Due to Patient Refusal"

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Numerator: VTE-2 (2)

Encounter with VTE Prophylaxis Received on Day of or Day After First ICU Stay or Procedure

("Encounter With ICU Location" QualifyingEncounterICU
with
    "Pharmacological or Mechanical VTE Prophylaxis Received" VTEProphylaxis
such that Global."NormalizeInterval"
    (VTEProphylaxis.relevantDatetime,
    VTEProphylaxis.relevantPeriod)
starts during day of TJC."CalendarDayOfOrDayAfter“
    (VTE."StartOfFirstICU"(QualifyingEncounterICU)))

union (….)

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Numerator: VTE-2 (3)

Encounter with VTE Prophylaxis Received on Day of or Day After First ICU Stay or Procedure:

…union

```
( from "Encounter with ICU Location" QualifyingEncounterICU,
        ["Procedure, Performed": "General or Neuraxial Anesthesia"]
                AnesthesiaProcedure,
        "Pharmacological or Mechanical VTE Prophylaxis Received"
                VTEProphylaxis
where Global."NormalizeInterval" ( AnesthesiaProcedure.relevantDatetime,
          AnesthesiaProcedure.relevantPeriod )  ends 1 day after day of
          VTE."StartOfFirstICU"(QualifyingEncounterICU)  and
          Global."NormalizeInterval" ( VTEProphylaxis.relevantDatetime,
          VTEProphylaxis.relevantPeriod )  starts during day of
     TJC."CalendarDayOfOrDayAfter"( end of Global."NormalizeInterval"
          (AnesthesiaProcedure.relevantDatetime,AnesthesiaProcedure.relevantPeriod))
return QualifyingEncounterICU)
```


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Numerator: VTE-2 (4)

Pharmacological or Mechanical VTE Prophylaxis Received

(["Medication, Administered": "Low Dose Unfractionated Heparin for VTE Prophylaxis"] VTEMedication where VTEMedication.route in "Subcutaneous route")
union ["Medication, Administered": "Low Molecular Weight Heparin for VTE Prophylaxis"]
union ["Medication, Administered": "Injectable Factor Xa Inhibitor for VTE Prophylaxis"]
union ["Medication, Administered": "Warfarin"]
union ["Medication, Administered": "Rivaroxaban for VTE Prophylaxis"]
union ["Procedure, Performed": "Application of Intermittent Pneumatic Compression Devices ~~(IPC)~~"]
union ["Procedure, Performed": "Application of Venous Foot Pumps ~~(VFP)~~"]
union ["Procedure, Performed": "Application of Graduated Compression Stockings (GCS)"]

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Numerator: VTE-2 (5)

Encounter with Medication Oral Factor Xa Inhibitor Administered on Day of or Day After First ICU Stay or Procedure

```
( "Encounter With ICU Location" QualifyingEncounterICU
with
["Medication, Administered": "Oral Factor Xa Inhibitor for VTE
Prophylaxis or VTE Treatment"] FactorXaMedication
such that
Global."NormalizeInterval" (FactorXaMedication.relevantDatetime,
    FactorXaMedication.relevantPeriod) starts day of
    TJC."CalendarDayOfOrDayAfter“
    (VTE."StartOfFirstICU"(QualifyingEncounterICU)))
union
(….)
```


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Numerator: VTE-2 (6)

Encounter with Medication Oral Factor Xa Inhibitor Administered on Day of or Day After First ICU Stay or Procedure

```
…union (
from "Encounter with ICU Location" QualifyingEncounterICU,
      ["Procedure, Performed": "General or Neuraxial Anesthesia"]
            AnesthesiaProcedure,
      ["Medication, Administered": "Oral Factor Xa Inhibitor for VTE Prophylaxis or VTE
            Treatment"] FactorXaMedication
where Global."NormalizeInterval" ( AnesthesiaProcedure.relevantDatetime,
      AnesthesiaProcedure.relevantPeriod ) ends 1 day after day of
      VTE."StartOfFirstICU"( QualifyingEncounterICU) and Global."NormalizeInterval" (
      FactorXaMedication.relevantDatetime, FactorXaMedication.relevantPeriod ) starts
      during day of TJC."CalendarDayOfOrDayAfter"(end of Global."NormalizeInterval"
      (AnesthesiaProcedure.relevantDatetime, AnesthesiaProcedure.relevantPeriod ) )
return QualifyingEncounterICU)
```


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Numerator: VTE-2 (7)

Encounter with Prior or Present Diagnosis of Atrial Fibrillation or Prior Diagnosis of VTE

("Encounter with ICU Location" QualifyingEncounterICU with[
["Diagnosis": "Atrial Fibrillation ~~/ or~~ Flutter Flutter"] AtrialFibrillation
such that AtrialFibrillation.prevalencePeriod starts on or before end
of QualifyingEncounterICU.relevantPeriod)

union

("Encounter with ICU Location" QualifyingEncounterICU
where exists (QualifyingEncounterICU.diagnoses
EncounterDiagnosis where EncounterDiagnosis in "Atrial Fibrillation
~~/ or~~ Flutter"))

union

("Encounter with ICU Location" QualifyingEncounterICU
with ["Diagnosis": "Venous Thromboembolism"] VTEDiagnosis
such that VTEDiagnosis.prevalencePeriod starts before start
of QualifyingEncounterICU.relevantPeriod)

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Numerator: VTE-2 (8)

Encounter with Prior or Present Procedure of Hip or Knee Replacement Surgery

Encounter with ICU Location" QualifyingEncounterICU
with (["Procedure, Performed": "Hip Replacement
Surgery"]
union
["Procedure, Performed": "Knee Replacement
Surgery"]) HipKneeProcedure
such that
Global."NormalizeInterval"
(HipKneeProcedure.relevantDatetime,
HipKneeProcedure.relevantPeriod) starts on or before
end of QualifyingEncounterICU.relevantPeriod

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Numerator: VTE-2 (9)

Encounter with Low Risk for VTE or Anticoagulant Administered

“Low Risk for VTE or Anticoagulant Administered From Day of Start of Hospitalization To Day After First ICU Stay“

Union

"Low Risk for VTE or Anticoagulant Administered on Day of or Day After Procedure"

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Numerator: VTE-2 (10)

Low Risk for VTE or Anticoagulant Administered From Day of Start of Hospitalization To Day After First ICU Stay

Encounter with ICU Location" QualifyingEncounterICU
with **"Low Risk Indicator For VTE"** LowRiskForVTE
such that LowRiskForVTE.LowRiskDatetime during day of
VTE."FromDayOfStartOfHospitalizationToDayAfterFirstICU
"(QualifyingEncounterICU)

VTE.FromDayOfStartOfHospitalizationToDayAfterFirstICU (Encounter "Encounter, Performed"):
Interval[TJC."TruncateTime" (start of
Global."HospitalizationWithObservation"(Encounter)),
TJC."TruncateTime" (StartOfFirstICU(Encounter)+ 2 days))

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Numerator: VTE-2 (11)

Low Risk for VTE or Anticoagulant Administered on Day of or Day After Procedure

```
from "Encounter with ICU Location" QualifyingEncounterICU,
      ["Procedure, Performed": "General or Neuraxial Anesthesia"]
     AnesthesiaProcedure,
      "Low Risk Indicator For VTE" LowRiskForVTE
where Global."NormalizeInterval"(AnesthesiaProcedure.relevantDatetime,
     AnesthesiaProcedure.relevantPeriod) ends 1 day after day of
     VTE."StartOfFirstICU“ (QualifyingEncounterICU)
and LowRiskForVTE.LowRiskDatetime during day of
     TJC."CalendarDayOfOrDayAfter" (end of Global."NormalizeInterval"
     (AnesthesiaProcedure.relevantDatetime,
     AnesthesiaProcedure.relevantPeriod ))
return QualifyingEncounterICU
```


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Numerator: VTE-2 (12)

Encounter with No VTE Prophylaxis Due to Medical Reason

("No VTE Prophylaxis Medication Due to Medical Reason From Day of Start of Hospitalization To Day After First ICU Stay" intersect "No Mechanical VTE Prophylaxis Due to Medical Reason From Day Of Start of Hospitalization To Day After First ICU Stay")

union

("No VTE Prophylaxis Medication Due to Medical Reason on Day of or Day After Procedure" intersect " No Mechanical VTE Prophylaxis Due to Medical Reason on Day of or Day After Procedure")

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Numerator: VTE-2 (13)

No Mechanical VTE Prophylaxis Due to Medical Reason on Day of or Day After Procedure

from "Encounter with ICU Location" QualifyingEncounterICU,
["Procedure, Performed": "General or Neuraxial Anesthesia"]
AnesthesiaProcedure,
"No Mechanical VTE Prophylaxis Performed or Ordered" ~~NoVTEDevice~~ NoMechanicalProphylaxis
where ~~NoVTEDevice~~NoMechanicalProphylaxis..negationRationale in "Medical Reason For Not Providing Treatment"
and Global."NormalizeInterval" (AnesthesiaProcedure.relevantDatetime, AnesthesiaProcedure.relevantPeriod) ends 1 day after day of VTE."StartOfFirstICU" (QualifyingEncounterICU)
and ~~NoVTEDevice~~ NoMechanicalProphylaxis.authorDatetime during day of TJC."CalendarDayOfOrDayAfter" (end of Global."NormalizeInterval" (AnesthesiaProcedure.relevantDatetime, AnesthesiaProcedure.relevantPeriod))
return QualifyingEncounterICU

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Numerator: VTE-2 (14)

Encounter with No VTE Prophylaxis Due to Patient Refusal

“No VTE Prophylaxis Due to Patient Refusal From Day of Start of Hospitalization To Day After First ICU Stay“

union

"No VTE Prophylaxis Due to Patient Refusal on Day of or Day After Procedure"

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Acronyms

ASH	American Society of Hematology
CDC	Centers for Disease Control and Prevention
CY	Calendar Year
DVT	Deep-vein Thrombosis
eCQM	Electronic Clinical Quality Measure
ED	Emergency Department
EHR	Electronic Health Record
FY	Fiscal Year
HIQR	Hospital Inpatient Quality Reporting
ICD10	International Classification of Diseases, Tenth Revision
ICU	Intensive Care Unit
IP	Initial Population
LMWH	Low Molecular Weight Heparin

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Acronyms (Continued)

NQF	National Quality Forum
ORYX	The Joint Commission's ORYX initiative integrates performance measurement data into the accreditation process.
PE	Pulmonary Embolism
SCIP	Surgical Care Improvement Project
SNOMED CT	Systematized Nomenclature of Medicine - Clinical Terms
UFH	Unfractionated heparin
VSAC	Value Set Authority Center
VTE	Venous Thromboembolism

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Pioneers in Quality Expert to Expert Series 2023 Annual Update Webinar for VTE-1 and VTE-2

Broadcast date: November 7, 2023

00:00:04

Welcome everyone, and thank you for joining us today for our Expert to Expert Series Webinar 2024 Annual Updates for Venous Thromboembolism VTE eCQMs.

