

NQF ENDORSED VOLUNTARY CONSENSUS STANDARDS FOR HOSPITAL CARE

Measure Information Form

Measure Set: Stroke (STK)

Set Measure ID #: STK-4

Performance Measure Name: Thrombolytic Therapy

Description: Acute ischemic stroke patients who arrive at this hospital within 2 hours of time last known well and for whom IV t-PA was initiated at this hospital within 3 hours of time last known well.

Rationale: The administration of thrombolytic agents to carefully screened, eligible patients with acute ischemic stroke has been shown to be beneficial in several clinical trials. These included two positive randomized controlled trials in the United States: The National Institute of Neurological Disorders and Stroke (NINDS) Studies, Part I and Part II. Based on the results of these studies, the Food and Drug Administration (FDA) approved the use of intravenous recombinant tissue plasminogen activator (IV r-TPA or t-PA) for the treatment of acute ischemic stroke when given within 3 hours of stroke symptom onset. A large meta-analysis controlling for factors associated with stroke outcome confirmed the benefit of IV t-PA in patients treated within 3 hours of symptom onset. While controversy still exists among some specialists, the major society practice guidelines developed in the United States all recommend the use of IV t-PA for eligible patients. Physicians with experience and skill in stroke management and the interpretation of CT scans should supervise treatment.

The European Cooperative Acute Stroke Study (ECASS) III trial indicated that intravenous rtPA can be given safely to, and can improve outcomes for, carefully selected patients treated 3 to 4.5 hours after stroke; however, as the NINDS investigators concluded, the earlier that IV thrombolytic therapy is initiated, the better the patient outcome. Therefore, the target for IV t-PA initiation remains within 3 hours of time last known well. The administration of IV thrombolytic therapy beyond 3 hours of stroke symptom onset has not been FDA approved.

Type of Measure: Process

Improvement Noted As: An increase in rate

Numerator Statement: Acute ischemic stroke patients for whom IV thrombolytic therapy was initiated at this hospital within 3 hours (less than or equal to 180 minutes) of time last known well.

Included Populations: Not applicable

Excluded Populations: None

Data Elements:

- *Date Last Known Well*
- *Time Last Known Well*
- *IV Thrombolytic Initiation*
- *IV Thrombolytic Initiation Date*
- *IV Thrombolytic Initiation Time*

Denominator Statement: Acute ischemic stroke patients whose time of arrival is within 2 hours (less than or equal to 120 minutes) of time last known well.

Included Populations:

Discharges with an *ICD-9-CM Principal Diagnosis Code* for ischemic stroke as defined in Appendix A, Table 8.1

Excluded Populations:

- Patients less than 18 years of age
- Patients who have a Length of Stay greater than 120 days
- Patients enrolled in clinical trials
- Patients admitted for *Elective Carotid Intervention*
- *Time Last Known Well* to arrival in the emergency department greater than 2 hours
- Patients with a documented *Reason For Extending the Initiation of IV Thrombolytic*
- Patients with a documented *Reason For Not Initiating IV Thrombolytic*

Data Elements:

- *Admission Date*
- *Arrival Date*
- *Arrival Time*
- *Birthdate*
- *Clinical Trial*
- *Date Last Known Well*
- *Discharge Date*
- *ED Patient*
- *Elective Carotid Intervention*
- *ICD-9-CM Principal Diagnosis Code*
- *Last Known Well*
- *Reason for Extending the Initiation of IV Thrombolytic*
- *Reason for Not Initiating IV Thrombolytic*
- *Time Last Known Well*

Risk Adjustment: No

Data Collection Approach: Retrospective data sources for required data elements include administrative data and medical record documents. Some hospitals may prefer

to gather data concurrently by identifying patients in the population of interest. This approach provides opportunities for improvement at the point of care/service. However, complete documentation includes the principal or other ICD-9-CM diagnosis and procedure codes, which require retrospective data entry.

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: None

Sampling: Yes, please refer to the measure set specific sampling requirements and for additional information see the Population and Sampling Specifications section.

