

NQF ENDORSED VOLUNTARY CONSENSUS STANDARDS FOR HOSPITAL CARE

Measure Information Form

Measure Set: Stroke (STK)

Set Measure ID #: STK-6

Performance Measure Name: Discharged on Statin Medication

Description: Ischemic stroke patients with LDL greater than or equal to 100 mg/dL, or LDL not measured, or who were on a lipid-lowering medication prior to hospital arrival are prescribed statin medication at hospital discharge.

Rationale: An elevated serum lipid level has been a well-documented risk factor for coronary artery disease (CAD) and reflects an organ-specific manifestation of atherosclerosis which is a disease process that can affect the heart and the major and minor branches of the arterial tree. The reduction of LDL cholesterol, through lifestyle modification and drug therapy when appropriate, is recommended for the prevention of myocardial infarction and other major vascular events for patients with CAD (or coronary risk equivalent conditions) according to the National Cholesterol Education Program's Adult Treatment Panel III (NCEP ATP III) Guidelines. Recently, there has been an increased focus on the detection of patients with these risk factors when they present with other manifestations of atherosclerosis, and assuring that these patients are treated with lipid lowering medication if they meet NCEP ATP III guidelines. While symptomatic carotid artery disease is one of the recognized coronary disease risk equivalents that qualify patients for treatment under ATP III, there was little data until recently about the role of lipid lowering to prevent recurrent stroke or major vascular events in patients who presented with atherosclerotic stroke but did not otherwise qualify for treatment under ATP III. The Stroke Prevention by Aggressive Reduction in Cholesterol Levels (SPARCL) study examined the effects of statins to lower LDL cholesterol in patients with stroke or TIA of atherosclerotic origin who had no other reason for taking lipid lowering therapy (i.e., they were without prior CAD or risk equivalent conditions), and had a fasting LDL greater than or equal to 100 mg/dL. The trial convincingly demonstrated that intensive lipid lowering therapy using statin medication was associated with a dramatic reduction in the rate of recurrent ischemic stroke and major coronary events. The treatment was well tolerated and cost effective. As a result, intensive lipid lowering therapy through use of a statin medication is now recommended for all patients with stroke or TIA of atherosclerotic origin who have an LDL greater than or equal to 100 mg/dL (or with LDL less than 100 mg/dL due to being on lipid lowering therapy prior to hospital arrival).

Based on these guidelines, all patients with ischemic stroke or TIA should have lipid profile measurement performed within 48 hours of hospital arrival unless results are available from within the past 30 days. A large body of evidence suggests that non-fasting lipid levels drawn in the first 48 hours after a major vascular event are reliable

predictors of baseline lipid profiles, but after that time they may become unreliable. It is recommended that all patients with ischemic stroke or TIA with coronary heart disease or symptomatic atherosclerotic disease who have an LDL greater than or equal to 100 mg/dL (or with LDL less than 100 mg/dL due to being on lipid lowering therapy prior to hospital arrival) should be treated with a statin. The target goal for cholesterol lowering is an LDL-c level of less than 100 mg/dL. An LDL-c less than 70 mg/dL is recommended for very high-risk persons with multiple risk factors. For patients with stroke of atherosclerotic origin, intensive lipid lowering therapy with statins should be initiated in those who have an LDL greater than or equal to 100 mg/dL (or with LDL less than 100 mg/dL due to being on lipid lowering therapy prior to hospital arrival).

Type of Measure: Process

Improvement Noted As: An increase in rate

Numerator Statement: Ischemic stroke patients prescribed statin medication at hospital discharge.

Included Populations: Not applicable

Excluded Populations: None

Data Elements:

Statin Medication Prescribed at Discharge

Denominator Statement: Ischemic stroke patients with an LDL greater than or equal to 100 mg/dL, OR LDL not measured, OR who were on a lipid-lowering medication prior to hospital arrival.

Included Populations:

- Discharges with an *ICD-9-CM Principal Diagnosis Code* for ischemic stroke as defined in Appendix A, Table 8.1
- AND**
- Patients who were on a lipid-lowering medication prior to hospital arrival as defined in Appendix C, Table 1.6, OR
 - Patients with LDL-c not measured, OR
 - Patients with *LDL-c Greater Than or Equal to 100 mg/dL*

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 admitted for *Elective Carotid Intervention*
- Patients discharged to another hospital
- Patients who left against medical advice
- Patients who expired
- Patients discharged to home for hospice care

- Patients discharged to a health care facility for hospice care
- Patients with a *Reason for Not Prescribing Statin Medication at Discharge*

Data Elements:

- *Admission Date*
- *Birthdate*
- *Clinical Trial*
- *Comfort Measures Only*
- *Discharge Date*
- *Discharge Disposition*
- *Elective Carotid Intervention*
- *ICD-9-CM Principal Diagnosis Code*
- *LDL-c Greater Than or Equal to 100 mg/dL*
- *LDL-c Measured Within the First 48 Hours or 30 Days Prior to Hospital Arrival*
- *Pre-Arrival Lipid-Lowering Agent*
- *Reason for Not Prescribing Statin Medication at Discharge*

