

Pioneers in Quality™

Expert to Expert Series:

VTE-1 & VTE-2

9-10 am (PT)

10-11 am (MT)

11 am-12 pm (CT)

12-1 pm (ET)

February 26, 2019



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<http://www.captionedtext.com/client/event.aspx?CustomerID=1519&EventID=3919698>

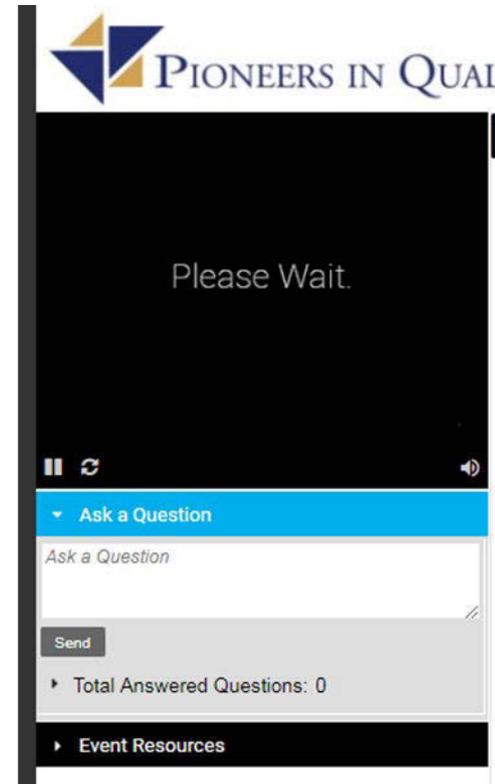
Use this passcode/event ID: 3919698

At the end of this session, participants will be able to:

- Apply concepts learned about the new Clinical Quality Language (CQL) expression language for the VTE-1 & VTE-2 eCQMs
- Identify common issues and questions regarding VTE-1 & VTE-2 eCQMs and
- Prepare to implement the CQL expression language for the 2019 eCQM reporting year (2020 data submission)

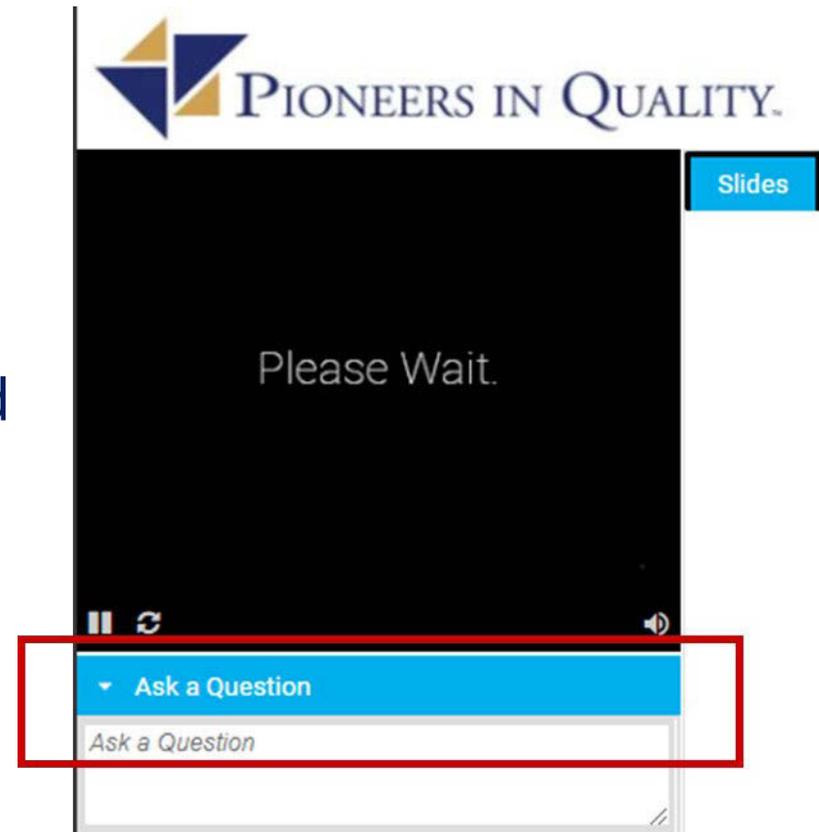
Slides are available for download now!

- To access the slides, see the Event Resources Pane
- Click the triangle to open the list of PDFs
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This program is designed to be interactive.

- All participants are connected in **listen-only mode**
- Ask questions through the Questions pane
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Pioneers in Quality™

Expert to Expert Series: VTE-1 & VTE-2



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Pioneers in Quality

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Proven Practices Webinar Series

Pioneers in Quality™ Recognition

2018 Pioneers in Quality Expert and Solution Contributors

2018 Proven Practices Collection and Webinar Series

Four hospitals and/or health systems [were recognized](#) as 2018 Pioneers in Quality™ Expert Contributors for their efforts to advance the evolution and utilization of electronic clinical quality measures (eCQMs). These organizations presented during the Joint Commission's Pioneers in Quality™ 2018 eCQM Proven Practices webinar series and are featured within the 2018 Proven Practice Collection along with the five Experts Contributors recognized in 2017. You can access the 2018 [Proven Practices Collection here](#).

Pioneers in Quality: eCQM "Expert to Expert" Series Series Information/Session Replays

Promotional Video

In March, the webinar recording and slide deck will be accessible on The Joint Commission website via the Expert to Expert landing page (https://www.jointcommission.org/piq_expert_to_expert_series/).

As follow-up items are posted, an email will be sent to all individuals that registered.

This webinar is approved for 1.0 Continuing Education Credit for:

- Accreditation Council for Continuing Medical Education (ACCME)
- American Nurses Credentialing Center (ANCC)
- American College of Healthcare Executives (ACHE)
- California Board of Registered Nursing
- International Association for Continuing Education and Training (IACET) (.1 credit)
- Certified Joint Commission Professional (CJCP) Recertification Credit

Continuing Education credits are available for the live webinar presentation only. Credits will not be available for webinar replays.

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- 1) Individually registered for the webinar.
- 2) Listened to the live webinar in its entirety. Only those listening live during the session are eligible to receive credit*.
- 3) Completed a post-program evaluation/attestation**.

* If you are listening with colleagues and did not use your own email address to join, you can still claim CE credit if you meet these three criteria. An automated email after this session will provide information how to access the survey.

** A program evaluation/attestation survey link will be sent to participants' emails after the webinar. For those completing the evaluation - *printable certificates will be emailed 2 weeks after the session*; all participant CE certificates will be sent at the same time.

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:

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Yanyan Hu, MS

VTE 1-Venous Thromboembolism Prophylaxis
(CMS108)

VTE 2-Intensive Care Unit
Venous Thromboembolism Prophylaxis
(CMS190)

February 26, 2019



Introduction

Venous Thromboembolism Prophylaxis



- Hospitalized patients at high-risk for VTE may develop an asymptomatic deep vein thrombosis (DVT), and die from pulmonary embolism (PE) even before the diagnosis is suspected. The majority of fatal events occur as sudden or abrupt death, underscoring the importance of prevention as the most critical action step for reducing death from PE (Geerts, et al, 2008).
- An analysis of data from the National Hospital Discharge Survey (NHDS) determined that $\approx 547,596$ hospitalizations with VTE occur each year in patients ≥ 18 years of age in the United States (CDC, 2012).
- Amongst hospitalized patients, critical care admission is the strongest risk factor for VTE (Achaibar and Waldmann, 2015).
- System-wide alerts (computer or human alerts) increase the rate of VTE prophylaxis administration (Kahn, et al, 2018).

Introduction

Venous Thromboembolism Prophylaxis



- eCQM VTE-1 and VTE-2 assess the prophylaxis, or prevention, of deep vein thrombosis and pulmonary emboli. VTE begins as a blood clot in the proximal leg veins that can break free and travel into the pulmonary arteries blocking the pulmonary circulation of oxygen rich blood.
- These measures capture the proportion of patients who receive pharmacological or mechanical VTE prophylaxis, or have documentation of why no VTE prophylaxis was given.
- Patients not at risk for VTE or low risk are included in the numerator.

Mia Nievera, MSN, RN

CQL Basics Overview

Electronic Clinical Quality Measures (eCQM)

Evolving eCQM Standards



	Metadata	Data Model	Logic
Calendar Year 2018	HQMF (Metadata, Population Structure)	Quality Data Model	
Calendar Year 2019	HQMF (Metadata, Population Structure)	Quality Data Model	Clinical Quality Language

Population Criteria

▲ **Initial Population**

TJC."Encounter with Principal Diagnosis and Age"

▲ **Denominator**

TJC."Ischemic Stroke Encounter"

▲ **Denominator Exclusions**

TJC."Ischemic Stroke Encounters with Discharge Status"
union TJC."Comfort Measures during Hospitalization"

▲ **Numerator**

TJC."Ischemic Stroke Encounter" IschemicStrokeEncounter
with "Antithrombotic Therapy at Discharge" DischargeAntithrombotic
such that DischargeAntithrombotic.authorDatetime during IschemicStrokeEncounter.relevantPeriod

Definitions

▲ **Antithrombotic Not Given at Discharge**

["Medication, Not Discharged": "Antithrombotic Therapy"] NoAntithromboticDischarge
where NoAntithromboticDischarge.negationRationale in "Medical Reason"
or NoAntithromboticDischarge.negationRationale in "Patient Refusal"

▲ **Antithrombotic Therapy at Discharge**

["Medication, Discharge": "Antithrombotic Therapy"]

▲ **Denominator**

TJC."Ischemic Stroke Encounter"

▲ **Denominator Exceptions**

TJC."Ischemic Stroke Encounter" IschemicStrokeEncounter
with "Antithrombotic Not Given at Discharge" NoDischargeAntithrombotic
such that NoDischargeAntithrombotic.authorDatetime during IschemicStrokeEncounter.relevantPeriod

Functions

▲ **Global.CalendarAgeInYearsAt(BirthDateTime DateTime, AsOf DateTime)**

years between ToDate(BirthDateTime)and ToDate(AsOf)

▲ **Global.Hospitalization(Encounter "Encounter, Performed")**

(singleton from (["Encounter, Performed": "Emergency Department Visit"] EDVisit
where EDVisit.relevantPeriod ends 1 hour or less on or before start of Encounter.relevantPeriod
)) X
return if X is null then Encounter.relevantPeriod else Interval[start of X.relevantPeriod, end of Encounter.relevantPeriod]

