



# Expert to Expert Webinar

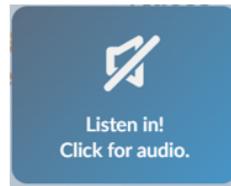
**2025 Reporting Year Annual Updates for  
VTE-1 (CMS108v13)  
VTE-2 (CMS190v13)**

**December 19, 2024**

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# Webinar Audio – Information & Tips

Audio is VOIP only – Computer speakers or headphones required to listen.



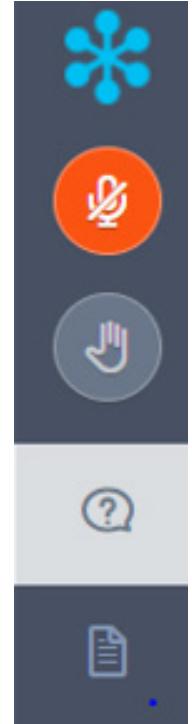
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A panel will open for you to type your question and submit.

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# New to eCQMs?

Today's content is highly technical and requires a baseline understanding of eCQM logic and concepts

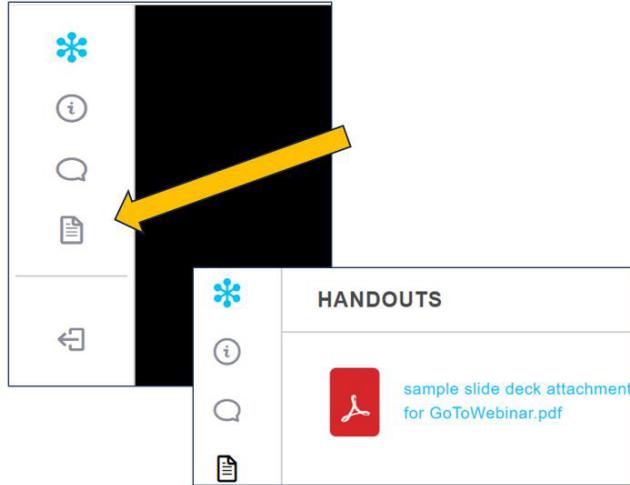
Visit this section of the eCQI Resource Center:

"Get Started with eCQMs"

[https://ecqi.healthit.gov/ecqms?qt-tabs\\_ecqm=tools-resources](https://ecqi.healthit.gov/ecqms?qt-tabs_ecqm=tools-resources)



# Access the slides



To access the slides now:

- Click the document icon
- Select the file name and the document will open in a new window
- Print or download the slides.

Slides will also be available here within several weeks:

<https://www.jointcommission.org/measurement/quality-measurement-webinars-and-videos/expert-to-expert-webinars/#sort=%40resourcedate%20descending>

# Webinar approved for 1 Continuing Education (CE) Credit for these entities



- Accreditation Council for Continuing Medical Education (ACCME)
- American Nurses Credentialing Center (ANCC)
- American College of Healthcare Executives (ACHE)\*
- California Board of Registered Nursing

\* ACHE Qualifying Education Hour

# CE Requirements



- 1) **Individually register** for this webinar
- 2) Participate for the **entire webinar**
- 3) Complete a **post-program evaluation/attestation\***

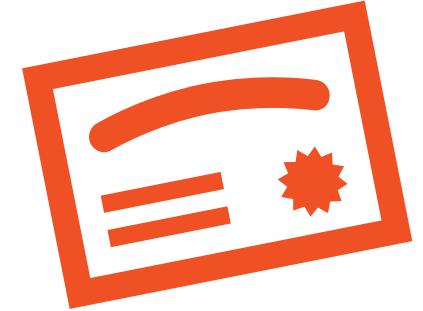
Program evaluation/attestation survey link will be sent to your email used to register.

For more information on The Joint Commission's continuing education policies, visit this link  
<https://www.jointcommission.org/performance-improvement/joint-commission/continuing-education-credit-information/>

# CE Survey and Certificate

**Survey can be accessed in two ways:**

- 1) QR code on final slide
- 2) Link within follow-up email



Complete CE survey and **SUBMIT**.

Certificate will appear onscreen.

**Print or download PDF Certificate.**

**Complete certificate – add your name and credentials.**

# Learning Objectives

Locate measure specifications, value sets, measure flow diagrams and technical release notes on the eCQI Resource Center.

Facilitate your organization's implementation of the VTE-1 and VTE-2 eCQM annual updates for the 2025 calendar year.

Utilize answers regarding common issues/questions regarding the VTE-1 and VTE-2 eCQMs to inform 2025 eCQM use/implementation.



# Topics Not Covered in this Program

Basic eCQM concepts

Topics related to chart abstracted measures

Process improvement efforts related to this measure

eCQM validation



# Disclosure Statement

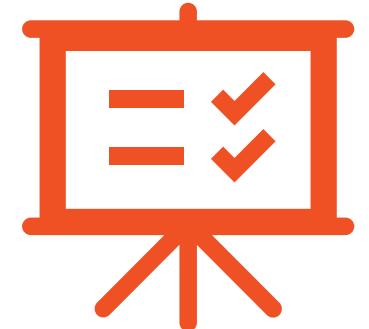
All staff and speakers have disclosed that they do not have any conflicts of interest. For example, financial arrangements, affiliations with, or ownership of organizations that provide grants, consultancies, honoraria, travel, or other benefits that would impact the presentation of today's webinar content.

- Susan Funk, MPH, LSSGB, Associate Project Director, Engagement on Quality Improvement Programs (EQIP)
- Raquel Belarmino, MSN, RN, Associate Project Director, Clinical Quality Informatics
- Melissa Breth, DNP, RN, NI-BC, Associate Project Director, Clinical Quality Informatics
- Yanyan Hu, MS, Managing Project Director, Clinical Informatics
- Karen Kolbusz, MBA, BSN, RN, Project Director, Clinical Quality Measurement
- Susan Yendro, RN, MSN, Associate Director, Engagement on Quality Improvement Programs

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# Webinar Agenda

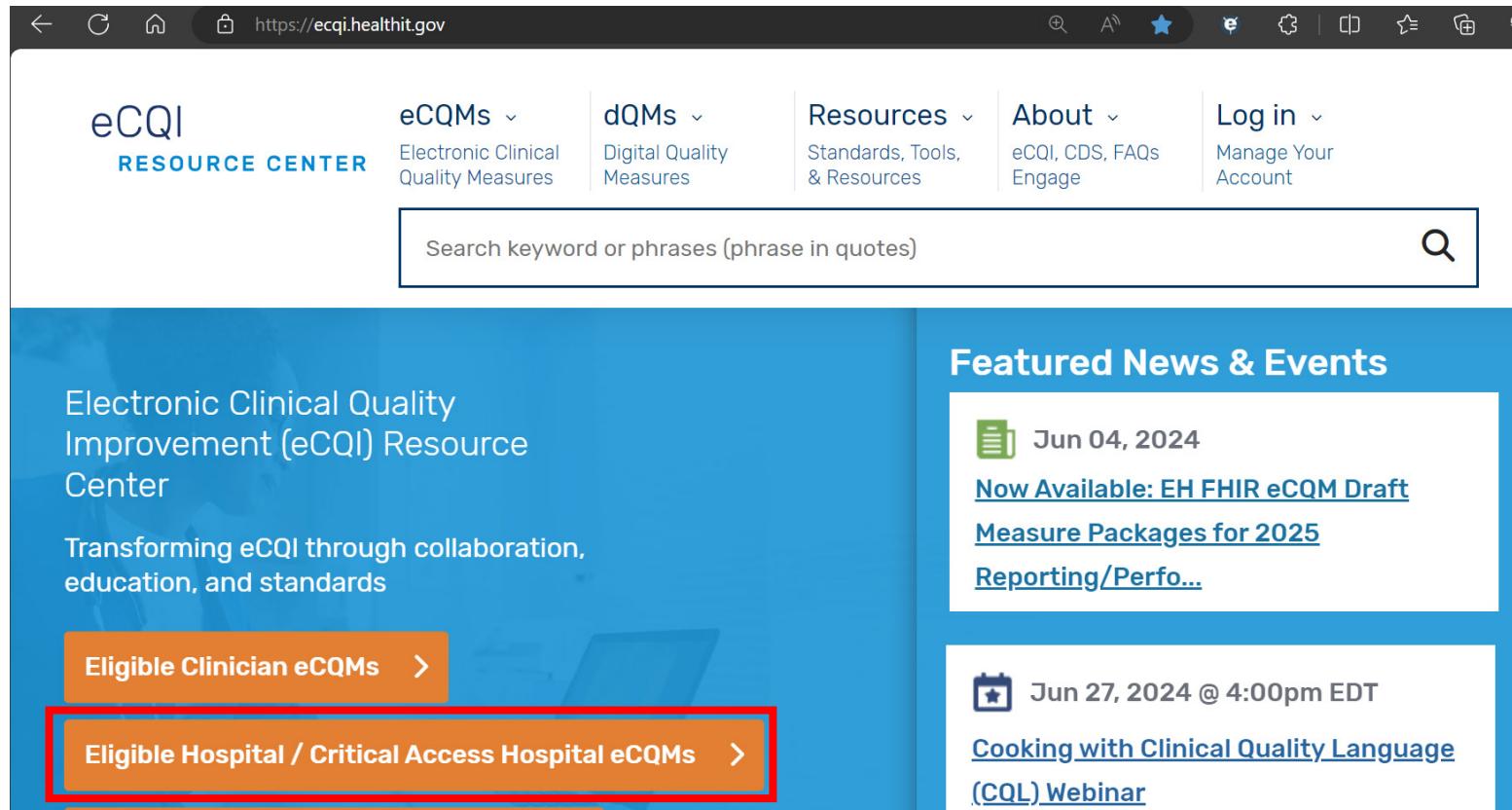
- Highlight how to access eCQM resources on the eCQI Resource Center
- Review the measure flow/algorithm
- Review the VTE-1 and VTE-2 eCQMs annual updates for Reporting Year 2025
- Review FAQs
- Facilitated Audience Q&A Segment



# eCQM Resources on the eCQI Resource Center

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# eCQI Resource Center <https://ecqi.healthit.gov>



Electronic Clinical Quality Improvement (eCQI) Resource Center

Transforming eCQI through collaboration, education, and standards

[Eligible Clinician eCQMs >](#)

[Eligible Hospital / Critical Access Hospital eCQMs >](#)

**Featured News & Events**

 Jun 04, 2024  
[Now Available: EH FHIR eCQM Draft Measure Packages for 2025 Reporting/Perfo...](#)

 Jun 27, 2024 @ 4:00pm EDT  
[Cooking with Clinical Quality Language \(CQL\) Webinar](#)

## Download and/or View Specifications

- “Human Readable” html
- Value Sets 
  - [Value Set Authority Center \(VSAC\)](#)
- Data Elements
- eCQM Flow (PDF)
  - [\(process flow diagrams\)](#)
- Technical Release Notes (TRNs) (Excel)
- Jira Issue Tracker tickets 

For more details, view the video short on the Expert to Expert landing page.