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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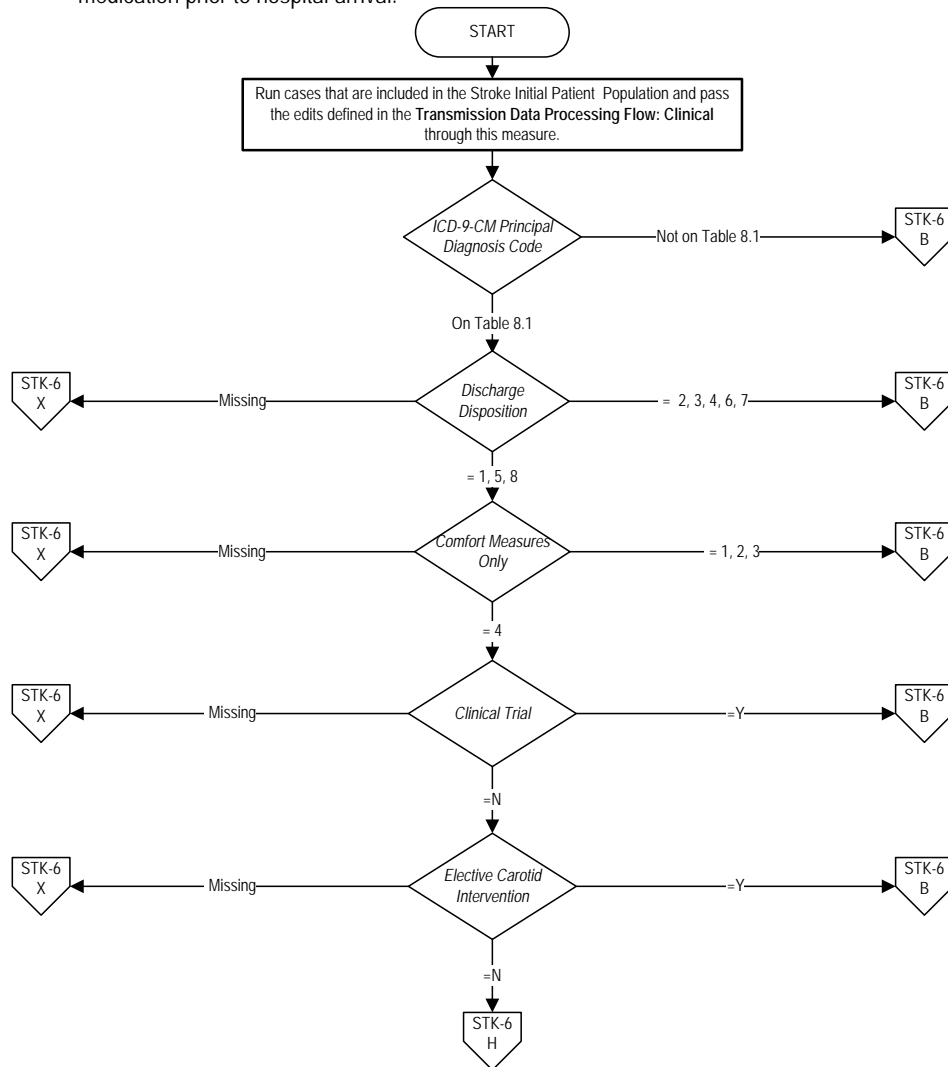
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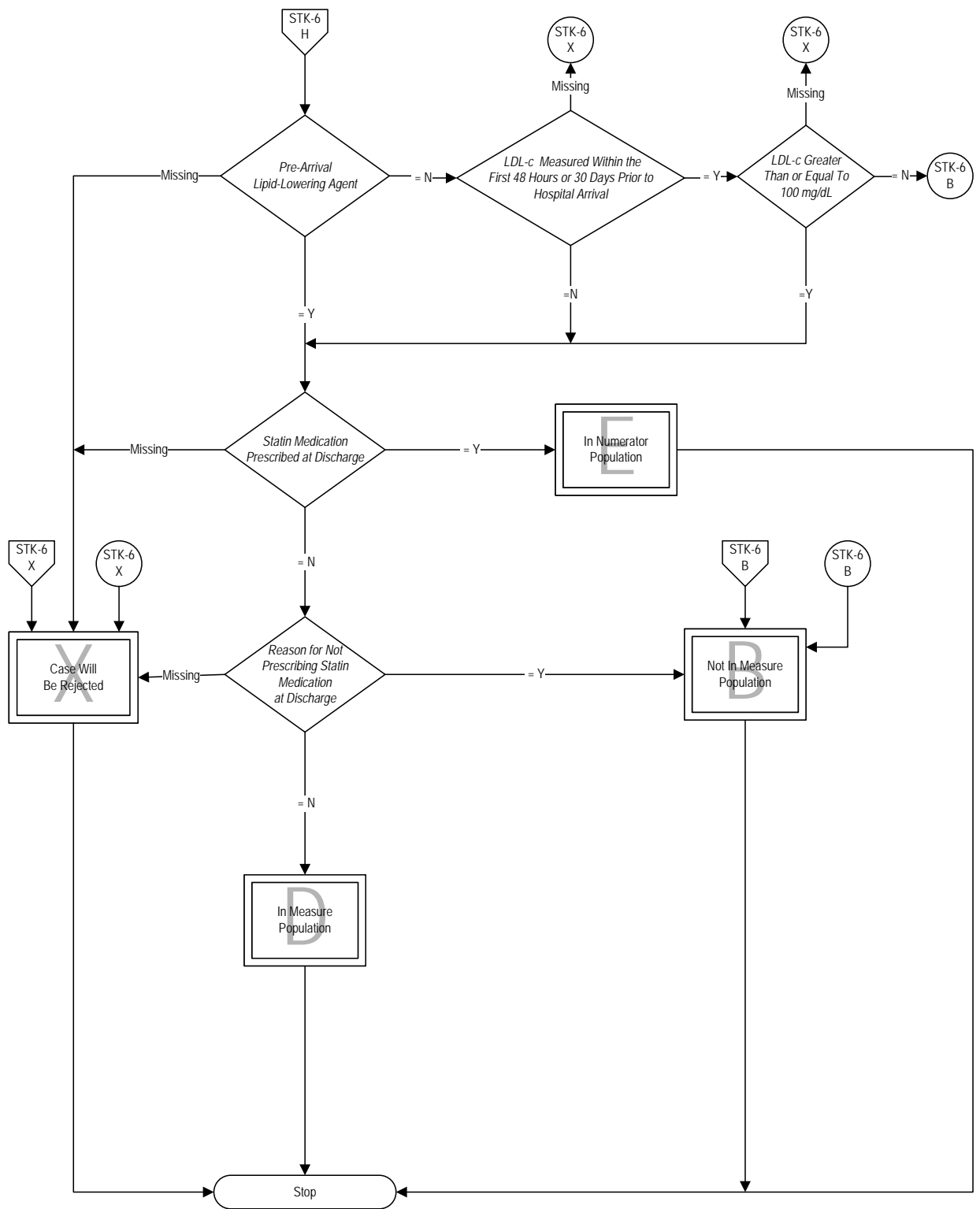
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STK - 6: Discharged on Statin Medication