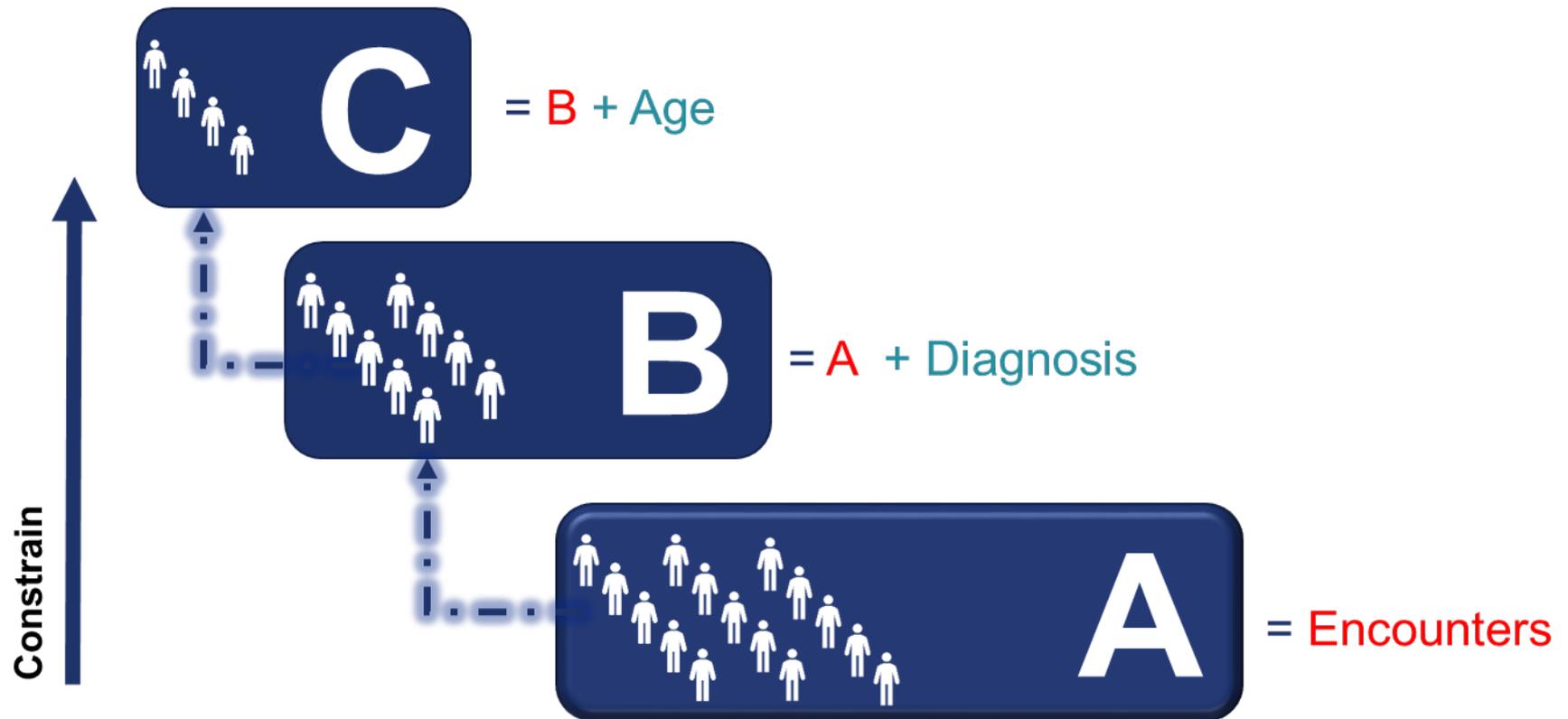
Building
Blocks



CQL Definition

Example of Generic Population Criteria

Initial Population = C



CQL Definition

Initial Population:

TJC.Encounter with Principal Diagnosis and Age

▲ TJC.Encounter with Principal Diagnosis and Age

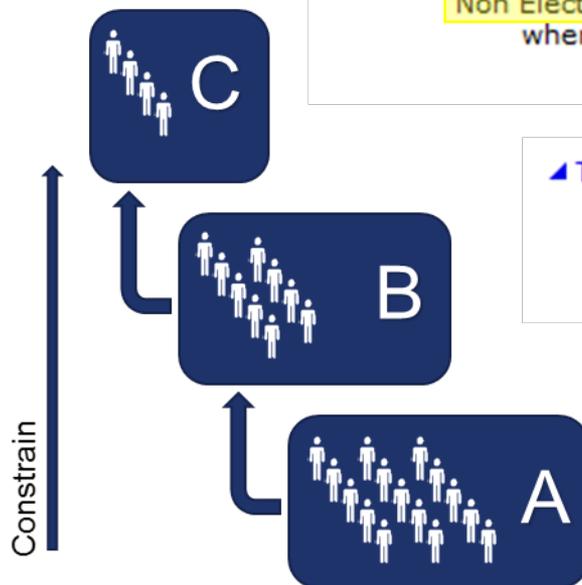
"All Stroke Encounter" AllStrokeEncounter
with ["Patient Characteristic Birthdate"] BirthDate
such that Global."CalendarAgeInYearsAt"(BirthDate.birthDatetime, start of AllStrokeEncounter.relevantPeriod) >= 18

▲ TJC.All Stroke Encounter

"Non Elective Inpatient Encounter" NonElectiveEncounter
where NonElectiveEncounter.principalDiagnosis in "Hemorrhagic Stroke"
or NonElectiveEncounter.principalDiagnosis in "Ischemic Stroke"

▲ TJC.Non Elective Inpatient Encounter

["Encounter, Performed": "Non-Elective Inpatient Encounter"] NonElectiveEncounter
where Global."LengthInDays"(NonElectiveEncounter.relevantPeriod) <= 120
and NonElectiveEncounter.relevantPeriod ends during "Measurement Period"



Definition Anatomy

Definitions are made up of:

Library Alias

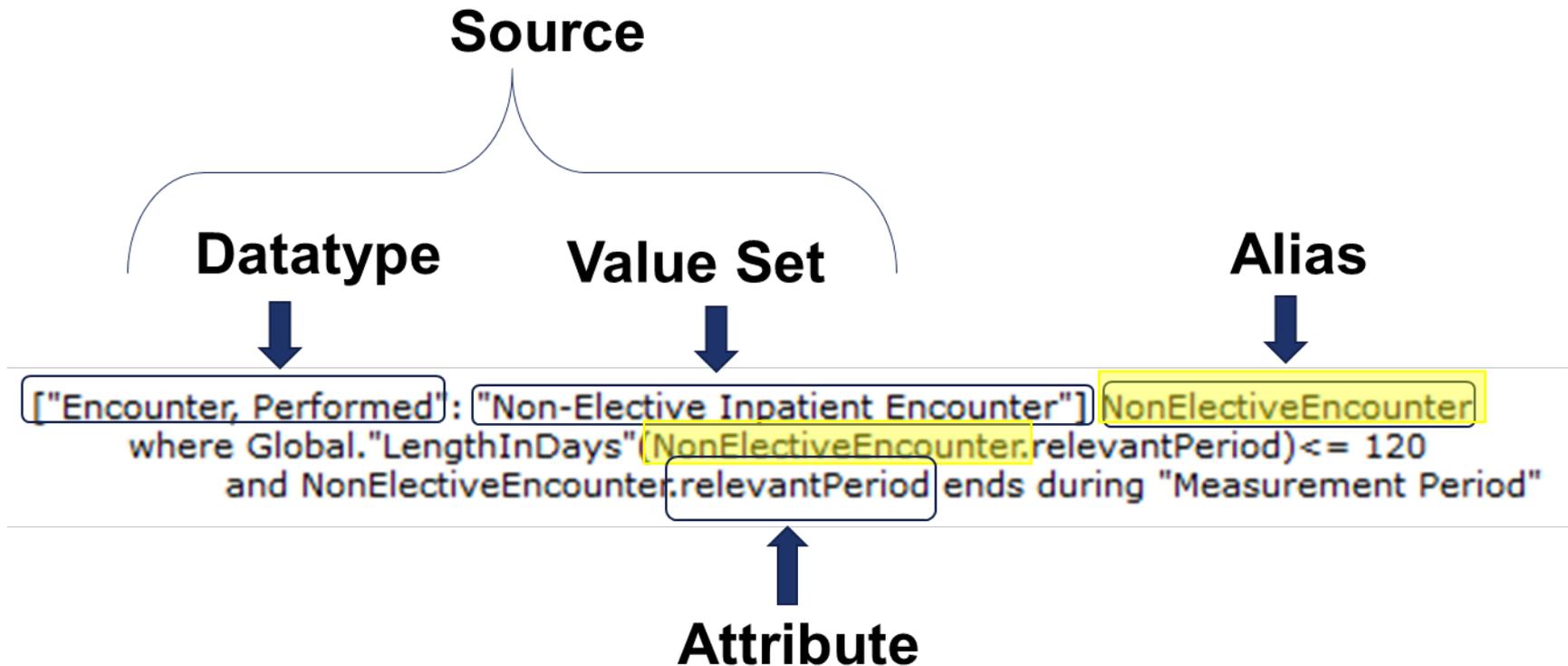
Name

TJC.Non Elective Inpatient Encounter

```
["Encounter, Performed": "Non-Elective Inpatient Encounter"] NonElectiveEncounter  
where Global."LengthInDays"(NonElectiveEncounter.relevantPeriod)<= 120  
and NonElectiveEncounter.relevantPeriod ends during "Measurement Period"
```

Expression

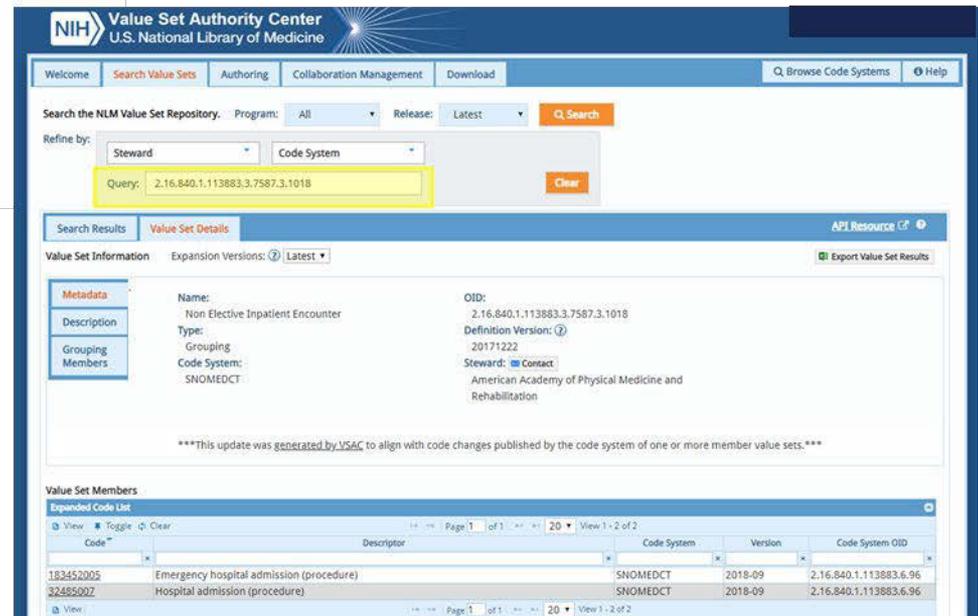
Definition Anatomy



Definition Anatomy- Value Sets

Terminology

- valueset "Antithrombotic Therapy" using "2.16.840.1.113883.3.117.1.7.1.201"
- valueset "Comfort Measures" using "1.3.6.1.4.1.33895.1.3.0.45"
- valueset "Discharge To Acute Care Facility" using "2.16.840.1.113883.3.117.1.7.1.87"
- valueset "Discharged to Health Care Facility for Hospice Care" using "2.16.840.1.113883.3.117.1.7.1.207"
- valueset "Discharged to Home for Hospice Care" using "2.16.840.1.113883.3.117.1.7.1.209"
- valueset "Emergency Department Visit" using "2.16.840.1.113883.3.117.1.7.1.292"
- valueset "Ethnicity" using "2.16.840.1.114222.4.11.837"
- valueset "Hemorrhagic Stroke" using "2.16.840.1.113883.3.117.1.7.1.212"
- valueset "Ischemic Stroke" using "2.16.840.1.113883.3.117.1.7.1.247"
- valueset "Left Against Medical Advice" using "2.16.840.1.113883.3.117.1.7.1.308"
- valueset "Medical Reason" using "2.16.840.1.113883.3.117.1.7.1.473"
- valueset "Non-Elective Inpatient Encounter" using "2.16.840.1.113883.3.117.1.7.1.424"
- valueset "ONC Administrative Sex" using "2.16.840.1.113762.1.4.1"
- valueset "Patient Expired" using "2.16.840.1.113883.3.117.1.7.1.309"
- valueset "Patient Refusal" using "2.16.840.1.113883.3.117.1.7.1.93"
- valueset "Payer" using "2.16.840.1.114222.4.11.3591"
- valueset "Race" using "2.16.840.1.114222.4.11.836"



The screenshot displays the NIH Value Set Authority Center interface. The search query is "2.16.840.1.113883.3.7587.3.1018". The search results show the following details:

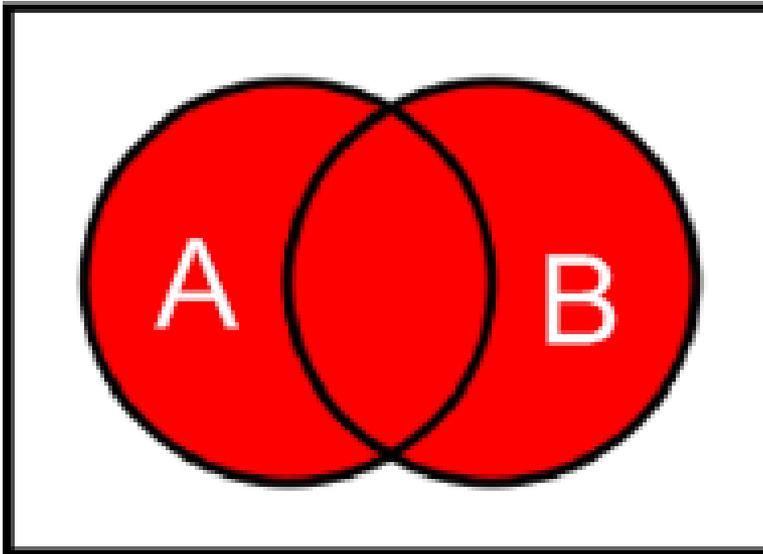
Value Set Information

- Name: Non Elective Inpatient Encounter
- Type: Grouping
- Code System: SNOMEDCT
- OID: 2.16.840.1.113883.3.7587.3.1018
- Definition Version: 20171222
- Steward: American Academy of Physical Medicine and Rehabilitation

This update was generated by VSAC to align with code changes published by the code system of one or more member value sets.

