

Pioneers in Quality Expert to Expert Webinar Series

eCQM Annual Update: Venous Thromboembolism (VTE) Measures

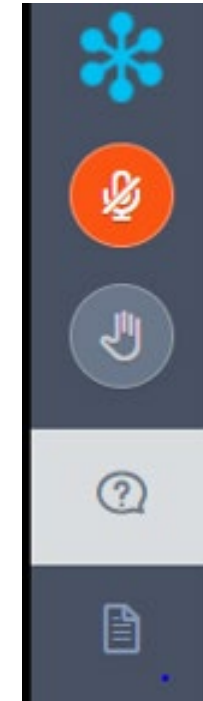
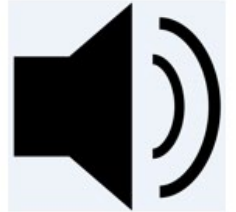
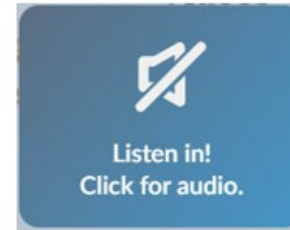
Marilyn Parenzan, MBA, RHIA, CPHQ
Karen Kolbusz, MBA, BSN

December 9, 2021



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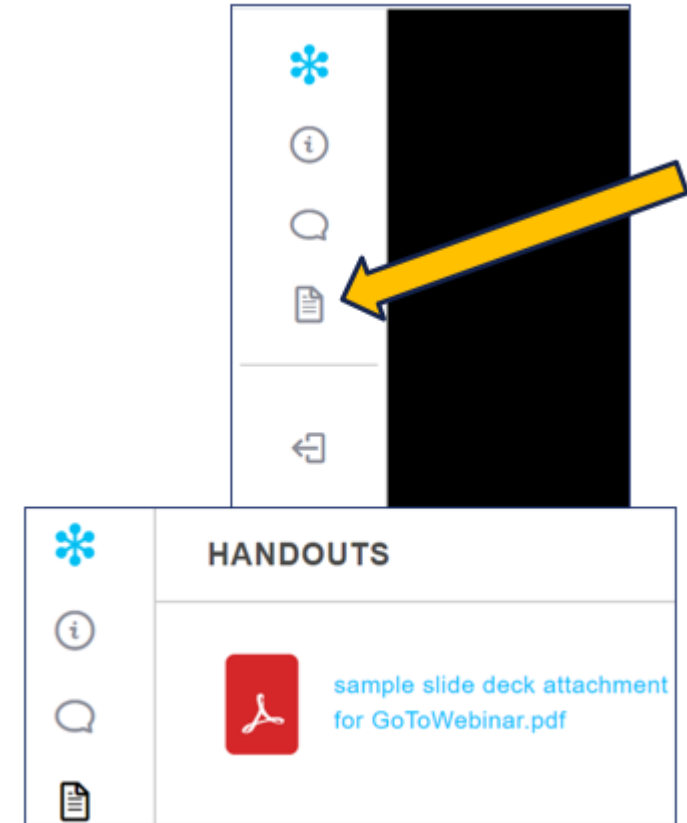
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<https://www.jointcommission.org/measurement/pioneers-in-quality/pioneers-in-quality-expert-to-expert-series>



Expert to Expert Webinar Series

Upcoming 2021 eCQM Annual Updates Webinars will address:

- VTE Measures (Today, Dec 9)
- Stroke Measures
- PC-05 Exclusive Breast Milk Feeding
- ED-2 Median Admit Decision Time to ED Departure Time
- Safe Use of Opioids- Concurrent Prescribing
- Joint Commission-only ePC measures



2021 New Measure Review Webinars will address:

- Hospital Harm - Severe Hypoglycemia
- Hospital Harm - Severe Hyperglycemia
- Joint Commission-only PC-07 Severe Obstetric Complications

Expert to Expert Series webpage: <https://www.jointcommission.org/measurement/pioneers-in-quality/pioneers-in-quality-expert-to-expert-series/>

eCQI Resource Center: <https://ecqi.healthit.gov/general-ecqm-and-ecqi-education>



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At the end of this webinar, participants should be able to:

1. Apply concepts learned about the logic and intent for the VTE eCQMs
2. Prepare to implement the VTE eCQMs for the 2022 eCQM reporting period
3. Identify common issues and questions regarding the VTE eCQMs

Disclosure Statement

These staff and speakers have disclosed that neither they nor their spouses/partners have any financial arrangements or affiliations with corporate organizations that either provide educational grants to this program or may be referenced in this activity:

- Susan Funk, MPH, LSSGB Associate Project Director, Measurement Coordination and Outreach, The Joint Commission
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Pioneers in Quality Expert to Expert Webinar Agenda: VTE eCQMs

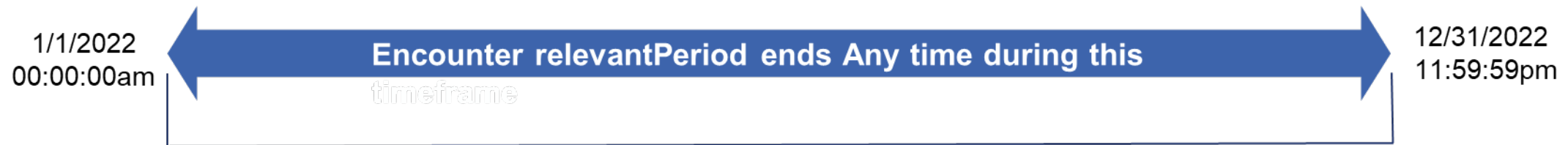
- Review broad technical changes made across eCQMs
- Brief Introduction to VTE 1&2
- Explore similarities and differences between VTE-1 and VTE-2
- Review changes made to both VTE-1 and VTE-2
- Review individual changes made to VTE-1 and VTE-2
- VTE FAQs
- Facilitated Audience Q&A Segment

Technical Overview – Broad changes made across eCQMs Global Common Function Library Updates

Added 'day of' to Global.Inpatient Encounter definition

– Global.Inpatient Encounter

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



- This change was needed to account for timezone offset normalization performed by receiving systems.
- With 'day of', the comparison is performed to the day only, ignoring the time components, and no timezone offset normalization is performed.

What is UTC?

UTC represents Coordinated Universal Time

- UTC is the primary time standard by which the world regulates clocks and times.
- It is the current time at 0 degrees longitude (runs through Greenwich, England).
- Time zone offsets for the United States are displayed below:

Time Zone	Standard Time	Daylight Savings Time
Eastern	UTC – 05:00	UTC – 04:00
Central	UTC – 06:00	UTC – 05:00
Mountain	UTC – 07:00	UTC – 06:00
Pacific	UTC – 08:00	UTC – 07:00

- A discharge date/time of 2022-12-31 20:00:00 –0600 would convert to 2023-01-01 02:00:00 for measure calculation.
- **Without ‘day of’** → this case will NOT be within Measurement Period due to UTC applied and unintentionally fall out of the Initial Population.
- **With ‘day of’** → this case will be within the Measurement Period due to time and UTC ignored and satisfy the Initial Population as expected.

Global.NormalizeInterval() function

Global.NormalizeInterval (pointInTime DateTime, period Interval<DateTime>)

- if pointInTime is not null then Interval[pointInTime, pointInTime]
 else if period is not null then period
 else null as Interval<DateTime>

- **QDM data types have both a relevantDatetime and relevantPeriod -**
 - Assessment, Performed
 - Device, Applied
 - Diagnostic Study, Performed
 - Intervention, Performed
 - Laboratory Test, Performed
 - Medication, Active
 - Medication, Administered
 - Medication, Dispensed
 - Physical Exam, Performed
 - Procedure, Performed
 - Substance, Administered

Global.NormalizeInterval() function Cont.

Global.NormalizeInterval (pointInTime DateTime, period Interval<DateTime>)

- if pointInTime is not null then Interval[pointInTime, pointInTime]
else if period is not null then period
else null as Interval<DateTime>

– A case with Procedure Performed -

- When relevantDatetime 2022-01-10 08:00:00 is available in the patient data → The function returns

Interval[2022-01-10 08:00:00, 2022-01-10 08:00:00]

- When relevantPeriod is available in the patient data as starts @ 2022-01-10 08:00:00 and ends @ 2022-01-10 11:00:00 → The function returns

Interval[2022-01-10 08:00:00, 2022-01-10 11:00:00]

Global.EarliestOf() function

Global.EarliestOf((pointInTime DateTime, period Interval<DateTime>)

- Earliest(NormalizeInterval(pointInTime, period)

Global.Earliest(period Interval<DateTime>)

- if (HasStart(period)) then start of period
else
end of period

Global.HasStart(period Interval<DateTime>)

- not (start of period is null
or start of period = minimum DateTime)

Global.EarliestOf() function Cont.