# **VTE Measure Set:**

**VTE-1 Venous Thromboembolism Prophylaxis**

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



# 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).



# Rationale for the VTE Measure Set (2)

- Sudden death is the initial symptom in approximately 25% of those with PE.
- VTE is a common reason for unplanned hospital readmission.
- As many as 70% of cases of healthcare-associated VTE are preventable through measures such as use of anticoagulant medications or compression stockings but fewer than half of hospitalized patients receive these interventions (CDC, 2024).
- 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 (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.
- 2022 national average rates were at 82.65% for VTE-1, and 93.88% for VTE-2.

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# Measure Changes from 2024 to 2025 - Technical

Measure Components	Reporting Year 2024	Reporting Year 2025
Value set	Payer	Payer <u>Type</u>
Header Initial Population	Inpatient hospitalization for patient...with a length of stay less than or equal to 120 days that ends during the measurement period.	Inpatient hospitalization for patient... <del>with a length of stay less than or equal to 120 days</del> that ends during the measurement period.
Definition Initial Population	<b>Global.Inpatient Encounter</b> ["Encounter, Performed": "Encounter Inpatient"] EncounterInpatient where "LengthInDays"(EncounterInpatient.relevantPeriod)<= 120 and EncounterInpatient.relevantPeriod ends during day of "Measurement Period"	<b>Global.Inpatient Encounter</b> ["Encounter, Performed": "Encounter Inpatient"] EncounterInpatient where <del>"LengthInDays"(EncounterInpatient.relevantPeriod)&lt;= 120 and</del> EncounterInpatient.relevantPeriod ends during day of "Measurement Period"



# Measure Changes from 2024 to 2025 - Technical (2)

Measure Components	Reporting Year 2024	Reporting Year 2025
Library	<ul style="list-style-type: none"> <li>• MATGlobalCommonFunctions</li> <li>• TJCOvers</li> <li>• VTE</li> </ul>	<ul style="list-style-type: none"> <li>• MATGlobalCommonFunctions<u>QDM</u></li> <li>• TJCOvers<u>QDM</u></li> <li>• VTE<u>QDM</u></li> </ul>
TJCOvers Library	<p><b>TJC.TruncateTime(Value DateTime)</b>  <code>DateTime(year from Value, month from Value, day from Value, 0, 0, 0, 0, timezoneoffset from Value)</code></p>	Removed from TJCOvers Library
TJCOvers Library	<p><b>TJC.CalendarDayOfOrDayAfter(StartValue DateTime)</b>  <code>Interval["TruncateTime"(StartValue), "TruncateTime"(StartValue + 2 days))</code></p>	<p><b>TJC.CalendarDayOfOrDayAfter(StartValue DateTime)</b>  <code>Interval["TruncateTime" date from (StartValue), "TruncateTime" date from (StartValue) + 2 days) 1 day ]</code></p>



# Measure Changes (VTE-1) from 2024 to 2025 – Technical (3)

Measure Components	Reporting Year 2024	Reporting Year 2025
Denominator Exclusion	<p><b>Encounter with ICU Location Stay 1 Day or More</b></p> <p>VTE."Encounter with Age Range and without VTE Diagnosis or Obstetrical Conditions"</p> <p>QualifyingEncounter</p> <p>where exists ( ....and Location.locationPeriod starts during Interval[start of QualifyingEncounter.relevantPeriod, TJC."TruncateTime" ( start of QualifyingEncounter.relevantPeriod + 2 days ) )</p>	<p><b>Encounter with ICU Location Stay 1 Day or More</b></p> <p>VTE."Encounter with Age Range and without VTE Diagnosis or Obstetrical Conditions"</p> <p>QualifyingEncounter</p> <p>where exists ( ...and Location.locationPeriod starts during Interval[start of QualifyingEncounter.relevantPeriod, TJC."TruncateTime" ( start of QualifyingEncounter.relevantPeriod + 2 days ) )</p> <p><u>on or after start of QualifyingEncounter.relevantPeriod and date from ( start of Location.locationPeriod ) during TJC."CalendarDayOfOrDayAfter" ( start of QualifyingEncounter.relevantPeriod ) )</u></p>
VTE Library	<p><b>VTE.FromDayOfStartOfHospitalizationToDayAfterAdmission(Encounter "Encounter, Performed")</b></p> <p>Interval[TJC."TruncateTime" ( start of Global."HospitalizationWithObservation" ( Encounter ) ), TJC."TruncateTime" ( start of Encounter.relevantPeriod + 2 days ) )</p>	<p><b>VTE.FromDayOfStartOfHospitalizationToDayAfterAdmission(Encounter "Encounter, Performed")</b></p> <p>Interval[TJC."TruncateTime" date from( start of Global."HospitalizationWithObservation" ( Encounter ) ), TJC."TruncateTime" date from( start of Encounter.relevantPeriod ) + <u>2 days</u> ) <u>1 day</u> ]</p>

# Measure Change (VTE-2) from 2024 to 2025 - Technical (4)

Measure Components	Reporting Year 2024	Reporting Year 2025
VTE Library	<p><b>VTE.FromDayOfStartOfHospitalizationToDayAfterFirstICU(</b>Encounter "Encounter, Performed")</p> <p>Interval[TJC."TruncateTime" ( start of Global."HospitalizationWithObservation" ( Encounter ) ), TJC."TruncateTime"( startOfFirstICU(Encounter) + 2 days ) ]</p>	<p><b>VTE.FromDayOfStartOfHospitalizationToDayAfterFirstICU(</b>Encounter "Encounter, Performed")</p> <p>Interval[<del>TJC."TruncateTime"</del> <u>date from</u> ( start of Global."HospitalizationWithObservation" ( Encounter ) ), <del>TJC."TruncateTime"</del> <u>date from</u> ( startOfFirstICU(Encounter) + <u>-2 days</u>) <u>1 day</u> ]</p>

# VTE Initial Population

VTE-1	VTE-2
Inpatient hospitalizations ending during measurement period	Same
Age $\geq$ 18 years old	Same
Without diagnosis of VTE or Obstetrical conditions	Same

# VTE Denominator

VTE-1 (Same as Initial Population)	VTE-2
Inpatient hospitalizations ending during measurement period	Same
Age $\geq$ 18 years old	Same
Without dx of VTE or Obstetrical conditions	Same
NA	Patients directly admitted to or transferred to ICU during hospitalization

# 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 > or = 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 <b>end the day of or the day after ICU admission or transfer</b>
Comfort measures documented anytime between the day of arrival and the day after <b>hospital admission</b>	Comfort measures documented anytime between the day of arrival and the day after <b>ICU admission or transfer</b>
Comfort measures documented by the day after surgery end date for surgeries that end <b>the day of or the day after hospital admission</b>	Comfort measures documented by the day after surgery end date for surgeries that end <b>the day of or day after admission or transfer</b>

# VTE Numerator

VTE-1	VTE-2
<p>Patients who received VTE prophylaxis:</p> <ul style="list-style-type: none"> <li><b>between the day of arrival and the day after hospital admission</b></li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>the day of or the day after surgery end date (for surgeries that end the day of or the day after <b>hospital admission</b>)</li> </ul>	<p>Patients who received VTE prophylaxis:</p> <ul style="list-style-type: none"> <li><b>the day of or the day after ICU admission (or transfer)</b></li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>the day of or the day after surgery end date (for surgeries that end the day of or the day after <b>ICU admission or transfer</b>)</li> </ul>
<p>Patients who have documentation of a reason why no VTE prophylaxis was given:</p> <ul style="list-style-type: none"> <li><b>between the day of arrival and the day after hospital admission</b></li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>the day of or the day after surgery end date (for surgeries that end the day of or the day after <b>hospital admission</b>)</li> </ul>	<p>Patients who have documentation of a reason why no VTE prophylaxis was given:</p> <ul style="list-style-type: none"> <li><b>between the day of arrival and the day after ICU admission (for patients directly admitted as inpatients to the ICU)</b></li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>the day of or the day after surgery end date (for surgeries that end the day of or the day after <b>ICU admission or transfer</b>)</li> </ul>