00:00:17

Before we start, just a few comments about today's webinar platform. Audio is by Voice Over Internet Protocol only. Click the button that reads "Listen in!" Click for audio, then use your computer, speakers or headphones to listen. There are no dial in lines. Participants are connected in listen only mode. Feedback or dropped audio are common for live streaming events. Refresh your screen or rejoin the event, if this occurs. We will not be recognizing the Raise a Hand or Chat features. To ask a question, click on the Question Mark icon in the audience toolbar. A panel will open for you to type your question and submit. The slides are designed to follow Americans with Disabilities Act rules.

00:01:12

We would like to welcome you to our webinar. Before we get started, we do want to explain that this webinar is fairly technical in nature and requires a baseline understanding of eCQMs. Participant feedback from previous webinars indicated that the content may have been too technical for individuals that are new to eCQMs. We recommend that those new to eCQMs visit the eCQI Resource center at the hyper link on this slide. You will find a collection of resources to help you get started with eCQMs.

00:01:33

The slides are available now and can be found within the viewer toolbar. To access the slides, click the icon that looks like a document. Select the file name and the document will open in a new window. You can print or download and save the slides. Slides will also be available several weeks after the broadcast at the link denoted on this slide.

00:01:57

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00:02:25

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00:03:34

The learning objectives for this session are: Navigate to the measure specifications, Value Sets, Measure Flow Diagrams and Technical Release Notes. Apply concepts learned about the logic and intent for the VTE eCQMs. Prepare to implement the VTE eCQMs for the 2024 eCQM Reporting Period, and identify common issues and questions regarding the VTE eCQMs.

00:04:03

This webinar does not cover these topics. Basic eCQM concepts, Topics related to chart abstracted measures, process improvement efforts related to this measure, and eCQM validation.

00:04:19

These staff and speakers 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 today's webinar content. Melissa Breth, Susan Funk, Yanyan Hu, Karen Kolbusz, Marilyn Parenzan and Susan Yendro.

00:04:48

The agenda for today's discussion follows. Demonstrate eCQI Resource Center navigation. Review the measure flow and algorithm. Review changes made to the VTE eCQMs. Review Frequently Asked Questions and we will also have a live facilitated audience Q&A segment.

00:05:11

Before we get started with our measures, we would like to highlight some of the resources available on the CMS eCQI Resource Center. The eCQI Resource Center provides a centralized location for news, information, tools, and standards related to eCQMs. The majority of tools and resources referenced within the eCQI Resource Center are openly

available for stakeholder use and provide a foundation for the development, testing, certification, implementation, reporting, and continuous evaluation of eCQMs.

We will now share a demo that illustrates navigation to the eCQI Resource Center.

This video will demonstrate how to navigate the eCQI Resource Center website to locate the Measure Specifications, Value Sets, and Technical Release Notes for all measures in the CMS program. Here is a landing page for the eCQI Resource Center. Note the web address of eCQIhealth.IT.gov. Click on the orange horizontal rectangle for Eligible Hospital Critical Access Hospital eCQMs. Here you can select the Reporting Period that you are interested in. For the purposes of this demo, I will select 2024. Click Apply Filters and you will see multiple resources listed.

00:06:52

Click on the EH/CAH eCQM tab. Here you will see a list of the 12 eCQMs available for Eligible Hospital and Critical Access Hospitals. Let's select the Cesarean birth eCQM, which is also referred to as PC-02 for short or CMS334. Here you will see all the measure information for this particular measure. We're going to click on the Specifications and Data Elements tab. Here you can find the HTML file, the measure package zip file, and the Technical Release Notes for this measure. The Value Sets are also listed here. We will take a quick look at the HTML document, which is also referred to as the Human Readable, by clicking on the file name. The HTML file opens. This is where you find all details related to the measure. The top portion of the document highlighted in gray is referred to as the metadata or header information. Here you will find relevant data for the measure, including the version number of the measure, the measure steward, the measure developer, additional information like related to the rationale. The clinical recommendation statement. And here you see all the references that were used when building the eCQM measure. Scrolling through all the references, you will find additional guidance. For implementing the measure. And down at the bottom of the metadata, you will find definitions for each of the population criteria. Beyond the metadata, you will find the definitions for the population criteria. And then further down you will see the definitions that are used making up the logic.

Continuing to scroll, you will see all the functions that are used by the measure. Then we get into the terminology. Notice these first couple of lines are the direct reference codes that are used by the measure. And then the Value Sets are listed here. Then we get into the QDM Data Elements. The Supplemental Data Elements. And if this is a Risk Adjusted measure, that information would be listed here. This is your source of truth for all of the measured details. I went through this very quickly, but wanted you to be aware of how to locate this document and to have a basic understanding of its contents. So back to the eCQI Resource Center. The next item is the zip file. Click on this link and then click to open the zip file. Here you will see all the files that make up the measure package. Note the first file is the HTML file we just looked at. I will not go into detail on all of these files, but if you want to know more, go to the get started with eCQM site on this eCQI Resource Center.

00:10:32

Next we look at the Technical Release Notes by clicking on this link and opening up the Excel spreadsheet. Here is a nice, concise list of all of the changes to the measures for the 2024 Reporting Period. In the first column, you will see the details of the change listed here. The next column indicates the type of change. Did it impact the header, the logic or the Value Set? The next column is the specific section of the measure that was impacted. In this last column you will see the source of change.

Going back to the eCQI Resource Center website again, we can access the Value Sets by clicking the link under Value Sets. You are now taken to the Value Set Authority Center, also known as the VSAC. You will see all the Value Sets used for this eCQM. Please notice that you must be signed into the Value Set Authority Center to see the details within each Value Set, I will log in to the VSAC now by clicking on Sign In and then by clicking the Log in button. If I would like to see the details of the normal presentation. Value Set. I click on the OID. And all of the codes making up that Value Set are displayed. Please note that if you prefer to download the value sets, select all Value Sets by clicking in this box. And click download. This will return a zip file containing each Value Set in a separate Excel document. If you prefer to have all of the value sets in one file, go back to the home page, select the Eligible Hospital Critical Access Hospital eCQM tab again. Select the Reporting Period that you're interested in. I'm going to stick with 2024. And click Apply Filters. On this page you will see eCQM and hybrid measure Value Sets as well as eCQM Direct Reference Code List.

00:13:05

Let's look at the Value Sets. Open the most recent Reporting Year or whatever year you're interested in. I'm going to stick with 2024 and then click on the May 2023 release. You will see several available downloads. Choosing the first option, I will select data sorted by CMS ID in Excel format. Opening the downloaded Excel file. So open the Excel spreadsheet here. And here you will see all the tabs for all the different measures. Let's stick with CMS334, and here you see the CMS ID, NQF number, Value Set name, and Value Set OID for every code, for every Value Set within the measure. Scrolling over to column L, you will see the actual codes within each Value Set. The code description and the code system. Note that direct reference codes are not listed here, as they are not included in Value Sets. You will find information on direct reference codes in the measure specifications, or from the file on the eCQM Resources tab that I just called out. This concludes our eCQI Resource Center navigation demo.

00:14:52

Great, when we have the presentation up and ready. Feel free to start, team, with your presentation.

Thank you, Susan. Now we will provide some background information for VTE-1 Venous Thromboembolism Prophylaxis and VTE-2 Intensive Care Unit. Venous Thromboembolism Prophylaxis.

00:15:17

Before we get into the technical details, we want to briefly review the clinical rationale for the measures. VTE is an umbrella term, that refers to blood clots that can develop in the pulmonary artery or a deep proximal leg vein. Most VTE are related to a recent hospitalization or surgery. A mobilization following these events increases the risk of developing a DVT or PE. ICU admission is a particularly significant risk factor not only due to immobilization, but other comorbidities found in this patient population.

00:16:00

VTE is a leading cause of preventable hospital death in the United States and a top patient safety priority. Sudden death is often the first symptom of a PE even before the diagnosis is suspected. It is estimated that up to 70% of hospital acquired VTE are preventable through prophylactic interventions, such as the use of anticoagulants or mechanical compression devices. Yet many hospitalized patients do not receive these measures.

00:16:35

Clinical practice guidelines from the American College of Chest Physicians, American Society of Hematology, and other professional groups recommend VTE Prophylaxis for most hospitalized patients. The intent of the VTE-1 and VTE-2 measures is VTE prevention through the promotion of anticoagulant medications or mechanical VTE Prophylaxis, such as sequential compression devices or compression stockings. Administered soon after the patient's admission to the hospital. Patients who receive pharmacological or mechanical VTE Prophylaxis are included in the Numerator population. Also included in the Numerator are patients with a reason why VTE Prophylaxis was not given, and patients not at risk or Low Risk for developing VTE during the hospitalization.

2021 national averages for all hospitals. In the CMS dataset that reported 25 or more cases were at 84.9% for VTE-1 and 94.5% for VTE-2.

