Post-Acute Ischemic Stroke Screening and Care Measure Bundle

<table>
<thead>
<tr>
<th>Measure Description</th>
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<tbody>
<tr>
<td>Percentage of patients aged 18 years and older with a diagnosis of ischemic stroke or transient ischemic attack within the last 3 months that received defect free care based upon their eligibility for all 6 performance measure components.</td>
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<table>
<thead>
<tr>
<th>Measure Components</th>
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<tbody>
<tr>
<td><strong>Numerator Statement</strong></td>
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<tr>
<td>All eligible patients who received all 6 measure components:</td>
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- **Component 1: Blood Pressure**
  - Patients with a blood pressure <140/90 mmHg* OR Patients with a blood pressure ≥140/90 mmHg who were:
    - prescribed 2 or more anti-hypertensive agents,
    - referred back to PCP when BP noted to be >140/90 mmHg, OR
    - medical rationale documented (e.g., severe orthostasis) for more liberal blood pressure management.

- **Component 2: Diabetes Screening**
  - Patient is screened for Diabetes Mellitus with either fasting plasma glucose, HbA1C or oral glucose tolerance test during reporting period

- **Component 3: Appropriate Antithrombotic**
  - Patients aged 18 years and older with ischemic stroke on appropriate antithrombotic:
    - Appropriate antithrombotic for patients with stroke AND nonvalvular atrial fibrillation using therapeutic anticoagulation (warfarin, LMWH or direct factor inhibitors as approved by FDA), OR documentation of medical/patient exception,
    - Appropriate antithrombotic for patients with stroke AND mechanical heart valve or valvular atrial fibrillation using anticoagulation with warfarin OR documentation of medical/patient exception, OR
    - Appropriate antithrombotic for all other patients with stroke using antiplatelet or therapeutic anticoagulation
    - If not on antithrombotic, referral to appropriate provider for antithrombotic management.

- **Component 4: Tobacco Use Management**
  - Patients with stroke who have documentation of active smoking status OR former smoker with quit date less than 1 year from time of assessment provided counseling on the bad effects of tobacco, the benefit of quitting AND at least one of the following:
    - Referral back to PCP for tobacco cessation support, AND/OR
    - Referral to tobacco cessation clinic or tobacco dependence telephone quitline, AND/OR
    - Prescription of tobacco dependence medications including nicotine replacement therapies products, bupropion SR or Varenicline, or any FDA-approved drugs for tobacco dependence therapies or referral to PCP

Documentation of never smoker or former smoker with quit date more than a year from time of assessment fulfills this component.
- **Component 5: Exercise**
  - Patients prescribed or counseled on participating in an exercise program.

- **Component 6: Depression**
  - Patient is screened for depression using a validated instrument at least once upon arrival at outpatient care (i.e. Beck Depression Inventory, PHQ-9, Hamilton Rating Scale for Depression)

<table>
<thead>
<tr>
<th>Denominator Statement</th>
<th>All patients aged 18 years and older with a diagnosis of ischemic stroke or transient ischemic attack (TIA) evaluated within three months on an ambulatory visit</th>
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</thead>
</table>
| Denominator Exceptions | For all components:  
  - Patient declines treatment and screening  
  - Patient enrolled in a clinical trial  
  - Contraindication documented  
  Additional exceptions for individual components:  
  - Diabetes Screening: None  
  - Appropriate Antithrombotic: None  
  - Tobacco Use Management: None  
  - Exercise: Patients with documented contraindication or physical inability to participate in an exercise program  
  - Depression: Patients with aphasia or other medical condition that precludes use of any validated screening tool |
| Exception Justification | Exceptions are warranted for individuals enrolled in clinical trial as treatment plans required for measure are not clinically appropriate for these populations interfering with clinical trials. Assessment and treatment cannot be provided to those who refuse or leave AMA. Patients with documented contraindication for the specific intervention justifies exception as well. An exception was created for exercise as medical conditions may prevent meaningful counseling on benefits. An exception was created for depression screening as some patients may not be able to fully engage in screening through a validated tool due to neurological impairments. |
| Supporting Guideline & Other References | The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines and represent the evidence base for the measure:  
  **Component 1: Blood Pressure:**  
  - “Initiation of BP therapy is indicated for previously untreated patients with ischemic stroke or TIA who, after the first several days, have an established BP ≥140 mm Hg systolic or ≥90 mm Hg diastolic (Class I; Level of Evidence B). Initiation of therapy for patients with BP <140 mm Hg systolic and <90 mm Hg diastolic is of uncertain benefit (Class IIb; Level of Evidence C). (Revised recommendation)”(1)  
  - “Resumption of BP therapy is indicated for previously treated patients with known hypertension for both prevention of recurrent stroke and prevention of other vascular events in those who have had an ischemic stroke or TIA and are beyond the first several days (Class I; Level of Evidence A). (Revised recommendation)”(1)  
  - “Goals for target BP level or reduction from pretreatment baseline are uncertain and should be individualized, but it is reasonable to achieve a systolic pressure <140 mm Hg and a diastolic pressure <90 mm Hg (Class IIa; Level of Evidence B). For patients with a
recent lacunar stroke, it might be reasonable to target an SBP of <130 mm Hg (Class IIb; Level of Evidence B). (Revised recommendation)”(1)