# VTE Denominator Exceptions

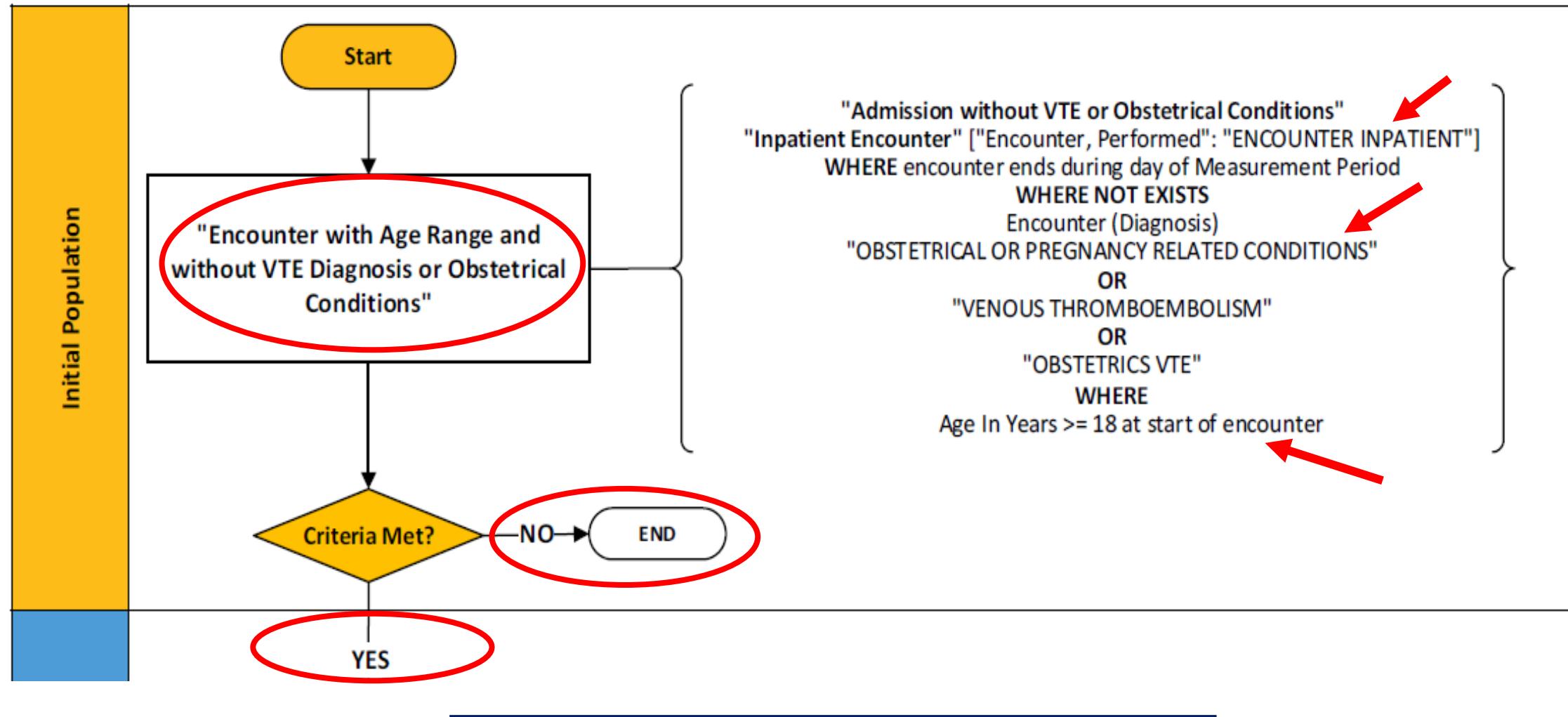
VTE-1	VTE-2
None	ICU LOS < 1 day

**VTE-1**

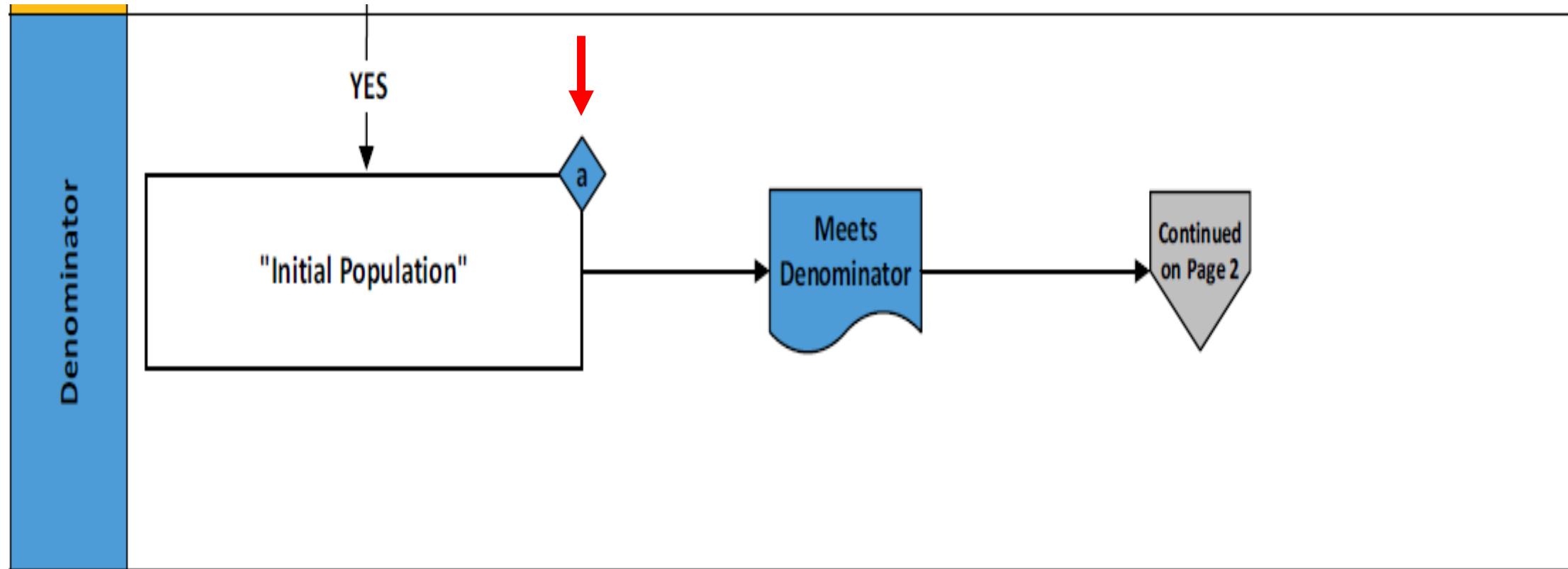
# **Venous Thromboembolism Prophylaxis**



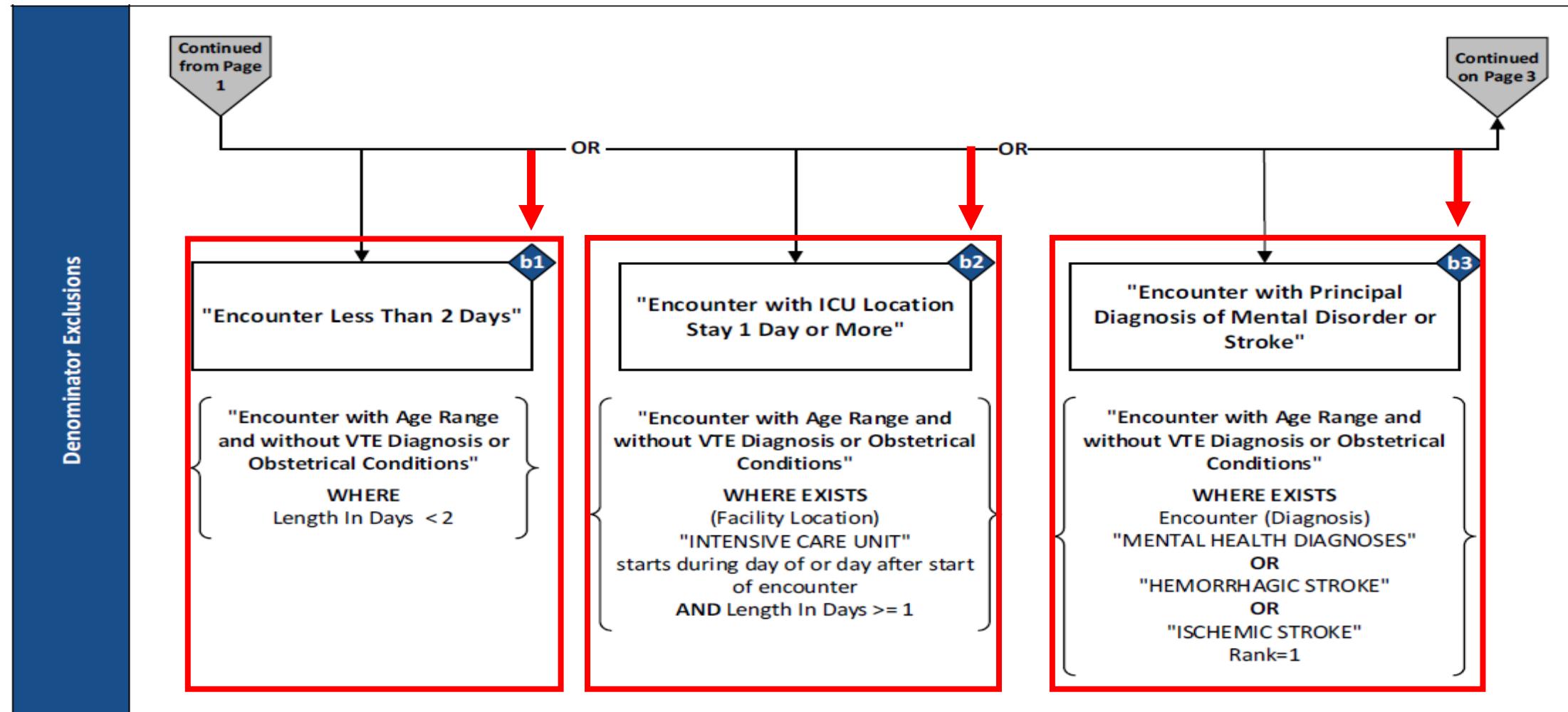
# VTE-1 Measure Flow Diagram (Initial Population)