00:17:51

Changes for 2024 include some updates to the references supporting the measures. Also, for the 2024 reporting year, special characters are removed from the Value Set names. In this slide you'll see some examples. Parentheses with acronyms are removed from the names listed here, as well as slashes. Please note that throughout this presentation we use red font to highlight changes from last year. In addition, we renamed the Value Set names to reflect the Value Set purpose statements. Medical reason is renamed as Medical Reason For Not Providing Treatment, and obstetrics is renamed as Obstetrical or Pregnancy Related Conditions. I will now turn the presentation over to Marilyn who will cover the technical changes.

00:18:46

Thank you Karen. I will start by highlighting the technical changes to the measure for the 2024 Reporting Year. We replaced the Global.”Inpatient Encounter” definition with

Admission Without VTE or Obstetrical Conditions, so that the Initial Population definition is now simplified. Please note this change does not impact the results of the measure.

00:19:11

Another technical change is the alias NoVTEDevice is renamed to NoMechanicalProphylaxis.

Now we will cover the measure populations in detail, contrasting VTE-1 and VTE-2 as we go. There are no changes to the measure populations this year. The Initial Population is the same for VTE-1 and VTE-2. That is, inpatient hospitalizations for patients age greater than or equal to 18 years of age discharged from hospital. Inpatient Acute Care without a diagnosis of VTE or Obstetrical Conditions with a Length of Stay less than or equal to 120 days that end during the measurement period.

00:19:59

For VTE-1, the Denominator is identical to the Initial Population. VTE-2 Denominator is the same as VTE-1 with one additional criteria. Patients who were directly admitted or transferred to ICU during the hospitalization. On this slide, and the next three slides, we will use yellow highlighting to call out the differences between VTE-1 and VTE-2.

00:20:28

For VTE-1, the Denominator Exclusion is inpatient hospitalizations for patients with any of the following conditions. Length of Stay less than two days. Transfer to ICU the day of or the day after hospital admission with, ICU Length of Stay greater than or equal to one day. Principal diagnosis of mental disorders or stroke. Principal Procedure of Surgical Care Improvement project, also known as SCIP. VTE selected surgeries. Comfort measures documented at any time between the day of arrival and the day after hospital admission. Comfort measures documented by the day after surgery. End date for surgeries that end the day of or the day after hospital admission. Please note here we corrected a typographical error. The word start was changed to end to align with the measure intent.

VTE Denominator 2 Exclusions are similar to VTE-1, Length of Stay less than two days is an Exclusion, transfer to the ICU the day of or the day after hospital admission with ICU Length of, Stay greater than or equal to one day, and principal diagnosis of mental disorders or strokes are not Exclusions for VTE-2. SCIP VTE, selected surgeries must end the day of or the day after ICU admission or transfer. Comfort measures timing is any time between the day of arrival and the day after ICU admission or transfer for VTE-2 or comfort measures documented by the day after surgery end date for surgeries that end the day of, or the day after ICU admission or transfer. Please note an error was corrected in this year's annual update to be “ICU admission or transfer” to align with the measure intent and logic expression.

00:22:34

The Numerator for VTE-1 is Inpatient hospitalizations for patients who received VTE Prophylaxis between the day of arrival and the day after hospital admission, or the day of or

the day after surgery end date for surgeries that end the day of or the day after hospital admission.

Inpatient hospitalizations for patients who have documentation of a reason why no Prophylaxis was given either between the day of arrival and the day after hospital admission, or the day of or the day after surgery end date.

The VTE-2 Numerator is similar, except the timing of the Prophylaxis and reason why no VTE Prophylaxis was given, uses the ICU admission as the benchmark, as opposed to the hospital admission for VTE-1.

00:23:29

VTE-2 has one Denominator Exception, ICU Length of Stay less than one day.

00:23:38

Now we will review the specifics of VTE-1.

00:23:44

We will start by sharing the measure flow diagram with you. The measure flow diagrams provide a high-level overview of the algorithm flows and can be found on the eCQI Resource Center. The measure specifications are the source of source of truth, but the measure flow diagrams can be helpful in understanding the main concepts. Navigate to the eCQI Resource Center at ecqi.Health.gov. And click on Eligible Hospital, Critical Access Hospital eCQMs.

00:24:18

Next, select the Reporting Period you are interested in and click on the eCQM Resources tab.

00:24:27

Now scroll down through the eCQM resources and click on the eCQM flows zip file. Once you open the zip file, you will see the measure flows for all measures in the CMS Hospital Inpatient Quality Reporting program.

00:24:44

Both VTE-1 and VTE-2 share the same Initial Population. The main definition is Encounter with Age Range and without VTE Diagnosis or Obstetrical Conditions. Two conditions be met to qualify for this definition. An Inpatient Encounter must be present without VTE diagnosis or obstetrical conditions, and second, the patient must be greater than or equal to 18.

If the criteria is met, the patient is in the Initial Population and processing continues. If not, the patient is not in the Initial Population and processing ends.

00:25:28

Here's the VTE-1 Denominator measure flow. The Denominator is equal to the Initial Population, which means that Encounter satisfying the Initial Population will also meet VTE-1 Denominator.

Note the notation in the small diamond. We will refer back to this when we get to the sample calculation.

00:25:52

There are six criteria included in the VTE-1 Denominator Exclusions. An Encounter Satisfying any one of them will exclude the patient from the Denominator population.

The first is if there's an Encounter with Length of Stay less than two days. Second is if an Encounter is with ICU location, stay greater than or equal to one day. And the third criterion is if there is an Encounter with principal diagnosis of mental disorder or stroke. Note that B1, B2, and B3 and the small diamonds to be used later in the calculation.

00:26:32

The fourth criterion is if there is an Encounter with Principal Procedure of SCIP VTE Selected Surgery.

Fifth criterion is if there is an Encounter with intervention Comfort Measures From the Day of Start of Hospitalization to the Day After Admission.

And last is if there is an Encounter with intervention Comfort Measures on the Day of or the day after procedure. If any of the criteria is met, the patient meets the Denominator Exclusion. If not met, the patient continues on through the algorithm to be considered if the Numerator is met.

00:27:12

There are two main category conditions in the VTE-1 Numerator.

One is patient who received VTE Prophylaxis and another is patients who have a documented reason why no Prophylaxis was given. Under the first category, either of the two conditions will suffice. An Encounter with VTE Prophylaxis receive From Day of Start of Hospitalization To Day After Admission or Procedure or Encounter with Medication Oral Factor Xa inhibitor administered on the day of or the day after admission or procedure with either prior or present diagnosis of A-fib or Prior Diagnosis of VTE or with prior or present procedure of hip or knee replacement.

Under the second category, any of three conditions are considered. Encounter with Low Risk for VTE or Anticoagulant Administered, or No VTE Prophylaxis Due to Medical Reason OR with no VTE Prophylaxis Due to Patient Refusal. If any of these criteria are met, the patient is in the Numerator. If not met, the patient is not in the Numerator.

00:28:34

Now that the Numerator, Denominator, and Denominator Exclusions are defined, we can plug the quantities into the calculation formula. Here you see the diamond notations referenced from the previous slides.

00:28:50

Okay, so now let's examine the logic in detail. The main Initial Population definition is Encounter with Age Range and without VTE Diagnosis or Obstetrical Conditions, which is stored in the library, as evidenced by the prefix VTE in front of the definition name.

As noted in the slide where we highlighted changes for this year, we reconstructed this definition by replacing the Global."Inpatient Encounter" with Admission without VTE or Obstetrical Conditions, so that the intersect statement can be removed without outcome change. The Admission without VTE or Obstetrical Conditions definition looks for an Inpatient Encounter that does not have an Encounter, diagnosis of Obstetrical or Pregnancy Related Conditions, VTE or Obstetrics VTE. Note the grammatical change in the Value Set name.

00:29:54

The Global."Inpatient Encounter" looks for Inpatient Encounters where the Length of Stay is less than or equal to 120 days, and the Encounter Period ends during the measurement Period. No change to this definition for this year.

00:30:11

So the VTE Initial Population logic is looking for an Inpatient Encounter that does not have an EncounterDiagnoses of Obstetrical or Pregnancy Related Conditions, VTE or Obstetric VTE, and the patient age is 18 year or older, with Length of Stay 120 days or less, and the Encounter relevant Period ends during the measurement Period of 2024.

00:30:40

A Frequently Asked Question relates to the logic just presented. Does the prior history of DVT and or PE exclude the patient from the Initial Population of VTE-1 and VTE-2?

And the answer is there is no Exclusion for patients with a history of DVT or PE. In fact, past history of DVT or PE increases the risk for developing VTE during the hospitalization, and even more reason to make sure that Prophylaxis is administered timely.

00:31:18

The Denominator reads Initial Population. Because the Denominator doesn't change from the Initial Population, we can simply call in the Initial Population as the definition. We just covered the Initial Population, so we will not go into detail here again.

00:31:36

Moving on to the Denominator Exclusions. The union operator allows for any one of these six conditions to meet the Denominator Exclusions. No changes have been made to this definition for the Reporting Year 2024.

00:31:53

Looking at the first Exclusion, Encounter Less Than Two days. We use Encounter with Age Range and without VTE Diagnosis, or Obstetrical Conditions as the qualifying Encounter that moves through our measure algorithm. The logic will exclude patients with Length of Stay less than two days.

Looking at the second Exclusion, Encounter with ICU Location Stay One Day or More. This logic is looking for a qualifying Encounter that has an ICU stay greater than or equal to one day. Where the location starts the day of or the day after the Encounter starts.

00:32:38

Now we look at the third Exclusion, Encounters with the principal diagnosis of mental disorders or stroke. We use the Encounter diagnosis attributes of rank and code to identify a principal diagnosis of Mental Health or Hemorrhagic Stroke or Ischemic Stroke.