Global.EarliestOf((pointInTime DateTime, period Interval<DateTime>)

- Earliest(NormalizeInterval(pointInTime, period)

– A case with Assessment Performed –

- When relevantDatetime 2022-01-10 08:00:00 is available →
Global.Earliest(Interval[2022-01-10 08:00:00, 2022-01-10 08:00:00]) → The function returns 2022-01-10 08:00:00
- When relevantPeriod is available as starts @ 2022-01-10 08:00:00 and ends @ 2022-01-10 11:00:00 →
Global.Earliest(Interval[2022-01-10 08:00:00, 2022-01-10 11:00:00]) → The function returns 2022-01-10 08:00:00
- When start of relevantPeriod is NOT available as starts @ Null and ends @ 2022-01-10 11:00:00 →
Global.Earliest(Interval[NULL, 2022-01-10 11:00:00]) → The function returns 2022-01-10 11:00:00

Global.LatestOf() function

Global.LatestOf((pointInTime DateTime, period Interval<DateTime>)

- Latest(NormalizeInterval(pointInTime, period))

Global.Latest(period Interval<DateTime>)

- if (HasEnd(period)) then end of period
else
start of period

Global.HasEnd(period Interval<DateTime>)

- not (end of period is null
or end of period = maximum DateTime)

eCQM Annual Update: VTE-1 and VTE-2

Venous Thromboembolism Prophylaxis

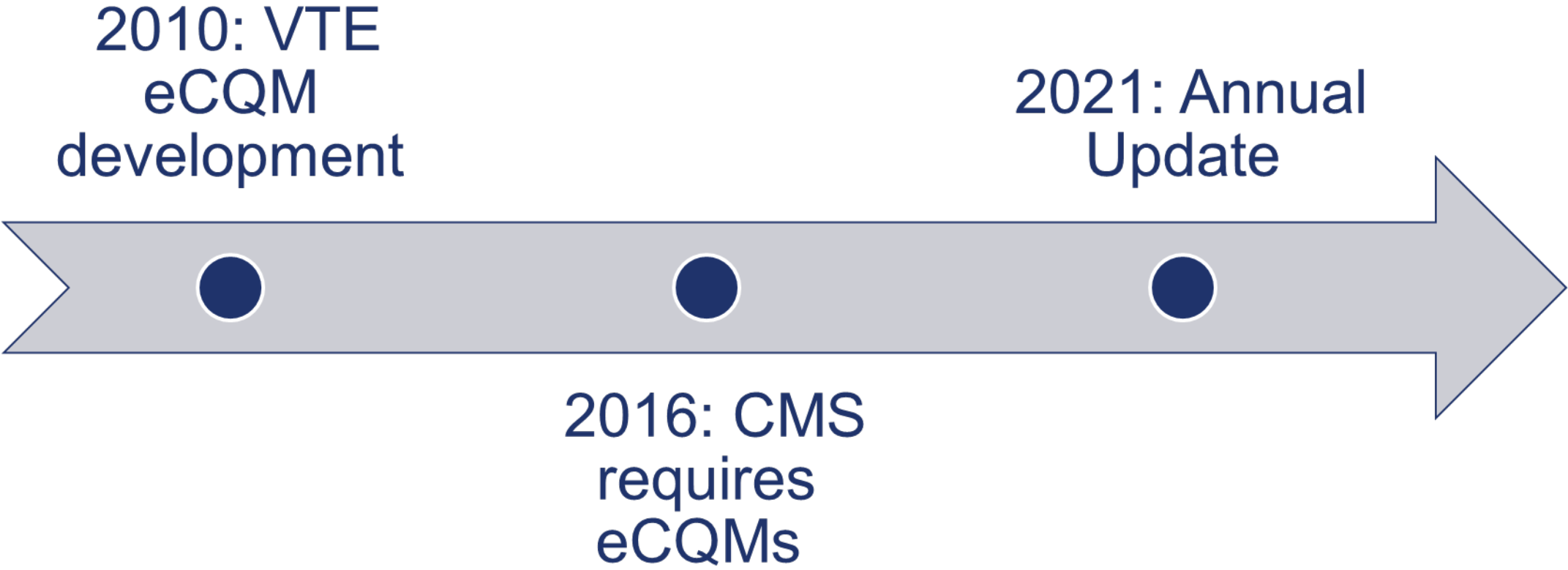
Definition:

- Venous thromboembolism (VTE) prophylaxis are preventive interventions that include pharmacologic and nonpharmacologic approaches to reduce the risk of deep vein thrombosis (DVT) and pulmonary embolism (PE)

Electronic Clinical Quality Measures (eCQMs)

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

Timeline



Initial Population - VTE-1 and VTE-2

Inpatient hospitalizations for patients age 18 and older discharged from hospital inpatient acute care without a diagnosis of venous thromboembolism (VTE) or obstetrics with a length of stay less than or equal to 120 days that ends during the measurement period

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

with ["Patient Characteristic Birthdate": "Birth Date"] BirthDate

such that Global."CalendarAgeInYearsAt"(BirthDate.birthDatetime, start of InpatientEncounter.relevantPeriod)>= 18)

intersect "Admission Without VTE or Obstetrical Conditions"

Global.Inpatient Encounter

["Encounter, Performed": "Encounter Inpatient"] EncounterInpatient

where "LengthInDays"(EncounterInpatient.relevantPeriod)<= 120

and EncounterInpatient.relevantPeriod ends during day of "Measurement Period"

VTE.Admission Without VTE or Obstetrical Conditions

Global."Inpatient Encounter" InpatientEncounter where not

(exists (InpatientEncounter.diagnoses EncounterDiagnoses

where (EncounterDiagnoses.code in "Obstetrics" or EncounterDiagnoses.code in "Venous Thromboembolism" or

EncounterDiagnoses.code in "Obstetrics VTE")))

Initial Population - VTE-1 and VTE-2

Inpatient hospitalizations for patients age 18 and older discharged from hospital inpatient acute care without a diagnosis of venous thromboembolism (VTE) or obstetrics with a length of stay less than or equal to 120 days that ends during the measurement period

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
with ["Patient Characteristic Birthdate": "Birth Date"] BirthDate
such that Global."CalendarAgeInYearsAt"(BirthDate.birthDatetime, start of InpatientEncounter.relevantPeriod)>= 18)
intersect "Admission Without VTE or Obstetrical Conditions"

Global.Inpatient Encounter

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

VTE.Admission Without VTE or Obstetrical Conditions

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

Initial Population - VTE-1 and VTE-2

Inpatient hospitalizations for patients age 18 and older discharged from hospital inpatient acute care without a diagnosis of venous thromboembolism (VTE) or obstetrics with a length of stay less than or equal to 120 days that ends during the measurement period

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
with ["Patient Characteristic Birthdate": "Birth Date"] BirthDate
such that Global."CalendarAgeInYearsAt"(BirthDate.birthDatetime, start of InpatientEncounter.relevantPeriod)>= 18)
intersect "Admission Without VTE or Obstetrical Conditions"

Global.Inpatient Encounter

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

VTE.Admission Without VTE or Obstetrical Conditions

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

Denominator: What is the difference?

VTE-1

- All patients in the initial population

VTE-2

- Patients directly admitted or transferred to ICU during the hospitalization

VTE-1 Venous Thromboembolism Prophylaxis

(CMS108v10)

Denominator – VTE-1

Denominator: "Initial Population"

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
with ["Patient Characteristic Birthdate"] BirthDate
such that Global."CalendarAgeInYearsAt"(BirthDate.birthDatetime,
start of InpatientEncounter.relevantPeriod)>= 18)
intersect "Admission Without VTE or Obstetrical Conditions"

Global.Inpatient Encounter

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

VTE.Admission Without VTE or Obstetrical Conditions

(Global."Inpatient Encounter" InpatientEncounter where not
(exists (InpatientEncounter.diagnoses EncounterDiagnoses
where (EncounterDiagnoses in "Obstetrics" or EncounterDiagnoses in "Venous Thromboembolism" or
EncounterDiagnoses in "Obstetrics VTE")))))

Denominator Exclusions – VTE-1

- Inpatient hospitalizations for patients who have a length of stay less than 2 days
- Inpatient hospitalizations for patients who are direct admits to intensive care unit (ICU), or transferred to ICU the day of or the day after hospital admission with ICU length of stay greater than or equal to one day
- Inpatient hospitalizations for patients with a principal diagnosis of mental disorders or stroke
- Inpatient hospitalizations for patients with a principal procedure of Surgical Care Improvement Project (SCIP) VTE selected surgeries
- Inpatient hospitalizations for patients with comfort measures documented anytime between the day of arrival and the day after hospital admission
- Inpatient hospitalizations for patients with comfort measures documented by the day after surgery end date for surgeries that start the day of or the day after hospital admission

Denominator Exclusions: "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

Denominator Exclusion: Inpatient hospitalizations for patients who have a length of stay less than 2 days

Denominator Exclusions: "Encounter Less Than 2 Days"