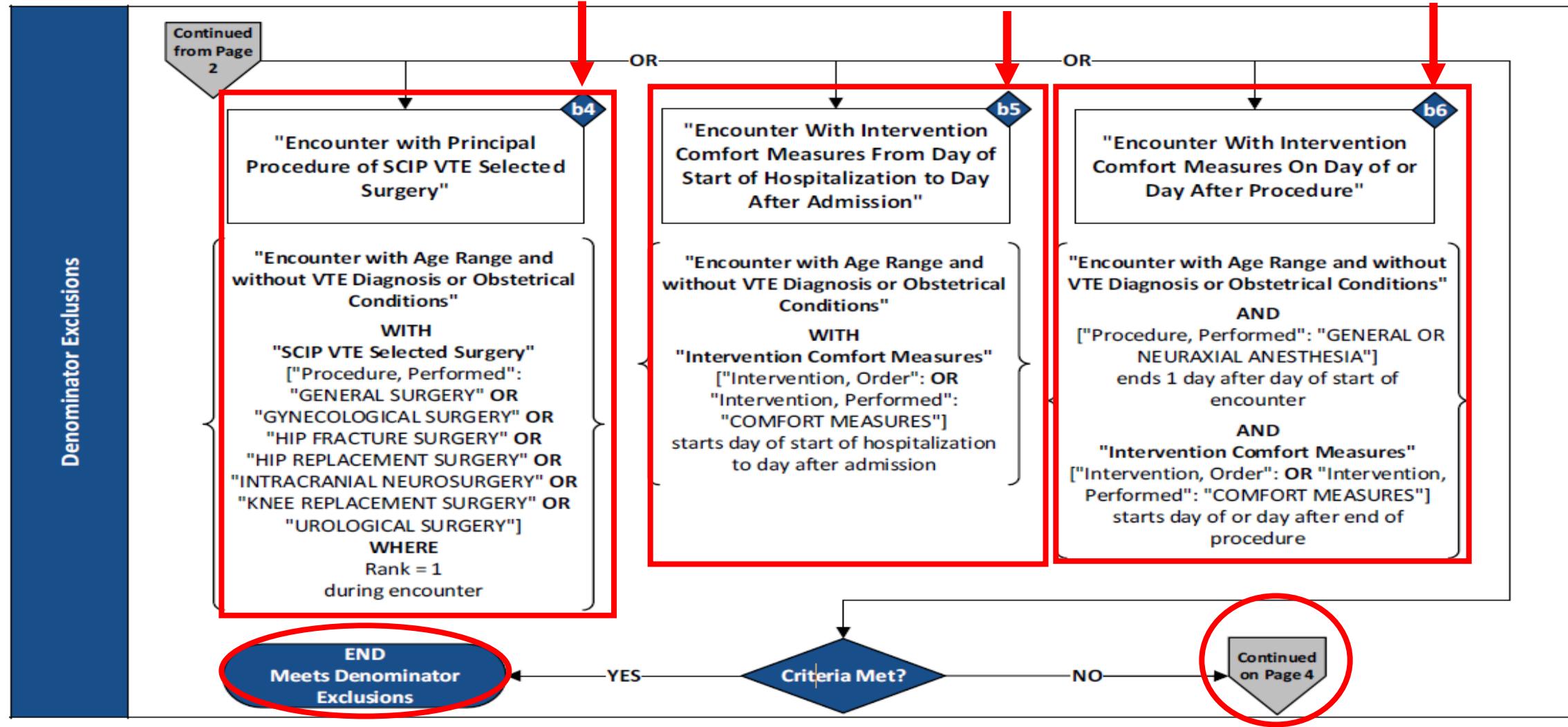
# VTE-1 Measure Flow Diagram (Denominator)



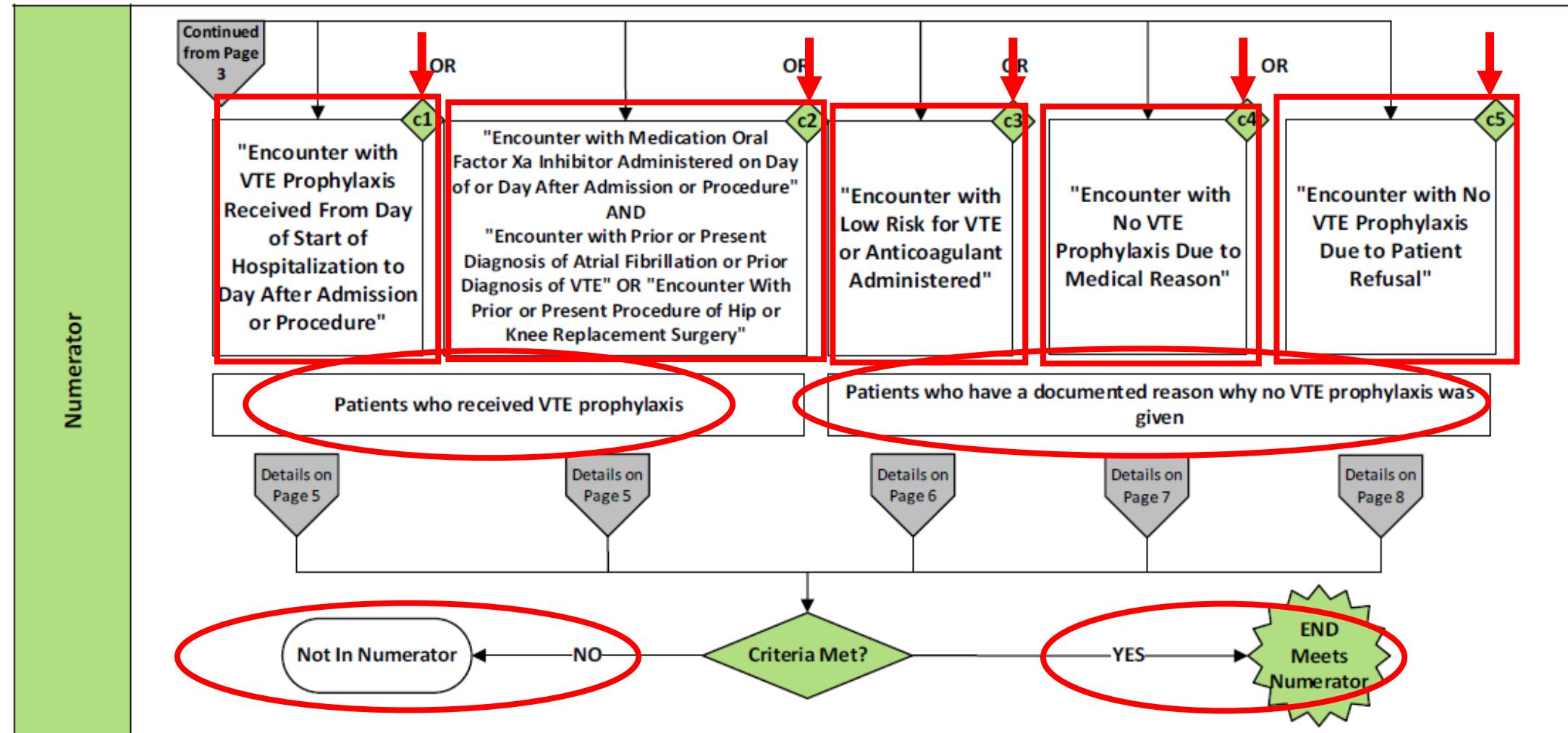
# VTE-1 Measure Flow Diagram (Denominator Exclusions)



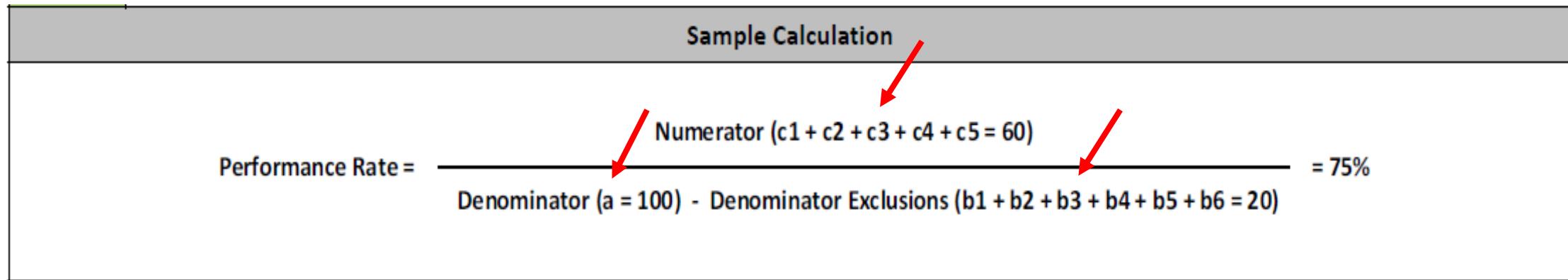
# VTE-1 Measure Flow Diagram (Denominator Exclusions) (2)



# VTE-1 Measure Flow Diagram (Numerator)



# VTE-1 Measure Flow Diagram (Measure Calculation)



# 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

– “Admission without VTE or Obstetrical Conditions” EncounterWithoutConditions  
 where AgeInYearsAt(date from start of  
 EncounterWithoutConditions.relevantPeriod )  $\geq 18$

### VTE.Admission without VTE or Obstetrical Conditions

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

# 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:

Patients with a history of DVT or PE are not excluded from the measures. In fact, a 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"

# 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"**

# Denominator Exclusions: VTE-1 (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



# Denominator Exclusions: VTE-1 (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)))

    on or after start of QualifyingEncounter.relevantPeriod

    and date from ( start of Location.locationPeriod ) during

    TJC."CalendarDayOfOrDayAfter"( start of QualifyingEncounter.relevantPeriod)

# Denominator Exclusions: VTE-1 (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 (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 (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"]

---

# Denominator Exclusions: VTE-1 (7)

## 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

# 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 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"

# Numerator: VTE-1 (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,

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

# Numerator: VTE-1 (3)

## 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"]

union ["Procedure, Performed": "Application of Venous Foot Pumps"]

union ["Procedure, Performed": "Application of Graduated Compression Stockings"]

# VTE-1 Frequently Asked Question (2)



## 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.

# Numerator: VTE-1 (4)

## 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**

( 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)

---

# Numerator: VTE-1 (5)

## 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 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 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)

# Numerator: VTE-1 (6)

## 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

# VTE-1 Frequently Asked Question (3)



## 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.

# Numerator: VTE-1 (7)

## 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"



# Numerator: VTE-1 (8)

## 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 )

---

# Numerator: VTE-1 (9)

## 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 ) })
  
```

# Numerator: VTE-1 (10)

## 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
```

---

# VTE-1 Frequently Asked Question (4)

## Question:

Is a specific VTE risk assessment tool required to document low risk?