00:33:01

Moving to the fourth Exclusion, Encounter with Principal Procedure of SCIP VTE Selected Surgery. Just as a refresher, SCIP refers to Surgical Care Improvement Project, which is a discontinued measure set. This logic excludes any principle procedure defined as a SCIP VTE Selected Surgery. And that surgery occurs during the Encounter. As a refresher, we use global.NormalizeInterval function to access whichever timing element is available in the patient data submission file for the time comparison.

The SCIP VTE Selected Surgery definition that is called simply collects patients with procedures in any of these Value Sets.

00:33:52

The fifth Exclusion is intervention… Intervention Comfort Measures From Day of Start of Hospitalization To Day After Admission. The qualifying Encounter is combined with the intervention comfort measures definition. This definition looks for the intervention order and the intervention performed. Data types with a code in the comfort measures Value Set. The Coalesce logic looks complicated, but basically Coalesce and global.NormalizeInterval ensure that the available data is used in a consistent manner.

First, global.NormalizeInterval looks for a relevant date and time or Period and creates an interval from that. The start of this interval, as well as the author date and time, is then used by the Coalesce function. Note that Coalesce chooses the first, not null value that it finds. If global.NormalizeInterval returns a null because both relevant date and time and Period were null, then Coalesce would select author, date and time. Please see the resources slide at the end of this presentation for links to excellent video shorts on the Coalesce and NormalizeInterval functions.

00:35:19

The function, VTE From Day of Start of Hospitalization To Day After Admission, is called out as a qualifying time frame. So, in the fifth Exclusion, Intervention. Comfort measures From Day of Start of Hospitalization To Day After Admission, will check if comfort measures were ordered or performed during the day of arrival date to the day after hospital admission.

00:35:50

The last Exclusion is “Intervention Comfort Measures on Day of or Day After Procedure”. Starting with the qualifying Encounter, the logic looks for any procedure with a code in the Value Set indicative of general or neuraxial anesthesia. Next we see the same definition we covered on a previous slide intervention comfort measures. Where the surgical procedure ends the day after the start of the qualifying encounter and comfort measures are performed or documented by the day after surgery end date.

00:36:29

On the previous slide, we saw the function TJC.CalendarDayOfOrDayAfter. This function creates an interval with the start value and an end value equal to the start value plus two days. In other words, it captures an interval representing the day of or day after an event. This function calls the TJC.TruncateTime, which is capturing the date and time zone offset from the value and assigns all zeros to the time field.

00:37:06

Moving on to the Numerator. The union operator allows for any one of these conditions to meet the VTE-1 Numerator. The first part of the Numerator focuses on inpatient hospitalizations for patients who received VTE Prophylaxis, shown as condition one and two. Conditions three, four, and five are the second part of the Numerator, where the logic is looking for reasons why a patient did not receive VTE Prophylaxis. Both need to be within the required timing criteria. Let's take a look at each statement one at a time.

00:37:43

So, the first condition of Encounter with VTE Prophylaxis Received From Day of Start of Hospitalization To Day After Admission or Procedure. In this definition, the union operator is to include two qualifying time frames for VTE Prophylaxis. The first time frame is Prophylaxis was received between the day of arrival and the day after hospital admission. The time frame is highlighted in yellow.

00:38:14

The second qualifying time frame is Prophylaxis was received the day of or the day after surgery end date for surgeries that end the day of or the day after hospital admission.

00:38:29

Let's look at the definition “Pharmacological or Mechanical VTE Prophylaxis Received”, which the Numerator definition has called. It includes all qualifying medications administered and mechanical devices applied for VTE Prophylaxis.

The only change for 2024 is Value Set name changes where the abbreviations were removed.

00:38:56

So, this brings us to another Frequently Asked Question. Why is Apixaban not listed in the Value Set as a medication for VTE Prophylaxis?

And the answer is at this time, there is no approved indication to use Apixaban for VTE Prophylaxis and treatment with an exemption of hip and knee replacement surgery. We continuously monitor FDA approved indications for medications to determine which ones are appropriate for inclusion in the Value Set. Once Apixaban is approved, we will add it to the list. If the FDA approved indications for Apixaban should be changed in the future to include a VTE Prophylaxis indication for all hospitalized medical and surgical patients, then we will update the measure specifications. Meanwhile, if you hear of a new announcement, please feel free to forward it to us.

00:39:58

So, putting the last three slides together, we go back to the first Numerator condition by using union. And the definition is looking for pharmacological or mechanical VTE Prophylaxis giving any time from day of start of hospitalization to the day after admission. Or it starts during the day of or the day after the end of the procedure.

00:40:24

The next condition “Medication Oral Factor Xa inhibitor administered on day of or day after admission or procedure, includes three definitions. In this definition, union operator is to include two qualifying time frames for oral factor Xa administered. The first part of the union is to look for oral factor Xa Inhibitor was administered on the day of, or day after start of Encounter.

00:40:53

And the second part is to look that the oral factor Xa was administered on the day of, or day after a procedure.

Next, we look for patients with a history of atrial fib or flutter. Note we use a diagnosis data type to capture a history of these diagnoses that may be present prior to admission. Or a current diagnosis of atrial fib or flutter, or a history of VTE. The only change here is atrial fib or flutter. Value Set name has the slash replaced with the word or.

00:41:36

Last, we are evaluating if a hip or knee replacement surgery was performed on or before the end of the Encounter.

00:41:46

Okay. Another Frequently Asked Question. Patients with hip and knee replacement surgeries are included in the VTE-1 and VTE-2 Numerator, but are excluded from the VTE-1 and VTE-2 Denominator. Is this possible?

And the answer to that is a patient with a Principal Procedure of hip or knee replacement surgery will be excluded from the measured Denominator. If the hip knee surgery is not the Principal Procedure, the patient will be included in the Denominator and will continue to the Numerator for further evaluation.

00:42:26

Moving on to the third Numerator condition, we transition the focus to patients who have a documented reason for no VTE Prophylaxis. This definition of Low Risk for VTE or anticoagulant administered unions two definitions using two timing conditions. Anticoagulant Administered From Day of Start of Hospitalization and Anticoagulant Administered Day of or Day After Procedure.

00:42:57

Let's start with the first definition, Low Risk for VTE or Anticoagulant Administered From Day of Start of Hospitalization To Day After Admission. We will review the Low Risk indicator for VTE definition in greater detail on the next slide, where you will see where the variable LowRiskDateTime is originating from.

00:43:23

In the definition, “Low Risk Indicator for VTE”, the logic is evaluating if the patient is a Low Risk for VTE based on an assessment. The “LowRiskDateTime” variable highlighted in yellow here is used as a timestamp placeholder to represent the date, time and assessment was performed that indicates the patient is a Low Risk for VTE. Next, the logic evaluates if the patient is Low Risk based on an INR lab result greater than three. Here, the Low Risk date time represents the INR lab result date and time. And lastly, the logic evaluates if the patient is Low Risk. If the patient is currently on an anticoagulant for VTE. Here, the Low Risk date time represents an anticoagulant medication administration date, and time. The logic allows the timestamp from any of the three options to fill in the Low Risk date time variable to meet the condition.

00:44:31

Next we look at the second definition in the Encounter with Low Risk for VTE or anticoagulant administered definition. This definition uses the Low Risk Indicator For VTE that we just reviewed on the previous slide and applies it if a procedure was performed the day of, or the day after the start of the Encounter.

00:44:56

Moving to the fourth Numerator condition, “Encounter with no Prophylaxis Due to Medical Reason.” A clinician needs to document a medical reason why pharmacological and mechanical VTE Prophylaxis was not done. So, we use intersect to satisfy both conditions to

pass the Numerator. This first clause looks for the timing from the day of Start of Hospitalization To Day After Admission, and the second clause looks at the timing of, day of or day after procedure. If either timing constraint is met, the Numerator will be satisfied.

00:45:39

Let's start with the Pharmacological VTE Prophylaxis. The logic is looking for a medical reason why any of the listed medications was not given or ordered.

We use the negationRationale attribute, which looks for a medical reason why VTE Prophylaxis was not done. We use the author date and time attribute, so the documentation must occur during the From Day of Start of Hospitalization To Day After Admission. As mentioned earlier, we renamed the “Medical Reason For Not Providing Treatment”.

00:46:20

Looking at the No VTE Prophylaxis Medication Administered and Ordered definition. The logic looks to see if any of these Prophylaxis medications were not administered or not ordered.

00:46:35

Now let's talk about the mechanical VTE Prophylaxis. The logic is looking for a medical reason why any of the mechanical devices were not applied or ordered from the day of start of hospitalization to the day after admission. The Value Set is renamed to Medical Reason For Not Providing Treatment for this year. In addition, the alias no NoVTEDevice is replaced with no mechanical Prophylaxis to better align with the definition content.

00:47:06

The definition of No Mechanical VTE Prophylaxis Performed or Ordered is checking that the three mechanical Prophylaxis devices are not applied or not ordered. For this year, only changes for this definition are Value Set. Excuse me for this year. Only changes made to this definition are Value Set name updates.

00:47:31

Moving on to this next set of definitions, we continue to use the same medication and device not done concept. However, this has to be documented on the day of or the day after procedure for procedures that end one day after hospital admission. Note the name change for the Medical Reason For Not Providing Treatment Value Set.

And moving to the next definition. No Mechanical VTE Prophylaxis Due to Medical Reason On the Day of or Day After Procedure. The definition is the same as previous medical reason logic. The changes for this year are alias updates and Value Set name updates.

00:48:15

Okay. The last Numerator condition is No VTE Prophylaxis Due to Patient Refusal. So just like the medical reason, this looks for patient refusal as a reason for No VTE Prophylaxis. The

same two timing conditions are repeated From Day of Start of Hospitalization To Day After Admission, and Day of or Day After Procedure.

00:48:41

Let's look at No VTE Prophylaxis Due to Patient Refusal from Start of Hospitalization To Day After Admission. There are no changes here for the current for the 2024 Reporting Year.