Value Set Members

Code	Descriptor	Code System	Version	Code System OID
183452005	Emergency hospital admission (procedure)	SNOMEDCT	2018-09	2.16.840.1.113883.6.96
32485002	Hospital admission (procedure)	SNOMEDCT	2018-09	2.16.840.1.113883.6.96



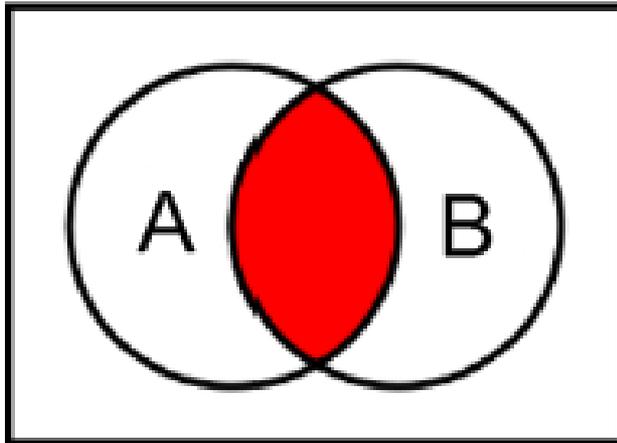
`union`

Example: Combining a list of Diagnoses

▲ History of Uterine Surgery Diagnosis

```
["Diagnosis": "Perforation of Uterus"]  
  union ["Diagnosis": "Uterine Window"]  
  union ["Diagnosis": "Uterine Rupture"]  
  union ["Diagnosis": "Cornual Ectopic Pregnancy"]
```

Common CQL Operators



intersect

Example:

List A= All inpatient encounters with age ≥ 18

List B= All encounters with a CBC level

Result of intersection=

a list of any inpatient encounters with age ≥ 18
and a CBC level

Initial Population - VTE-1 and VTE-2

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: "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions"

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 "Measurement Period"

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")))) intersect (Global."Inpatient Encounter" InpatientEncounter without (["Diagnosis": "Obstetrics"] union ["Diagnosis": "Venous Thromboembolism"] union ["Diagnosis": "Obstetrics VTE"]) Diagnosis such that Diagnosis.prevalencePeriod starts during Global."Hospitalization"(InpatientEncounter))

Initial Population - VTE-1 and VTE-2

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: "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions"

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 "Measurement Period"

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")))) intersect (Global."Inpatient Encounter" InpatientEncounter without (["Diagnosis": "Obstetrics"] union ["Diagnosis": "Venous Thromboembolism"] union ["Diagnosis": "Obstetrics VTE"]) Diagnosis such that Diagnosis.prevalencePeriod starts during Global."Hospitalization"(InpatientEncounter))

Initial Population - VTE-1 and VTE-2

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: "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions"

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 "Measurement Period"

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")))) intersect (Global."Inpatient Encounter" **InpatientEncounter** without (["Diagnosis": "Obstetrics"] union ["Diagnosis": "Venous Thromboembolism"] union ["Diagnosis": "Obstetrics VTE"]) Diagnosis such that Diagnosis.prevalencePeriod starts during Global."Hospitalization"(**InpatientEncounter**)

Initial Population - VTE-1 and VTE-2

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: "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions"

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 "Measurement Period"

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""))** intersect (Global."Inpatient Encounter" InpatientEncounter without (["Diagnosis": "Obstetrics"] union ["Diagnosis": "Venous Thromboembolism"] union ["Diagnosis": "Obstetrics VTE"]) Diagnosis such that Diagnosis.prevalencePeriod starts during Global."Hospitalization"(InpatientEncounter)**

Initial Population - VTE-1 and VTE-2

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: "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions"

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 "Measurement Period"

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"))))
intersect (Global."Inpatient Encounter" InpatientEncounter
without (["Diagnosis": "Obstetrics"]
union ["Diagnosis": "Venous Thromboembolism"]
union ["Diagnosis": "Obstetrics VTE"]) Diagnosis
such that Diagnosis.prevalencePeriod starts during Global."Hospitalization"(InpatientEncounter))

Initial Population - VTE-1 and VTE-2

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: "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions"

Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions

- (Global."Inpatient Encounter" InpatientEncounter with ["Patient Characteristic Birthdate"]z 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 "Measurement Period"

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")))) intersect (Global."Inpatient Encounter" InpatientEncounter without (["Diagnosis": "Obstetrics"] union ["Diagnosis": "Venous Thromboembolism"] union ["Diagnosis": "Obstetrics VTE"]) Diagnosis such that Diagnosis.prevalencePeriod starts during Global."Hospitalization"(InpatientEncounter))

Initial Population - VTE-1 and VTE-2

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: "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions"

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- (Global."Inpatient Encounter" InpatientEncounter
with ["Patient Characteristic Birthdate"]z 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 "Measurement Period"

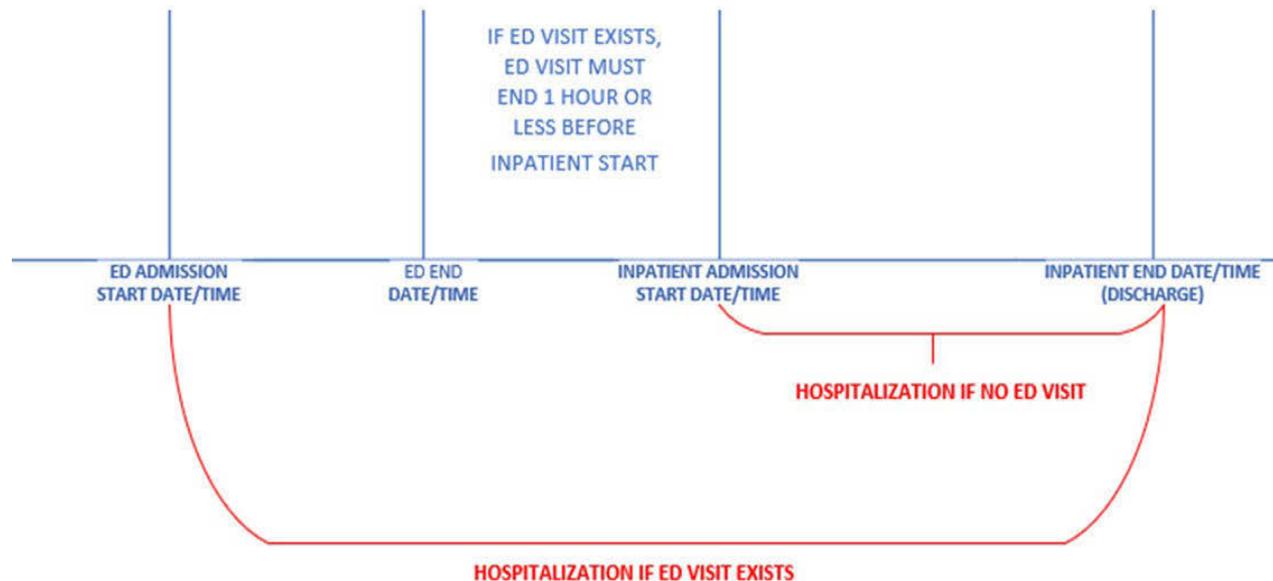
Admission Without VTE or Obstetrical Conditions

- (Global."Inpatient Encounter" InpatientEncounter
where **not** (exists (InpatientEncounter.diagnoses EncounterDiagnoses
where (EncounterDiagnoses in "Obstetrics" or EncounterDiagnoses in "Venous
Thromboembolism" or EncounterDiagnoses in "Obstetrics VTE"))))
intersect (Global."Inpatient Encounter" InpatientEncounter
without (["Diagnosis": "Obstetrics"]
union ["Diagnosis": "Venous Thromboembolism"]
union ["Diagnosis": "Obstetrics VTE"]) Diagnosis
such that Diagnosis.*prevalencePeriod starts during Global."Hospitalization"(InpatientEncounter)*)

Initial Population - VTE-1 and VTE-2

Global.Hospitalization(Encounter “Encounter, Performed”):

- (singleton from (["Encounter, Performed": "Emergency Department Visit"] EDVisit where EDVisit.relevantPeriod ends 1 hour or less on or before start of Encounter.relevantPeriod)) X return if X is null then Encounter.relevantPeriod else Interval[start of X.relevantPeriod, end of Encounter.relevantPeriod]



Initial Population - VTE-1 and VTE-2

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: "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions"

Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions

- (Global."Inpatient Encounter" InpatientEncounter with ["Patient Characteristic Birthdate"]z 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 "Measurement Period"

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")))) intersect (Global."Inpatient Encounter" InpatientEncounter without (["Diagnosis": "Obstetrics"] union ["Diagnosis": "Venous Thromboembolism"] union ["Diagnosis": "Obstetrics VTE"]) Diagnosis such that Diagnosis.*prevalencePeriod starts during Global."Hospitalization"(InpatientEncounter)*))

Initial Population - VTE-1 and VTE-2

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: "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions"

Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions

- (Global."Inpatient Encounter" InpatientEncounter with ["Patient Characteristic Birthdate"]z 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 "Measurement Period"

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"))))

intersect (Global."Inpatient Encounter" InpatientEncounter without (["Diagnosis": "Obstetrics"] union ["Diagnosis": "Venous Thromboembolism"] union ["Diagnosis": "Obstetrics VTE"]) Diagnosis such that Diagnosis.prevalencePeriod starts during Global."Hospitalization"(InpatientEncounter))

Initial Population - VTE-1 and VTE-2

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: "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions"

Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions

- (Global."Inpatient Encounter" InpatientEncounter
with ["Patient Characteristic Birthdate"]z 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 "Measurement Period"

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"))))
intersect (Global."Inpatient Encounter" InpatientEncounter
without (["Diagnosis": "Obstetrics"]
union ["Diagnosis": "Venous Thromboembolism"]
union ["Diagnosis": "Obstetrics VTE"]) Diagnosis
such that Diagnosis.prevalencePeriod starts during Global."Hospitalization"(InpatientEncounter)

Initial Population - VTE-1 and VTE-2

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: "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions"

Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions

- (Global."Inpatient Encounter" InpatientEncounter
with ["Patient Characteristic Birthdate"]z 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 "Measurement Period"