Encounter Less Than 2 Days:

VTE."Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" Qualifying Encounter
where $\text{Global."LengthInDays"}(\text{QualifyingEncounter.relevantPeriod}) < 2$

Denominator Exclusions – VTE-1

Inpatient hospitalizations for patients who are direct admits to intensive care unit (ICU), or transferred to ICU the day of or the day after hospital admission with ICU length of stay greater than or equal to one day

Denominator Exclusions: union "Encounter With ICU Location Stay 1 Day or More"

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,
Global."ToDate"(start of QualifyingEncounter.relevantPeriod + 2 days)))

Denominator Exclusions – VTE-1

Inpatient hospitalizations for patients with a principal diagnosis of mental disorders or stroke

Denominator Exclusions: union "Encounter With Principal Diagnosis of Mental Disorder or Stroke"

Encounter With Principal Diagnosis of Mental Disorder or Stroke

VTE."Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" Qualifying Encounter
where exists (Qualifying Encounter.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"

Denominator Exclusions – VTE-1

Inpatient hospitalizations for patients with a principal procedure of Surgical Care Improvement Project (SCIP) VTE selected surgeries

Denominator Exclusions: union "Encounter With Principal Procedure of SCIP VTE Selected Surgery"

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"]

Denominator Exclusions – VTE-1

Inpatient hospitalizations for patients with comfort measures documented anytime between the day of arrival and the day after hospital admission

Denominator Exclusions: union "Encounter with Intervention Comfort Measures From Day of Start Hospitalization To Day After Admission"

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" Qualifying Encounter

with "Intervention Comfort Measures" Comfort Measures

such that Coalesce(start of **Global."NormalizeInterval"(ComfortMeasures.relevantDatetime, ComfortMeasures.relevantPeriod)**,
ComfortMeasures.authorDatetime) during

VTE."FromDayOfStartOfHospitalizationToDayAfterAdmission"(Qualifying Encounter)

Intervention Comfort Measures

["Intervention, Order": "Comfort Measures"]

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

Denominator Exclusions – VTE-1

Inpatient hospitalizations for patients with comfort measures documented anytime between the day of arrival and the day after hospital admission

Denominator Exclusions: union "Encounter with Intervention Comfort Measures From Day of Start Hospitalization To Day After Admission"

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

VTE."FromDayOfStartOfHospitalizationToDayAfterAdmission"(QualifyingEncounter)

Intervention Comfort Measures

["Intervention, Order": "Comfort Measures"]

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

Denominator Exclusions – VTE-1

Inpatient hospitalizations for patients with comfort measures documented by the day after surgery end date for surgeries that start the day of or the day after hospital admission

Denominator Exclusions: union “Encounter with Intervention Comfort Measures on Day of or Day After Procedure”

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, ComfortMeasures.relevantPeriod,  
    ComfortMeasures.authorDatetime) during TJC."CalendarDayOfOrDayAfter"(end of  
    Global."NormalizeInterval" ( AnesthesiaProcedure.relevantDatetime, AnesthesiaProcedure.relevantPeriod ) )  
return QualifyingEncounter
```

Numerator – VTE-1

Inpatient hospitalizations for patients who received VTE prophylaxis:

- between the day of arrival and the day after hospital admission
- 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 VTE prophylaxis was given:

- between the day of arrival and the day after hospital admission
- the day of or the day after surgery end date (for surgeries that end the day of or the day after hospital admission)

2022 Numerator:

- #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 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

Numerator:

#1 “Encounter with VTE Prophylaxis Received From Day of Start of Hospitalization To Day After Admission or Procedure”

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 "VTE Prophylaxis by Medication Administered or Device Applied" VTEProphylaxis
  such that Global."NormalizeInterval" ( VTEProphylaxis.relevantDatetime, VTEProphylaxis.relevantPeriod) starts during
    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,
  "VTE Prophylaxis by Medication Administered or Device Applied" 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
      TJC."CalendarDayOfOrDayAfter"(end of Global."NormalizeInterval" ( AnesthesiaProcedure.relevantDatetime,
        AnesthesiaProcedure.relevantPeriod))

return QualifyingEncounter)
```

VTE Prophylaxis by Medication Administered or Device Applied

```
( ["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 ["Device, Applied": "Intermittent pneumatic compression devices (IPC)"]
union ["Device, Applied": "Venous foot pumps (VFP)"]
union ["Device, Applied": "Graduated compression stockings (GCS)"]
```

Removed
betrixaban

Numerator – VTE-1

Numerator:

#1 “Encounter with VTE Prophylaxis Received From Day of Start of Hospitalization To Day After Admission or Procedure”

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 "VTE Prophylaxis by Medication Administered or Device Applied" VTEProphylaxis

such that **Global."NormalizeInterval" (VTEProphylaxis.relevantDatetime, VTEProphylaxis.relevantPeriod)** starts during

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,

"VTE Prophylaxis by Medication Administered or Device Applied" 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

TJC."CalendarDayOfOrDayAfter"(**end of Global."NormalizeInterval" (AnesthesiaProcedure.relevantDatetime,**

AnesthesiaProcedure.relevantPeriod))

return QualifyingEncounter)

VTE Prophylaxis by Medication Administered or Device Applied

(["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 ["Device, Applied": "Intermittent pneumatic compression devices (IPC)"]

union ["Device, Applied": "Venous foot pumps (VFP)"]

union ["Device, Applied": "Graduated compression stockings (GCS)"]

Numerator – VTE-1

Numerator:

```
#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 VTE"
union "Encounter With Prior or Present Procedure of Hip or Knee Replacement Surgery"))
```

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 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 TJC."CalendarDayOfOrDayAfter"

(end of **Global."NormalizeInterval" (AnesthesiaProcedure.relevantDatetime, AnesthesiaProcedure.relevantPeriod)**)

return QualifyingEncounter)

Numerator – VTE-1

Numerator:

```
#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 VTE"
union "Encounter With Prior or Present Procedure of Hip or Knee Replacement Surgery"))
```

Encounter With Prior or Present Diagnosis of Atrial Fibrillation or 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

Numerator:

```
#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 VTE"  
    union "Encounter With Prior or Present Procedure of Hip or Knee Replacement Surgery"))
```

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

Numerator – VTE-1

Numerator:

#3 union “Encounter With Low Risk for VTE or Anticoagulant Administered”

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

Numerator:

#3 union “Encounter With Low Risk for VTE or Anticoagulant Administered”