Component 2: Diabetes Mellitus:
  o “Testing to assess risk for future diabetes in asymptomatic people should be considered in adults of any age who are overweight or obese (BMI ≥25 kg/m² or ≥23 kg/m² in Asian Americans) and who have one or more additional risk factors for diabetes. B” (2)
  o “To test for prediabetes, fasting plasma glucose, 2-h plasma glucose after 75-g oral glucose tolerance test, and A1C are equally appropriate. B” (2)
  o “Testing to detect type 2 diabetes in asymptomatic people should be considered in adults of any age who are overweight or obese (BMI ≥25 kg/m² or ≥23 kg/m² in Asian Americans) and who have one or more additional risk factors for diabetes. B” (2)
  o “To test for type 2 diabetes, fasting plasma glucose, 2-h plasma glucose after 75-g oral glucose tolerance test, and A1C are equally appropriate. B” (2)
  o “Disorders of Glucose Metabolism and DM Recommendations .After a TIA or ischemic stroke, all patients should probably be screened for DM with testing of fasting plasma glucose, HbA1c, or an oral glucose tolerance test. Choice of test and timing should be guided by clinical judgment and recognition that acute illness may temporarily perturb measures of plasma glucose. In general, HbA1c may be more accurate than other screening tests in the immediate postevent period (Class IIa; Level of Evidence C). (New recommendation)”(1)
  o “Use of existing guidelines from the ADA for glycemic control and cardiovascular risk factor management is recommended for patients with an ischemic stroke or TIA who also have DM or pre-DM (Class I; Level of Evidence B).”(1)

Component 3: Appropriate Antithrombotic:
  Appropriate antithrombotic for patients with AF or mechanical heart valve:
  o “VKA therapy (Class I; Level of Evidence A), apixaban (Class I; Level of Evidence A), and dabigatran (Class I; Level of Evidence B) are all indicated for the prevention of recurrent stroke in patients with nonvalvular AF, whether paroxysmal or permanent. The selection of an antithrombotic agent should be individualized on the basis of risk factors, cost, tolerability, patient preference, potential for drug interactions, and other clinical characteristics, including renal function and time in INR therapeutic range if the patient has been taking VKA therapy.”(1)
  o “Rivaroxaban is reasonable for the prevention of recurrent stroke in patients with nonvalvular AF (Class Ia; Level of Evidence B).”(1)
  o “For patients with ischemic stroke or TIA and AF who are unable to take oral anticoagulants, aspirin alone is recommended (Class I; Level of Evidence A).”(1)
The addition of clopidogrel to aspirin therapy, compared with aspirin therapy alone, might be reasonable (Class IIb; Level of Evidence B).”(1)

For most patients with a stroke or TIA in the setting of AF, it is reasonable to initiate oral anticoagulation within 14 days after the onset of neurological symptoms (Class IIa; Level of Evidence B).”(1)

In the presence of high risk for hemorrhagic conversion (ie, large infarct, hemorrhagic transformation on initial imaging, uncontrolled hypertension, or hemorrhage tendency), it is reasonable to delay initiation of oral anticoagulation beyond 14 days (Class IIa; Level of Evidence B).”(1)

For patients with ischemic stroke or TIA who have rheumatic mitral valve disease and AF, longterm VKA therapy with an INR target of 2.5 (range, 2.0–3.0) is recommended (Class I; Level of Evidence A).”(1)

For patients with a mechanical aortic valve and a history of ischemic stroke or TIA before its insertion, VKA therapy is recommended with an INR target of 2.5 (range, 2.0–3.0) (Class I; Level of Evidence B).”(1)