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"))))
intersect (Global."Inpatient Encounter" InpatientEncounter
without (["Diagnosis": "Obstetrics"]
union ["Diagnosis": "Venous Thromboembolism"]
union ["Diagnosis": "Obstetrics VTE"]) Diagnosis
such that Diagnosis.prevalencePeriod starts during Global."Hospitalization"(InpatientEncounter))

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

Denominator – VTE-1

All patients in the initial population

Denominator:

"Initial Population"

Initial Population

- "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions"

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 "Measurement Period"

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"))) intersect (Global."Inpatient Encounter" InpatientEncounter without (["Diagnosis": "Obstetrics"] union ["Diagnosis": "Venous Thromboembolism"] union ["Diagnosis": "Obstetrics VTE"]) Diagnosis such that Diagnosis.prevalencePeriod starts during Global."Hospitalization"(InpatientEncounter))

Denominator Exclusions – VTE-1

Patients who have a length of stay less than 2 days

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

Patients with a principal diagnosis of mental disorders or stroke

Patients with a principal procedure of Surgical Care Improvement Project (SCIP) VTE selected surgeries

Patients with comfort measures documented anytime between arrival and the day after hospital admission

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 "Intervention Comfort Measures on Day of or Day After Start of Hospitalization"

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

Denominator Exclusions – VTE-1

Patients who have a length of stay less than 2 days

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

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Patients with comfort measures documented anytime between arrival and the day after hospital admission

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 "Intervention Comfort Measures on Day of or Day After Start of Hospitalization"
- union "Intervention Comfort Measures on Day of or Day After Procedure"

Encounter Less Than 2 Days:

- **"Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter**
where Global."LengthInDays"(QualifyingEncounter.relevantPeriod)< 2

Denominator Exclusions – VTE-1

Patients who have a length of stay less than 2 days

- 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
- Patients with a principal diagnosis of mental disorders or stroke
- Patients with a principal procedure of Surgical Care Improvement Project (SCIP) VTE selected surgeries
- Patients with comfort measures documented anytime between arrival and the day after hospital admission
- 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 "Intervention Comfort Measures on Day of or Day After Start of Hospitalization"
- union "Intervention Comfort Measures on Day of or Day After Procedure"

Encounter Less Than 2 Days:

- "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" Qualifying Encounter where `Global."LengthInDays"(QualifyingEncounter.relevantPeriod) < 2`

Denominator Exclusions – VTE-1

Patients who have a length of stay less than 2 days

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

Patients with a principal diagnosis of mental disorders or stroke

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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 "Intervention Comfort Measures on Day of or Day After Start of Hospitalization"
- union "Intervention Comfort Measures on Day of or Day After Procedure"

Encounter With ICU Location Stay 1 Day or More

- "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 VTEICU."CalendarDayOfOrDayAfter" (start of QualifyingEncounter.relevantPeriod))

Denominator Exclusions – VTE-1



Patients who have a length of stay less than 2 days

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

Patients with a principal diagnosis of mental disorders or stroke

Patients with a principal procedure of Surgical Care Improvement Project (SCIP) VTE selected surgeries

Patients with comfort measures documented anytime between arrival and the day after hospital admission

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 "Intervention Comfort Measures on Day of or Day After Start of Hospitalization"
- union "Intervention Comfort Measures on Day of or Day After Procedure"

Encounter With ICU Location Stay 1 Day or More

- "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 **VTEICU."CalendarDayOfOrDayAfter"** (start of QualifyingEncounter.relevantPeriod))

– VTE 1

Denominator Exclusions – VTE-1



Patients who have a length of stay less than 2 days

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

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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

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- "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 "Intervention Comfort Measures on Day of or Day After Start of Hospitalization"
- union "Intervention Comfort Measures on Day of or Day After Procedure"

Encounter With ICU Location Stay 1 Day or More

- "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 VTEICU."CalendarDayOfOrDayAfter"** (**start of QualifyingEncounter.relevantPeriod**))

Denominator Exclusions – VTE-1

Patients who have a length of stay less than 2 days

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

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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 "Intervention Comfort Measures on Day of or Day After Start of Hospitalization"
- union "Intervention Comfort Measures on Day of or Day After Procedure"

Encounter With Principal Diagnosis of Mental Disorder or Stroke

- "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" Qualifying Encounter where Qualifying Encounter **principalDiagnosis in "Mental Health Diagnoses"** or Qualifying Encounter **principalDiagnosis in "Hemorrhagic Stroke"** or Qualifying Encounter **principalDiagnosis in "Ischemic Stroke"**

Denominator Exclusions – VTE-1

Patients who have a length of stay less than 2 days

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

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- "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 "Intervention Comfort Measures on Day of or Day After Start of Hospitalization"
- union "Intervention Comfort Measures on Day of or Day After Procedure"

Encounter With Principal Procedure of SCIP VTE Selected Surgery

- "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" Qualifying Encounter with ("SCIP VTE Selected Surgery" Procedure where Procedure.ordinality in "Principal") Selected Procedure such that SelectedProcedure.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

Patients who have a length of stay less than 2 days

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

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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 "Intervention Comfort Measures on Day of or Day After Start of Hospitalization"
- union "Intervention Comfort Measures on Day of or Day After Procedure"

Encounter With Principal Procedure of SCIP VTE Selected Surgery

- "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter with ("SCIP VTE Selected Surgery" Procedure where Procedure.**ordinality in "Principal"**) SelectedProcedure such that SelectedProcedure.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

Patients who have a length of stay less than 2 days

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

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- "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 "Intervention Comfort Measures on Day of or Day After Start of Hospitalization"
- union "Intervention Comfort Measures on Day of or Day After Procedure"

Intervention Comfort Measures on Day of or Day After Start of Hospitalization

- "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter with "**Intervention Comfort Measures**" ComfortMeasures such that Coalesce(start of ComfortMeasures.relevantPeriod, ComfortMeasures.authorDatetime)1 day or less on or after day of start of Global."Hospitalization"(QualifyingEncounter)

Intervention Comfort Measures

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

Denominator Exclusions – VTE-1

Patients who have a length of stay less than 2 days

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

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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 "Intervention Comfort Measures on Day of or Day After Start of Hospitalization"
- union "Intervention Comfort Measures on Day of or Day After Procedure"

Intervention Comfort Measures on Day of or Day After Start of Hospitalization

- "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter with "Intervention Comfort Measures" ComfortMeasures such that Coalesce(start of ComfortMeasures.relevantPeriod, ComfortMeasures.**authorDatetime**)1 day or less on or after day of start of Global."Hospitalization"(QualifyingEncounter)

Intervention Comfort Measures

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

Denominator Exclusions – VTE-1

Patients who have a length of stay less than 2 days

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

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- "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 "Intervention Comfort Measures on Day of or Day After Start of Hospitalization"
- union "Intervention Comfort Measures on Day of or Day After Procedure"

Intervention Comfort Measures on Day of or Day After Start of Hospitalization

- "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter with "Intervention Comfort Measures" ComfortMeasures such that Coalesce(start of ComfortMeasures.**relevantPeriod**, ComfortMeasures.authorDatetime)1 day or less on or after day of start of Global."Hospitalization"(QualifyingEncounter)

Intervention Comfort Measures

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

Denominator Exclusions – VTE-1

Patients who have a length of stay less than 2 days

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

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Patients with a principal procedure of Surgical Care Improvement Project (SCIP) VTE selected surgeries

Patients with comfort measures documented anytime between arrival and the day after hospital admission

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 "Intervention Comfort Measures on Day of or Day After Start of Hospitalization"
- union "Intervention Comfort Measures on Day of or Day After Procedure"

Intervention Comfort Measures on Day of or Day After Start of Hospitalization

- "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter with "Intervention Comfort Measures" ComfortMeasures such that **Coalesce**(start of ComfortMeasures.**relevantPeriod**, ComfortMeasures.**authorDatetime**), 1 day or less on or after day of start of Global."Hospitalization"(QualifyingEncounter)

Intervention Comfort Measures

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

Denominator Exclusions – VTE-1



Patients who have a length of stay less than 2 days

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

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Patients with comfort measures documented anytime between arrival and the day after hospital admission

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 "Intervention Comfort Measures on Day of or Day After Start of Hospitalization"
- union "Intervention Comfort Measures on Day of or Day After Procedure"

Intervention Comfort Measures on Day of or Day After Start of Hospitalization

- "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter with "Intervention Comfort Measures" ComfortMeasures such that Coalesce(start of ComfortMeasures.relevantPeriod, ComfortMeasures.authorDatetime)**1 day or less on or after day of start of Global."Hospitalization"(QualifyingEncounter)**

Intervention Comfort Measures

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

Denominator Exclusions – VTE-1

Patients who have a length of stay less than 2 days

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

Patients with a principal diagnosis of mental disorders or stroke

Patients with a principal procedure of Surgical Care Improvement Project (SCIP) VTE selected surgeries

Patients with comfort measures documented anytime between arrival and the day after hospital admission

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 "Intervention Comfort Measures on Day of or Day After Start of Hospitalization"
- union "Intervention Comfort Measures on Day of or Day After Procedure"

Intervention Comfort Measures 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**,
"Intervention Comfort Measures" **ComfortMeasures**

where AnesthesiaProcedure.relevantPeriod ends 1 day after day of start of QualifyingEncounter.relevantPeriod
and Coalesce(start of ComfortMeasures.relevantPeriod, ComfortMeasures.authorDatetime) 1 day or less on or
after day of end of AnesthesiaProcedure.relevantPeriod

return QualifyingEncounter

Denominator Exclusions – VTE-1

Patients who have a length of stay less than 2 days

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

Patients with a principal diagnosis of mental disorders or stroke

Patients with a principal procedure of Surgical Care Improvement Project (SCIP) VTE selected surgeries

Patients with comfort measures documented anytime between arrival and the day after hospital admission

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 "Intervention Comfort Measures on Day of or Day After Start of Hospitalization"
- union "Intervention Comfort Measures on Day of or Day After Procedure"

Intervention Comfort Measures 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, "Intervention Comfort Measures" ComfortMeasures

where *AnesthesiaProcedure.relevantPeriod ends 1 day after day of start of QualifyingEncounter.relevantPeriod and Coalesce(start of ComfortMeasures.relevantPeriod, ComfortMeasures.authorDatetime)1 day or less*

on or after day of end of AnesthesiaProcedure.relevantPeriod

return QualifyingEncounter

Denominator Exclusions – VTE-1

Patients who have a length of stay less than 2 days

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

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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 "Intervention Comfort Measures on Day of or Day After Start of Hospitalization"
- union "Intervention Comfort Measures on Day of or Day After Procedure"

Intervention Comfort Measures 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, "Intervention Comfort Measures" ComfortMeasures

where **AnesthesiaProcedure.relevantPeriod ends 1 day after day of start of QualifyingEncounter.relevantPeriod**

and Coalesce(start of ComfortMeasures.relevantPeriod, ComfortMeasures.authorDatetime)1 day or less on or after day of end of AnesthesiaProcedure.relevantPeriod

return QualifyingEncounter

Denominator Exclusions – VTE-1

Patients who have a length of stay less than 2 days

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

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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

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- "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 "Intervention Comfort Measures on Day of or Day After Start of Hospitalization"
- union "Intervention Comfort Measures on Day of or Day After Procedure"

Intervention Comfort Measures 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, "Intervention Comfort Measures" ComfortMeasures where AnesthesiaProcedure.relevantPeriod ends 1 day after day of start of QualifyingEncounter.relevantPeriod and **Coalesce(start of ComfortMeasures.relevantPeriod, ComfortMeasures.authorDatetime)1 day or less on or after day of end of AnesthesiaProcedure.relevantPeriod** return QualifyingEncounter

Numerator – VTE-1

Patients who received VTE prophylaxis:

- the day of or 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

Patients who have documentation of a reason why no VTE prophylaxis was given:

- between arrival and hospital admission
- the day of or 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)

Numerator:

#1 VTE Prophylaxis Received on Day of or Day After Admission or Procedure“

union ("Medication Oral Factor Xa Inhibitor Administered on Day of or Day After Admission or Procedure"