00:48:55

Unlike medical reason for no mechanical and pharmacological VTE Prophylaxis, the patient refusal logic only looks for either medication or mechanical Prophylaxis to have not been done Due to Patient Refusal in order to meet the Numerator.

And lastly No VTE Prophylaxis Due to Patient Refusal On Day of or Day After Procedure. Okay. We have finished VTE-1 measure.

00:49:31

Now we will transition to the logic unique to VTE-2. We'll go through the measure flow diagrams quickly. Both VTE-1 and 2, share the same Initial Population, which we already covered. So we'll go directly to the Denominator.

00:49:48

And the Denominator population condition is Encounter with ICU Location. Again, if yes the Denominator is met, and the flow continues on the next page if not, processing ends.

00:50:02

There are four criteria included in the VTE-2 Denominator Exclusions and Encounter satisfying any one of them will exclude the case from the Denominator population. The first is if there's an Encounter with an overall length of, stay less than two days. Second is if an Encounter with First ICU stay with the Principal Procedure of SCIP VTE Selected Surgery. And here again, note the B1 and B2 in the small diamonds to be used later in the sample calculation.

00:50:33

The third criterion is if there is an Encounter with intervention comfort measures. From the day of start of hospitalization to the day after the first ICU stay. And the fourth criterion is if there is an Encounter with intervention comfort measures on the day of or day after procedure. If any of the criteria is met, the patient meets the Denominator Exclusion, if not met the patient continues on through the algorithm to be considered if the Numerator is met.

00:51:08

Similar to VTE-1, there are two main category conditions in the VTE-2 Numerator. One is patients who received Prophylaxis, and another is patients who have a documented reason why no Prophylaxis was given. Under the first category, any of the two conditions are

considered for satisfaction. One is VTE Prophylaxis Received Day of or Day After the First ICU Stay or Procedure or Encounter with Medication. Oral Factor Xa Inhibitor Administered on the Day of or Day After First ICU Stay or Procedure with either prior or present diagnosis of A-fib or Prior Diagnosis of VTE Or with prior or present procedure of hip or knee replacement.

Under the second documentation category. Any of three conditions are considered Encounter with Low Risk for VTE or Anticoagulant Administered, or No VTE Prophylaxis Due to Medical Reason or with No VTE Prophylaxis Due to Patient Refusal. If any of the criteria is met, the patient is in the Numerator. If not met, the patient continues on through the algorithm to be considered if the Denominator Exception is met.

00:52:34

The Denominator Exception condition is if an Encounter with Intensive Care Unit Length of Stay less than one day. If yes, the patient meets the Denominator Exception to be excluded from the measure. If not, the patient is not in the Denominator Exceptions.

00:52:53

And now that the Numerator, Denominator, Denominator Exclusions, and Denominator Exceptions are defined, we can plug the quantities into the calculation formula. Here you see the diamond notations. Reference from the previous slides.

00:53:12

Okay. Let's take a look at the measure logic. As mentioned earlier, VTE-1 and 2 share the same Initial Population.

00:53:19

So, we'll move directly to the Denominator for VTE-2, the VTE-1 Denominator is refined to include only direct admits to the ICU or transfers to the ICU any time during the hospital stay. So, we start with the qualifying Encounter from VTE-1, and apply the attributes of facility locations and code to specify Intensive Care Unit and the ICU stay must be during the qualifying Encounter Period

00:53:54

Moving to the VTE-2 Denominator Exclusions. By using union, a patient who meets any of these four conditions will be excluded from the Denominator: Encounter with ICU Location in Encounter Less Than Two Days, Encounter with First ICU Stay with Principal Procedure of SCIP VTE Selected Surgery, Encounter with Intervention Comfort Measures From Day of Start of Hospitalization to Day After First ICU Stay, and Encounter with Intervention Comfort Measures on the Day of or the Day After the Procedure.

00:54:35

In the first Exclusion to start the expression, we use Encounter with ICU Location, which we saw used in the Denominator. If the inpatient hospital stay is less than two days, it will be excluded.

00:54:51

The second Exclusion is the first ICU stay with principal procedure of SCIP VTE selected surgeries. The SCIP procedure must end on the day of, or the day after the start of the first ICU visit.

00:55:08

As a refresher, let's review the VTE Start of First ICU function that was called in the previous definition. Three functions together define the start date and time of the first ICU. Let's look at how StartOfFirstICU function is built upon. So, the global first inpatient Intensive Care Unit function is looking for the first ICU admission or transfer to the ICU during the Encounter. Now we will get the first inpatient Intensive Care Unit Period by VTE. ICU location Period Function. And lastly, we can capture the first ICU admission date and time by calling the VTE.Start of first ICU function.

00:56:02

Moving on to the next Exclusion. You may recall that we've already reviewed intervention comfort measures in VTE-1. However, the timing conditions here for VTE-2 uses a function to look for comfort measures to occur from the date of start of the hospitalization to the day after the first ICU admission or transfer. The function of the same name uses the interval operator to capture a time frame from start of global.hospitalization, with observation to the day after admission to the first ICU. No change for this logic for this year.

00:56:44

So again, in the last Exclusion, we've already reviewed the logic in VTE-1, the difference here is in the timing condition where we are looking for comfort measures to occur on the day of or the day after the procedure ends, and that the procedure ends one calendar day after the start of the first ICU.

00:57:07

So, moving on to the Numerator. Recall the comparison of VTE-1 to VTE-2 we looked at earlier. We use the same clinical concepts. However, VTE-2 uses the first ICU stay for timing constraints where VTE-1 uses the hospital admission. No new concepts or logic is introduced in the Numerator logic that has not already been covered. So, we will not present those slides during the presentation. However, please note that the Numerator slides are available at the end of the slide deck.

00:57:44

And moving on to VTE-2's Denominator Exception, it's important to note the difference between an Exclusion and an Exception. Simply put, it differentiates in the way it processes. A Denominator Exclusion is processed before the Numerator, so a patient is excluded and never in the Numerator. An Exception is processed after the Numerator is evaluated. So, if a case fails the Numerator and meets the Denominator Exception, it will be excluded from the measure. So, in this instance, a patient with a first ICU stay less than one day will be

excluded from the measure if the Numerator was not met. And that wraps up to VTE-2. Back to you. Susan.

00:58:35

Great. Thanks Marilyn and Karen for your parts in the presentation. We've included an additional resource slide here to direct our audience to the eCQI Resource Center Eligible Hospital measures page. Teach Me Clinical Quality Language video series, including shorts on several clinical quality language concepts listed on this slide. The Pioneers in Quality landing page on The Joint Commission's website. The Expert to Expert series landing page and the ONC Issue Tracking System. Following this webinar if we are unable to get to your question during the session, this is where you would submit clinical and technical questions about these eCQMs.

00:59:17

So, with that, we will now move into our our live Q&A segment. As a reminder, please submit your questions via the question pane. Click on the Question mark icon in the audience toolbar, and a panel will open for you to type and submit a question. All questions that we do not answer verbally during the live event will be addressed in a written follow up Q&A document, and that follow up document will be posted on The Joint Commission website within several weeks after the live event. And with that, Melissa and Susan. When you guys are ready, feel free to start the Q&A segment.

00:59:52

Thanks, Susan. The first question is where does the algorithm get the Prophylaxis information from the chart? Answer. Anticoagulation education information is used, pulled from the MAR because the measure looks for administration. Mechanical Prophylaxis is usually documented by nursing in a flow sheet, progress note, or other electronic template in the record. Great. Thanks.

01:00:23

Okay, so this question asks can you comment on The Joint Commission's partnership with NQF? So, The Joint Commission will continue to offer health care performance measurement and provide accreditation and performance excellence and performance improvement solutions on key measures that span the full continuum. So, The Joint Commission's Department of Quality Measurement will continue to work on measures to develop and maintain measures that we're currently working on, including those that are also used in the CMS programs. And there is more information on The Joint Commission website about the affiliation with the NQF. Thanks.

01:01:08

Okay any update on the use of Z-codes for history of AFib, VTE, PE, etc.? And accepting this as reason for use of Apixaban, Eliquis? No, Z-codes such as Z86.718 are situational status codes that denote a personal history of a condition. They are not diagnostic codes and

therefore are not included in the Venous Thromboembolism Value Set. The measures Numerator logic looks for the history of Venous Thromboembolism diagnosis encoded in SNOMED and ICD-10 codes that are prior to the Encounter, using diagnosis prevalence Period as an indicator of history of diagnosis. Okay.

01:02:04

Our next question asks are inpatient Mental Health patients counted in this metric? And the answer is that patients with ICD10 principal diagnosis codes of mental disorders are excluded from VTE-1 only. Okay.

01:02:23

Next question can brain dead patients discharge from regular administration, admission and readmitted for OPO or Organ Procurement Organizations be excluded from the measure? If the patient was readmitted to the hospital for organ donation, this patient should be put in comfort measures. Please use the appropriate code for dying care, from comfort measures. OID Value Set to get this patient excluded from the measures. So, you can find that in the VSAC. Great.

01:03:02

Okay, the next question. Doctors insist that Eliquis covers VTE Prophylaxis. Can you please address? So, the answer is that Eliquis may meet VTE Prophylaxis for select patients if administered on the day of or day after admission. The US Food and Drug Administration, the FDA, has approved Eliquis or Apixaban to reduce the risk of stroke and systemic embolism in patients with nonvalvular Atrial Fibrillation, or to reduce the risk of blood clots, deep vein thrombosis, or DVT, and Pulmonary Embolism or PE following knee or hip replacement surgeries only. It is additionally approved for treatment of VTE and PE for the reduction in the risk or recurrence of VTE and PE following initial therapy.