For patients with a mechanical mitral valve and a history of ischemic stroke or TIA before its insertion, VKA therapy is recommended with an INR target of 3.0 (range, 2.5–3.5) (Class I; Level of Evidence C).”(1)

**Appropriate antithrombotics for all other stroke patients:**

- For patients with noncardioembolic ischemic stroke or TIA, the use of antiplatelet agents rather than oral anticoagulation is recommended to reduce the risk of recurrent stroke and other cardiovascular events (Class I; Level of Evidence A).”(1)
- Aspirin (50–325 mg/d) monotherapy (Class I; Level of Evidence A) or the combination of aspirin 25 mg and extended-release dipyridamole 200 mg twice daily (Class I; Level of Evidence B) is indicated as initial therapy after TIA or ischemic stroke for prevention of future stroke.”(1)
- Clopidogrel (75 mg) monotherapy is a reasonable option for secondary prevention of stroke in place of aspirin or combination aspirin/dipyridamole (Class IIa; Level of Evidence B). This recommendation also applies to patients who are allergic to aspirin.”(1)

**Component 4: Tobacco Use Management:**

- Patients Healthcare providers should strongly advise every patient with stroke or TIA who has smoked in the past year to quit (Class I; Level of Evidence C).”(1)
- It is reasonable to advise patients after TIA or ischemic stroke to avoid environmental (passive) tobacco smoke (Class IIa; Level of Evidence B).”(1)
- Counseling, nicotine products, and oral smoking cessation medications are effective in helping smokers to quit (Class I; Level of Evidence A).”(1)
It is essential that clinicians and health care delivery systems consistently identify and document tobacco use status and treat every tobacco user seen in a health care setting."(3)

- Individual, group, and telephone counseling are effective, and their effectiveness increases with treatment intensity.'(3)

- Numerous effective medications are available for tobacco dependence, and clinicians should encourage their use by all patients attempting to quit smoking—except when medically contraindicated or with specific populations for which there is insufficient evidence of effectiveness (i.e., pregnant women, smokeless tobacco users, light smokers, and adolescents).”(3)

- Counseling and medication are effective when used by themselves for treating tobacco dependence. The combination of counseling and medication, however, is more effective than either alone. Thus, clinicians should encourage all individuals making a quit attempt to use both counseling and medication.’(3)

- Telephone quitline counseling is effective with diverse populations and has broad reach. Therefore, clinicians and health care delivery systems should both ensure patient access to quitlines and promote quitline use.’(3)

Component 5: Exercise:

- “Physical activity and exercise prescription should be incorporated into the management of stroke survivors. The promotion of physical activity in stroke survivors should emphasize low- to moderate-intensity aerobic activity, muscle-strengthening activity, reduction of sedentary behavior, and risk management for secondary prevention of stroke.”(4)

- “After successful screening, an individually tailored exercise program is indicated to enhance cardiorespiratory fitness and to reduce the risk of stroke recurrence.” (Class I; Level A (for improved fitness); Level B (for reduction of stroke risk))(5)

Component 6: Depression:

- “All patients with stroke should be screened for depressive symptoms, given the high prevalence of depression poststroke, the need for screening to detect depression, and the strong evidence for treating symptomatic depression poststroke (Evidence Level B).”(6)

- “Screening should be undertaken using a validated tool to maximize detection of depression (Evidence Level B); table 1A – a summary of suggested validated tools – is available at www.strokebestpractices.ca.
  - Screening for PSD may take place at various stages throughout the continuum of stroke care, particularly at transition points (Evidence Level C). Repeated screening may be required since the ideal timing for screening for PSD is unclear.”(6)

- “Screening for depressive symptoms should be considered during transition points in care, such as from an inpatient acute setting to an inpatient rehabilitation setting, and or [sic] before return to the community (Evidence Level C).”(6)
Screening for depressive symptoms should be considered following discharge to the community, at stroke prevention clinic assessments, during follow-up appointments, and during periodic health assessments with primary care practitioners and consulting specialists (Evidence Level C).”

