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| **Short Term Outcomes Measures (1-2 years)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| S1. Increased public awareness of signs and symptoms of stroke and knowledge of appropriate activation of emergency medical systems | X | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| S2. Maintenance of existing broad reach and/or increase in the state-wide reach of the stroke system of care |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| S3. Increased data usage and sharing between components of the stroke care system that will result from having an integrated/ linked data platform for pre-hospital data, in-hospital data, and early post-discharge data | X | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| S3a. Improved reliability and validity of data as determined through annual data validation of select and highly important data elements |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| S4. Increased workforce capacity and scientific knowledge for stroke surveillance within stroke systems of care |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| S4a. Increased implementation of quality improvement (QI) strategies for acute stroke care across the continuum of stroke care | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| S4b. Increased efficiencies and effectiveness of pre-hospital, in-hospital, and post-hospital stroke care practices and resources |  |  |  | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |  | X | X | X | X | X | X | X |
| S4c. Increased pre-notification of hospitals by EMS of suspected stroke patients. |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| S5. Improved patient and caregiver receipt of education on ongoing post-stroke care needs |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |  |  |
| **Intermediate Outcome Measures (3+ Years)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1. Reduced time to treatment for acute stroke events |  |  | X |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  | X | X |  |  |  |  |  |  |  |  |  |
| I2. Improved transition of care from emergency services to hospital emergency department (ED) |  |  | X |  | X | X | X | X | X | X | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |
| I3. Improved transition of care from hospital to home, which may include reintegration with primary care provider, access to community resources, enhanced patient/caregiver education, and ongoing rehabilitation and secondary prevention |  |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X | X | X | X |  |  |  |  |  |  |  | X | X |  | X |  |
| I4. Improved quality of EMS care for possible stroke patients |  | X |  | X | X | X | X | X | X | X | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| I5. Improved quality of acute and sub-acute ED and hospital stroke care as measured by adherence to established guidelines for care and quality metrics |  |  | X |  |  |  |  |  |  |  |  | X | X | X | X | X | X | X | X | X | X | X | X | X |  |  |  |  |  |  |  |  |  |
| I6. Improved defect free care for acute stroke patients |  |  | X |  |  |  |  |  |  |  |  | X | X | X | X | X | X | X | X | X | X | X | X | X |  |  |  |  |  |  |  |  |  |
| I7. Improved tobacco control/reduction in smoking post stroke |  |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| I8. Improved medication adherence post-discharge |  |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| I9. Reduced 30-day hospital readmissions and ED visits for stroke-related complications after stroke |  |  | X |  |  |  |  |  |  |  |  |  | X | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| I10. Reduced 30-day mortality after acute stroke |  |  | X |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Long Term Outcome Measures** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| L1. Reduced disparities in stroke care, death, and disability should result from adherence to stroke care guidelines | X | X | X | X | X | X | X | X | X | X |  | X | X | X | X | X | X | X | X | X | X | X | X | X |  |  |  |  | X | X | X | X |  |

1 Data sources may contribute to short and/or intermediate and/or long-term performance measures. Additionally, hospital inventory dataelements (**attachments 4a and 4b**) are used across patient-level measures for stratification on size and capacity

2See the process and quality of care performance measure reference numbers in the table below

3Process measures are reported in awardees’ annual performance report (APR), unless otherwise noted in this table

|  |  |
| --- | --- |
| **Process Performance Measures** | |
| E1 | Process-level performance measures, which include public awareness, partnerships, recruitment, data infrastructure, data use, quality improvement, and sustainability |
| E2 | Short-term outcome performance measures, which include public awareness, reach, data linkage, data reliability/validity, workforce capacity, stroke care, and patient education |
| E3 | Intermediate outcome performance measures, which include systems of stroke care, stroke care, and health outcomes |
| Pre-Hospital Quality of Care Performance Measures (DRAFT)- **derived from pre-hospital data elements (attachment 3a)** | |
| Q1 | % of stroke transports with an on-scene time <15 minutes |
| Q2 | % of stroke transports with a blood glucose checked and recorded |
| Q3 | % of stroke transports where EMS called in a stroke alert pre-notification |
| Q4 | % of stroke transports that had a stroke screen completed and recorded |
| Q5 | % of stroke transports that had a documented time last known to be well |
| Q6 | % of stroke transports that had a documented time of discovery |
| Q7 | % of stroke transports that had a thrombolytic stroke check completed and documented |
| Q8 | % of stroke transports where EMS diagnosis agreed with hospital diagnosis |
| In-Hospital Quality of Care Performance Measures- **derived from in-hospital data elements (attachment 3b)** | |
| Q1 | VTE prophylaxis provided by end of hospital day 2 |
| Q2 | Antithrombotic medication by end of hospital day 2 |
| Q3 | Antithrombotic medication at discharge |
| Q4 | % of ischemic stroke patients that arrive by 2 hours of time last known well and are treated with IV tPA by 3 hours of last known well |
| Q5 | Dysphagia screening performed and passed prior to food, fluids, or medication by mouth |
| Q6 | Anticoagulation on discharge for patients with atrial fibrillation/flutter |
| Q7 | Statin medication provided on discharge |
| Q8 | Smoking cessation counseling and/or treatment provided |
| Q9 | Assessed for rehabilitation needs |
| Q10 | Stroke education: patients or caregivers who were given educational materials during the hospital stay addressing all of the following: activation of emergency medical system, need for follow-up after discharge, medications prescribed at discharge, risk factors for stroke, and warning signs and symptoms of stroke |
| Q11 | % ischemic stroke patients with initial NIHSS score recorded |
| Q12 | Median door-to-needle time |
| Q13 | % patients with door-to-needle time <= 60 minutes |
| Post-Hospital Quality of Care (TOC) Performance Measures (DRAFT)- **derived from post-hospital data elements (attachment 3c)** | |
| Q1 | % of stroke patients discharged to home who have died by 30 days |
| Q2 | % of stroke patients who were seen in ED within 30 days of discharge |
| Q3 | % of stroke patients who were readmitted to the hospital within 30 days of discharge |
| Q4 | % of stroke patients reporting blood pressure (BP) >140 systolic or >90 diastolic among those checking their BP at home |
| Q5 | % of stroke patients checking the BP at home |
| Q6 | % of stroke patients reporting 2 or more falls within 30 days of discharge |
| Q7 | % of stroke patients who stopped taking medications since discharge |
| Q8 | % of stroke transports where EMS diagnosis agreed with hospital diagnosis |
| Q9 | % of stroke patients that had a follow-up appointment scheduled prior to discharge |