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

Selected References:

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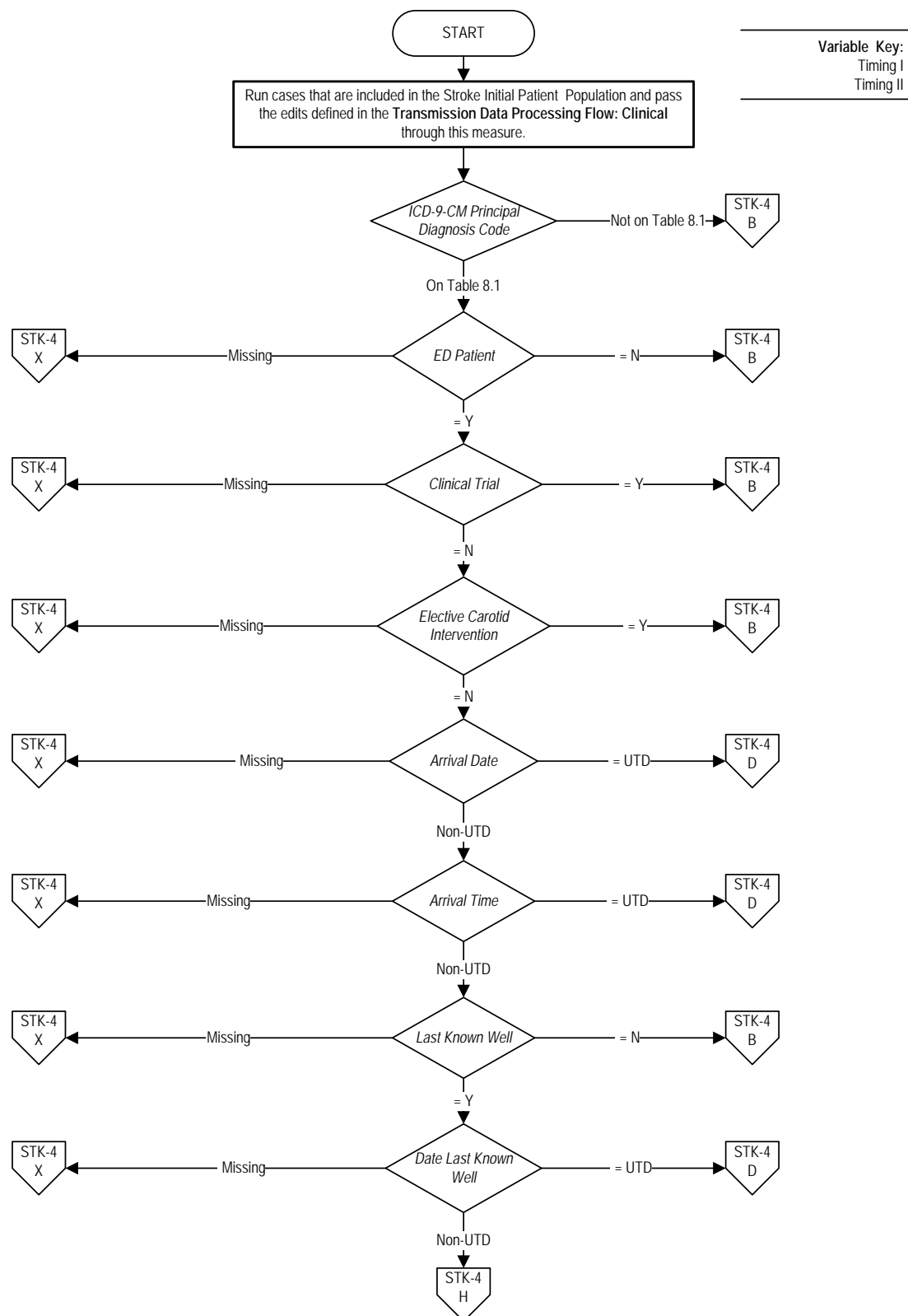