Low Risk Indicator For VTE

/*The variable "LowRiskDatetime" is to hold VTE Risk Assessment relevant dateTime, INR Laboratory Test result dateTime, and Anticoagulant Medication administration start dateTime.*/

```
( ["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

Numerator:

#4 union “Encounter With No VTE Prophylaxis Due to Medical Reason”

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 VTE Prophylaxis Device 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 VTE Prophylaxis Device Due to Medical Reason on Day of or Day After Procedure")

Numerator – VTE-1

Numerator:

#4 union "Encounter With No VTE Prophylaxis Due to Medical Reason"

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 VTE Prophylaxis Device 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 VTE Prophylaxis Device Due to Medical Reason on Day of or Day After Procedure"~~)~~

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"
and NoVTEMedication.authorDatetime during
VTE."FromDayOfStartOfHospitalizationToDayAfterAdmission"(QualifyingEncounter)

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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betrixaban

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betrixaban

Numerator – VTE-1

Numerator:

#4 union “Encounter With No VTE Prophylaxis Due to Medical Reason”

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 VTE Prophylaxis Device 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 VTE Prophylaxis Device Due to Medical Reason on Day of or Day After Procedure")~~

No VTE Prophylaxis Device 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 Device Applied or Ordered" NoVTEDevice
such that NoVTEDevice.negationRationale in "Medical Reason"
and NoVTEDevice.authorDatetime during
VTE."FromDayOfStartOfHospitalizationToDayAfterAdmission"(QualifyingEncounter)

No VTE Prophylaxis Device Applied or Ordered

["Device, Not Applied": "Intermittent pneumatic compression devices (IPC)"]
union ["Device, Not Applied": "Venous foot pumps (VFP)"]
union ["Device, Not Applied": "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)"]

Numerator – VTE-1

Numerator:

#4 union “Encounter With No VTE Prophylaxis Due to Medical Reason”

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 VTE Prophylaxis Device 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 VTE Prophylaxis Device Due to Medical Reason on Day of or Day After Procedure")

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"
and **Global."NormalizeInterval" (AnesthesiaProcedure.relevantDatetime, AnesthesiaProcedure.relevantPeriod)**
ends 1 day after day of start of QualifyingEncounter.relevantPeriod
and NoVTEMedication.authorDatetime during TJC."CalendarDayOfOrDayAfter"(end of
Global."NormalizeInterval" (AnesthesiaProcedure.relevantDatetime, AnesthesiaProcedure.relevantPeriod))
return QualifyingEncounter

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

from "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter,
["Procedure, Performed": "General or Neuraxial Anesthesia"] AnesthesiaProcedure,
"No VTE Prophylaxis Device Applied or Ordered" NoVTEDevice
where NoVTEDevice.negationRationale in "Medical Reason"
and **Global."NormalizeInterval" (AnesthesiaProcedure.relevantDatetime, AnesthesiaProcedure.relevantPeriod)**
ends 1 day after day of start of QualifyingEncounter.relevantPeriod
and NoVTEDevice.authorDatetime during TJC."CalendarDayOfOrDayAfter"(end of
Global."NormalizeInterval" (AnesthesiaProcedure.relevantDatetime, AnesthesiaProcedure.relevantPeriod))
return QualifyingEncounter

Numerator – VTE-1

Numerator:

#5 union “Encounter With No VTE Prophylaxis Due to Patient Refusal”

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"

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 VTE Prophylaxis Medication or Device Due to Patient Refusal" PatientRefusal

such that PatientRefusal.authorDatetime during

VTE."FromDayOfStartOfHospitalizationToDayAfterAdmission"(QualifyingEncounter)

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 VTE Prophylaxis Medication or Device 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 TJC."CalendarDayOfOrDayAfter"(end of

Global."NormalizeInterval" (AnesthesiaProcedure.relevantDatetime, AnesthesiaProcedure.relevantPeriod))

return QualifyingEncounter

Numerator – VTE-1

Numerator:

#5 union “Encounter With No VTE Prophylaxis Due to Patient Refusal”

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”

No VTE Prophylaxis Medication or Device Due to Patient Refusal

(“No VTE Prophylaxis Medication Administered or Ordered”

union “No VTE Prophylaxis Device Applied or Ordered”) NoVTEProphylaxis
where NoVTEProphylaxis.negationRationale in “Patient Refusal”

VTE-2 Intensive Care Unit Venous Thromboembolism Prophylaxis

(CMS190v10)

Denominator– VTE-2

Inpatient hospitalizations for patients directly admitted or transferred to ICU during the hospitalization

Denominator: "Encounter With ICU Location"

Encounter With ICU Location

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

VTE.Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions

(Global."Inpatient Encounter" Inpatient Encounter
with ["Patient Characteristic Birthdate"] BirthDate
such that Global."CalendarAgeInYearsAt"(BirthDate.birthDatetime,
start of Inpatient Encounter.relevantPeriod)>= 18)
intersect "Admission Without VTE or Obstetrical Conditions"

Global.Inpatient Encounter

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

VTE.Admission Without VTE or Obstetrical Conditions

(Global."Inpatient Encounter" Inpatient Encounter where not
(exists (Inpatient Encounter.diagnoses Encounter Diagnoses
where (Encounter Diagnoses in "Obstetrics" or Encounter Diagnoses in "Venous
Thromboembolism" or Encounter Diagnoses in "Obstetrics VTE")))))

Denominator Exclusions – VTE-2

- Inpatient hospitalizations for patients who have a length of stay less than 2 days
- Inpatient hospitalizations for patients with a principal procedure of Surgical Care Improvement Project (SCIP) VTE selected surgeries that end the day of or the day after ICU admission or transfer
- Inpatient hospitalizations for patients with comfort measures documented anytime between arrival and the day after ICU admission or transfer
- Inpatient hospitalizations for patients with comfort measures documented by the day after surgery end date for surgeries that end the day of or the day after hospital admission

Denominator Exclusions:

"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

Inpatient hospitalizations for patients who have a length of stay less than 2 days

Denominator Exclusions:

"Encounter With ICU Location Less Than 2 Days"

Encounter With ICU Location And Encounter Less Than 2 Days:

"Encounter With ICU Location" QualifyingEncounterICU
where $\text{Global."LengthInDays"}(\text{QualifyingEncounterICU.relevantPeriod}) < 2$

Encounter With ICU Location:

"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

Inpatient hospitalizations for patients with a principal procedure of Surgical Care Improvement Project (SCIP) VTE selected surgeries that end the day of or the day after ICU admission or transfer

Denominator Exclusions:

union "Encounter With First ICU Stay With Principal Procedure of SCIP VTE Selected Surgery"

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 TJC."CalendarDayOfOrDayAfter"(VTE."StartOfFirstICU"(QualifyingEncounterICU))

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"]

Denominator Exclusions – VTE-2

Inpatient hospitalizations for patients with a principal procedure of Surgical Care Improvement Project (SCIP) VTE selected surgeries that end the day of or the day after ICU admission or transfer

Denominator Exclusions:

union "Encounter With First ICU Stay With Principal Procedure of SCIP VTE Selected Surgery"

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 TJC."CalendarDayOfOrDayAfter"(VTE."**StartOfFirstICU**"(QualifyingEncounterICU))

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 L

where L.code in "Intensive Care Unit"

and L.locationPeriod during Encounter.relevantPeriod

sort by start of locationPeriod)

Denominator Exclusions – VTE-2

Inpatient hospitalizations for patients with comfort measures documented anytime between day of arrival and the day after ICU admission or transfer

Denominator Exclusions: union "Encounter With Intervention Comfort Measures From Day Of Start of Hospitalization To Day After First ICU Stay"

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 VTE."FromDayOfStartOfHospitalizationToDayAfterFirstICU"(QualifyingEncounterICU)

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

Intervention Comfort Measures:

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

Denominator Exclusions – VTE-2

Patients with comfort measures documented by the day after surgery end date for surgeries that end the day of or the day after hospital admission

Denominator Exclusions:

union "Encounter With Intervention Comfort Measures on Day of or Day After Procedure"

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 TJC."CalendarDayOfOrDayAfter"( end of  
        Global."NormalizeInterval" ( AnesthesiaProcedure.relevantDatetime, AnesthesiaProcedure.relevantPeriod ) )  
return QualifyingEncounterICU
```


Numerator - VTE-2

Inpatient hospitalizations for patients who received VTE prophylaxis:

- the day of or the day after ICU admission (or transfer)
- 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)

Inpatient hospitalizations for 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)
- 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))

Numerator:

- #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 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

Numerator:

- #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 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

Numerator:

- #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 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

Numerator:

#1 "Encounter With VTE Prophylaxis Received on Day of or Day After First ICU Stay or Procedure"

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

```
( "Encounter With ICU Location" QualifyingEncounterICU
  with "VTE Prophylaxis by Medication Administered or Device Applied" VTEProphylaxis
  such that Global."NormalizeInterval" ( VTEProphylaxis.relevantDatetime, VTEProphylaxis.relevantPeriod ) starts during
  TJC."CalendarDayOfOrDayAfter"(VTE."StartOfFirstICU"(QualifyingEncounterICU)))
union ( from "Encounter With ICU Location" QualifyingEncounterICU,
  ["Procedure, Performed": "General or Neuraxial Anesthesia"] AnesthesiaProcedure,
  "VTE Prophylaxis by Medication Administered or Device Applied" 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
  TJC."CalendarDayOfOrDayAfter"(end of Global."NormalizeInterval" ( AnesthesiaProcedure.relevantDatetime,
AnesthesiaProcedure.relevantPeriod ))
  return QualifyingEncounterICU)
```

Numerator - VTE-2

Numerator:

#1 "Encounter With VTE Prophylaxis Received on Day of or Day After First ICU Stay or Procedure"

VTE Prophylaxis by Medication Administered or Device Applied

(["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 ["Device, Applied": "Intermittent pneumatic compression devices (IPC)"]
union ["Device, Applied": "Venous foot pumps (VFP)"]
union ["Device, Applied": "Graduated compression stockings (GCS)"]

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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-2

Numerator:

```
#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 VTE"
union "Encounter With Prior or Present Procedure of Hip or Knee Replacement Surgery"))
```

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
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 TJC."CalendarDayOfOrDayAfter"(end of Global."NormalizeInterval" (
AnesthesiaProcedure.relevantDatetime, AnesthesiaProcedure.relevantPeriod ) )
return QualifyingEncounterICU)
```

Numerator - VTE-2

Numerator:

```
#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 VTE"  
union "Encounter With Prior or Present Procedure of Hip or Knee Replacement Surgery"))
```

Encounter With Prior or Present Diagnosis of Atrial Fibrillation or VTE:

```
( "Encounter With ICU Location" QualifyingEncounterICU with ["Diagnosis": "Atrial Fibrillation/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

Numerator:

```
#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 VTE"  
union "Encounter With Prior or Present Procedure of Hip or Knee Replacement Surgery"))
```

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

Numerator:

#3 union "Encounter With Low Risk for VTE or Anticoagulant Administered"

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

Numerator:

#3 union "Encounter With Low Risk for VTE or Anticoagulant Administered"

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"

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 VTE."FromDayOfStartOfHospitalizationToDayAfterFirstICU"

(QualifyingEncounterICU)

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-2

Numerator:

#3 union "Encounter With Low Risk for VTE or Anticoagulant Administered"