#2 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 "Low Risk for VTE or Anticoagulant Administered"

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

#5 union "No VTE Prophylaxis Due to Patient Refusal"

Numerator – VTE-1

Patients who received VTE prophylaxis:

- the day of or 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

Numerator:

- #1 VTE Prophylaxis Received on Day of or Day After Admission or Procedure“
union ("Medication Oral Factor Xa Inhibitor Administered on Day of or Day After Admission or Procedure"
- #2 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 "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

VTE Prophylaxis Received on Day of or Day After Admission or Procedure

- (from "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter,
"VTE Prophylaxis by Medication Administered or Device Applied" HasVTEProphylaxis
where HasVTEProphylaxis.relevantPeriod starts during VTEICU."CalendarDayOfOrDayAfter“ start of QualifyingEncounter.relevantPeriod)
return QualifyingEncounter)
union (from "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" HasVTEProphylaxis
where AnesthesiaProcedure.relevantPeriod ends 1 day after day of start of QualifyingEncounter.relevantPeriod and
HasVTEProphylaxis.relevantPeriod starts during VTEICU."CalendarDayOfOrDayAfter“(end of 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 ["Device, Applied": "Intermittent pneumatic compression devices (IPC)"]
union ["Device, Applied": "Venous foot pumps (VFP)"]
union ["Device, Applied": "Graduated compression stockings (GCS)"]

Numerator – VTE-1

Patients who received VTE prophylaxis:

- the day of or 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

Numerator:

- #1 VTE Prophylaxis Received on Day of or Day After Admission or Procedure“
union ("Medication Oral Factor Xa Inhibitor Administered on Day of or Day After Admission or Procedure"
- #2 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 "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

VTE Prophylaxis Received on Day of or Day After Admission or Procedure

- (from "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter,
"VTE Prophylaxis by Medication Administered or Device Applied" HasVTEProphylaxis
where HasVTEProphylaxis.relevantPeriod starts during VTEICU."CalendarDayOfOrDayAfter“ start of QualifyingEncounter.relevantPeriod)
return QualifyingEncounter)
union (from "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" HasVTEProphylaxis
where AnesthesiaProcedure.relevantPeriod ends 1 day after day of start of QualifyingEncounter.relevantPeriod and
HasVTEProphylaxis.relevantPeriod starts during VTEICU."CalendarDayOfOrDayAfter“(end of 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 ["Device, Applied": "Intermittent pneumatic compression devices (IPC)"]
union ["Device, Applied": "Venous foot pumps (VFP)"]
union ["Device, Applied": "Graduated compression stockings (GCS)"]

Numerator – VTE-1

Patients who received VTE prophylaxis:

- the day of or 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

Numerator:

- #1 VTE Prophylaxis Received on Day of or Day After Admission or Procedure“
union ("Medication Oral Factor Xa Inhibitor Administered on Day of or Day After Admission or Procedure"
- #2 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 "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

VTE Prophylaxis Received on Day of or Day After Admission or Procedure

- (from "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter, "VTE Prophylaxis by Medication Administered or Device Applied" HasVTEProphylaxis
where *HasVTEProphylaxis.relevantPeriod starts during VTEICU."CalendarDayOfOrDayAfter" start of QualifyingEncounter.relevantPeriod*)
return QualifyingEncounter)

union

(from "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" HasVTEProphylaxis

where *AnesthesiaProcedure.relevantPeriod ends 1 day after day of start of QualifyingEncounter.relevantPeriod and HasVTEProphylaxis.relevantPeriod starts during VTEICU."CalendarDayOfOrDayAfter"(end of 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 ["Device, Applied": "Intermittent pneumatic compression devices (IPC)"]
union ["Device, Applied": "Venous foot pumps (VFP)"]
union ["Device, Applied": "Graduated compression stockings (GCS)"]

Numerator – VTE-1

Patients who received VTE prophylaxis:

- the day of or 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

Numerator:

- #1 VTE Prophylaxis Received on Day of or Day After Admission or Procedure“
union ("Medication Oral Factor Xa Inhibitor Administered on Day of or Day After Admission or Procedure"
- #2 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 "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

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

- (from "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter, ["Medication, Administered": "Oral Factor Xa Inhibitor for VTE Prophylaxis or VTE Treatment"] FactorXaMedication **where FactorXaMedication.relevantPeriod starts during VTEICU."CalendarDayOfOrDayAfter" (start of QualifyingEncounter.relevantPeriod)** return QualifyingEncounter)
union
(from "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 AnesthesiaProcedure.relevantPeriod ends 1 day after day of start of QualifyingEncounter.relevantPeriod and FactorXaMedication.relevantPeriod starts during VTEICU."CalendarDayOfOrDayAfter" (end of AnesthesiaProcedure.relevantPeriod)** return QualifyingEncounter)

Numerator – VTE-1

Patients who received VTE prophylaxis:

- the day of or 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

Numerator:

- #1 VTE Prophylaxis Received on Day of or Day After Admission or Procedure“
union ("Medication Oral Factor Xa Inhibitor Administered on Day of or Day After Admission or Procedure"
- #2 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 "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

Encounter With Prior or Present Diagnosis of Atrial Fibrillation or 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 ("Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter
where exists (QualifyingEncounter.diagnoses EncounterDiagnosis
where EncounterDiagnosis in "Atrial Fibrillation/Flutter"))
union ("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

Patients who received VTE prophylaxis:

- the day of or 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

Numerator:

- #1 VTE Prophylaxis Received on Day of or Day After Admission or Procedure“
union ("Medication Oral Factor Xa Inhibitor Administered on Day of or Day After Admission or Procedure"
- #2 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 "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

Encounter With Prior or Present Diagnosis of Atrial Fibrillation or 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 ("Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter
where exists (QualifyingEncounter.diagnoses EncounterDiagnosis
where EncounterDiagnosis in "Atrial Fibrillation/Flutter"))
union ("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

Patients who received VTE prophylaxis:

- the day of or 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

Numerator:

- #1 VTE Prophylaxis Received on Day of or Day After Admission or Procedure“
union ("Medication Oral Factor Xa Inhibitor Administered on Day of or Day After Admission or Procedure"
- #2 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 "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

Encounter With Prior or Present Diagnosis of Atrial Fibrillation or 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 ("Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter
where exists (QualifyingEncounter.diagnoses EncounterDiagnosis
where **EncounterDiagnosis in "Atrial Fibrillation/Flutter"**)
union ("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

Patients who received VTE prophylaxis:

- the day of or 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

Numerator:

- #1 VTE Prophylaxis Received on Day of or Day After Admission or Procedure“
union ("Medication Oral Factor Xa Inhibitor Administered on Day of or Day After Admission or Procedure"
- #2 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 "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

Encounter With Prior or Present Diagnosis of Atrial Fibrillation or 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 ("Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter
where exists (QualifyingEncounter.diagnoses EncounterDiagnosis
where EncounterDiagnosis in "Atrial Fibrillation/Flutter"))
union ("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

Patients who received VTE prophylaxis:

- the day of or 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

Numerator:

- #1 VTE Prophylaxis Received on Day of or Day After Admission or Procedure“
union ("Medication Oral Factor Xa Inhibitor Administered on Day of or Day After Admission or Procedure"
- #2 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 "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

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

- "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 HipKneeProcedure.relevantPeriod starts on or before end of QualifyingEncounter.relevantPeriod

Numerator – VTE-1

Patients who have documentation of a reason why no VTE prophylaxis was given:

- between arrival and hospital admission
- the day of or 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)

Numerator:

- #1 VTE Prophylaxis Received on Day of or Day After Admission or Procedure"
union ("Medication Oral Factor Xa Inhibitor Administered on Day of or Day After Admission or Procedure"
- #2 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 "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

Low Risk for VTE or Anticoagulant Administered

- "Low Risk for VTE or Anticoagulant Administered **During ED Visit**"
union "Low Risk for VTE or Anticoagulant Administered **on Day of or Day After Admission**"
union "Low Risk for VTE or Anticoagulant Administered **on Day of or Day After Procedure**"

Numerator – VTE-1

Patients who have documentation of a reason why no VTE prophylaxis was given:

- between arrival and hospital admission
- the day of or 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)



Numerator:

- “
- #3 union "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

Low Risk for VTE or Anticoagulant Administered

- **"Low Risk for VTE or Anticoagulant Administered During ED Visit"**
union "Low Risk for VTE or Anticoagulant Administered on Day of or Day After Admission"
union "Low Risk for VTE or Anticoagulant Administered on Day of or Day After Procedure"

Low Risk for VTE or Anticoagulant Administered During ED Visit

- from "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter, "ED Visit" EDVisit,
"Is In Low Risk for VTE or On Anticoagulant" VTERiskAssessment
where EDVisit.relevantPeriod ends 1 hour or less on or before start of QualifyingEncounter.relevantPeriod
and VTERiskAssessment.authorDatetime during EDVisit.relevantPeriod
return QualifyingEncounter

Is In Low Risk for VTE or On Anticoagulant

- (["Assessment, Performed": "Risk for venous thromboembolism"] VTERiskAssessment
where VTERiskAssessment.result in "Low Risk")
union (["Laboratory Test, Performed": "INR"] INRLabTest where INRLabTest.result > 3.0
return "Assessment, Performed" { id: INRLabTest.id, authorDatetime: 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 "Assessment, Performed" { id: AnticoagulantMedication.id, authorDatetime: start of
AnticoagulantMedication.relevantPeriod })

ED Visit

- **"Encounter, Performed": "Emergency Department Visit"**

Numerator – VTE-1

Patients who have documentation of a reason why no VTE prophylaxis was given:

- between arrival and hospital admission
- the day of or 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)



Numerator:

- #3 union "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

Low Risk for VTE or Anticoagulant Administered

- "Low Risk for VTE or Anticoagulant Administered During ED Visit"
union "Low Risk for VTE or Anticoagulant Administered on Day of or Day After Admission"
union "Low Risk for VTE or Anticoagulant Administered on Day of or Day After Procedure"

Low Risk for VTE or Anticoagulant Administered During ED Visit

- from "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter,
"ED Visit" EDVisit,
"Is In Low Risk for VTE or On Anticoagulant" VTERiskAssessment
where EDVisit.relevantPeriod ends 1 hour or less on or before start of QualifyingEncounter.relevantPeriod
and VTERiskAssessment.authorDatetime during EDVisit.relevantPeriod
return QualifyingEncounter

Is In Low Risk for VTE or On Anticoagulant

- (["Assessment, Performed": "Risk for venous thromboembolism"]) VTERiskAssessment
where VTERiskAssessment.result in "Low Risk")
union (["Laboratory Test, Performed": "INR"] INRLabTest where INRLabTest.result > 3.0
return "Assessment, Performed" { id: INRLabTest.id, authorDatetime: 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 "Assessment, Performed" { id: AnticoagulantMedication.id, authorDatetime: start of
AnticoagulantMedication.relevantPeriod })

ED Visit

- ["Encounter, Performed": "Emergency Department Visit"]

Numerator – VTE-1

Patients who have documentation of a reason why no VTE prophylaxis was given:

- between arrival and hospital admission
- the day of or 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)

Numerator:

- #3 union "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

Low Risk for VTE or Anticoagulant Administered

- "Low Risk for VTE or Anticoagulant Administered During ED Visit"
union "Low Risk for VTE or Anticoagulant Administered on Day of or Day After Admission"
union "Low Risk for VTE or Anticoagulant Administered on Day of or Day After Procedure"

Low Risk for VTE or Anticoagulant Administered During ED Visit

- from "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter,
"ED Visit" EDVisit,
"Is In Low Risk for VTE or On Anticoagulant" VTERiskAssessment
where EDVisit.relevantPeriod ends 1 hour or less on or before start of QualifyingEncounter.relevantPeriod
and VTERiskAssessment.authorDatetime during EDVisit.relevantPeriod
return QualifyingEncounter