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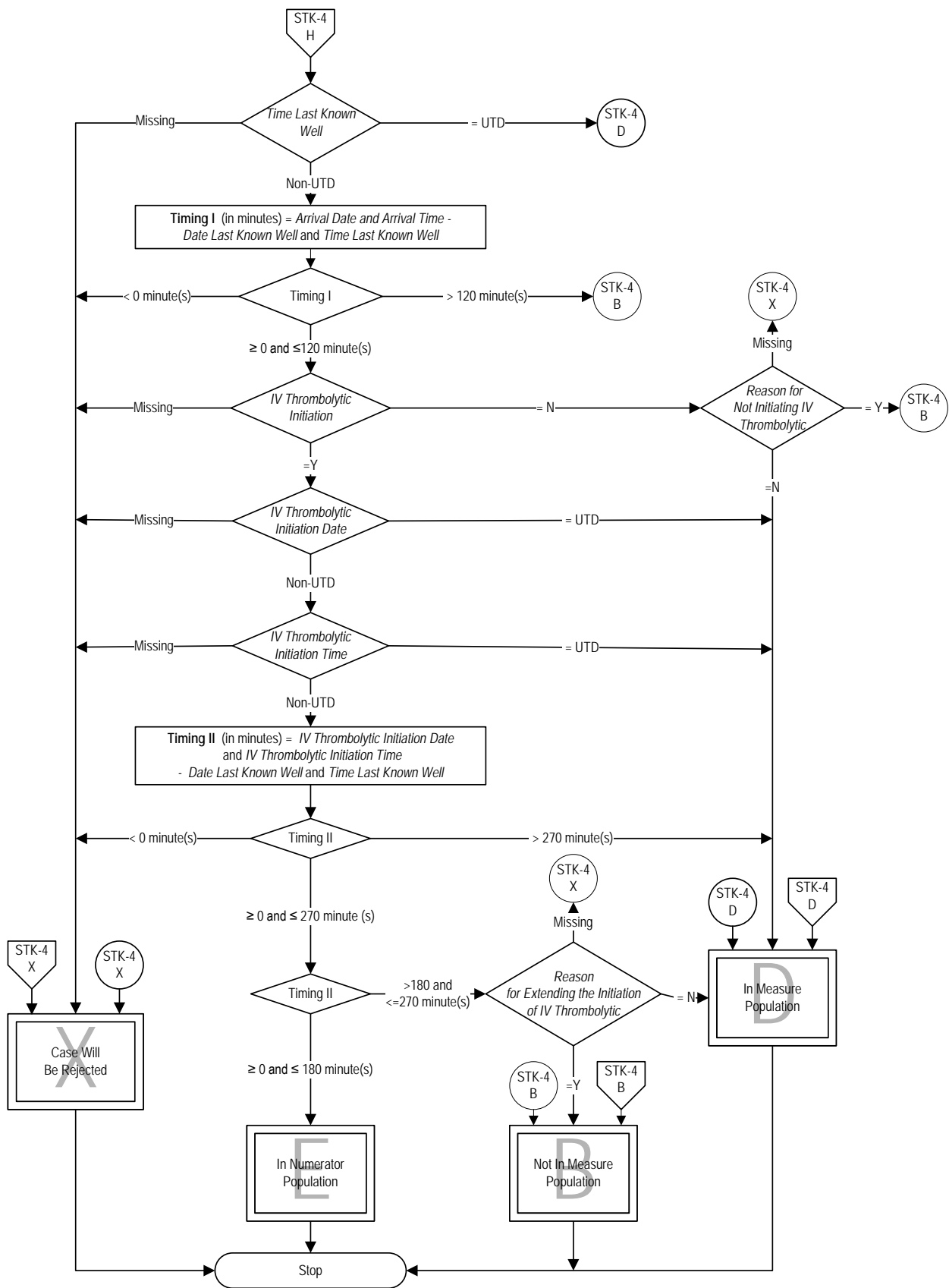
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STK - 4: Thrombolytic Therapy