## Answer:

No requirement to use a specific tool.

- Several externally validated Risk Assessment Models (RAMs) available
- Internally developed tool is acceptable.
- Scoring methodologies vary depending on the tool selected.

Documentation of low risk or not at risk for developing VTE is required to be in the numerator.

---

# Numerator: VTE-1 (11)

## 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"

)

# Numerator: VTE-1 (12)

## 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)



# Numerator: VTE-1 (13)

## 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 "]

---

# Numerator: VTE-1 (14)

## 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" NoMechanicalProphylaxis

such that NoMechanicalProphylaxis.negationRationale in "Medical Reason For Not Providing Treatment"

And NoMechanicalProphylaxis.authorDatetime during day of

VTE."FromDayOfStartOfHospitalizationToDayAfterAdmission"(QualifyingEncounter)

# Numerator: VTE-1 (15)

## No Mechanical VTE Prophylaxis Performed or Ordered

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

---

# Numerator: VTE-1 (16)

## 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

---

# Numerator: VTE-1 (17)

## 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" NoMechanicalProphylaxis  
where 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 NoMechanicalProphylaxis.authorDatetime during day of TJC."CalendarDayOfOrDayAfter"(end of  
Global."NormalizeInterval" ( AnesthesiaProcedure.relevantDatetime,  
AnesthesiaProcedure.relevantPeriod ) )  
return QualifyingEncounter