Encounter With Low Risk for VTE or Anticoagulant Administered:

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

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 TJC."CalendarDayOfOrDayAfter" (
end of **Global."NormalizeInterval" (AnesthesiaProcedure.relevantDatetime,**
AnesthesiaProcedure.relevantPeriod))
return QualifyingEncounterICU

Numerator - VTE-2

Numerator:

#4 union "Encounter With No VTE Prophylaxis Due to Medical Reason"

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 VTE Prophylaxis Device 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 VTE Prophylaxis Device Due to Medical Reason on Day of or Day After Procedure")

No VTE Prophylaxis Medication 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 VTE Prophylaxis Medication Administered or Ordered" NoVTEMedication
where NoVTEMedication.negotiationRationale in "Medical Reason"
and **Global."NormalizeInterval" (AnesthesiaProcedure.relevantDatetime, AnesthesiaProcedure.relevantPeriod)**
ends 1 day after day of VTE."StartOfFirstICU" (QualifyingEncounterICU)
and NoVTEMedication.authorDatetime during TJC."CalendarDayOfOrDayAfter" (
end of **Global."NormalizeInterval" (AnesthesiaProcedure.relevantDatetime, AnesthesiaProcedure.relevantPeriod)**)
return QualifyingEncounterICU

Numerator - VTE-2

Numerator: #5 union "Encounter With No VTE Prophylaxis Due to Patient Refusal"

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"

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

from "Encounter With ICU Location" QualifyingEncounterICU,
["Procedure, Performed": "General or Neuraxial Anesthesia"] AnesthesiaProcedure,
"No VTE Prophylaxis Medication or Device Due to Patient Refusal" PatientRefusal
where **Global."NormalizeInterval" (AnesthesiaProcedure.relevantDatetime, AnesthesiaProcedure.relevantPeriod)** ends 1 day after day of VTE."StartOfFirstICU"
(QualifyingEncounterICU)
and PatientRefusal.authorDatetime during TJC."CalendarDayOfOrDayAfter" (end of **Global."NormalizeInterval" (AnesthesiaProcedure.relevantDatetime, AnesthesiaProcedure.relevantPeriod)**)
return QualifyingEncounterICU

No VTE Prophylaxis Medication or Device Due to Patient Refusal

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

Denominator Exceptions - VTE-2

Inpatient hospitalizations for patients with ICU LOS less than one day

Denominator Exceptions: "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

First ICU Location Period(Encounter "Encounter, Performed")

Global."FirstInpatientIntensiveCareUnit"(Encounter).locationPeriod

To download and view the 2022 eCQM flows, which help review the logic process flow, visit the eCQI Resource Center at this link:

[Eligible Hospital / Critical Access Hospital eQMs | eCQI Resource Center \(healthit.gov\)](#)

Frequently Asked Questions (FAQs)

Questions for this segment were obtained from common questions submitted to JIRA and other sources



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.

Question: Are psychiatric patients excluded from VTE1 and VTE2?

Answer: VTE-1 excludes patients with an *ICD-10-CM Principal Diagnosis Code of Mental Disorders*. The value set has been expanded to include additional codes for substance abuse and suicide. This exclusion is for VTE-1 only and does not apply to VTE-2 ICU admissions and transfers.

Question: Can a patient be included in both VTE-1 and VTE-2 during the same admission and if so under what circumstances?

Answer:

- A patient who has an ICU stay of less than one day or is admitted to a non-ICU unit and is subsequently admitted to the ICU after the second day of hospitalization, will be in VTE-1.
- A patient who was admitted to an ICU directly or was admitted to a non-ICU unit and then transferred to the ICU on the day of or day after admission with an ICU stay ≥ 1 day, will be in VTE-2 only.
- A patient who was admitted to the ICU after 3 days of inpatient stay and the ICU stay is ≥ 1 day, the patient will be in both the VTE-1 and VTE-2 measures.

Resources

eCQI Resource Center – EH Measures:

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

Pioneers In Quality

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

ONC Issue Tracking System

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

Previous Webinars

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

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Measurement webinars

Coming Soon – Expert to Expert Webinars

- Webinar series begins in Dec 2021 that incorporates expertise from The Joint Commission, Centers for Medicare & Medicaid Services, Mathematica, and Lantana to address the 2022 eCQM Annual Updates for: VTE, STK, PC, ED, and Safe Opioid Use measures.
- A new measure review webinar is also planned for new Hypoglycemia and Hyperglycemia eCQMs.
- Additional information will be available at this link as each webinar is offered:

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





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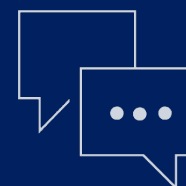
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Transcript – Pioneers in Quality Expert to Expert Webinar - eCQM Annual Update: Venous Thromboembolism (VTE) Measures

Broadcast December 9, 2021

0:04

Welcome everyone, and thank you for joining us today for our Pioneers in Quality Expert to Expert Webinar - eCQM Annual Update: Venous Thromboembolism (VTE) Measures.

0:17

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.

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Next slide, please.

1:02

The slides are available now. 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 session at the link denoted on this slide.

Next slide, please.

1:23

We just wanted to take a brief moment to give you early warning that we will have upcoming eCQM Annual Update webinars to address:

The VTE measures – that's today; Stroke measures; PC-05 Exclusive Breast Milk Feeding; ED-2 median admit decision time to ED departure time; Safe use of Opioids - concurrent prescribing; and Joint Commission only ePC measures.

1:47

We will also have 2021 New Measure Review webinars to address new eQCMs: hospital harm - severe hypo- and hyper-glycemia, and the Joint Commission only PC-07 Severe Obstetric Complications measure. If you registered for today's webinar, when registration opens for these events, you will receive an e-mail invitation. You can also check for more information at the links listed on this slide.

Next slide, please.

2:16

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2:39

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3:01

If you are listening with colleagues and did not use your own link or phone line to join, you can still obtain CE credit, if you meet these three criteria. If you did not pre-register, do so now so you can be eligible when the session concludes.

3:17

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Next slide, please.

3:43

The learning objectives for this session are: apply concepts learned about the logic and intent for the VTE eCQMs; Prepare to implement the VTE eCQMs for the 2022 eCQM reporting period; and identify common issues and questions regarding the VTE eCQMs.

4:04

Next slide, please.

4:06

The following staff and speakers have disclosed that neither they, nor their spouses, or partners, have any financial arrangements or affiliations with corporate organizations that either provide educational grants to this program or may be referenced in this activity: Susan Funk, Karen Kolbusz, Marilyn Parenzan, and Susan Yendro. Next slide.

4:29

The agenda for today's webinar follows: review broad technical changes made across eCQMs; brief introduction to VTE 1- and VTE 2; explore similarities and differences between VTE 1 and VTE 2; review changes made to both VTE-1 and VTE 2; review individual changes made to VTE 1 and VTE 2; VTE Frequently asked questions; and then a facilitated audience Q&A segment.

4:58

I will now turn things over to Marilyn to begin her presentation. Marilyn, please take it away.

5:04

Thank you, Susan. We will start with the technical overview to review changes to logic that is re-used across measures through the use of shared CQL libraries. One of the main shared CQL libraries used across eCQMs is the MAT Global Common Functions Library.

5:23

Use of this shared CQL Library can be easily recognized within measure logic, when CQL definitions and functions are prefaced by the word "global".

We will review some of the main technical changes made to the Global Common Library to highlight logic changes made across measures.

5:43

The first technical change made to the Global Common Library that we will review is an addition of the words 'day of' to the global.inpatientencounter definition, based on implementer feedback.

5:56

A time zone offset issue was reported for eCQM data related to the CQL Logic Structure in the global.inpatient Encounter definition.

6:06

In some instances, encounters with discharges in the last few hours of December 31st, for example, 8pm or later, in the measurement period may unintentionally fall out of the Initial Population due to variability across systems implementing a coordinated timezone offset, known as UTC.

6:27

We will review UTC more on the next slide.

6:30

Adding 'day of' as EncounterInpatient.relevantPeriod ends during day of "measurement period", will capture dates only from both relevant period and measurement period without timezone offset normalization.

Therefore, all cases within the measurement period are captured and evaluated in the initial population, as indicated.

6:55

So what is UTC?

UTC represents Coordinated Universal Time. US time zone offsets for the United States are displayed on this table. A Discharge Date and Time of 2022-12-31 at 20:00:00 -0600, would convert to 2023-01-01, 02:00:00, for measure calculation using UTC Time Zone.

7:24

Without the 'day of' this case will not be within the measurement period, due to the UTC applied, and will unintentionally fall out of the initial population, because of the converted discharge date as of January 1st, 2023. With the 'day of' this case will be within the measurement period due to the UTC being ignored, and will satisfy the initial population, as expected.

7:53

The next technical change made to the Global Common Library is introduction of the 'Normalize Interval' function, which is now used in all measures containing data types that have both relevant datetime and relevantperiod timing attributes.