01:04:03

Okay. If patients having hip or knee procedure received the correct VTE Prophylaxis, should they be excluded from the Numerator or Denominator patients with ICD10 Principal Procedure Code of Surgical Care Improvement Project, or SCIP VTE. Selected surgeries are excluded from both VTE-1 and VTE-2. Total hip and knee replacement codes are included in this Exclusion. This Exclusion has been retained, although SCIP measures are no longer required. Removal of Exclusion would impact historic measure rates. Okay.

01:04:46

The next question asks if a patient received antidote for DOAC, are they excluded from VTE measures? The answer is that documentation synonymous with abruptly reversed anticoagulation for major bleeding may be a medical reason for Exclusion. Please reference the Value Set Medical Reason For Not Providing Treatment too find an appropriate code that fits this situation.

01:05:20

The next question IVC filter on admission and history DVT. So chemical VTE Prophylaxis is needed. SCD's on. Case failed. How could this case pass? SCD's applied on the day of or day after admission count for VTE Prophylaxis and should pass, unless the case fell out on another decision point.

01:05:49

Okay, so the next question asks, "Please address contraindication for the use of compression devices including pneumatic compression." So the answer is that conditions involving the lower extremities, for example leg ulcers, dermatitis, or burns, lower extremity fractures or, amputation may be some medical reason for not administering mechanical prophylaxis.

01:06:17

Okay, next question for VTE. Please explain the Length of Stay calculation. Does day of arrival count as day 1 Length of Stay... or is Length of Stay 1 day on hospital day 2? Length of stay is calculating the days between hospital admission date and discharge date. So, for example, if a patient arrived to the ED on 11/1 and is admitted to inpatient on the 2nd and then discharged on the 5th, the Length of Stay will be three days. As November 5th minus the 2nd is three. Great. Thanks.

01:07:09

Okay so, "For VTE-1 and 2, please share national benchmarks and where we can find them." So, for 2021 the national average rates were 84.9% for VTE-1 and 94.5% for VTE-2. Information on eCQMs can be found within the CMS provider data sets. Thank you. Thanks.

01:07:43

Next question. "We frequently see cases fail when Eliquis is administered on day one or day two of admission. How can this be prevented?" Eliquis may meet VTE Prophylaxis for select patients if administered on the day of or after admission. The FDA has approved Eliquis or Apixaban to reduce the risk of stroke and system embolism in patients with Nonvalvular Atrial Fibrillation, or to reduce the risk of blood clots. Deep vein thrombosis and Pulmonary Embolism following knee or hip replacement surgery only. It is additionally approved for the treatment of DVT and PE, and for the reduction in the risk of recurrent DVT and PE following initial therapy. Okay.

01:08:37

This question is asking about the initial resources and where they can find them. For someone who is new to data abstraction for their facilities. So, with this webinar being focused on the eCQM version of the measures, the eCQI Resource Center is your best place. It contains a wealth of learning opportunities called Get Started with eCQMs and that resource will be included within the slides. Additionally, the previous recorded educational eCQM webinars you can go to The Joint Commission Expert to Expert webinars on The Joint

Commission website under the measures tab, and you go to the webinars page within within that page. Thank you. Thanks.

01:09:34

Next question. "Where can we download the measure flow diagrams for VTE-1 and VTE-2?" Just as Susan mentioned, the eCQI Resource Center has the measure flows, so the measure flows, eCQMflows.ZIP can be found on the Resource Center. The eCQI Resource Center has Eligible Hospital/Critical Access. Hospital, eCQMs under 2024 reporting year. eCQM resources. Great. Thanks.

01:10:14

So, this question asks, "Can you post the links for the anticoagulants Antithrombotics and Antithrombolytic medications?" So, we would ask you to please go to the VSAC to the website. That is where all of the Value Sets are located. And we will include that link within the Q&A document for you. You can search by Value Set names within a specified eCQM, and in this case one of the Value Sets is named Venous Thromboembolism. And you can find those there. Once again that's on the on the VSAC Website. Thank you. Okay.

01:10:57

Next question. "Denominator Exclusion includes Encounter with Principal Procedure of SCIP VTE Selected Surgery. However, the Numerator includes Prior or Present Procedure of Hip or Knee Replacement Surgery. Should the patient with these procedures be considered in the Numerator if they are supposed to be excluded?" A patient with Principal Procedure of SCIP VTE Selected Surgery will be excluded from the measured Denominator. If the SCIP VTE Selected Surgery is not a Principal Procedure, the patient will be included in the Denominator and will continue to the Numerator for further evaluation. Okay.

01:11:44

This is another question that relates to the SCIP surgeries, and it asks, "Which ones are excluded from VTE?" So SCIP includes the intracranial neurosurgery procedure, general surgical procedure, gyn, urology, total hip and knee replacements and hip fractures. And once again, that Value Set will give you the specific ICD10 code procedure codes that will be excluded. And you can find that once again on the VSAC. Okay.

01:12:17

The next question is about contraindication orders. "If patients cannot receive mechanical or chemical, does eCQM exclude them and how?" A medical reason is needed if VTE Prophylaxis is contraindicated for the patient. Okay.

01:12:40

The next question asks is, "For VTE-2 is stroke diagnosis with ICU stay now in both STK-1 and STK-2 or I'm sorry both STK-1 and VTE-2. So, stroke patients are excluded from VTE-1 because they are captured in the STK-1 VTE Prophylaxis. The stroke measure set does not

exclude a measure specific for ICU. Does. Yes. Does not exclude a measure specific for ICU location. Therefore, stroke patients are included and not excluded in VTE-2. Great. Thanks.

01:13:20

Next one. "Where do I find the SCIP procedures? And how are those updated?" SCIP VTE procedures are specified in the measure under the definition. SCIP VTE Selected Surgery and the list of procedure codes for each surgery can be found through the VSAC website. Those procedure codes are updated during the annual update process. Okay.

01:13:50

This question asks, "Would do you consider day one 24 hours or on a calendar? For VTE-2 does the ICU admission or transfer have to happen within a certain time from the general hospital admission?" So, the answer is that the Length of Stay calculates the difference in days between two dates. It is based on a calendar day, not 24 hours, for VTE-2 patients directly admitted or transferred to the ICU any time during the hospitalization will be counted in the Denominator population.

01:14:26

The next question is about VTE-1. "If the provider orders. If the provider orders Eliquis and the reason is noted for Atrial Fibrillation, can you clarify if this will meet the requirement for VTE-1?" Patients with a history of Atrial Fibrillation or Flutter, who receive Apixaban within the two day time frame, for VTE-1, will meet the measure. The medication must be administered to meet the clinical intent.

01:14:59

Okay, this question asks, "DNR, DNI is not sufficient to exclude. Correct?" The answer is that's correct. DNR, DNI does not meet the comfort measures, only Exclusion. Okay.

01:15:20

Next question. Will Zcodes be part of the measure to capture history of AFib, et cetera?" No Zcodes are situational status codes that denote personal history of a condition. They are not diagnostic codes and therefore are not included in the Venous Thromboembolism Value Set. The measures' Numerator logic looks for a history of other Venous Thromboembolism diagnoses encoded in SNOMED and ICD10 codes that start prior to the Encounter, using diagnosis prevalence Period as an indicator of history of diagnosis.

01:16:03

Okay, I'm just going to skip down here and look for some questions that we haven't. Some different sorts of questions here. Got lots of questions on SCIP and lots of questions on where to find the Value Set. So. Okay, a lot of these questions appear to be quite similar to ones we've already answered. So, with that, I'm going to go ahead and hand it back over to Susan Funk to close out the webinar for today. And thank you to all of your great questions. And for those folks that have been answering questions in the background.

01:16:45

Thanks Melissa and Susan. And thanks to the team in the background, as Susan said, answering the many questions that we've received. As a reminder, we'll post the responses to any questions that we didn't address during the live broadcast via a written document that will be posted on The Joint Commission's website at the link listed on this page.

When available, all Expert to Expert webinar recording links, slides, transcripts, and Q&A documents can be accessed for previous and On Demand webinars on The Joint Commission's web page via the link shown on this slide.

And just a little plug for the 2024 eCQM Annual Update series. We began with an On Demand webinar in August on Joint Commission's PC-01, 05 and 06 eCQMs continued with the PC measures in September, Stroke in October, and today's VTE eCQMs and Glycemia eCQMs will be covered in December. The annual update series concludes in January with the Safe Use of Opioids - Concurrent Prescribing eCQM, and then in January and February of 2024, we'll also address the new measures for 2024 implementation. This series incorporates expertise from The Joint Commission, Centers for Medicare and Medicaid Services, Mathematica, and other measure stewards.

01:18:06

Before the session concludes, a few words about the CE survey. We use your feedback to inform our future content and assess the quality of our educational programs. You can access the CE survey in two ways. On the next slide, we provide a QR code that you can scan with your mobile device to immediately access the survey. If you missed that QR code, tomorrow, the link will be provided with an an automated email sent to the email address that you use to register.

To obtain your CE certificate, at the end of the survey, when you click submit, you are redirected to a page from which you can print or download a PDF CE certificate. After completing the survey, you will also receive an automated email that includes the link to a printable and downloadable CE certificate.

01:18:56

And with that, thank you to Karen and Marilyn for your parts in the presentation. Susan and Melissa for facilitating the Q&A segment. And to all of the content experts that we had in the background, for all of those answers you were able to type in for the for the audience. Finally, thanks to all of you who attended today's broadcast. And with that, we will leave this slide up for just a few moments for those that wish to scan the QR code. Have a great day!

2024 VTE Expert to Expert Annual Update Webinar
Questions & Answers

Questions Received During Pioneers in Quality Expert to Expert VTE eCQM Webinar on November 7, 2023.