---

# Numerator: VTE-1 (18)

## 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"



# Numerator: VTE-1 (19)

## 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)

---

# Numerator: VTE-1 (20)

## 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"

---

# Numerator: VTE-1 (21)

## 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
```

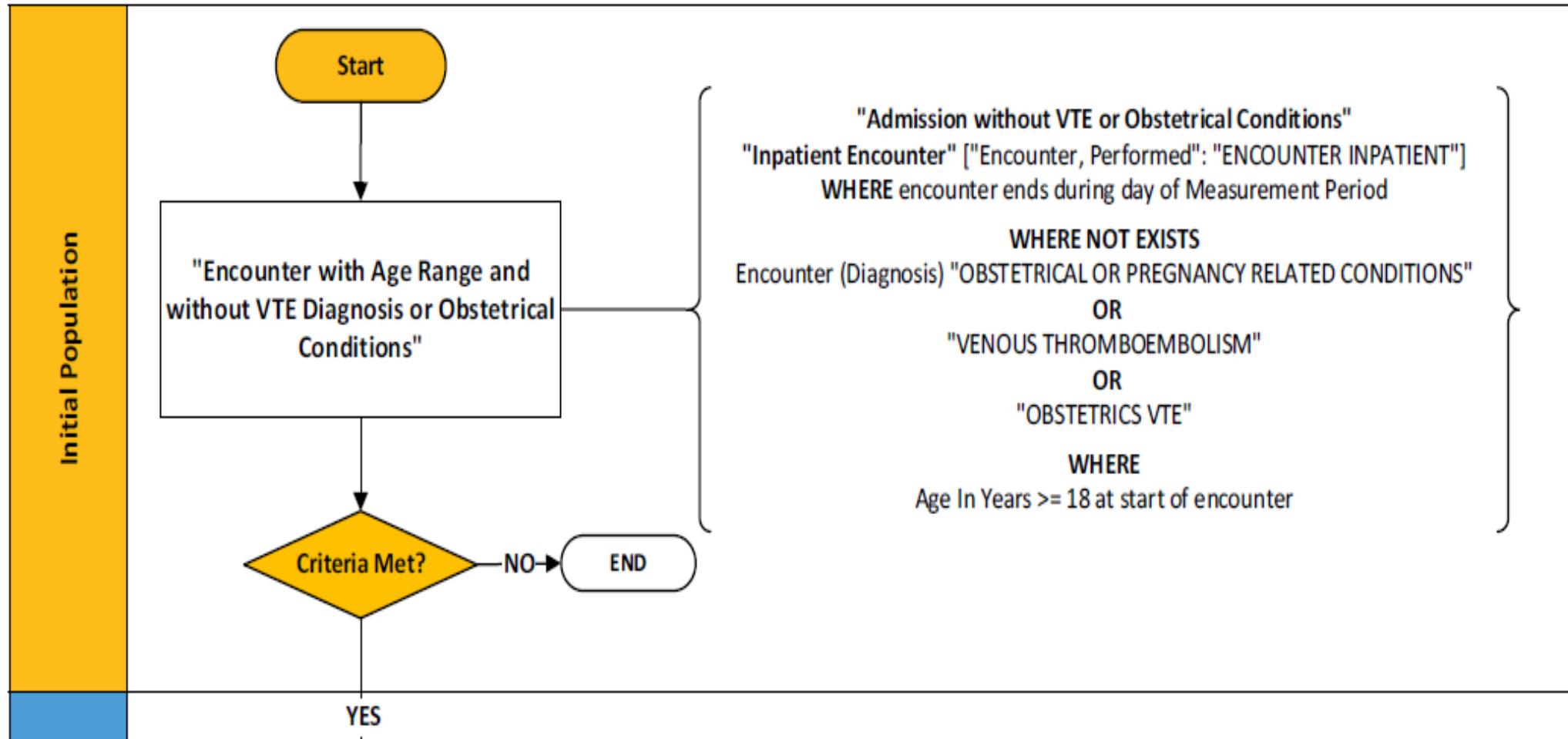
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**VTE-2**

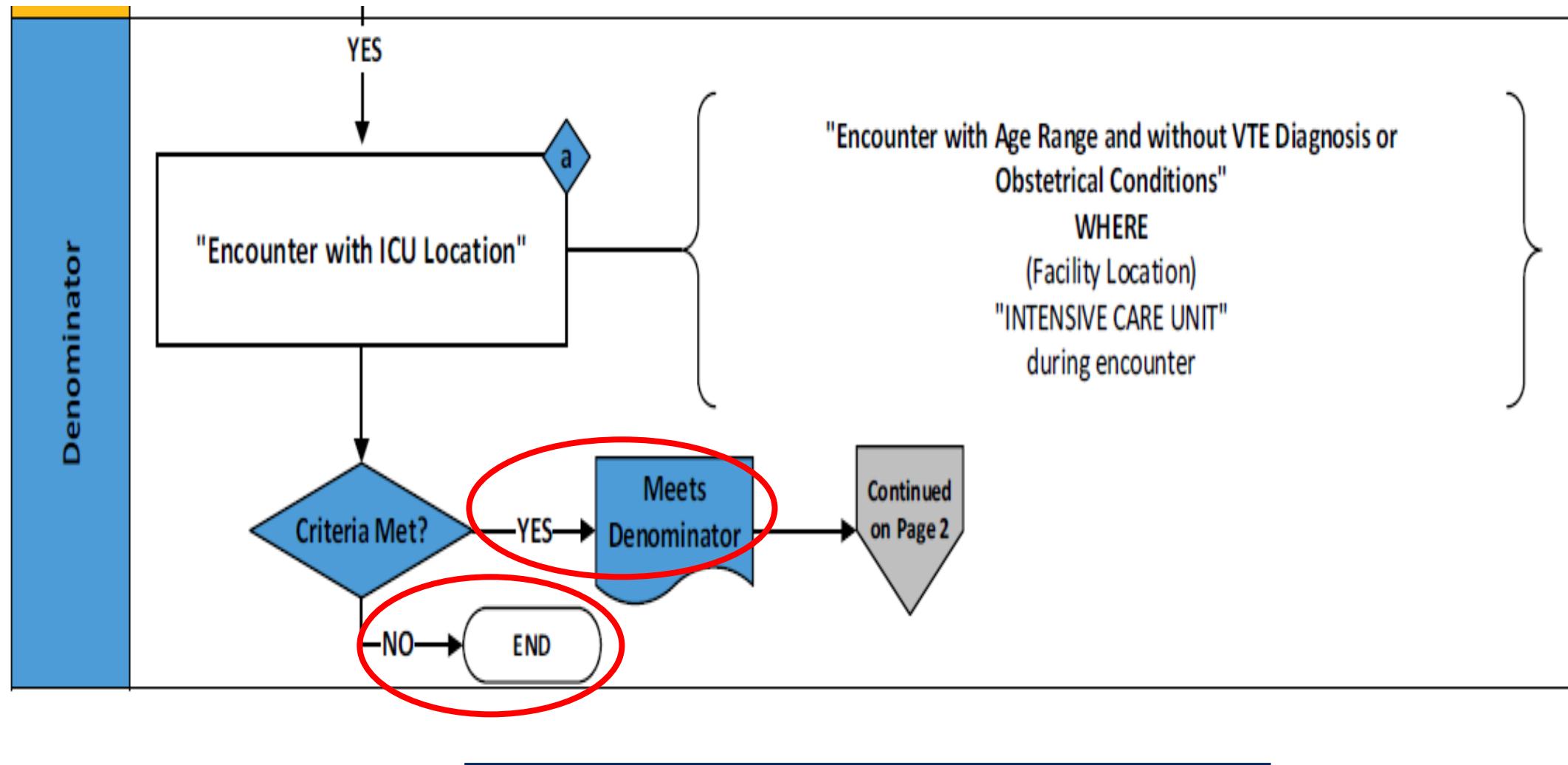
# **Intensive Care Unit Venous Thromboembolism Prophylaxis**

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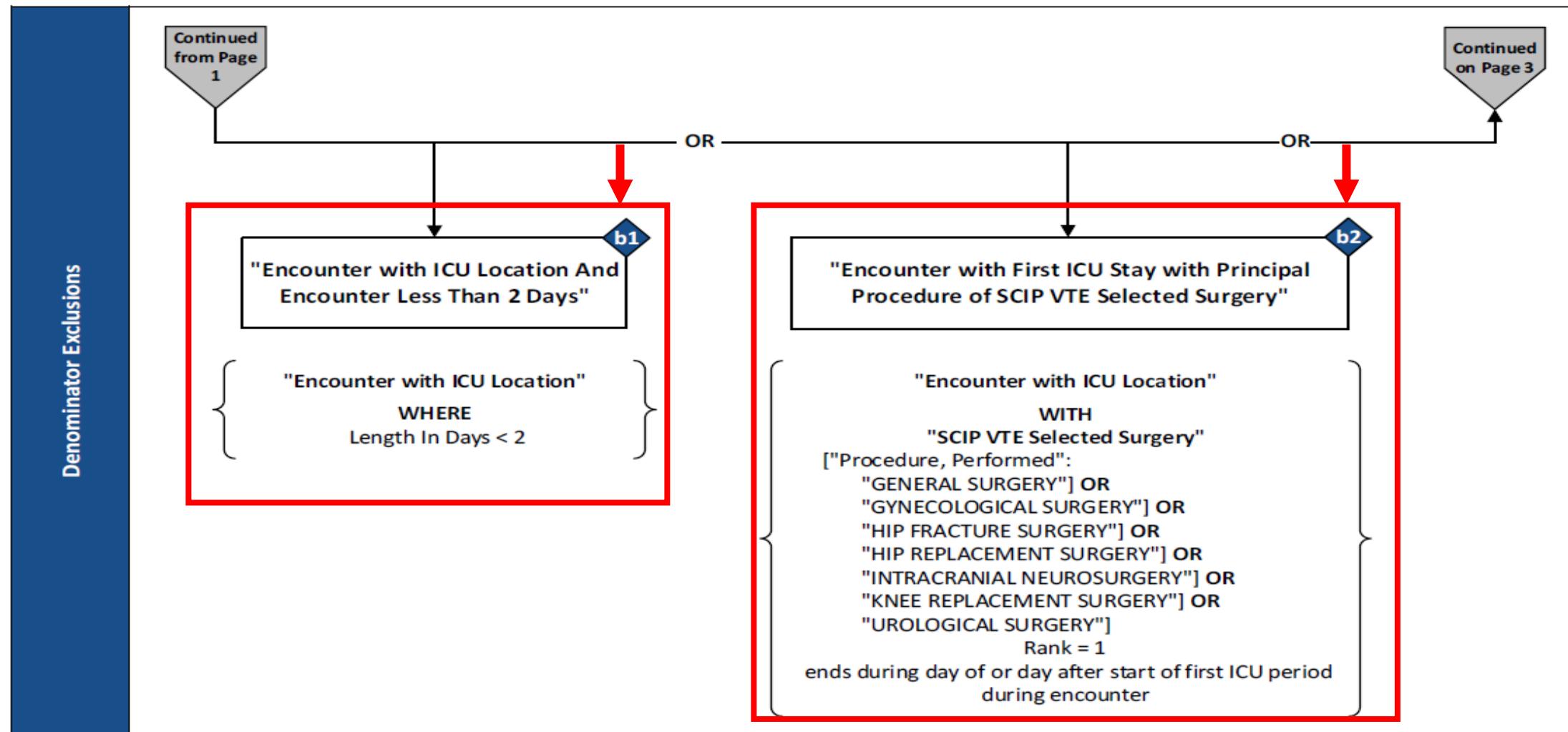
# VTE-2 Measure Flow Diagram (Initial Population)



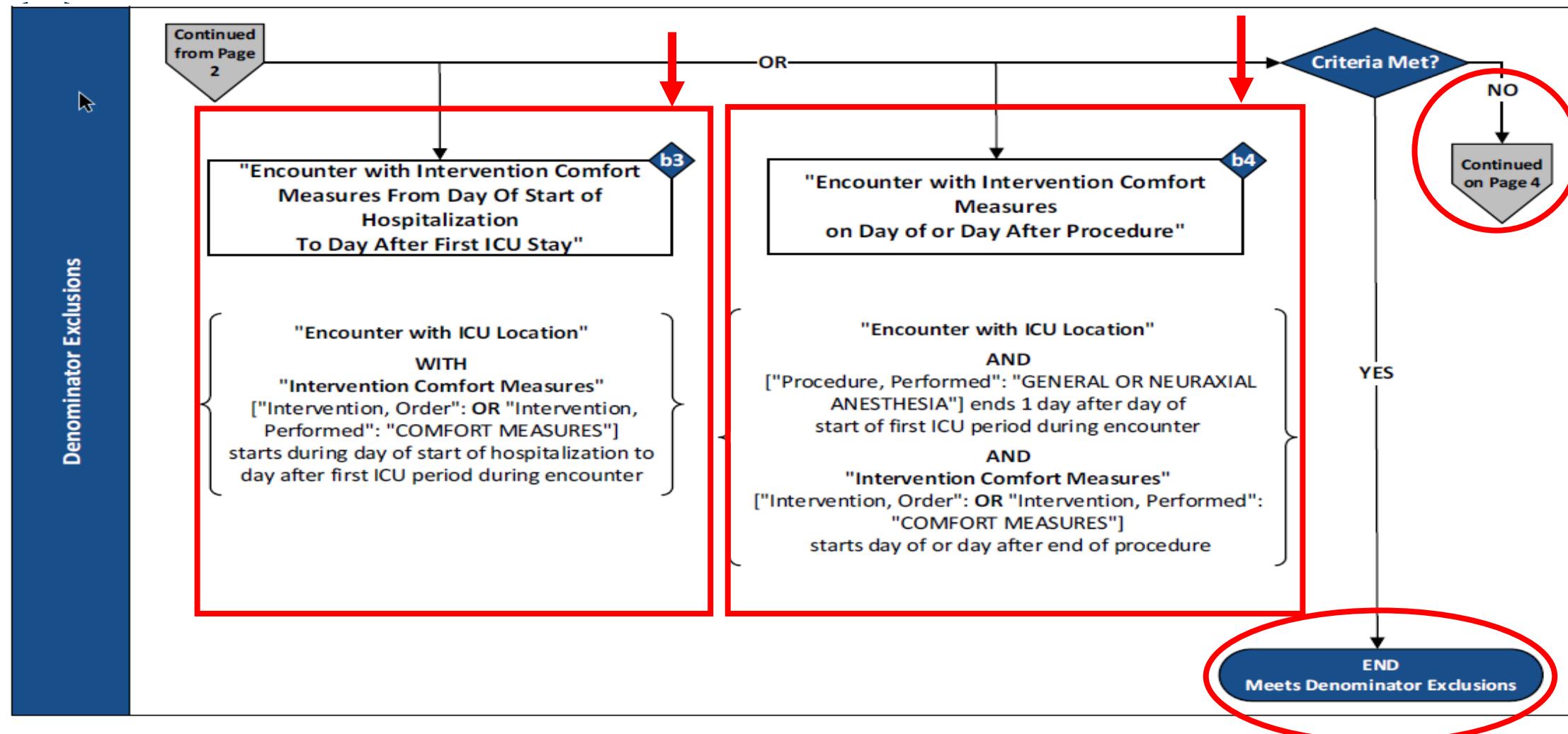
# VTE -2 Measure Flow Diagram (Denominator)



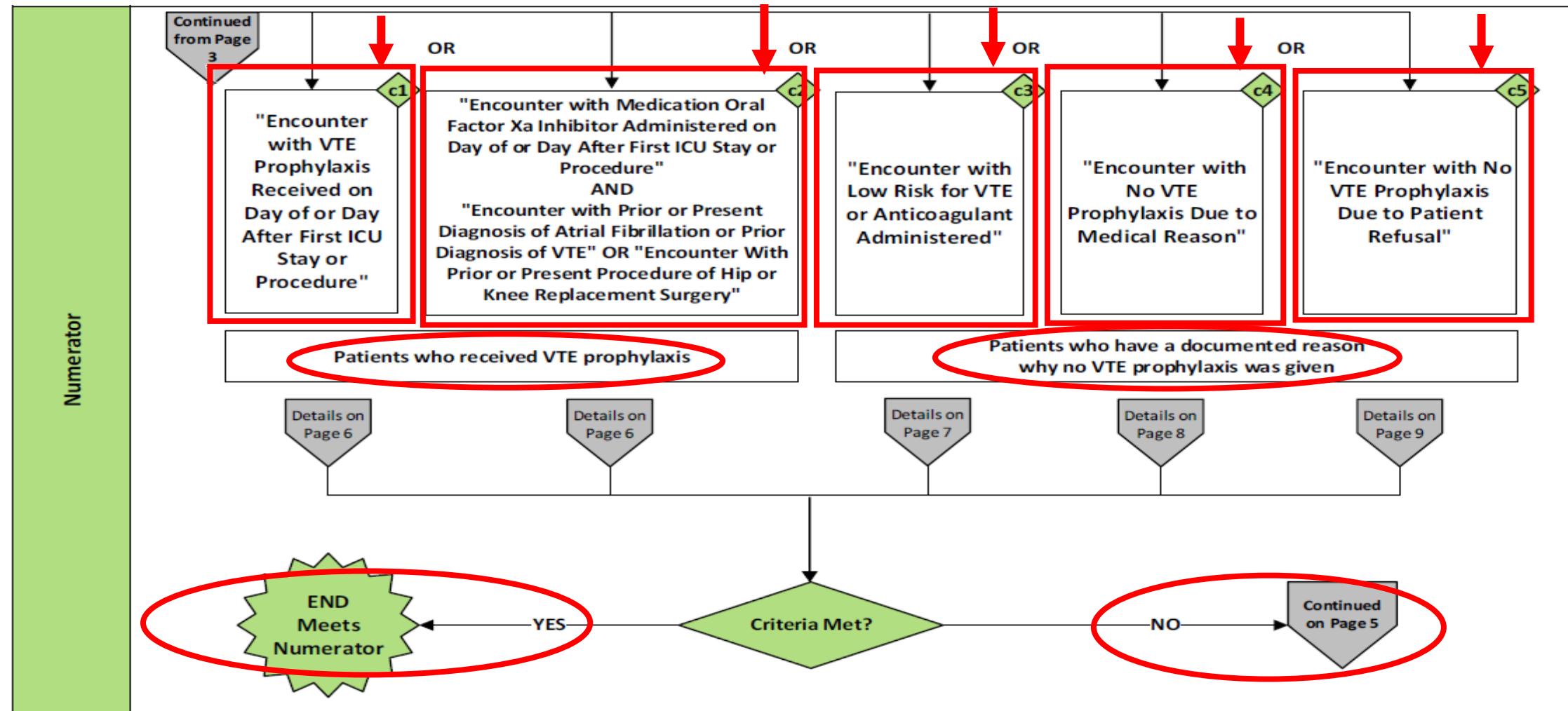
# VTE -2 Measure Flow Diagram (Denominator Exclusions)



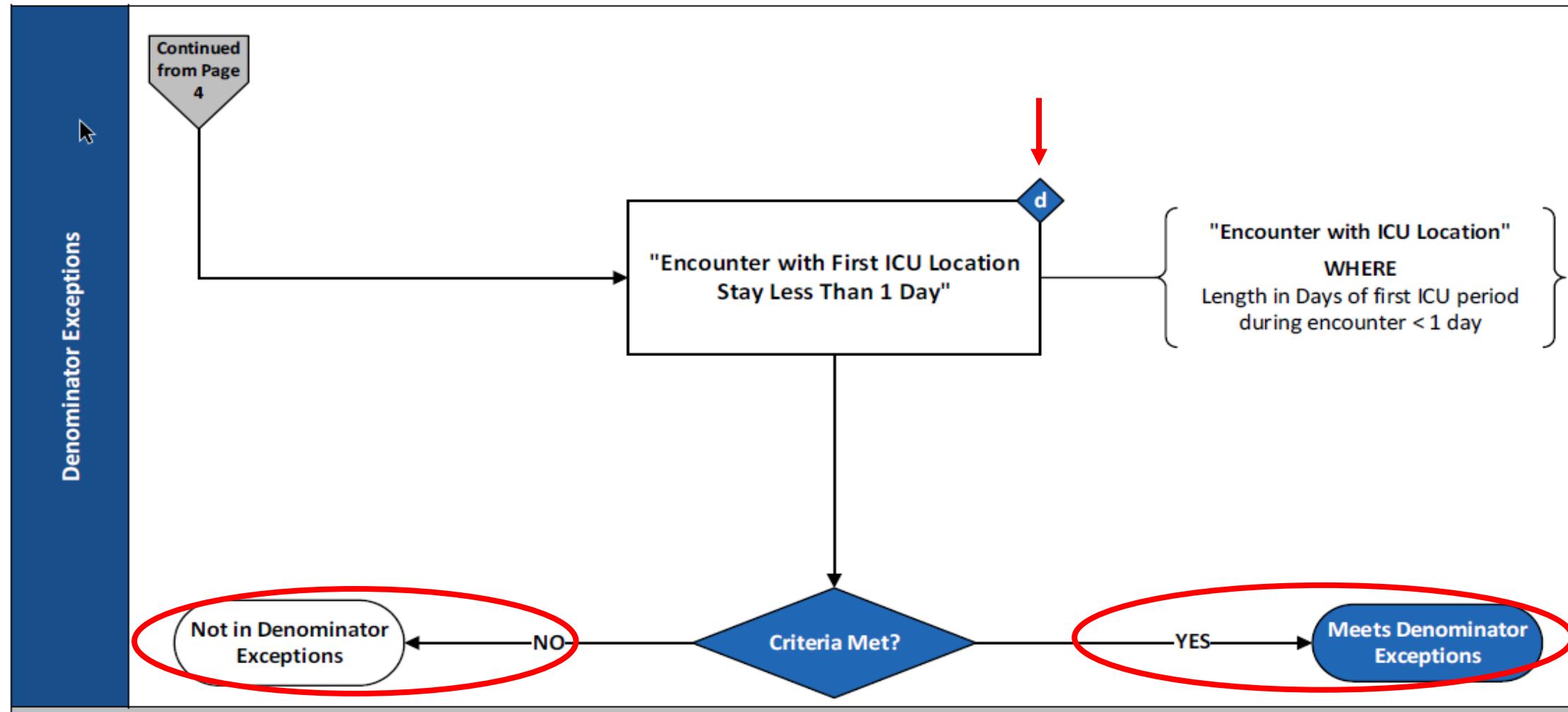
# VTE -2 Measure Flow Diagram (Denominator Exclusions)



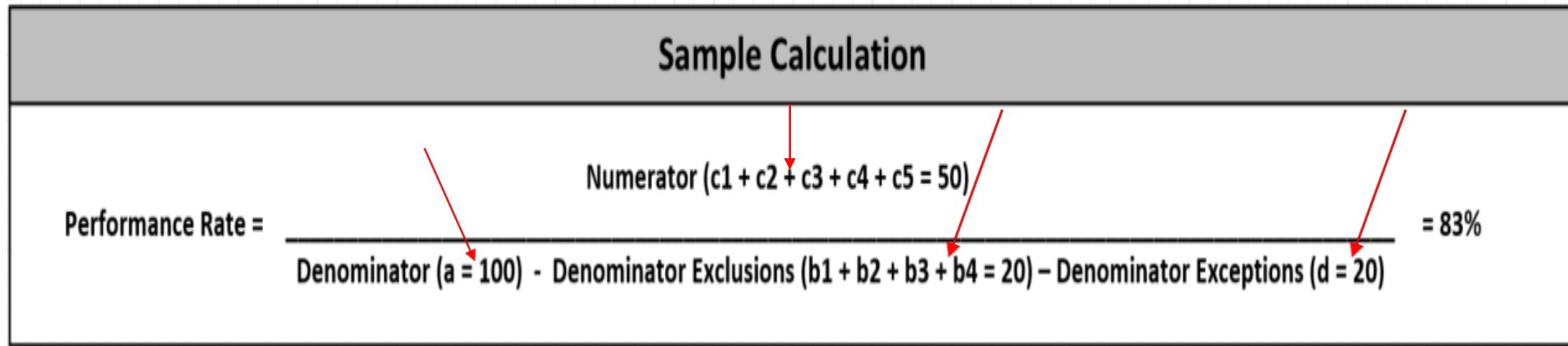
# VTE -2 Measure Flow Diagram (Numerator)



# VTE -2 Measure Flow Diagram (Denominator Exceptions)



# VTE -2 Measure Flow Diagram (Measure Calculation)



# 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**

“Admission without VTE or Obstetrical Conditions” EncounterWithoutConditions

where AgeInYearsAt(date from start of  
EncounterWithoutConditions.relevantPeriod )  $\geq 18$

## **VTE.Admission without VTE or Obstetrical Conditions**

Global."Inpatient Encounter" InpatientEncounter

where not

( exists ( InpatientEncounter.diagnoses EncounterDiagnoses  
where ( EncounterDiagnoses.code in "Obstetrical or Pregnancy Related Conditions" or  
EncounterDiagnoses.code in "Venous Thromboembolism" or EncounterDiagnoses.code in  
"Obstetrics VTE")))

# Denominator: VTE-2

## "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**)

---

# 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"**

# Denominator Exclusions: VTE-2 (2)

## Encounter with ICU Location And Encounter Less Than 2 Days

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

---

# Denominator Exclusions: VTE-2 (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 ) SelectedSCIPPProcedure  
such that Global."NormalizeInterval" (SelectedSCIPPProcedure.relevantDatetime,  
    SelectedSCIPPProcedure.relevantPeriod) ends during day of  
    TJC."CalendarDayOfOrDayAfter"(VTE."StartOfFirstICU"(QualifyingEncounterICU))

---

# Denominator Exclusions: VTE-2 (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**)

---

# Denominator Exclusions: VTE-2 (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))~~  
~~Interval[date from ( start of Global."HospitalizationWithObservation"( Encounter ),  
date from ( startOfFirstICU(Encounter)) +1 day ]~~

# Denominator Exclusions: VTE-2 (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
```