The normalize interval function is meant to account for differences in EHR vendors capture of timing of measurement criteria, and to decrease implementation burden due to variable use of timing attributes for the same QDM data types used across measures. Knowing the rationale of using the 'normalize interval' function should make it easier to understand how the function is structured.

8:35

These QDM data types listed here have both the relevantDatetime, and relevantPeriod. So for each of these types, since there are use cases for both relevantDatetime, and relevantPeriod, the recommended approach is to use a 'normalizeinterval' function to access the timing elements.

In eCQM 2021 [correction for transcript – 2022] Annual updates, you will see Global.NormalizeInterval function is applied to these data types in the measures.

9:08

The NormalizeInterval function can use either relevant datetime or Relevant Period depending on data submission.

9:15

See the examples here.

If relevant Date and time of 2022-01-10 at 8 AM is available for procedure performed in the patient data, this point of time will be populated in the interval start and end points, even though it is a single point in time.

When relevant Period is available, the start and end of procedure period datetimes will be populated in the interval.

9:46

Another addition to the Global Common Library is the 'EarliestOf' function, which is derived from 'NormalizeInterval' function.

The EarliestOf function returns the starting point if the interval has a starting boundary specified. Otherwise, it returns the ending point to the period.

As you see, this function contains additional functions within it, calling out another function named 'earliest', which contains the 'hasStart' function.

The purpose of 'hasStart' function is to check if the interval has a starting boundary specified, (i.e. the start of the interval is not null, and not the minimum datetime value).

By calling 'HasStart', the 'earliest' function returns a starting point, if the interval given has a starting boundary specified, otherwise returning the ending point.

By calling 'Earliest', the 'EarliestOf' function can use relevant datetime or relevant period depending on data submission.

10:48

Here are examples of scenarios that use the Global earliest of function to capture assessment performed datetime based upon patient data.

10:57

So when the relevant datetime is available, as in the example January 10th, 2022, 08:00:00.

The function returns relevantDatetime as January 10th, 2022, at 08:00:00.

When the relevant period is available, as in the example January 10th, 2022, at 08:00:00 to 11 AM, the function returns the Start of the relevantPeriod as January 10th, 2022, at 8 AM. When the start of the relevantPeriod is not available, and the end time is January 10th, 2022, at 11 AM

The function returns the End of the relevantperiod as January 10th, 2022, at 11 AM.

11:46

Similar to the 'EarliestOf' function, we've also introduced a 'LatestOf' function.

Instead of looking for starting point, the 'LatestOf' function returns the end point if the interval has an ending boundary specified, otherwise, it returns the starting point to the period.

As you see, this function has similar nested functions of 'HasEnd' and 'Latest'.

12:11

Now, Karen will describe the clinical content for VTE-1 and VTE-2. Karen?

Thank you, Marilyn. VTE prophylaxis includes pharmacologic and nonpharmacologic approaches to reduce the risk of deep vein thrombosis and pulmonary embolism.

12:31

Hospitalized patients are at risk for developing VTE. Either a blood clot in a deep proximal leg vein, or a PE, which can result in sudden death. Prevention is a critical action step for reducing VTE related mortality.

12:50

According to the CDC, nearly 560,000 patients aged 18 years and older are hospitalized in the United States each year for VTE.

Critical care admission is the strongest risk factor for developing a VTE while hospitalized and systemwide alerts are being used to increase VTE prophylaxis administration during the hospital stay.

The eCQM VTE-1 and VTE-2 measures focus on the prevention of deep vein thrombosis and pulmonary emboli. These measures capture the proportion of patients who received pharmacologic or mechanical VTE prophylaxis, or have a documented reason why prophylaxis was not administered.

Patients who are not at risk for VTE or low risk, are included in the numerator since this is an accepted reason for non-administration. Next slide, please.

13:55

In 2010, work began to retool the chart, abstracted VTE-1 and VTE-2 measures as electronic clinical quality measures.

The Affordable Care Act of 2009, which promoted the continuing development of electronic health records, was the impetus for the conversion. The retooling process took several years to complete. By 2016, eVTE-1, and eVTE-2 were ready for implementation, and CMS made eCQMs a mandatory requirement. Data collection for the eCQMs were voluntary for a year prior to 2016.

Since their introduction, measure maintenance has been ongoing via annual updates to the eCQM logic, the value sets, and other technical requirements as needed.

14:50

Back to you, Marilyn.

14:52

Thanks, Karen. So both the VTE-1 and VTE-2 measures share the same initial population, which reads: patients age 18 and older discharged from hospital inpatient acute care, without a diagnosis of VTE or obstetrics with the length of stay less than or equal to 120 days, that ends during the measurement period.

15:19

For the 2022 reporting year, we removed initial population definition of “Encounter with age range, and without VTE diagnosis or obstetrical conditions” and associated definitions from the measure level, and added them to the existing VTE library so they could be shared with both VTE-1, and VTE-2 measures. As you see, both definitions “Encounter with age range, and without VTE diagnosis or obstetrical conditions” and “Admission, without VTE or obstetrical conditions” are preceded by the library name VTE.

15:59

Please note that this library name changed from VTE-ICU, to VTE for this year. Since it is just a name change, I will not repeat it in the following slides.

16:12

As we previously discussed for global changes, “day of” is added to the global.inpatient encounter definition to prevent issues with the time zone offset during data submission and measure execution.

So the VTE initial population logic is looking for an inpatient encounter that does not have an encounter diagnosis of obstetrics, VTE, or obstetrics VTE and the patient is 18 years or older with a length of stay of 120 days or less and the encounter relevantPeriod ends during the measurement period.

16:50

Once the patient qualifies for the initial population, the process moves to the denominator.

16:56

Although VTE-1 and 2 have the same IP, the denominator changes between the two measures. In VTE-1, the denominator includes all patients in the initial population. In VTE-2, the denominator is refined to include only direct admits or transfers to the ICU anytime during the hospital stay.

So now that we have contrasted VTE-1 and VTE-2, let's dive deeper into VTE-1.

17:28

The denominator reads initial population. Because the denominator doesn't change from the initial population, we can simply call in "initial population" as the definition.

No changes were made to the denominator for the 2022 reporting year.

17:46

Moving on to denominator exclusions, the union operator allows for any one of these conditions to meet the denominator exclusions.

No changes have been made to this definition for 2022.

18:01

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.

No changes here for 2022.

18:20

Looking at the second exclusion, "Encounter with ICU location stay one day or more." No changes for 2022 were made here. We use the attributes of .facilitylocations.code and .locationPeriod to identify an ICU stay.

This logic is looking for a qualifying encounter that has an ICU stay of greater than or equal to one day, where the ICU location starts the day of or the day after the encounter starts.

18:55

Now we look at the third exclusion, encounter with the principal diagnosis of mental disorders or stroke. We did not make any changes to this definition for the 2022 reporting year.

We use the encounter diagnosis components of .rank and .code to identify a principal diagnosis of mental disorder, hemorrhagic stroke or ischemic stroke.

19:23

Moving to the fourth exclusion, "Encounter with principal procedure of SCIP VTE Selected Surgery". SCIP refers to Surgical Care Improvement Project, which is a discontinued measure set.

This logic excludes any principal procedure defined as a SCIP VTE selected surgery.

19:44

Note that global.NormalizeInterval function is applied to the procedure performed data type here.

We've talked about this new function earlier.

The procedure performed data type has both `relevantDatetime`, and `relevantPeriod` timing attributes, so we use the `global.normalizeInterval` function to access whichever timing element is available in the patient data submission file for the time comparison.

20:12

In the fifth exclusion, “Encounter with intervention comfort measures from day of start of hospitalization to day after admission”, the only change for 2022 is adding `global.normalizeInterval` function, because the intervention performed data type has both `relevantDatetime` and `relevantPeriod` timing attributes.

As a refresher, the logic uses `coalesce` to look for 2 time-stamps.

First, we look for either `relevantDatetime`, or `relevantPeriod` from the intervention performed data type. If neither exist, then the logic looks for `authorDatetime`, which represents when the comfort measure was documented. Then we're looking for comfort measures to occur any time from `DayofStartofHospitalization` to day after admission timeframes.

21:06

The last exclusion is “Encounter with intervention Comfort measures on the day of or day after procedure”.

The logic is looking for comfort measures to be performed or documented by the day after surgery end date for surgeries that end the day of, or the day after hospital admission. The only change we made to this definition for the 2022 reporting year is applying the `global.normalizeInterval` function.

21:36

Moving on to the numerator.

21:39

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 1 and 2 in yellow here.

21:57

Conditions 3, 4, and 5 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.

22:11

Let's take a look at each statement one at a time.

Looking at the first condition of “Encounter with VTE prophylaxis received from the day of start of hospitalization to the day after admission or procedure”.