Theme	Question	Answer
Apixaban	Do providers need to document the reason for Eliquis® (apixaban), or does the reason come from the coding of the diagnoses and procedures?	For a patient who receives apixaban to meet the numerator, there must be a prior or present diagnosis of atrial fibrillation, prior diagnosis of VTE, or a prior or present procedure of hip or knee replacement surgery. A diagnosis or procedure code from the • Atrial Fibrillation or Flutter value set (OID: 2.16.840.1.113883.3.117.1.7.1.202) or • Venous Thromboembolism value set (OID: 2.16.840.1.113883.3.117.1.7.1.279) or • Hip Replacement Surgery value set (OID: 2.16.840.1.113883.3.117.1.7.1.259) or • Knee Replacement Surgery value set (OID: 2.16.840.1.113883.3.117.1.7.1.261) must be present on the current encounter or any previous encounters.
Apixaban	Just wanted to clarify: Eliquis is not considered as a VTE prophylaxis?	Apixaban is not FDA-approved for VTE prophylaxis for ALL hospitalized medical and surgical patients. It may be indicated for treatment of deep vein thrombosis (DVT) or pulmonary embolism (PE). Apixaban is acceptable for patients with a prior or present diagnosis of atrial fibrillation, prior diagnosis of VTE, or a prior or present procedure of hip or knee replacement surgery.
Apixaban	Why is Eliquis the only anticoagulant that can be used for VTE prophylaxis if the patient has a diagnosis of atrial fibrillation, hip surgery and DVT while Xarelto is ok for VTE?	Apixaban is not the only acceptable oral factor Xa inhibitor. Other oral factor Xa inhibitor medications, such as Xarelto® (rivaroxaban) or edoxaban, may also meet the VTE measures. Please see “Oral Factor Xa Inhibitor for VTE Prophylaxis or VTE Treatment" value set.
Apixaban	For VTE-1: If the provider orders Eliquis and the reason is noted for Atrial Fibrillation, can you clarify if this will meet the requirement for VTE-1?	Patients with a current diagnosis or history of atrial fibrillation/flutter who receive apixaban within the two-day timeframe for VTE-1 will meet the measure. A mere order is not sufficient; the medication must be administered to meet the clinical intent. A diagnosis code from the Atrial Fibrillation or Flutter" value set (OID: 2.16.840.1.113883.3.117.1.7.1.202) must be present on the current encounter or any previous encounters.

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Theme	Question	Answer
Apixaban	If apixaban is a home medication with a reason documented, will it be considered adequate for VTE prophylaxis?	Apixaban as a home medication does not meet the numerator. Apixaban must be documented as administered within the measurement timeframe along with a prior or present diagnosis of atrial fibrillation, a prior diagnosis of VTE, or prior or present procedure of hip or knee replacement surgery.
Apixaban	When a patient is admitted and taking a Factor Xa inhibitor with a reason documented in H&P or notes for a-fib or history of PE/DVT but without an ICD 10 code, it fails the measure but meets the criteria. How can we fix this issue?	For a patient who receives apixaban to meet the numerator, there must be a prior or present diagnosis of atrial fibrillation, prior diagnosis of VTE, or a prior or present procedure of hip or knee replacement surgery. These conditions can be found in the coded diagnoses and procedures or on the problem list. To correct the described issue, the documentation in the H&P or notes needs to be codified to ICD-10 or SNOMED or create discrete fields to capture this information.
Apixaban	Doctors insist that Eliquis covers VTE prophylaxis. Can you please address?	Apixaban may meet VTE Prophylaxis for select patients if administered on the day of or after admission. The U.S. Food and Drug Administration (FDA) has approved apixaban to reduce the risk of stroke and systemic embolism in patients with non-valvular atrial fibrillation or to reduce the risk of blood clots, deep vein thrombosis (DVT) and pulmonary embolism (PE) following knee or hip replacement surgery only. It is additionally approved for treatment of DVT and PE and for the reduction in the risk of recurrent DVT and PE following initial therapy.
Apixaban	We frequently see cases fail when Eliquis is administered on Day 1 or Day 2 of admission. How can this be prevented?	Apixaban administration on Day 1 or Day 2 alone will not meet the numerator. There must be a prior or present diagnosis of atrial fibrillation or prior diagnosis of VTE or prior or present procedure of hip or knee replacement surgery.
Benchmark	When can we expect the benchmarks for the 2022 data for this measure (and maybe the other eCQM measures)?	CMS team, please add response.
Benchmark	VTE-1 and -2. Please share national benchmarks and where we can find benchmarks.	2021 national average rates were at 84.9% for VTE-1, and 94.5% for VTE-2.

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Theme	Question	Answer
Comfort Measures	Do Not Resuscitate/Do Not Intubate is not sufficient to exclude, correct?	Yes, you are correct. Do Not Resuscitate (DNR)/Do Not Intubate (DNI) documentation without comfort measures only documentation is not sufficient. Comfort Measures Only refers to medical treatment of a dying person where the natural dying process is permitted to occur while assuring maximum comfort.
Comfort Measures	Does a Palliative Care Consult meet Comfort Measures Only exclusion?	Comfort Measures Only refers to medical treatment of a dying person where the natural dying process is permitted to occur while assuring maximum comfort. It includes attention to the psychological and spiritual needs of the patient and support for both the dying patient and the patient's family. The term palliative care has a broader clinical application. A palliative care consult does not meet the clinical intent of Comfort Measures Only which refers specifically to end of life care, e.g., hospice care.
Comfort Measures	Can brain-dead patients discharged from regular admission and readmitted for OPO (Organ Procurement Organizations) be excluded from the measure?	If the patient was readmitted to the hospital for organ donation, this patient should be placed on comfort measures. Please use an appropriate code 385736008 (Dying care) from Comfort Measures (OID: 1.3.6.1.4.1.33895.1.3.0.45) value set to get this patient excluded from the measures.
Definition	What is a "principal" procedure?	The principal procedure is the procedure performed for definitive treatment rather than diagnostic or exploratory purposes, or which is necessary to take care of a complication.
Education	Is there a resource link where there are more details on the timings such as 'relevateDatetime, relevantPeriod?	Please see the Normalize Interval - YouTube Video Short - July 2022 on the eCQI Resource Center at https://www.youtube.com/watch?v=PKKta_fKKh8.
Education	Where can we download the Measure Flow Diagrams for VTE-1 and VTE-2?	The measure flows (eCQM Flows.zip) can be found on eCQI Resource Center https://ecqi.healthit.gov/eh-cah?qt-tabs_eh=0
Education	Where are the initial resources found if I am a new data abstractor for my facility?	The eCQI Resource Center contains a wealth of learning opportunities on the "Get Started with eCQMs" page (https://ecqi.healthit.gov/ecqms). Additionally, to view previously recorded educational eCQM webinars, go to The Joint Commission Expert to Expert Webinars page https://www.jointcommission.org/measurement/quality-measurement-webinars-and-videos/expert-to-expert-webinars/#sort=%40resourcedate%20descending

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Questions & Answers

Theme	Question	Answer
Heparin	Will a patient who had a NSTEMI and received multiple doses of Heparin IV boluses and on a Heparin IV drip, meet the numerator requirement for prophylaxis given?	A continuous intravenous infusion of heparin will meet the measure intent.
Heparin	If patients receive an IV heparin push in the operating room prior to admission to the ICU, does that count as VTE prophylaxis?	IV push heparin does not meet the measure intent and should be disregarded.
Heparin	Is there a dose requirement for Heparin infusion?	There is no dosage requirement. Continuous IV heparin infusions meet the clinical intent. Small doses of heparin administered intra-venously to flush or keep open a line are not acceptable.
Hip/knee procedure timing	In reference to a prior or present hip or knee replacement surgery, on or before end of encounter means on the day of inpatient admission to the discharge date, correct?	The precision of "on or before end of encounter" is time (not date), which means that it must be on or before the time of discharge time. A hip/knee procedure performed any time prior to the discharge time would meet the intent. This includes hip/knee procedures performed on prior encounters without considering inpatient admission datetime. If it is on the same day of discharge date but after discharge time, it will NOT meet the condition.
History of a-fib	Any update on use of Z codes for history of a-fib, VTE, PE, etc. and accepting these as reasons for use of apixaban/Eliquis?	No, Z codes (i.e., Z86.718) are situational status codes that denote a personal history of a condition. They are not diagnostic codes, and therefore are not included in the atrial fib or VTE value sets. The measure's numerator logic looks for a history of venous thromboembolism or atrial fib diagnoses encoded in SNOMEDCT and ICD10CM that start prior to the encounter, using diagnosis prevalence period as an indicator of history of diagnosis.
History of VTE	Any plan to add exclusions for patients who have a history of VTE (ICD10 182.622 & 182.812)?	No. We will not be adding I82.622 or I82.812. I82.812 represents VTE of superficial vein of the lower extremity. We do not include superficial veins in the VTE value set. I82.622 represents VTE of upper extremity which does not meet the inclusion criteria for the Venous Thromboembolism value set (2.16.840.1.113883.3.117.1.7.1.279).
INR	Does an INR > 3 on admission exclude patients from VTE-1 and VTE-2?	Patients with INR value >3 within the timeframe specified will meet the numerator.

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Theme	Question	Answer
LOS	What do you consider 1 day (24 hours or on calendar day)? For VTE2, does the ICU admission/transfer have to happen within a certain time from general hospital admission?	The "length of stay" calculates the difference in days between 2 dates. It is based on a calendar day not 24 hours. For VTE-2, patients directly admitted or transferred to ICU anytime during the hospitalization will be counted in the Denominator population.
LOS	Is the day of and day after based on a 24-hour calendar or just the date when they become an inpatient?	The function TJC"CalendarDayOfOrDayAfter"() is based on a calendar day (not 24 hours).
LOS	If a patient is admitted on November 1st and discharged November 2nd, would this measure define LOS as 1 day or 2 days?	It is considered as LOS = 1 day according to the calculation of 11/2 - 11/1 = 1 day.
LOS	VTE-2: In the scenario, where a patient starts in the ED then admitted to ICU for observation, then is later changed to an inpatient in the ICU with a LOS in the ICU greater than 2 days, would they meet the denominator for VTE-2?	In the scenario provided, the clock starts with the ED visit providing the stop time of ED is within 1 hour of start of observation and the end time of the observation is within one hour of the start of the inpatient admission. Yes, patients with ICU LOS greater than 2 days would remain in the denominator.
LOS	Please explain the LOS calculation. Does day of arrival count as 1 day LOS....or is LOS 1 day on hospital day 2?	Length of stay is calculating the days between hospital admission date and discharge date. For example, if a patient arrives to ED on 11/1 and admitted to inpatient on 11/2, then discharged on 11/5, the LOS will be 3 days as 11/5 - 11/2 = 3.
Low risk	VTE-1: An RN documents the patient is low risk for VTE within 24 hrs of admission, will this patient pass the VTE measure?	The eligible timeframe for low-risk documentation is from day of start of hospitalization to the day after admission or the day of or the day after surgery end date (for surgeries that end the day of or the day after hospital admission).
Mental Health	Are inpatient mental health patients counted in this metric?	Patients with ICD-10-CM Principal Diagnosis Code of Mental Disorders in the value set "Mental Health Diagnoses" (OID: 2.16.840.1.113883.3.464.1003.105.12. 1004) are excluded from VTE-1 only.