---

# VTE-1/VTE-2 Numerator

VTE-1	VTE-2
<p>Patients who received VTE prophylaxis:</p> <ul style="list-style-type: none"> <li>• <b>between the day of arrival and the day after hospital admission</b> OR</li> <li>• the day of or the day after surgery end date (for surgeries that end the day of or the day after <b>hospital admission</b>)</li> </ul>	<p>Patients who received VTE prophylaxis:</p> <ul style="list-style-type: none"> <li>• <b>the day of or the day after ICU admission (or transfer)</b> OR</li> <li>• the day of or the day after surgery end date (for surgeries that end the day of or the day after <b>ICU admission or transfer</b>)</li> </ul>
<p>Patients who have documentation of a reason why no VTE prophylaxis was given:</p> <ul style="list-style-type: none"> <li>• between the day of arrival and the day after <b>hospital admission</b> OR</li> <li>• the day of or the day after surgery end date (for surgeries that end the day of or the day after <b>hospital admission</b>)</li> </ul>	<p>Patients who have documentation of a reason why no VTE prophylaxis was given:</p> <ul style="list-style-type: none"> <li>• between the day of arrival and the day after <b>ICU admission (for patients directly admitted as inpatients to the ICU)</b> OR</li> <li>• the day of or the day after surgery end date (for surgeries that end the day of or the day after <b>ICU admission or transfer</b>)</li> </ul>