The first change for the 2022 version is that we've removed Betrixaban from the qualifying VTE Prophylaxis medication list and renamed the value set as Rivaroxaban for VTE prophylaxis. This update is due to discontinuation of the drug.

22:47

Another change for 2022 is applying `global.normalizeInterval` function to the `VTEProphylaxis` and `anesthesiaprocedure` timing attributes because of the data types of medication administered device supplied and procedure performed.

So by using union, the measure is looking for mechanical or pharmacological VTE prophylaxis given anytime from day of start of the hospitalization to the day after admission or starts during the day of

or the day after the end of the procedure and that the procedure ends one calendar day after the start of the encounter.

23:31

Within the second condition, we have three definitions.

There are no changes to this definition for 2022, with the exception of applying the `global.normalizeInterval` function.

23:45

First, the measure is looking for medication oral factor Xa inhibitor administered on the day of or day after admission or procedure.

The changes for 2022 is adding `global.normalizeInterval` function to `FactorXamedication` and `AnesthesiaProcedure` timing attributes.

24:09

Next, we look for patients with history of VTE or history of atrial fibrillation or current diagnosis of Afib.

No changes were made for 2022 reporting year.

24:24

And last, we're evaluating if a hip replacement surgery or knee replacement surgery was performed on or before the end of the encounter. The only changes for 2022 here is adding `global.normalizeInterval` function to the `hipkneeprocedure` timing attributes.

24:43

Moving into the third numerator condition, we transitioned the focus to patients who have a documented reason for no VTE prophylaxis. This condition of low risk for VTE or anticoagulant administered unions 2 definitions using 2 timing conditions- from the day of start of hospitalization, to day after admission, and day of or day after procedure.

In the definition, "Low risk indicator for VTE", the logic is evaluating if the patient is low risk for VTE through an assessment, a lab test, or because the patient is currently on anticoagulant for VTE.

25:27

As a refresher, the `LowRiskDatetime` variable is used as a time-stamp placeholder to represent an assessment that the patient is a low risk for VTE. The indication of a low risk for VTE can be garnered from a VTE risk assessment, an INR laboratory result greater than three, or an anticoagulant medication administered. The logic allows the timestamp from any of the three options to fill in the `LowRiskDatetime` variable to meet the condition.

26:02

There are two changes for 2022.

`Global EarliestOf` function and `global NormalizeInterval` function are used here.

As we just previously discussed, the `EarliestOf` function returns the starting point if the interval has a starting boundary specified. Otherwise, it returns the ending point of the period. Since assessment performed data type has both `relevantDatetime` and `relevantPeriod` timing attributes in this definition, `global.EarliestOf` function will first capture either `relevantDatetime` or `relevantPeriod` and then use either start of interval or end of interval, whichever is available for assessment datetime.

26:46

Similarly, `AnticoagulantMedication` timing attribute selection is using `global.NormalizeInterval` function to get an interval based upon either the `AnticoagulantMedication`, `relevantDatetime`, or `relevantPeriod`.

27:03

Moving to the fourth numerator condition, the “No VTE Prophylaxis Due to Medical Reason”. A clinician needs to address a medical reason for why pharmacological and mechanical VTE prophylaxis was not done. So we use intersect to satisfy both conditions to pass the numerator.

There are no concept changes for 2022 year here.

27:28

We union the 2 timing conditions, from Day of start of hospitalization, to Day after Admission, and day of or day after procedure where any will satisfy the numerator.

27:42

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.

Again, we've removed Betrixaban from the qualifying VTE Prophylaxis Medication list.

We use the negation rationale attribute, which looks for a medical reason why VTE prophylaxis was not done.

We use the authordatetime attribute, so the documentation must occur during the “From day of start of hospitalization to day after admission”, or on the day after procedure.

28:23

Now, let's talk about the mechanical VTE prophylaxis. The logic is looking for a medical reason why any of the devices were not applied or ordered.

No change was made to these definitions for this year.

28:39

Moving on to the next set of definitions, we continue to use the same medication and device, not done concept.

28:46

However, this has to be documented on the day of or the day after procedure, and that the procedure must end one day after hospital admission.

The only change is that global.NormalizeInterval function is applied to the AnesthesiaProcedure timing attributes.

29:07

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.

29:19

But if you notice the same two timing conditions are repeated, from day of start of hospitalization to day after admission, and day of or day after procedure.

Again, the only change made this year is that global.NormalizeInterval function is applied to the anesthesia procedure timing attributes.

29:41

One thing I wanted to call out here is that either medication OR device refusal will pass the numerator, unlike the medical reason, which requires both. No changes made to these definitions for the 2022 reporting year.

29:57

Okay, we have finished the VTE-1 Measure.

30:03

So let's move on to VTE-2 Intensive Care Unit VTE Prophylaxis. Since we already know that VTE-1 and VTE-2 have the same initial population, we can go directly to the VTE-2 denominator population.

30:20

If you recall, the definitions in the yellow box are from the initial population, which carry into the denominator to build the Qualifying Encounter.

We already covered the initial population, so we will jump right to the denominator.

30:34

For VTE-2, the denominator is refined to include only direct admits to the ICU or transfers to the ICU anytime during the hospital stay. We use the attributes facility locations and code to specify intensive care unit and the ICU stay must be during the Qualifying Encounter period.

31:00

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.

Please note, we have made no concept changes to the exclusions for 2022 reporting year.

31:19

In the first exclusion we use Encounter with ICU Location to start the expression. Then we use the global function lengthindays to calculate the hospital length of stay. If the inpatient hospital stay is less than two days, it will be excluded.

Again, note there are no changes for 2022.

31:40

The second exclusion is the "First ICU Stay with Principal Procedure of SCIP VTE selected surgery".

The SCIP procedure must end on the day of, or the day after, the start of the first initial ICU visit.

The only change made to this year is that global.NormalizeInterval function is applied to the SCIP procedure timing attributes.

As a refresher, these three functions together define the start date and time of the first ICU.

32:17

Moving on to the next exclusion, you may recall that we've already reviewed Intervention Comfort Measures in VTE-1.

32:25

However, the timing conditions here for VTE-2 use a function to look for comfort measures to occur from the date of start of hospitalization to the day after the first ICU admission or transfer. The only changes for 2022 is adding global.NormalizeInterval function to the intervention performed timing attributes.

32:51

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 1 calendar day after the start of the first ICU. And this year, the global.NormalizeInterval function is applied to anesthesia procedure and intervention performed for comfort measure timing attributes.

33:24

Now, moving on to the VTE-2 numerator. By using Union, a patient meeting any one of these 5 conditions will be in the numerator.

Please note, we have not made any clinical concept changes for the 2022 reporting year.

33:41

Here is a comparison of VTE-1 and VTE-2. We use the same clinical concepts. However, VTE-2 uses the first ICU stay for timing constraints, VTE-1 uses the hospitalization stay.

So for the remainder of the presentation, we will only focus on the timing constraints.

34:04

In the first numerator condition, there are two different timing conditions that are unioned together. So either timing condition will satisfy the numerator.

The first timing condition is looking for VTE prophylaxis to occur on the day of, or the day after, the start of the first ICU.

The second condition is looking for VTE prophylaxis to start on the day of or day after the end of the procedure and that the procedure ends 1 calendar day after the start of the first ICU.

34:35

And this year, the global.NormalizeInterval function is applied to anesthesia procedure and VTE Prophylaxis timing attributes.

And just like in VTE-1, the change for the 2022 version is that we've renamed the value set as "Rivaroxaban for VTE Prophylaxis" to reflect the removal of Betrixaban.

35:04

Within the 2nd numerator condition we have 3 definitions.

35:08

We'll begin with "Medication oral factor Xa inhibitor administered on day of or day after first ICU stay or procedure".

In this logic we're looking for the oral factor Xa inhibitor to be administered on the day of or the day after, the first ICU stay, or administered the day of or the day after procedure when the procedure ends one day after the day of the start of the first ICU. The changes this year are the global.Normalize

Interval function is applied to anesthesia procedure, and factor Xa medication timing attributes.

35:47

The second definition in this numerator condition is "Encounter with prior or present diagnosis of atrial fibrillation or VTE".

This is the exact same logic as VTE-1, which is looking for patients with history of VTE, or history of A-fib or current diagnosis of A-fib. No changes for 2022.

36:11

The 3rd condition in the 2nd numerator condition is "Encounter with prior or present procedure of hip or knee replacement surgery". This is the exact same logic as VTE-1, which is looking for hip replacement surgery, or knee replacement surgery performed on or before the end of the encounter. The only change is the NormalizeInterval function is applied to the hip knee procedure timing attributes.

36:40

Moving into the 3rd numerator condition same as VTE-1.

We transition the focus to patients who have a reason documented for no VTE prophylaxis.

36:51

This definition of low risk for VTE or anticoagulant administered unions 2 definitions, which use 2 timing conditions.

37:00

First, from the start of hospitalization to the day after the first ICU stay, and second, day of or day after procedure. Either one of these timing conditions will satisfy the numerator.