Numerator: Acute ischemic stroke patients for whom IV thrombolytic therapy was initiated at this hospital within 3 hours (≤ 180 minutes) of time last known well.

Denominator: Acute ischemic stroke patients whose time of arrival is within 2 hours (≤ 120 minutes) of time last known well.





STK-4: Thrombolytic Therapy

Numerator: Acute ischemic stroke patients for whom IV thrombolytic therapy was initiated at this hospital within 3 hours (less than or equal to 180 minutes) of time last known well.

Denominator: Acute ischemic stroke patients whose time of arrival is within 2 hours (less than or equal to 120 minutes) of time last known well.

Variable Key: Timing I, Timing II

1. Start processing. Run cases that are included in the Stroke (STK) 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 not on Table 8.1, 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 on Table 8.1, continue processing and proceed to ED Patient.
3. Check ED Patient
 - a. If ED Patient is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If ED Patient 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 ED Patient equals Yes, continue processing and proceed to Clinical Trial.
4. 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 Elective Carotid Intervention.
5. Check admitted for Elective Carotid Intervention
 - a. If Elective Carotid Intervention is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Elective Carotid Intervention 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 Elective Carotid Intervention equals No, continue processing and proceed to Arrival Date.
6. Check Arrival Date
- a. If the Arrival Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If the Arrival Date equals Unable to Determine (UTD), the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
 - c. If the Arrival Date equals a Non-Unable To Determine (non-UTD) Value, continue processing and proceed to Arrival Time.
7. Check Arrival Time
- a. If the Arrival Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If the Arrival Time equals Unable to Determine (UTD), the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
 - c. If the Arrival Time equals a Non-Unable To Determine (non-UTD) Value, continue processing and proceed to Last Known Well.
8. Check Last Known Well
- a. If Last Known Well is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Last Known Well 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 Last Known Well equals Yes, continue processing and proceed to Date Last Known Well.
9. Check Date Last Known Well
- a. If the Date Last Known Well is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If the Date Last Known Well equals Unable to Determine (UTD), the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
 - c. If the Date Last Known Well equals a Non-Unable To Determine (non-UTD) Value, continue processing and proceed to Time Last Known Well.
10. Check Time Last Known Well
- a. If the Time Last Known Well is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.

- b. If the Time Last Known Well equals Unable to Determine (UTD), the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
 - c. If the Time Last Known Well equals a Non Unable To Determine (non-UTD) Value, continue processing and proceed to the Timing I calculation.
11. Calculate Timing I. Timing I, in minutes, is equal to the Arrival Date and the Arrival Time minus the Date Last Known Well and the Time Last Known Well.
- a. If the time in minutes is greater than 120, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing.
 - b. If the time in minutes is greater than or equal to zero and less than or equal to 120, continue processing and proceed to IV Thrombolytic Initiation.
 - c. If the time in minutes is less than zero, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
12. Check IV Thrombolytic Initiation
- a. If IV Thrombolytic Initiation is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If IV Thrombolytic Initiation equals No, continue processing and proceed to Reason for Not Initiating IV Thrombolytic.
 - c. If IV Thrombolytic Initiation equals Yes, continue processing and proceed to step 14 and check IV Thrombolytic Initiation Date.
13. Check Reason for Not Initiating IV Thrombolytic
- a. If Reason for Not Initiating IV Thrombolytic is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Reason for Not Initiating IV Thrombolytic 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 Reason for Not Initiating IV Thrombolytic equals No, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
14. Check IV Thrombolytic Initiation Date
- a. If the IV Thrombolytic Initiation Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If the IV Thrombolytic Initiation Date equals Unable to Determine (UTD), the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.

- c. If the IV Thrombolytic Initiation Date equals a Non Unable To Determine (non-UTD) Value, continue processing and proceed to IV Thrombolytic Initiation Time.
15. Check IV Thrombolytic Initiation Time
 - a. If the IV Thrombolytic Initiation Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If the IV Thrombolytic Initiation Time equals Unable to Determine (UTD), the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
 - c. If the IV Thrombolytic Initiation Time equals a Non Unable To Determine (non-UTD) Value, continue processing and proceed to the Timing II calculation.
16. Calculate Timing II. Timing II, in minutes, is equal to the IV Thrombolytic Initiation Date and the IV Thrombolytic Initiation Time minus the Date Last Known Well and the Time Last Known Well.
 - a. If the time in minutes is greater than 270, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
 - b. If the time in minutes is greater than or equal to zero and less than or equal to 270, continue processing and proceed to recheck Timing II.
 - c. If the time in minutes is less than zero, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
17. Recheck Timing II
 - a. If the time in minutes is greater than or equal to zero and less than or equal to 180, the case will proceed to a Measure category Assignment of E and will be in the Numerator Population. Stop processing.
 - b. If the time in minutes is greater than 180 and less than or equal to 270, continue processing and proceed to Reason for Extending the Initiation of IV Thrombolytic.
18. Check Reason for Extending the Initiation of IV Thrombolytic
 - a. If Reason for Extending the Initiation of IV Thrombolytic is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Reason for Extending the Initiation of IV Thrombolytic 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 Reason for Extending the Initiation of IV Thrombolytic equals No, the case will proceed to a Measure Category Assignment D and will be in the Measure Population. Stop processing.