# Denominator Exceptions : VTE-2

## Encounter with First ICU Location Stay less than 1 day

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

# Resources

## eCQI Resource Center

### CMS EH Measures

<https://ecqi.healthit.gov/eligible-hospital/critical-access-hospital-eCQMs>

### Get Started with eCQMs

[https://ecqi.healthit.gov/ecqms?qt-tabs\\_ecqm=educationn](https://ecqi.healthit.gov/ecqms?qt-tabs_ecqm=educationn)

### Teach Me Clinical Quality Language (CQL) Video Series

[https://ecqi.healthit.gov/cql?qt-tabs\\_cql=2](https://ecqi.healthit.gov/cql?qt-tabs_cql=2)

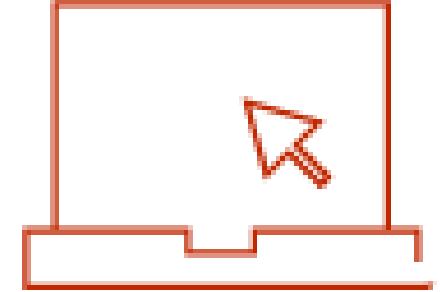
### Hospitalization with Observation -

[https://www.youtube.com/watch?v=3yqwOU2XcZM&ab\\_channel=CMSHHSgov](https://www.youtube.com/watch?v=3yqwOU2XcZM&ab_channel=CMSHHSgov)

**What is a Value Set** - <https://register.gotowebinar.com/recording/4766956164118938369>

**Coalesce** - <https://www.youtube.com/watch?v=DhnVgs6PYxs>

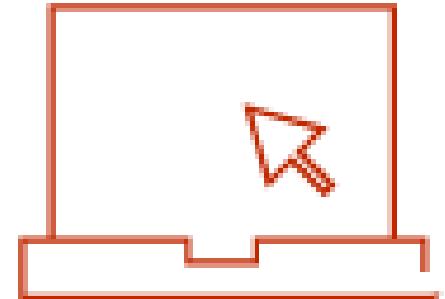
**Normalize Interval** - [https://www.youtube.com/watch?v=PKKta\\_fKKh8](https://www.youtube.com/watch?v=PKKta_fKKh8)



# Additional Resources

## **Value Set Authority Center (VSAC) Support**

<https://www.nlm.nih.gov/vsac/support/index.html>



## **Pioneers In Quality**

<https://www.jointcommission.org/measurement/pioneers-in-quality/>

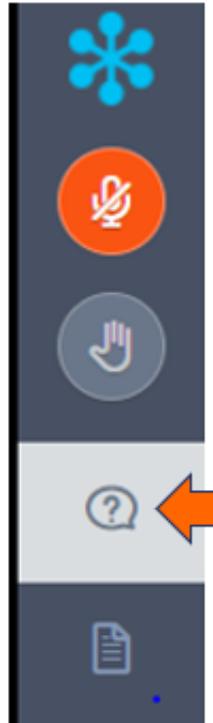
## **Expert to Expert**

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

## **ONC Issue Tracking System**

<https://oncprojecttracking.healthit.gov/>

# Live Q&A Segment

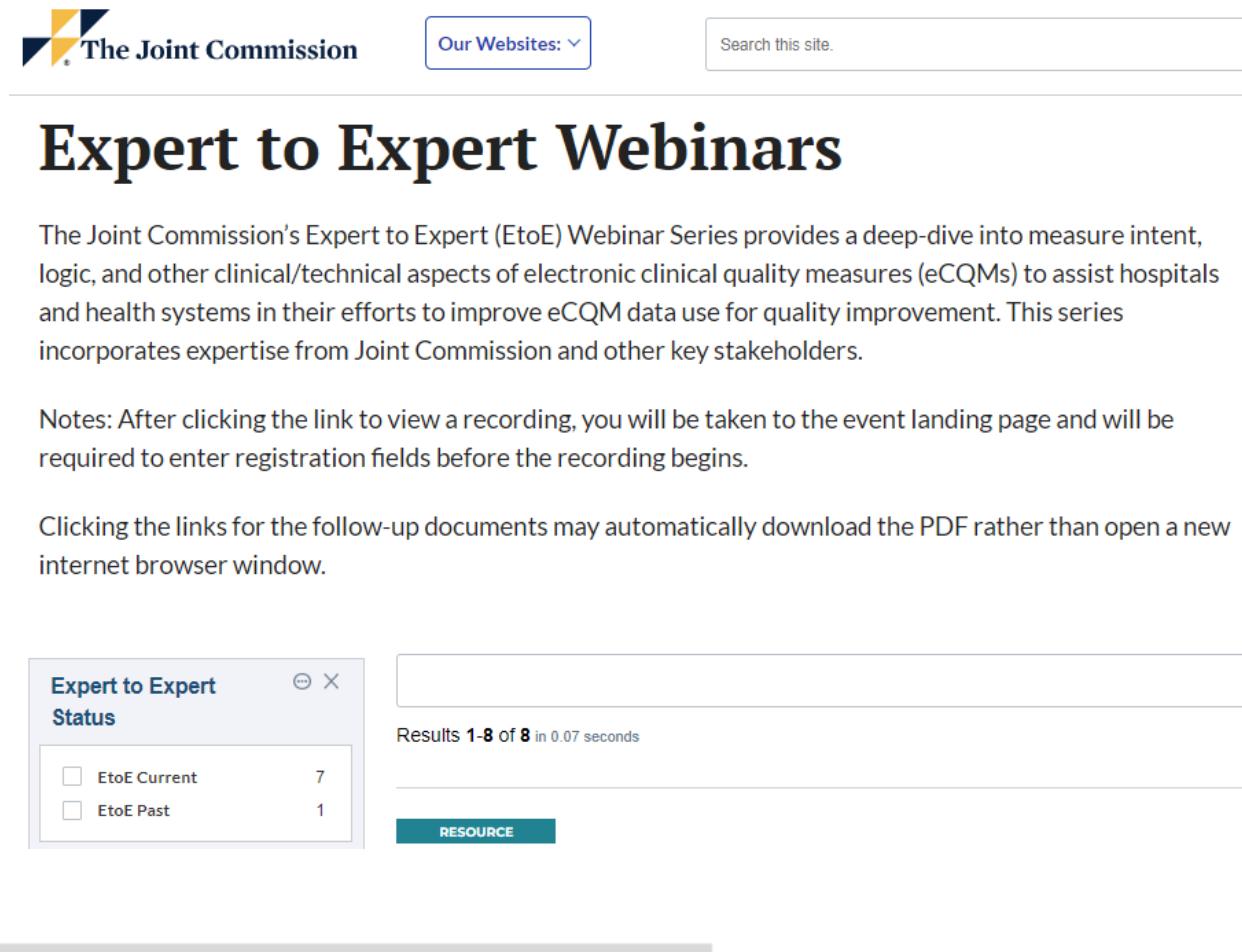


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- Click the Question mark icon in the toolbar
- Type and submit your question
- Include slide reference number when possible
- All questions **not answered verbally** during the live event will be addressed in a **written follow-up Q&A document**
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<https://www.jointcommission.org/measurement/quality-measurement-webinars-and-videos/expert-to-expert-webinars/#sort=%40resourcedate%20descending>



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Clicking the links for the follow-up documents may automatically download the PDF rather than open a new internet browser window.

EtoE Current	EtoE Past
7	1

Results 1-8 of 8 in 0.07 seconds

**RESOURCE**

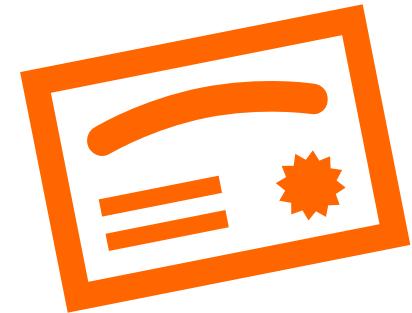
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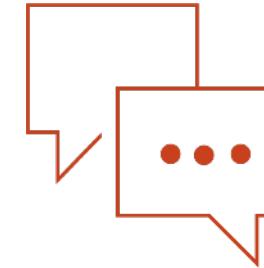
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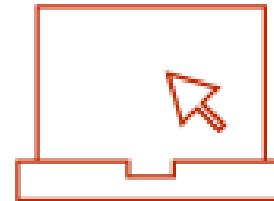
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# **Additional Resource: VTE-2 Numerator Detail**

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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"

# 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**

( 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)

# Numerator: VTE-2 (3)

## 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"]
union ["Procedure, Performed": "Application of Venous Foot Pumps"]
union ["Procedure, Performed": "Application of Graduated Compression Stockings"]
```

---

# Numerator: VTE-2 (4)

## 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

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)

# Numerator: VTE-2 (5)

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

```

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

```

# Numerator: VTE-2 (6)

## 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

---

# Numerator: VTE-2 (7)

## 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"



# Numerator: VTE-2 (8)

## 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"~~ date from ( start of  
Global."HospitalizationWithObservation" ( Encounter ) ), ~~TJC."TruncateTime"~~ date from  
( startOfFirstICU(Encounter) ~~+ 2 days~~ ) + 1 day ]

# Numerator: VTE-2 (9)

## 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

---

# Numerator: VTE-2 (10)

## 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")

---

# Numerator: VTE-2 (11)

## 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" NoMechanicalProphylaxis  
where 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 NoMechanicalProphylaxis.authorDatetime during day of TJC."CalendarDayOfOrDayAfter"  
(end of Global."NormalizeInterval" (AnesthesiaProcedure.relevantDatetime,  
AnesthesiaProcedure.relevantPeriod) )  
return QualifyingEncounterICU

---

# Numerator: VTE-2 (12)

## 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"



# 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

# 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