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Theme	Question	Answer
Observation	Does it make a difference for patients admitted as observation, then converted to inpatient (i.e., admitted as observation on 11/1, then converted to inpatient on 11/3)?	If the differences between the Observation stop time and the inpatient admission time is within 1 hour, the observation is considered part of the hospitalization.
Operations	Can you comment on Joint Commission's partnership with NQF?	The Joint Commission will continue to offer unparalleled capabilities in healthcare performance measurement; and provide accreditation, performance excellence designation, and performance improvement solutions on key measures that span the full continuum of care. The Joint Commission's Department of Quality Measurement will continue to develop and maintain measures for use in the Joint Commission accreditation and certification programs as well as other national programs such as CMS. More information on the strategic affiliation with NQF can be found on the TJC website: https://www.jointcommission.org/resources/news-and-multimedia/news/2023/08/joint-commission-and-national-quality-forum-join-forces/
ORYX	Are the VTE measures mandatory or voluntary?	The VTE eCQMs are not mandatory. The VTE measures are available measures to meet the CMS requirement for self-selected measures from the list of available eCQMs.
Prophylaxis timing	Must VTE prophylaxis be documented after the admit order date/time and before the next day at midnight? It is not arrival, it is inpatient order, correct?	The patient must receive VTE Prophylaxis from the day of start of hospitalization (i.e., the day of arrival) to the day after admission or procedure regardless of when the admit order is written. The start of hospitalization could "start with" ED admission or observation or inpatient admission datetime. "A day after admission" refers to the second day of inpatient stay.
Reason for Not Providing Prophylaxis	When we are setting up our mappings for "Procedure, Not Performed" and "Device, Not Ordered", do we need to differentiate between Medical Reason and Patient Refusal? Can we map these value sets to a single order for "Reason for No VTE Prophylaxis"?	Yes, you need to differentiate between Medical Reason and Patient Refusal. For no VTE Prophylaxis Due to Medical Reason, you will need to map to an appropriate code for a reason for no pharmacological and an appropriate code for no mechanical prophylaxis. For no VTE Prophylaxis Due to Patient Refusal, either a reason for no pharmacological OR a reason for no mechanical prophylaxis will be sufficient. Please reference value set "Medical Reason For Not Providing Treatment" (2.16.840.1.113883.3.117.1.7.1.473) or "Patient Refusal" (2.16.840.1.113883.3.117.1.7.1.93)

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Theme	Question	Answer
Reason for Not Providing Prophylaxis	If patients cannot receive mechanical or pharmacological, does eCQM exclude them and how?	If both mechanical and pharmacological prophylaxis are not given, medical reasons why a patient cannot receive both mechanical and pharmacological prophylaxis are needed.
Reason for Not Providing Prophylaxis	If patients receive an antidote for direct oral anticoagulants (DOAC), are they excluded from VTE measure?	Documentation synonymous with “abruptly reversed anticoagulation for major bleeding” may be a medical reason for no pharmacological prophylaxis. Please reference value set Medical Reason For Not Providing Treatment (OID: 2.16.840.1.113883.3.117.1.7.1.473) to find an appropriate code that fits this situation.
Reason for Not Providing Prophylaxis	Please address contraindications for use of compression devices including pneumatic compression.	Skin conditions involving the lower extremities, (e.g., leg ulcers, dermatitis, burns), lower extremity fracture or amputation may be some medical reasons for not administering mechanical prophylaxis. Please reference value set “Medical Reason For Not Providing Treatment” (OID: 2.16.840.1.113883.3.117.1.7.1.473)
Reason for Not Providing Prophylaxis	How do you capture electronically a reason for no IPCs (for example) if it is on a physician note and not within a clinical event	If there is a medical reason for no intermittent pneumatic compression (IPCs) documented by a physician, please map to an appropriate code listed on the value set "Medical Reason For Not Providing Treatment" (OID: 2.16.840.1.113883.3.117.1.7.1.473).
SCIP	If the patient has a SCIP procedure performed day of or day after admission, are they excluded from the Denominator for the VTE measures? If yes, can you clarify / enumerate what those procedures are?	Patients with Principal Procedure of Surgical Care Improvement Project (SCIP) VTE Selected Surgery anytime during the encounter will be excluded from the measure. SCIP VTE procedures are specified in the measure as a definition of "SCIP VTE Selected Surgery” including the following value sets: • "General Surgery” (2.16.840.1.113883.3.117.1.7.1.255) • "Gynecological Surgery"(2.16.840.1.113883.3.117.1.7.1.257) • "Hip Fracture Surgery" (2.16.840.1.113883.3.117.1.7.1.258) • “Hip Replacement Surgery" (2.16.840.1.113883.3.117.1.7.1.259) • "Intracranial Neurosurgery" (2.16.840.1.113883.3.117.1.7.1.260) • "Knee Replacement Surgery"(2.16.840.1.113883.3.117.1.7.1.261) • “Urological Surgery" (2.16.840.1.113883.3.117.1.7.1.272) The list of procedure codes for each surgery category can be found via VSAC website https://vsac.nlm.nih.gov/welcome. Additionally, VTE1 & VTE2 value sets can be found on the eCQI Resource Center, under each respective measure, on the "Specifications and Data Elements" tab.

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Theme	Question	Answer
SCIP	SCIP is long retired, and I am not aware of any organizations still using this language, can you clarify why this language is being utilized?	The SCIP-VTE (Surgical Care Improvement Project) measures were in use prior to VTE-1 and VTE-2. The use of the SCIP acronym continues to be used as a historical reference supporting the reason for excluding patients who undergo certain surgical procedures from the VTE measures.
SCIP	Is C-section a SCIP VTE Surgery	C-section is not an included procedure. Hysterectomy procedures and other surgical procedures involving removal of reproductive organs are considered SCIP gynecological procedures.
SCIP	Denominator Exclusion includes "Encounter with Principal Procedure of SCIP VTE Selected Surgery". However, the Numerator includes "Prior or Present Procedure of Hip or Knee Replacement Surgery". Should the patient with these procedures be considered in the Numerator if they are supposed to be excluded?	A patient with a Principal Procedure of SCIP VTE Selected Surgery will be excluded from the measure denominator. If the SCIP VTE Selected Surgery is not a principal procedure, the patient will be included in the denominator and will continue to the numerator for further evaluation.
SCIP	VTE 2: Denominator Exclusion It mentions SCIP where it ends during calendar day of or day after start of first ICU location period. Does this mean that it is excluded if SCIP is on the day of day two after ICU? Example: admitted to ICU on 1/1 and SCIP is on 1/2. This means they qualify for this condition versus ICU on 1/1 and SCIP on 12/31, correct?	VTE-2 measure assesses the number of patients who received VTE prophylaxis or have documentation why no VTE prophylaxis was given the day of or the day after the initial admission (or transfer) to the Intensive Care Unit (ICU) or surgery end date for surgeries that start the day of or the day after ICU admission (or transfer). Patients with a SCIP procedure on the day after the initial ICU admission (or transfer) are excluded. In your example, where the patient is admitted to the ICU on 1/1 and the SCIP procedure is performed on 1/2, the patient will be excluded from the denominator. In your 2nd example, where the SCIP procedure is performed on 12/31 and the patient is admitted to the ICU on 1/1, the patient will NOT be excluded from the denominator.
SCIP	If patients having a hip or knee procedure receive the correct VTE prophylaxis, should they be excluded from the num/den?	Patients who undergo hip or knee replacement surgery as the principal procedure will be excluded from the denominator. If the hip or knee replacement surgery is not the principal procedure and the patient receives Oral Factor Xa the numerator will be met.

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Theme	Question	Answer
Stroke	Is stroke diagnosis with an ICU-stay now in both STK-1 and VTE-2?	Stroke patients are excluded from VTE-1 because they are captured in the STK-1 VTE prophylaxis. The stroke measure set does not exclude a measure specific for ICU location; therefore, stroke patients are included and not excluded in VTE-2.
Value Sets	Where can I find the list of included codes for each data point? For example, the codes for comfort measures.	Go to the VSAC website https://vsac.nlm.nih.gov/welcome and search the value set specified in the measure for the list of included codes. Additionally, VTE1 & VTE2 value sets can be found on the eCQI Resource Center, under each respective measure, on the "Specifications and Data Elements" tab.
VTE Prophylaxis	IVC filter on admission and history DVT so no pharmacological VTE prophylaxis needed. SCDs on. Case failed. How could this case pass?	Sequential compression device (SCD) applied on the day of or day after admission count for VTE Prophylaxis and should pass unless the case fell out at another decision point.
Workflow	Where does the algorithm get the prophylaxis information from the chart?	Anticoagulant medication information is pulled from the medication administration record (MAR) because the measure looks for administration. An order alone is not sufficient. Mechanical prophylaxis is usually documented by nursing in a flowsheet, progress note, or another electronic template in the record.