Numerator: Ischemic stroke patients prescribed statin medication at hospital discharge.

Denominator: Ischemic stroke patients with an LDL \geq 100 mg/dL, OR LDL not measured, OR who were on a lipid-lowering medication prior to hospital arrival.





STK-6: Discharged on Statin Medication

Numerator: Ischemic stroke patients prescribed statin medication at hospital discharge.

Denominator: Ischemic stroke patients with LDL greater than or equal to 100 mg/dL, or LDL not measured, or, who were on a lipid-lowering medication prior to hospital arrival.

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 Discharge Disposition.
3. Check Discharge Disposition
 - a. If Discharge Disposition equals 2, 3, 4, 6 or 7 the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing.
 - b. If Discharge Disposition equals 1, 5 or 8, continue processing and proceed to Comfort Measures Only.
4. 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.
5. 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.
6. 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 Pre-Arrival Lipid-Lowering Agent.
7. Check Pre-Arrival Lipid-Lowering Agent
 - a. If Pre-Arrival Lipid-Lowering Agent is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Pre-Arrival Lipid-Lowering Agent equals No, continue processing and check LDL-c Measured Within the First 48 Hours or 30 Days Prior to Hospital Arrival.
 - c. If Pre-Arrival Lipid-Lowering Agent equals Yes, continue processing and proceed to step 10 and check Statin Medication Prescribed at Discharge.
8. Check LDL-c Measured Within the First 48 Hours or 30 Days Prior to Hospital Arrival
 - a. If LDL-c Measured Within the First 48 Hours or 30 Days Prior to Hospital Arrival is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If LDL-c Measured Within the First 48 Hours or 30 Days Prior to Hospital Arrival equals Yes, continue processing and check LDL-c Greater Than or Equal to 100 mg/dL.
 - c. If LDL-c Measured Within the First 48 Hours or 30 Days Prior to Hospital Arrival equals No, continue processing and proceed to step 10 and check Statin Medication Prescribed at Discharge.
9. Check LDL-c Greater Than or Equal to 100 mg/dL
 - a. If LDL-c Greater Than or Equal to 100 mg/dL is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If LDL-c Greater Than or Equal to 100 mg/dL 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 LDL-c Greater Than or Equal to 100 mg/dL equals Yes, continue processing and check Statin Medication Prescribed at Discharge.
10. Check Statin Medication Prescribed at Discharge

- a. If Statin Medication Prescribed at Discharge is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Statin Medication Prescribed at Discharge equals Yes, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing.
 - c. If Statin Medication Prescribed at Discharge equals No, continue processing and check Reason for Not Prescribing Statin Medication at Discharge.
11. Check Reason for Not Prescribing Statin Medication at Discharge
- a. If Reason for Not Prescribing Statin Medication at Discharge is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Reason for Not Prescribing Statin Medication at Discharge 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 Prescribing Statin Medication at Discharge equals No, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.