Is In Low Risk for VTE or On Anticoagulant

- (["Assessment, Performed": "Risk for venous thromboembolism"] VTERiskAssessment
where VTERiskAssessment.result in "Low Risk")
union (["Laboratory Test, Performed": "INR"] INRLabTest where INRLabTest.result > 3.0
return "Assessment, Performed" { id: INRLabTest.id, authorDatetime: 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 "Assessment, Performed" { id: AnticoagulantMedication.id, authorDatetime: start of
AnticoagulantMedication.relevantPeriod }))

ED Visit

- ["Encounter, Performed": "Emergency Department Visit"]

Numerator – VTE-1

Patients who have documentation of a reason why no VTE prophylaxis was given:

- between arrival and hospital admission
- the day of or 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)



Numerator:

- #3 union "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

Low Risk for VTE or Anticoagulant Administered

- "Low Risk for VTE or Anticoagulant Administered During ED Visit"
union "Low Risk for VTE or Anticoagulant Administered on Day of or Day After Admission"
union "Low Risk for VTE or Anticoagulant Administered on Day of or Day After Procedure"

Low Risk for VTE or Anticoagulant Administered During ED Visit

- from "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter,
"ED Visit" EDVisit,
"Is In Low Risk for VTE or On Anticoagulant" VTERiskAssessment
where **EDVisit.relevantPeriod ends 1 hour or less on or before start of QualifyingEncounter.relevantPeriod
and VTERiskAssessment.authorDatetime during EDVisit.relevantPeriod**
return QualifyingEncounter

Is In Low Risk for VTE or On Anticoagulant

- (["Assessment, Performed": "Risk for venous thromboembolism"] VTERiskAssessment
where VTERiskAssessment.result in "Low Risk")
union (["Laboratory Test, Performed": "INR"] INRLabTest where INRLabTest.result > 3.0
return "Assessment, Performed" { id: INRLabTest.id, authorDatetime: 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 "Assessment, Performed" { id: AnticoagulantMedication.id, authorDatetime: start of
AnticoagulantMedication.relevantPeriod })

ED Visit

- ["Encounter, Performed": "Emergency Department Visit"]

Numerator – VTE-1

Patients who have documentation of a reason why no VTE prophylaxis was given:

- between arrival and hospital admission
- the day of or 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)

Numerator:

- #3 union "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

Low Risk for VTE or Anticoagulant Administered

- "Low Risk for VTE or Anticoagulant Administered During ED Visit"
union "Low Risk for VTE or Anticoagulant Administered on Day of or Day After Admission"
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 Admission

- "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter with **"Is In Low Risk for VTE or On Anticoagulant"** VTERiskAssessment such that VTERiskAssessment.authorDatetime **during VTEICU."CalendarDayOfOrDayAfter** (start of QualifyingEncounter.relevantPeriod)

Numerator – VTE-1

Patients who have documentation of a reason why no VTE prophylaxis was given:

- between arrival and hospital admission
- the day of or 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)

Numerator:

- #3 union "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

Low Risk for VTE or Anticoagulant Administered

- "Low Risk for VTE or Anticoagulant Administered During ED Visit"
union "Low Risk for VTE or Anticoagulant Administered on Day of or Day After Admission"
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 Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter, ["Procedure, Performed": "General or Neuraxial Anesthesia"] AnesthesiaProcedure, "Is In Low Risk for VTE or On Anticoagulant" VTERiskAssessment where AnesthesiaProcedure.relevantPeriod *ends 1 day after day of start of QualifyingEncounter.relevantPeriod* and VTERiskAssessment.authorDatetime *during VTEICU."CalendarDayOfOrDayAfter"(end of AnesthesiaProcedure.relevantPeriod)* return QualifyingEncounter

Numerator – VTE-1

Patients who have documentation of a reason why no VTE prophylaxis was given:

- between arrival and hospital admission
- the day of or 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)

Numerator:

- #3 union "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

No VTE Prophylaxis Due to Medical Reason

- ("No VTE Prophylaxis **Medication** Due to Medical Reason During ED Visit"
intersect "No VTE Prophylaxis **Device** Due to Medical Reason During ED Visit")
union ("No VTE Prophylaxis **Medication** Due to Medical Reason on Day of or Day After Admission"
intersect "No VTE Prophylaxis **Device** Due to Medical Reason on Day of or 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

Patients who have documentation of a reason why no VTE prophylaxis was given:

- between arrival and hospital admission
- the day of or 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)

Numerator:

- #3 union "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

No VTE Prophylaxis Due to Medical Reason

- ("No VTE Prophylaxis Medication Due to Medical Reason *During ED Visit*"
intersect "No VTE Prophylaxis Device Due to Medical Reason *During ED Visit*")
union ("No VTE Prophylaxis Medication Due to Medical Reason *on Day of or Day After Admission*"
intersect "No VTE Prophylaxis Device Due to Medical Reason *on Day of or 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

Patients who have documentation of a reason why no VTE prophylaxis was given:

- between arrival and hospital admission
- the day of or 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)

Numerator:

- #3 union "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

No VTE Prophylaxis Due to Medical Reason

- ("No VTE Prophylaxis Medication Due to Medical Reason During ED Visit"
intersect "No VTE Prophylaxis Device Due to Medical Reason During ED Visit")
union ("No VTE Prophylaxis Medication Due to Medical Reason on Day of or Day After Admission"
intersect "No VTE Prophylaxis Device Due to Medical Reason on Day of or 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 During ED Visit

- from "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter,
"ED Visit" EDVisit,
"No VTE Prophylaxis Medication Administered or Ordered" NoVTEMedication
where EDVisit.relevantPeriod ends 1 hour or less on or before start of QualifyingEncounter.relevantPeriod
and NoVTEMedication.negotiationRationale in "Medical Reason"
and NoVTEMedication.authorDatetime during EDVisit.relevantPeriod
return 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 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*"]

Numerator – VTE-1

Patients who have documentation of a reason why no VTE prophylaxis was given:

- between arrival and hospital admission
- the day of or 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)



Numerator:

- #3 union "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

No VTE Prophylaxis Due to Medical Reason

- ("No VTE Prophylaxis Medication Due to Medical Reason During ED Visit"
intersect "No VTE Prophylaxis Device Due to Medical Reason During ED Visit")
union ("No VTE Prophylaxis Medication Due to Medical Reason on Day of or Day After Admission"
intersect "No VTE Prophylaxis Device Due to Medical Reason on Day of or 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 During ED Visit

- from "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter,
"ED Visit" EDVisit,
"No VTE Prophylaxis Medication Administered or Ordered" NoVTEMedication
where EDVisit.relevantPeriod ends 1 hour or less on or before start of QualifyingEncounter.relevantPeriod
and NoVTEMedication.**negationRationale in "Medical Reason"**
and **NoVTEMedication.authorDatetime during EDVisit.relevantPeriod**
return 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 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"]

Numerator – VTE-1

Patients who have documentation of a reason why no VTE prophylaxis was given:

- between arrival and hospital admission
- the day of or 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)

Numerator:

- #3 union "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

No VTE Prophylaxis Due to Medical Reason

- ("No VTE Prophylaxis Medication Due to Medical Reason During ED Visit"
intersect "No VTE Prophylaxis Device Due to Medical Reason During ED Visit")
union ("No VTE Prophylaxis Medication Due to Medical Reason on Day of or Day After Admission"
intersect "No VTE Prophylaxis Device Due to Medical Reason on Day of or 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 During ED Visit

- from "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter,
"ED Visit" EDVisit,
"No VTE Prophylaxis Device Applied or Ordered" NoVTEDevice
where EDVisit.relevantPeriod ends 1 hour or less on or before start of QualifyingEncounter.relevantPeriod
and NoVTEDevice.negationRationale in "Medical Reason"
and NoVTEDevice.authorDatetime during EDVisit.relevantPeriod
return 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

Patients who have documentation of a reason why no VTE prophylaxis was given:

- between arrival and hospital admission
- the day of or 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)



Numerator:

- #3 union "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

No VTE Prophylaxis Due to Medical Reason

- ("No VTE Prophylaxis Medication Due to Medical Reason During ED Visit"
intersect "No VTE Prophylaxis Device Due to Medical Reason During ED Visit")
union ("No VTE Prophylaxis Medication Due to Medical Reason on Day of or Day After Admission"
intersect "No VTE Prophylaxis Device Due to Medical Reason on Day of or 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 During ED Visit

- from "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter,
"ED Visit" EDVisit,
"No VTE Prophylaxis Device Applied or Ordered" NoVTEDevice
where EDVisit.relevantPeriod ends 1 hour or less on or before start of QualifyingEncounter.relevantPeriod
and NoVTEDevice.**negationRationale in "Medical Reason"
and NoVTEDevice.authorDatetime during EDVisit.relevantPeriod**
return 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:

- #3 union "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

No VTE Prophylaxis Due to Medical Reason

- ("No VTE Prophylaxis Medication Due to Medical Reason During ED Visit"
intersect "No VTE Prophylaxis Device Due to Medical Reason During ED Visit")
union ("No VTE Prophylaxis **Medication** Due to Medical Reason on Day of or Day After Admission"
intersect "No VTE Prophylaxis **Device** Due to Medical Reason on Day of or 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 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 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**"]

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:

- #3 union "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

No VTE Prophylaxis Due to Medical Reason

- ("No VTE Prophylaxis Medication Due to Medical Reason During ED Visit"
intersect "No VTE Prophylaxis Device Due to Medical Reason During ED Visit")
union ("No VTE Prophylaxis **Medication** Due to Medical Reason on Day of or Day After Admission"
intersect "No VTE Prophylaxis **Device** Due to Medical Reason on Day of or 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 Admission

- from "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter,
"No VTE Prophylaxis Medication Administered or Ordered" NoVTEMedication
where NoVTEMedication.**negationRationale in "Medical Reason"**
and NoVTEMedication.authorDatetime during VTEICU."CalendarDayOfOrDayAfter"
(start of QualifyingEncounter.relevantPeriod) return QualifyingEncounter

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

- from "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter,
"No VTE Prophylaxis Device Applied or Ordered" NoVTEDevice
where **NoVTEDevice.negationRationale in "Medical Reason"**
and NoVTEDevice.authorDatetime during VTEICU."CalendarDayOfOrDayAfter"(start of
QualifyingEncounter.relevantPeriod)
return QualifyingEncounter

Numerator:

- #3 union "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

No VTE Prophylaxis Due to Medical Reason

- ("No VTE Prophylaxis Medication Due to Medical Reason During ED Visit"
intersect "No VTE Prophylaxis Device Due to Medical Reason During ED Visit")
union ("No VTE Prophylaxis Medication Due to Medical Reason on Day of or Day After Admission"
intersect "No VTE Prophylaxis Device Due to Medical Reason on Day of or 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 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 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**"]

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:

- #3 union "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

No VTE Prophylaxis Due to Medical Reason

- ("No VTE Prophylaxis Medication Due to Medical Reason During ED Visit"
intersect "No VTE Prophylaxis Device Due to Medical Reason During ED Visit")
union ("No VTE Prophylaxis Medication Due to Medical Reason on Day of or Day After Admission"
intersect "No VTE Prophylaxis Device Due to Medical Reason on Day of or 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 "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 AnesthesiaProcedure.relevantPeriod ends 1 day after day of start of QualifyingEncounter.relevantPeriod
and NoVTEMedication.authorDatetime during VTEICU."CalendarDayOfOrDayAfter"(end of
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 AnesthesiaProcedure.relevantPeriod ends 1 day after day of start of QualifyingEncounter.relevantPeriod
and **NoVTEDevice.authorDatetime during VTEICU."CalendarDayOfOrDayAfter"**(end of
AnesthesiaProcedure.relevantPeriod)
return QualifyingEncounter

Numerator – VTE-1

Patients who have documentation of a reason why no VTE prophylaxis was given:

- between arrival and hospital admission
- the day of or 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)

Numerator:

- #3 union "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

No VTE Prophylaxis Due to Patient Refusal

- "No VTE Prophylaxis Due to Patient Refusal *During ED Visit*"
union "No VTE Prophylaxis Due to Patient Refusal *on Day of or Day After Admission*"
union "No VTE Prophylaxis Due to Patient Refusal *on Day of or Day After Procedure*"

Numerator – VTE-1

Patients who have documentation of a reason why no VTE prophylaxis was given:

- between arrival and hospital admission
- the day of or 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)

Numerator:

- #3 union "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

No VTE Prophylaxis Due to Patient Refusal

- "No VTE Prophylaxis Due to Patient Refusal During ED Visit"
union "No VTE Prophylaxis Due to Patient Refusal on Day of or 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 During ED Visit

- from "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter, "ED Visit" EDVisit, "No VTE Prophylaxis Medication or Device Due to Patient Refusal" PatientRefusal where EDVisit.relevantPeriod ends 1 hour or less on or before start of QualifyingEncounter.relevantPeriod and PatientRefusal.authorDatetime during EDVisit.relevantPeriod return QualifyingEncounter

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"

Numerator – VTE-1

Patients who have documentation of a reason why no VTE prophylaxis was given:

- between arrival and hospital admission
- the day of or 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)

Numerator:

- #3 union "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

No VTE Prophylaxis Due to Patient Refusal

- "No VTE Prophylaxis Due to Patient Refusal During ED Visit"
union "No VTE Prophylaxis Due to Patient Refusal on Day of or 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 During ED Visit

- from "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter, "ED Visit" EDVisit, "No VTE Prophylaxis Medication or Device Due to Patient Refusal" PatientRefusal where *EDVisit.relevantPeriod ends 1 hour or less on or before start of QualifyingEncounter.relevantPeriod and PatientRefusal.authorDatetime during EDVisit.relevantPeriod* return QualifyingEncounter

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.negotiationRationale in "Patient Refusal"

Numerator – VTE-1

Patients who have documentation of a reason why no VTE prophylaxis was given:

- between arrival and hospital admission
- the day of or 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)

Numerator:

- #3 union "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

No VTE Prophylaxis Due to Patient Refusal

- "No VTE Prophylaxis Due to Patient Refusal During ED Visit"
union "No VTE Prophylaxis Due to Patient Refusal on Day of or 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 on Day of or Day After Admission

- from "Encounter With Age Range and Without VTE Diagnosis or Obstetrical Conditions" QualifyingEncounter,
"No VTE Prophylaxis Medication or Device Due to Patient Refusal" PatientRefusal
where PatientRefusal.authorDatetime during VTEICU."CalendarDayOfOrDayAfter"(start of
QualifyingEncounter.relevantPeriod)
return QualifyingEncounter

Numerator – VTE-1

Patients who have documentation of a reason why no VTE prophylaxis was given:

- between arrival and hospital admission
- the day of or 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)

Numerator:

- #3 union "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

No VTE Prophylaxis Due to Patient Refusal

- "No VTE Prophylaxis Due to Patient Refusal During ED Visit"
union "No VTE Prophylaxis Due to Patient Refusal on Day of or 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 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 Medication or Device Due to Patient Refusal" PatientRefusal where AnesthesiaProcedure.relevantPeriod ends 1 day after day of start of QualifyingEncounter.relevantPeriod and PatientRefusal.authorDatetime during VTEICU."CalendarDayOfOrDayAfter"**(end of AnesthesiaProcedure.relevantPeriod)
return QualifyingEncounter

VTE-2: Intensive Care Unit Venous Thromboembolism Prophylaxis

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

Denominator – VTE-2

Patients directly admitted or transferred to ICU during the hospitalization

Denominator:

"Encounter With ICU Location"

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**)

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 "Measurement Period"

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")))) intersect (Global."Inpatient Encounter" InpatientEncounter without (["Diagnosis": "Obstetrics"] union ["Diagnosis": "Venous Thromboembolism"] union ["Diagnosis": "Obstetrics VTE"]) Diagnosis such that Diagnosis.prevalencePeriod starts during Global."Hospitalization"(InpatientEncounter))

Denominator Exclusions – VTE-2

Patients who have a length of stay less than 2 days

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

Patients with comfort measures documented anytime between arrival and the day after ICU admission or transfer

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 Less Than 2 Days"

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

union "Intervention Comfort Measures From Start of Hospitalization To Day After First ICU Stay"

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

Denominator Exclusions – VTE-2

Patients who have a length of stay less than 2 days

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

Patients with comfort measures documented anytime between arrival and the day after ICU admission or transfer

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 Less Than 2 Days"

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

union "Intervention Comfort Measures From Start of Hospitalization To Day After First ICU Stay"

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

Encounter With ICU Location Less Than 2 Days:

- "Encounter With ICU Location" QualifyingEncounterICU
where Global."**LengthInDays**"(**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

Patients who have a length of stay less than 2 days

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

Patients with comfort measures documented anytime between arrival and the day after ICU admission or transfer

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 Less Than 2 Days"

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

union "Intervention Comfort Measures From Start of Hospitalization To Day After First ICU Stay"

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

First ICU Stay With Principal Procedure of SCIP VTE Selected Surgery:

- "Encounter With ICU Location" QualifyingEncounterICU
with ("SCIP VTE Selected Surgery" Procedure
where in "Principal") SelectedSCIPProcedure
such that *SelectedSProcedure.ordinality CIPProcedure.relevantPeriod ends
during "Day of or Day After"("Start of First ICU"(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

Patients who have a length of stay less than 2 days

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

Patients with comfort measures documented anytime between arrival and the day after ICU admission or transfer

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

First ICU Stay With Principal Procedure of SCIP VTE Selected Surgery:

- "Encounter With ICU Location" QualifyingEncounterICU
with ("SCIP VTE Selected Surgery" Procedure
where Procedure.ordinality in "Principal") SelectedSCIPProcedure
such that SelectedSCIPProcedure.relevantPeriod ends
during "Day of or Day After"("Start of First ICU"(QualifyingEncounterICU))

Start of First ICU(Encounter "Encounter, Performed"):

- start of VTEICU."First Intensive Care Unit"(Encounter).locationPeriod

VTEICU.First Intensive Care Unit(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

Patients who have a length of stay less than 2 days

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

Patients with comfort measures documented anytime between arrival and the day after ICU admission or transfer

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

Intervention Comfort Measures From Start of Hospitalization To Day After First ICU Stay:

- "Encounter With ICU Location" QualifyingEncounterICU with "Intervention Comfort Measures" ComfortMeasures such that Coalesce(start of ComfortMeasures.relevantPeriod, ComfortMeasures.authorDatetime) during Interval["To Date"(**start of Global."Hospitalization"(QualifyingEncounterICU)**), "To Date"(**"Start of First ICU"(QualifyingEncounterICU)+ 2 days**)]

Intervention Comfort Measures:

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

Denominator Exclusions – VTE-2

Patients who have a length of stay less than 2 days

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

Patients with comfort measures documented anytime between arrival and the day after ICU admission or transfer

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 Less Than 2 Days"

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

union "Intervention Comfort Measures From Start of Hospitalization To Day After First ICU Stay"

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

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 AnesthesiaProcedure.relevantPeriod **ends 1 day after day of start of**
Global."**First Inpatient Intensive Care Unit**"(QualifyingEncounterICU).locationPeriod
and Coalesce(start of ComfortMeasures.relevantPeriod, ComfortMeasures.authorDatetime)**1 day or less**
on or after day of end of AnesthesiaProcedure.relevantPeriod return QualifyingEncounterICU

Numerator - VTE-2

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)

Patients who have documentation of a reason why no VTE prophylaxis was given:

- between arrival and ICU admission (for patients directly admitted as inpatients to the ICU)
- 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))

Numerator:

- #1 "VTE Prophylaxis Received on Day of or Day After First ICU Stay or Procedure"
- #2 union ("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 "Low Risk for VTE or Anticoagulant Administered"
- #4 union "No VTE Prophylaxis Due to Medical Reason"
- #5 union "No VTE Prophylaxis Due to Patient Refusal"

Numerator - VTE-2

Numerator:

"VTE Prophylaxis Received on Day of or Day After **First ICU Stay or Procedure**"
union ("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"))
union "Low Risk for VTE or Anticoagulant Administered"
union "No VTE Prophylaxis Due to Medical Reason"
union "No VTE Prophylaxis Due to Patient Refusal"

Numerator - VTE-1

Numerator:

"VTE Prophylaxis Received on Day of or Day After **Admission or Procedure**"
union ("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"))
union "Low Risk for VTE or Anticoagulant Administered"
union "No VTE Prophylaxis Due to Medical Reason"
union "No VTE Prophylaxis Due to Patient Refusal"

Numerator - VTE-2

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)

Numerator:

```
#1 "VTE Prophylaxis Received on Day of or Day After First ICU Stay or Procedure"  
  union ( "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"))  
  union "Low Risk for VTE or Anticoagulant Administered"  
  union "No VTE Prophylaxis Due to Medical Reason"  
  union "No VTE Prophylaxis Due to Patient Refusal"
```

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 **VTEProphylaxis.relevantPeriod starts during "Day of or Day After"("Start of First ICU"(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 **AnesthesiaProcedure.relevantPeriod ends 1 day after day of start of Global."First Inpatient Intensive Care Unit"(QualifyingEncounterICU).locationPeriod**
 and **VTEProphylaxis.relevantPeriod starts during VTEICU."CalendarDayOfOrDayAfter"(end of AnesthesiaProcedure.relevantPeriod)**
 return QualifyingEncounterICU)

Numerator - VTE-2

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)

Numerator:

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

```
#2 union ( "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"))
union "Low Risk for VTE or Anticoagulant Administered"
union "No VTE Prophylaxis Due to Medical Reason"
union "No VTE Prophylaxis Due to Patient Refusal"
```

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 FactorXaMedication.relevantPeriod starts during "Day of or Day After"("Start of First ICU"(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 **AnesthesiaProcedure.relevantPeriod ends 1 day after day of start of Global."First Inpatient Intensive Care Unit"(QualifyingEncounterICU).locationPeriod**
and **FactorXaMedication.relevantPeriod starts during VTEICU."CalendarDayOfOrDayAfter"(end of AnesthesiaProcedure.relevantPeriod)**
return QualifyingEncounterICU)

Numerator - VTE-2

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)

Numerator:

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

#2 union ("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"))
union "Low Risk for VTE or Anticoagulant Administered"
union "No VTE Prophylaxis Due to Medical Reason"
union "No VTE Prophylaxis Due to Patient Refusal"

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

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)

Numerator:

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

```
#2 union ( "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"))
union "Low Risk for VTE or Anticoagulant Administered"
union "No VTE Prophylaxis Due to Medical Reason"
union "No VTE Prophylaxis Due to Patient Refusal"
```

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 HipKneeProcedure.relevantPeriod starts on or before end of QualifyingEncounterICU.relevantPeriod

Numerator - VTE-2

Patients who have documentation of a reason why no VTE prophylaxis was given:

- between arrival and hospital admission
- the day of or 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)

Numerator:

"VTE Prophylaxis Received on Day of or Day After First ICU Stay or Procedure"
union ("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 "Low Risk for VTE or Anticoagulant Administered"
union "No VTE Prophylaxis Due to Medical Reason"
union "No VTE Prophylaxis Due to Patient Refusal"

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*"

Numerator - VTE-2

Patients who have documentation of a reason why no VTE prophylaxis was given:

- between arrival and hospital admission
- the day of or 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)

Numerator:

```
"VTE Prophylaxis Received on Day of or Day After First ICU Stay or Procedure"  
union ( "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 "Low Risk for VTE or Anticoagulant Administered"  
union "No VTE Prophylaxis Due to Medical Reason"  
union "No VTE Prophylaxis Due to Patient Refusal"
```

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 From Start of Hospitalization To Day After First ICU Stay:

- Encounter With ICU Location" QualifyingEncounterICU
with "Is In Low Risk for VTE or On Anticoagulant" VTERiskAssessment
such that VTERiskAssessment.authorDatetime during
Interval[start of Global."Hospitalization"(QualifyingEncounterICU), "To Date"("Start of First
ICU"(QualifyingEncounterICU)+ 2 days))

Numerator - VTE-2

Patients who have documentation of a reason why no VTE prophylaxis was given:

- between arrival and hospital admission
- the day of or 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)

Numerator:

```
"VTE Prophylaxis Received on Day of or Day After First ICU Stay or Procedure"  
union ( "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 "Low Risk for VTE or Anticoagulant Administered"  
union "No VTE Prophylaxis Due to Medical Reason"  
union "No VTE Prophylaxis Due to Patient Refusal"
```

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,
"Is In Low Risk for VTE or On Anticoagulant" VTERiskAssessment
where *AnesthesiaProcedure.relevantPeriod ends 1 day after day of
start of Global."First Inpatient Intensive Care Unit"(QualifyingEncounterICU).locationPeriod
and VTERiskAssessment.authorDatetime during VTEICU."CalendarDayOfOrDayAfter"(end of
AnesthesiaProcedure.relevantPeriod)*
return QualifyingEncounterICU

Numerator - VTE-2

Patients who have documentation of a reason why no VTE prophylaxis was given:

- between arrival and hospital admission
- the day of or 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)

Numerator:

```
"VTE Prophylaxis Received on Day of or Day After First ICU Stay or Procedure"  
  union ( "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"))  
  union "Low Risk for VTE or Anticoagulant Administered"  
#4 union "No VTE Prophylaxis Due to Medical Reason"  
    union "No VTE Prophylaxis Due to Patient Refusal"
```

No VTE Prophylaxis Due to Medical Reason:

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

Numerator - VTE-2

Patients who have documentation of a reason why no VTE prophylaxis was given:

- between arrival and hospital admission
- the day of or 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)

Numerator:

```
"VTE Prophylaxis Received on Day of or Day After First ICU Stay or Procedure"  
union ( "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"))  
union "Low Risk for VTE or Anticoagulant Administered"  
union "No VTE Prophylaxis Due to Medical Reason"  
#5 union "No VTE Prophylaxis Due to Patient Refusal"
```

No VTE Prophylaxis Due to Patient Refusal:

- No VTE Prophylaxis Due to Patient Refusal From **Start of Hospitalization To Day After First ICU Stay**
union "No VTE Prophylaxis Due to Patient Refusal **on Day of or Day After Procedure**"

Denominator Exceptions - VTE-2

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 "**Length In Days**"("First ICU Location Period"(QualifyingEncounterICU))< 1

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

Global."First Inpatient Intensive Care Unit"(Encounter).**locationPeriod**

Resources

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

- One stop shop for all information related to eCQM's
- Find EH program information via: <https://ecqi.healthit.gov/eligible-hospital/critical-access-hospital-ecqms> such as:
 - Measure specifications
 - Technical Release Notes- which states all changes made to each measure during annual updates and during the addendum (code updates)
 - eCQM Measure Flows- to help understand the measure algorithms
- Links to many Educational Resources such as:
 - CQL Standards: <https://ecqi.healthit.gov/cql-clinical-quality-language>
 - QDM (Quality Data Model): <https://ecqi.healthit.gov/qdm-quality-data-model>
 - QDMv5.3 Annotated is used for the 2019 reporting
 - eCQM Implementation Check List: <https://ecqi.healthit.gov/ecqm-implementation-checklist>
 - Previous recordings & slide deck presentations: <https://ecqi.healthit.gov/cql/cql-educational-resources>
- Events page to see and register for upcoming educational events <https://ecqi.healthit.gov/ecqi/ecqi-events>

2. Value Set Authority Center (VSAC): <https://vsac.nlm.nih.gov/>

- To look up the codes listed in the value sets of a measure
- Requires license but free of charge
- Quick link to download valuesets/Direct reference codes from the VSAC:
<https://vsac.nlm.nih.gov/download/ecqm?rel=20180917>

3. Technical CQL Resources:

- Getting Started with CQL: Technical Implementation for Vendors: <https://health.mitre.org/blog/getting-started-with-cql-technical-implementation-for-vendors/>
- Formatting and Usage: <https://github.com/esacinc/CQL-Formatting-and-Usage-Wiki/wiki>
- CQL GitHub Tools Repository: https://github.com/cqframework/clinical_quality_language
- CQL Specification - CQL Release 1, Standard for Trial Use (STU) 2
 - http://www.hl7.org/implement/standards/product_brief.cfm?product_id=400
 - <http://cql.hl7.org/STU2/index.html>
- CQL-Based HQMF IG – Release 1, STU 2.1
 - http://www.hl7.org/implement/standards/product_brief.cfm?product_id=405

4. To submit an issue ticket for a CQL specific question, please visit the ONC JIRA site

- <https://oncprojecttracking.healthit.gov/support/projects/CQLIT>

5. To submit an issue ticket for a measure specific question, please visit the ONC JIRA site

- <https://oncprojecttracking.healthit.gov/support/projects/CQM/issues>

6. Pioneers in Quality Expert to Expert Replays and Slides: https://www.jointcommission.org/piq_expert_to_expert_series/

7. Pioneers in Quality Portal: https://www.jointcommission.org/topics/pioneers_in_quality.aspx

Pioneers in Quality™

Expert to Expert Series: VTE-1 & VTE-2

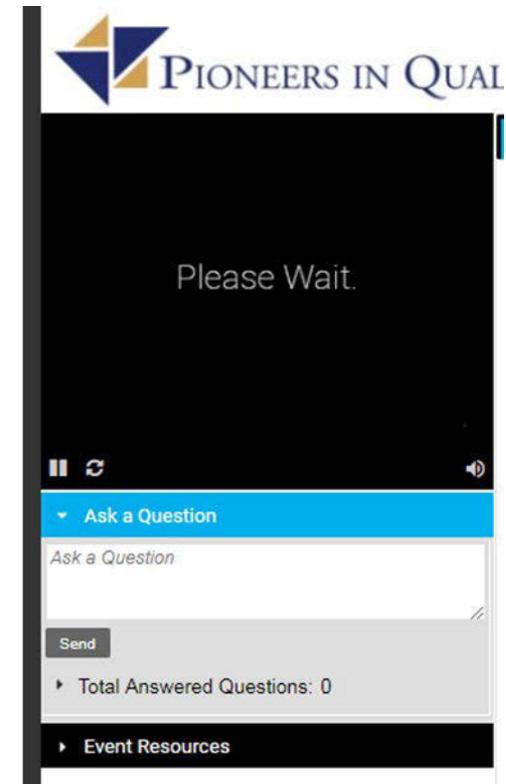


- Please ask questions through the Questions pane
- Click the arrow to expand and close the pane.
- Include your name and organization with the question



REMINDER - Slides are available for download now!

- To access the slides, see the Event Resources Pane
- Click the triangle to open the list of PDFs
- Select the slides for today's session
- A new window will open permitting you to save or print the PDFs



Pioneers in Quality™

Expert to Expert Series: VTE-1 & VTE-2


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Friday 11:30 CST, November 30, 2018

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Topic Library Item

Pioneers in Quality: Expert

November 30, 2018

The Joint Commission and the Centers for Medicare & Medicaid Services (CMS) are joining forces on their journey towards electronic clinical quality Language (CQL) logic expression language for a "deep dive" into the new Clinical Quality Language.

The Joint Commission's Pioneers in Quality: Expert connecting you with eCQM developers in an "off the record" session, specifically the new CQL express measure logic, followed by a discussion of common questions in advance to be addressed during the session.

The Expert to Expert Series will feature the following links to register for each session.

Session Titles	Date	Registration Links	Slides	Transcripts	Recordings	Q&As
eCQM Clinical Quality Language (CQL) Basics Webinar for Hospitals	29-Nov-18	NA – Session has already occurred	11/29 PDF slide deck	11/29 PDF transcript	11/29 recording	11/29 PDF Q&A document
Expert to Expert Session 1: STK-2, -3, & -6	11-Dec-18	NA – Session has already occurred	12/11 PDF slide deck	12/11 PDF transcript	12/11 recording	12/11 PDF Q&A document
Expert to Expert Session 2: STK-5 and AMI-8a	29-Jan-18	NA – Session has already occurred	01/29 PDF slide deck	To be posted following session	To be posted following session	To be posted following session
Expert to Expert Session 3: ED-1 and -2	12-Feb-19	NA – Session has already occurred	02/12 PDF slide deck	To be posted following session	To be posted following session	To be posted following session

Visit https://www.jointcommission.org/piq_expert_to_expert_series/ to register for future sessions and access slides, webinar recordings, and Q&A documents when available.

Pioneers in Quality™

Expert to Expert Series: VTE-1 & VTE-2

Pioneers in Quality

[Pioneers in Quality - Home](#)

[Proven Practices Webinar Series](#)

Pioneers in Quality™ Recognition

- ▶ [2018 Pioneers in Quality Expert and Solution Contributors List](#)
- ▶ [Pioneers in Quality Proven Practices Collection](#)
- ▶ [2017 Pioneers in Quality™ Hospital eCQM Contributor Recognition Lists](#)

2017 Annual Report on Quality and Safety

- ▶ [America's Hospitals: Improving Quality and Safety – The Joint Commission's Annual Report 2017](#)

Press Releases



2018 Proven Practices Collection and Webinar Series

Four hospitals and/or health systems [were recognized](#) as 2018 Pioneers in Quality™ Expert Contributors for their efforts to advance the evolution and utilization of electronic clinical quality measures (eCQMs). These organizations presented during the Joint Commission's Pioneers in Quality™ 2018 eCQM Proven Practices webinar series and are featured within the 2018 Proven Practice Collection along with the five Experts Contributors recognized in 2017. You can access the 2018 [Proven Practices Collection here](#).

- **August 23, 11 a.m. CT:** "Electronic health record (EHR) refinement and system EHR transition," presented by Expert Contributors Medstar St. Mary's Hospital and BJC Healthcare. For more information, including the session recording, slides, and Q&A visit the [webinar landing page](#).
- **September 18, 1 p.m. CT:** "An evolutionary approach and a model of collaboration," presented by Expert Contributors Vail Health Hospital and Texas Health Resources. For more information, including the session recording, slides, and Q&A visit the [webinar landing page](#).
- **Proven Practices Webinar Series.** For more information, including links to all 2017 and 2018 session's recordings, slides, and Q&A, see the [Proven Practices landing page](#).

About the Program

Pioneers in Quality (PIQ) is a Joint Commission program to assist hospitals on their journey towards electronic clinical quality measure adoption that includes educational programs (e.g., webinars for CEUs), a resource portal, recognition



Pioneers in Quality: eCQM "Expert to Expert" Series Series Information/Session Replays

Promotional Video



Webinar Replays / Related Documentation

- ▶ [Pioneers in Quality™ 2019 Joint Commission ORYX Reporting Requirements: Your Questions Answered](#)
- ▶ [Pioneers in Quality™ 2018 eCQM Proven Practices: An evolutionary approach and a model of collaboration](#)

Visit https://www.jointcommission.org/topics/pioneers_in_quality.aspx for additional information about Pioneers in Quality and the Proven Practices Program.

CE Session Evaluation Survey and Certificate

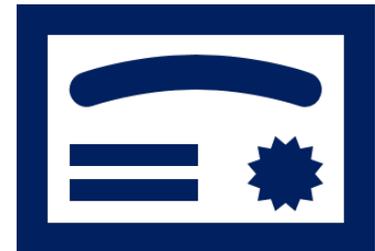


You will receive an automated email that will direct you how to access the evaluation survey.

We use your feedback to inform future content and assess the quality of our sessions.

The evaluation closes in 2 weeks.

After the evaluation period closes, a printable certificate will be emailed to all participants that complete the survey and meet all CE requirements.



Thank you for attending this session.

