

## NQF-ENDORSED VOLUNTARY CONSENSUS STANDARDS FOR HOSPITAL CARE

### Measure Information Form Collected For: The Joint Commission Only CMS Informational Only

**Measure Set:** Venous Thromboembolism (VTE)

**Set Measure Set ID #:** VTE-6

**Performance Measure Name:** Incidence of Potentially-Preventable Venous Thromboembolism

**Description:** This measure assesses the number of patients diagnosed with confirmed VTE during hospitalization (not present at admission) who did not receive VTE prophylaxis between hospital admission and the day before the VTE diagnostic testing order date.

**Rationale:** The concept of “failure to prevent” has generated interest in national health policy organizations to identify evidence-based practice that will improve patient safety in the hospital setting. In spite of formal guidelines, pulmonary embolism is the most common preventable cause of death among hospitalized patients, causing or contributing to 5% to 10% of all in-hospital deaths. A study at a large teaching hospital found that potentially preventable cases of VTE represented two-thirds of all VTE cases where prophylaxis was indicated, with 47.7% due to failure to give any prophylaxis, 22.7% because of inadequate duration or 20% due to incorrect type of prophylaxis. Almost one-half of all VTEs occurring in the community are related to recent hospitalization, either for major surgery or for acute medical illness.

Gillies and colleagues identified three groups of surgical patients less likely to receive prophylaxis: moderate-risk patients, emergency admission, and conservatively treated patients. Failure to prevent VTE can result in delayed hospital discharge or readmission, increased risk for long-term morbidity from post-thrombotic syndrome, and recurrent thrombosis in the future.

**Type of Measure:** Outcome

**Improvement Noted As:** A decrease in the rate

**Numerator Statement:** Patients who received no VTE prophylaxis prior to the VTE diagnostic test order date.

**Included Populations:** Not Applicable

**Excluded Populations:** None

**Data Elements:**

*VTE Prophylaxis Status*

**Denominator Statement:** Patients who developed confirmed VTE during hospitalization.

**Included Populations:**

Discharges with an *ICD-9-CM Other Diagnosis Codes* of VTE as defined in Appendix A, Table 7.03 or 7.04

**Excluded Populations:**

- Patients less than 18 years of age
- Patients who have a length of stay greater than 120 days
- Patients with *Comfort Measures Only* documented
- Patients enrolled in clinical trials
- Patients with *ICD-9-CM Principal Diagnosis Code* of VTE as defined in Appendix A, Table 7.03 or 7.04
- Patients with *VTE Present at Admission*
- Patients with reasons for not administering mechanical and pharmacologic prophylaxis
- Patients without VTE confirmed by diagnostic testing

**Data Elements:**

- *Admission Date*
- *Birthdate*
- *Clinical Trial*
- *Comfort Measures Only*
- *Discharge Date*
- *ICD-9-CM Other Diagnosis Codes*
- *ICD-9-CM Principal Diagnosis Code*
- *VTE Confirmed*
- *VTE Diagnostic Test*
- *VTE Present at Admission*

**Risk Adjustment:** No

**Data Collection Approach:** Retrospective data sources for required data elements include administrative data and medical records.

**Data Accuracy:** Variation may exist in the assignment of ICD-9-CM codes; therefore, coding practices may require evaluation to ensure consistency.

**Measure Analysis Suggestions:** In order to identify areas for improvement, hospitals may want to stratify the numerator cases by patient age, diagnosis, or service designation. Patients that developed a VTE during hospitalization (denominator) that received prophylaxis could be evaluated in a separate analysis to determine if appropriate prophylaxis (modality, start time, duration) was administered.

**Sampling:** No, please refer to the measure set specific sampling requirements and for additional information see the Population and Sampling Specifications.