In the first timing condition, we use Interval to define the time period between the start of the hospitalization to the first calendar day after the first ICU starts.

So the low risk for VTE assessment, or anticoagulant administrations should occur anytime, from day of start of hospitalization and the day after the first ICU stay.

37:38

Same as VTE-1, for 2022 year the global.EarliestOf function in global.NormalizeInterval functions are used here in the second timing condition, any of the low risk for VTE assessments or anticoagulant administrations, should occur on the day of or day after procedure.

38:03

And again, that procedure ends one day after the day of start of the first ICU. The change this year is the global.NormalizeInterval function is applied to the anesthesia procedure timing attributes.

38:20

Moving to the 4th numerator condition, “No VTE prophylaxis due to medical reason”. We use the same clinical concept as VTE-1, where we are looking for a medical reason for why both pharmacologic and mechanical VTE prophylaxis were not done.

So VTE prophylaxis medication not done and device not done should be documented any time between the start of the hospitalization and the day after the first ICU stay. Or both of them should be documented on the day of or day after procedure. There are no clinical concept changes for 2022, the only technical change is adding global. NormalizeInterval function to the anesthesia procedure timing attributes as we presented in the previous slide.

39:11

Okay in the last numerator condition, we use the same timing conditions again, but here we are looking for documentation of patient refusal of either medication or device.

For 2022 reporting, year, the same change was made with the global. NormalizeInterval function being added to the anesthesia procedure timing attribute.

39:37

Okay, with the denominator exception, it's important to note the difference between an exclusion and exception. Simply put it differentiates in the way it processes.

An exclusion is processed before the numerator. So a patient is excluded and never in the numerator. An exception is processed after the numerator.

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 first ICU stay less than one day will be excluded from the measure.

40:14

Please note no changes to the exceptions for the 2022 reporting year.

40:19

Okay, we have finished VTE-1 and VTE-2. To download and view the 2021 [correct in transcript – 2022] eCQM flows which help review the logic process flow, visit the eCQI Resource Center at the link indicated on this slide.

40:36

I will now turn this back to Karen to review frequently asked questions. Karen?

40:44

Thank you, Marilyn. Next slide, please. Before moving on to the live Q&A, we want to share a few frequently asked questions.

40:56

The first is: Does a prior history of DVT and or pulmonary embolism exclude the patient from VTE1 or VTE2?

And the answer is: no exclusion for patients with a history of DVT or PE. 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.

41:29

Next slide, please.

Another frequently asked question, is about psychiatric patients. And the question is: Are psychiatric patients excluded from VTE1 and VTE2?

VTE-1 excludes patients with an ICD-10-CM principal diagnosis code of mental disorders. And the value set for mental disorders has been expanded to include additional codes for substance abuse and suicide.

This exclusion is for VTE-1 only and does not apply to VTE-2 ICU admissions and transfers.

42:13

Next slide please.

42:16

And finally, we have this question. Can a patient be included in both VTE-1 and VTE-2 during the same admission? And if so, under what circumstances?

So, the short answer to this question is that there are instances where a patient can be included in both VTE-1 and VTE-2 during the same admission.

And we give you several examples here in this slide. And in the last example, you will see when the patient is included in both measures.

So, it really depends on the timing as well as the location of the admission or transfer of the patient.

43:05

Susan Funk, I'll turn it over to you now.

43:10

Great, thanks Karen.

We've included a resource slide here to direct you to the eCQI Resource Center, the Pioneers in Quality website, the ONC Issue Tracking System and the Joint Commission's previous webinars area on our website. Next slide, please.

43:30

We will now move into the live Q&A segment of the session. Please submit questions via the question pane. Click on the question mark icon in the audience toolbar, A panel will open for you to type and submit your question, Include slide reference number, if possible.

All questions not answered verbally during the live event, will be addressed in a written follow-up Q&A document. The follow up document will be posted to the Joint Commission website several weeks after the live event, And with that, I'll turn it over to Susan Yendro to begin to moderate the questions that we've received so far.

44:05

Susan, Thank you so much.

44:08

So our first question this morning comes from Margaret, and she asks, on slide 21, ICU stay greater than or equal to one days? Is this 24-hour or day one? This is 24 hours or date-to-date, which would be a time of one minute to 24 hours?

And the answer is, the ICU stay calculation is based on calendar day, not by hour or minute.

44:44

And I'll be alternating reading off the questions and answers with Marilyn. So, Marilyn, you want to take the next one?

44:51

Sure, thanks, Susan. Our next question comes from Chelsea.

If a patient is placed on comfort measures in the ED, and the resuscitation status is continued during the hospital stay, would this patient be excluded appropriately? Or would someone need to put in a new order during the inpatient hospitalization for this patient to be appropriately excluded?

And the answer is yes, since the comfort measure is in the ED, this patient will be excluded from the denominator by satisfying the condition of encounter with intervention comfort measures, from day of start of hospitalization to the day after admission.

45:32

Okay, our next question comes from Carol and the question is, just curious, what programming language is being used here?

Well, the answer is that this is called CQL Clinical Quality Language, and you can find more information on the eCQI Resource Center.

We've provided a link, and maybe I can ask somebody to also provide that link in the chat, but that's the ecqi.healthit.gov/CQL link.

46:09

Okay great, our next question comes from Holly.

Will these questions and answers be summarized in a document made available to attendees?

And, yes, Hollie, they will, several weeks after the session. We will post all Q&As from the webinar, the slides, and a transcript.

46:28

Okay, the next question. Day of Start of hospitalization includes the ED visit even if the inpatient start date is the next calendar day?

So the answer is yes, as long as the ED ends within one hour prior to inpatient admission.

46:52

Okay, our next question is: non ICU patients will need VTE given day of arrival or before midnight the next day or the 24 hours from arrival time?

The response is the VTE prophylaxis given on the day of arrival is at calendar day level not counted as hours. So, for example, the arrival date and time is January 1st at 5 AM the VTE prophylaxis given anytime during the day of January 1st will meet the numerator condition.

Thank you.

47:31

Okay so the next question comes from Savannah: Is nursing documentation accepted in any way, or is it solely Providers? I'm thinking it may be acceptable for nursing documentation, when patients refuse mechanical prophylaxis.

So, the answer is nursing documentation of patient refusal of VTE prophylaxis for example, SCDs is acceptable.

48:03

Okay next question comes from Cindy. Two-day length of stay, if a patient is admitted at 11 PM and discharged at 11 AM the next day, does that count as 1 or 2 days, for example, this being a 12-hour stay.

And the length of stay calculation is based on calendar day. If a patient was admitted on January 1st, at 11 PM, and discharged on January 2nd, at 11 PM, the length of stay calculation result is one day, thereby taking January 2nd minus January 1st and resulting in a one-day length of stay.

48:45

Okay, our next question is from Marie.

If a physician enters an inpatient order, and then a few days later enters another inpatient order, which order is actually counted when looking at the VTE measure?

So the answer is the measure is looking for when the patient is actually admitted to inpatient not based upon the inpatient order.

49:15

Okay, next question comes from James. Have the problems with accepting VTE diagnosis code been resolved?

It would be helpful if you could provide us a little more detail about which VTE diagnosis codes you are referring to here James, we are not totally tracking on your question.

Thank you.

49:43

All right, Thank you. Marilyn, are you seeing other questions that we're able to answer at this point?

49:52

I do not.

49:56

OK. All right. So, as we stated previously, the additional questions that have been submitted, we will get those answered in written format in a follow-up document that will be posted to the website.

50:17

So, with that, then I will hand things back over to Susan Funk.

50:25

Great. Thank you, Susan.

Susan already mentioned that we will make sure that we get responses to all of those questions in a written document that we will post on the Joint Commission webpage.

On that same note, we will have all the recording links, slides, and transcripts that can be accessed within several weeks of the live event on the Joint Commission's webpage via the link shown on this slide. Next slide, please.

50:55

And just a quick reminder that this Expert to Expert webinar series began today and it will extend into early 2022. And we'll be addressing the 2022 eCQM annual updates for VTE, and that was today's, Stroke, Perinatal Care, Emergency Department, Safe Use of Opioid Measures and there will be a new Measure Review webinar planned for the Hypo- and Hyperglycemia eQMs, as well as Joint Commission's ePC-07 measure as well. And additional information will be available at the link that's shown on this page. As each webinar is offered, so you'll be able to register and then also get the follow-up documents after those webinars are held. Next slide, please.

51:43

Next slide please. Thanks. A survey link will be e-mailed to participants tomorrow. If you qualify for CE credits, complete this survey and provide the e-mail that you used to register at the end of the online evaluation survey. When you click submit, you will be redirected to a URL from which you can print or download and save a PDF CE certificate. You will also receive an automated e-mail that includes the link to that CE certificate. Next slide.

52:14

Thank you to all of our presenters today, and thank you to all of you who listened in. Have a great day.