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<thead>
<tr>
<th>Measure Importance</th>
<th>Relationship to Desired Outcome</th>
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<td>Blood Pressure: Treatment of hypertension is considered to be among the most important interventions for secondary prevention of ischemic stroke. Defined as a systolic blood pressure (SBP) ≥140 mm Hg or a diastolic blood pressure (DBP) ≥90 mm Hg, an estimated 78 million Americans have hypertension. The prevalence among patients with a recent ischemic stroke is ≈70%. The risk for a first ischemic stroke is directly related to blood pressure (BP) starting with an SBP as low as 115 mm Hg. Diabetes Mellitus: Diabetes mellitus, defined by elevated glycemic markers, is a major risk factor for cardiovascular disease (CVD), which is the most common cause of death among adults with diabetes mellitus, underscoring the need for aggressive CVD risk factor management, noting that evidence is lacking that treatment of diabetes specifically reduces risk of recurrent stroke. Antithrombotic Therapy: Appropriate use of antithrombotic therapy reduces the risk of recurrent stroke. Smoking Cessation: Cigarette smoking is an important independent risk factor for first ischemic stroke and contributes to an increased risk for silent brain infarction. It is also associated with a substantially increased risk for stroke recurrence in the elderly, noting that risk for recurrent stroke in younger populations is less well documented. Exercise: Physical inactivity after stroke is highly prevalent. The assessed body of evidence clearly supports the use of exercise training (both aerobic and strength training) for stroke survivors. Exercise training improves functional capacity, the ability to perform activities of daily living, and quality of life, and it reduces the risk for subsequent cardiovascular events. Depression: Poststroke depression impedes recovery and results in worse long-term outcomes. There is need for a system of care that ensures screening for poststroke depression as a standard and consistent component of clinical practice across settings as stroke patients transition from acute care to active rehabilitation and reintegration into their community. Pharmacological treatment has been associated with a reduction of depressive symptomatology.</td>
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<tr>
<td>Opportunity for Improvement</td>
<td>Despite the importance of each of these components it is anticipated that providers can improve quality of care provided by evaluating global performance on care provided following a stroke. The work group notes that individual components may occur across outpatient care team and intent was for provider to meet criteria if care components were coordinated with appropriate specialist or primary care provider.</td>
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### National Quality Strategy Domains

<table>
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<tr>
<th>Domain</th>
<th>Selection</th>
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<tbody>
<tr>
<td>☐ Patient and Family Engagement</td>
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<td>☐ Patient Safety</td>
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<td>☐ Care Coordination</td>
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<tr>
<td>☐ Population/Public Health</td>
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<tr>
<td>☐ Efficient Use of Healthcare Resources</td>
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<tr>
<td>✒ Clinical Process/Effectiveness</td>
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### Harmonization with Existing Measures

The definitions and specifications used in the components of this measure are similar to those collected in the commonly employed stroke measures (i.e., CMS, Joint Commission and/or AHA/ASA), ensuring parsimony in data collection strategies. A separate measure is being created to monitor global performance for quality improvement.

NQF #18/PQRS #2326 Controlling High Blood Pressure component is similar with additional specification added to allow referral/coordination with Primary Care Provider to meet measure composite.

NQF Measure #0057 Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) testing and #0059 Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Poor Control (>9.0%) were modified to include patients in the denominator beyond those diagnosed diabetes mellitus.

NQF #0435 and #3042 STK 02: Discharged on Antithrombotic Therapy is similar with additional specification added to allow referral/coordination with appropriate health care provider to meet measure composite.

NQF #0028/PQRS #226 Preventive Care and Screening: Tobacco Use: Screening and Cessation is similar with additional specification added to allow referral/coordination with Primary Care Provider to meet measure composite.

NQF #0103/PQRS #225 Adult Major Depressive Disorder: Comprehensive Depression Evaluation: Diagnosis and Severity is a treatment measure for patients with Major Depressive Disorder.

NQF #0518 Depression Assessment Conducted is intended for home health services.

NQF #0711 Depression Remission at Six Months, NQF #0710 Depression Remission at Twelve Months are treatment measures for patients with depression identified. The work group developed this depression component to capture screening for poststroke depression in the outpatient setting.

<table>
<thead>
<tr>
<th>Measure Purpose (Check all that apply)</th>
<th>☒ Quality improvement</th>
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<td>☒ Accountability</td>
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| Type of Measure (Check all that apply) | ☒ Process |
|----------------------------------------|          |
| ☐ Outcome                              |          |
| ☐ Structure                            |          |

| Level of Measurement (Check all that apply) | ☒ Individual Provider |
|---------------------------------------------|                       |
| ☒ Practice                                  |                       |
| ☒ System                                    |                       |

<table>
<thead>
<tr>
<th>Care Setting (Check all that apply)</th>
<th>☐ Emergency Departments</th>
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<tbody>
<tr>
<td>☐ Inpatient</td>
<td></td>
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<tr>
<td>☒ Outpatient</td>
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<tr>
<td>☐ Skilled Nursing Home</td>
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References