**Data Reported as:** Aggregate rate generated from count data reported as a proportion.

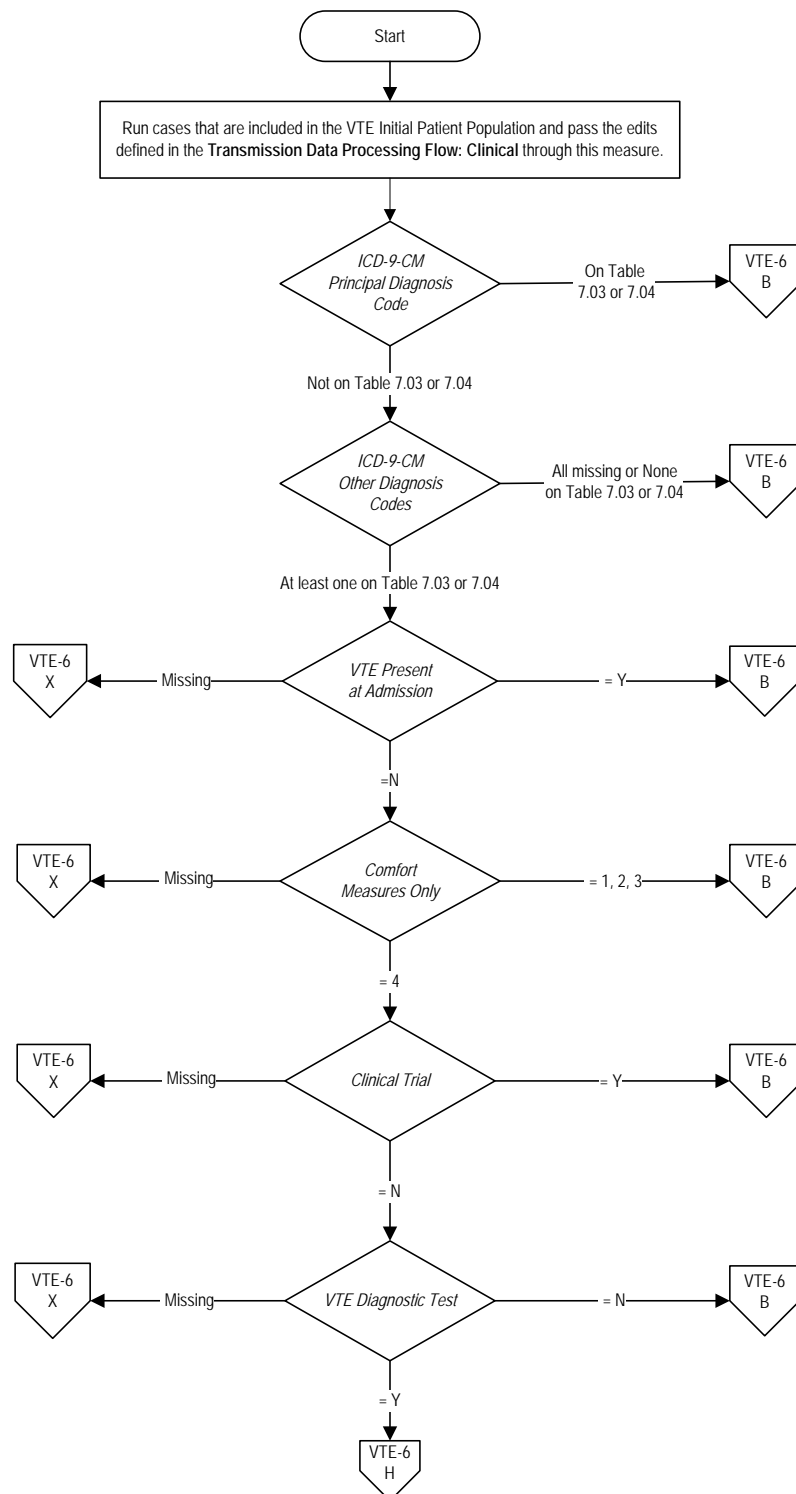
**Selected References:**

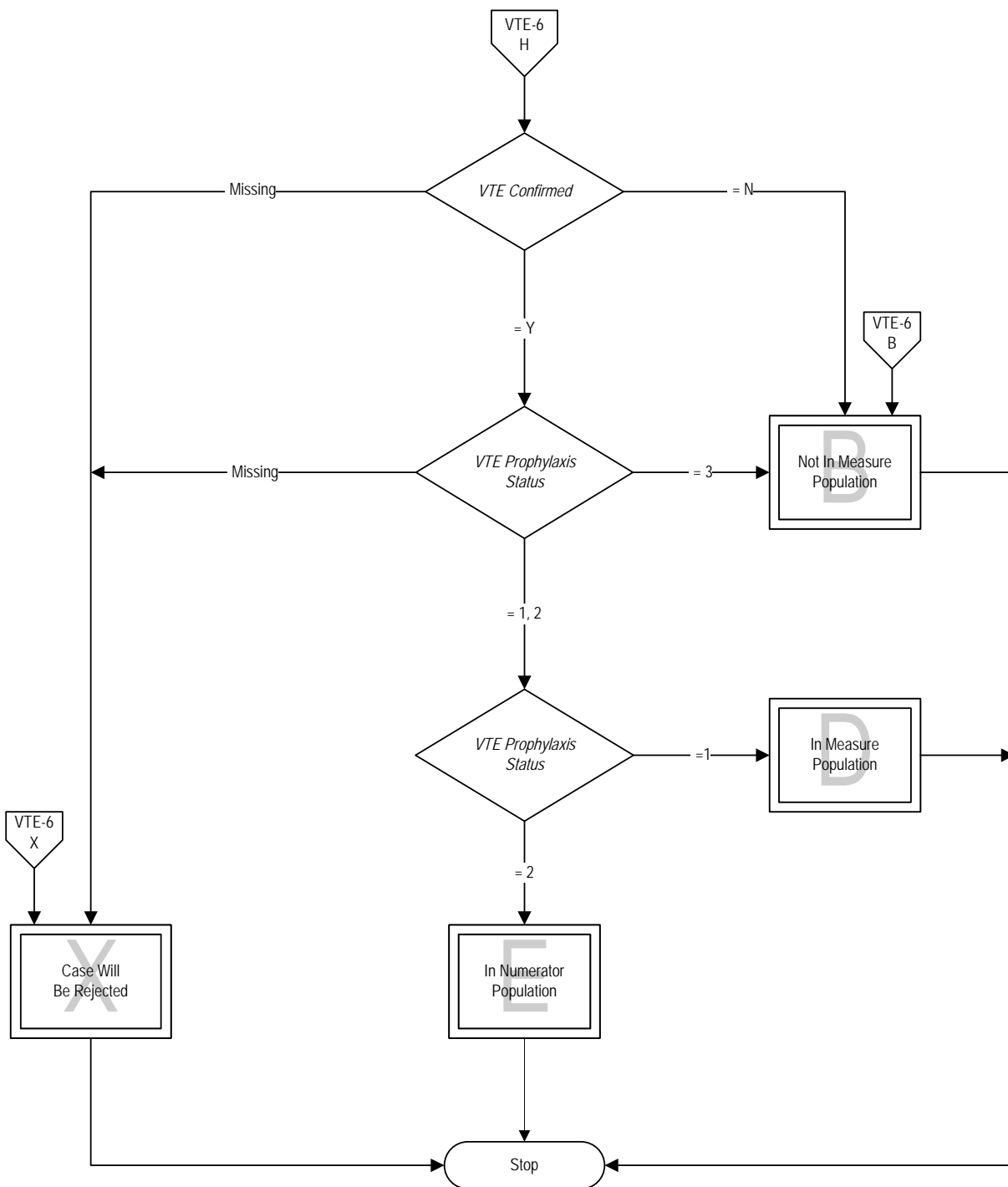
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- Gillies TE, Ruckley CV, Nixon SJ. Still missing the boat with fatal pulmonary embolism. *Br J Surg*. 1996 Oct;83(10):1394-5.

## VTE-6: Incidence of Potentially-Preventable Venous Thromboembolism

**Numerator:** Patients who received no VTE prophylaxis prior to the VTE diagnostic test order date

**Denominator:** Patients who developed confirmed VTE during hospitalization





## **VTE-6: Incidence of Potentially-Preventable Venous Thromboembolism**

**Numerator:** Patients who received no VTE prophylaxis prior to the VTE diagnostic test order date.

**Denominator:** Patients who developed confirmed VTE during hospitalization.

1. Start processing. Run cases that are included in the VTE Initial Patient Population and pass the edits defined in the Transmission Data Processing Flow: Clinical through this measure.
2. Check ICD-9-CM Principal Diagnosis Code
  - a. If the ICD-9-CM Principal Diagnosis Code is on Table 7.03 or 7.04, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing.
  - b. If the ICD-9-CM Principal Diagnosis Code is not on Table 7.03 or 7.04, continue processing and proceed to ICD-9-CM Other Diagnosis Code.
3. Check ICD-9-CM Other Diagnosis Codes
  - a. If all ICD-9-CM Other Diagnosis Codes are missing or none of them on Table 7.03 or 7.04, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing.
  - b. If at least one of the ICD-9-CM Other Diagnosis Codes is on Table 7.03 or 7.04, continue processing and proceed to VTE Present at Admission.
4. Check VTE Present at Admission
  - a. If VTE Present at Admission is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
  - b. If VTE Present at Admission equals Yes, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing.
  - c. If VTE Present at Admission equals No, continue processing and proceed to Comfort Measures Only.
5. Check Comfort Measures Only
  - a. If Comfort Measures Only is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
  - b. If Comfort Measures Only equals 1, 2, or 3, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing.

- c. If Comfort Measures Only equals 4, continue processing and proceed to Clinical Trial.
- 6. Check Clinical Trial
  - a. If Clinical Trial is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
  - b. If Clinical Trial equals Yes, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing.
  - c. If Clinical Trial equals No, continue processing and proceed to VTE Diagnostic Test.
- 7. Check VTE Diagnostic Test
  - a. If VTE Diagnostic Test is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
  - b. If VTE Diagnostic Test equals No, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing.
  - c. If VTE Diagnostic Test equals Yes, continue processing and proceed to VTE Confirmed.
- 8. Check VTE Confirmed
  - a. If VTE Confirmed is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
  - b. If VTE Confirmed equals No, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing.
  - c. If VTE Confirmed equals Yes, continue processing and proceed to VTE Prophylaxis Status.
- 9. Check VTE Prophylaxis Status
  - a. If VTE Prophylaxis Status is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
  - b. If VTE Confirmed equals 3, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing.
  - c. If VTE Prophylaxis Status equals 1, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.

- d. If VTE Confirmed equals 2, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing.