# Paul Coverdell National Acute Stroke Program (PCNASP)

## Cross Walk Showing Relationships among Short/Intermediate/Long-Term Outcome Measures, and Data Sources for Associated Performance Measures

| Outcome and performance measures[2], with Question #s | Process Performance Measures[3] | | | Performance Measures for Pre-Hospital Quality of Care — Source: Data Elements from Emergency Services | | | | | | | | Performance Measures for In-Hospital Quality of Care — Source: Data Elements from Hospital Records | | | | | | | | | | | | | Performance Measures for Post-Hospital Quality of Care — Sources: Data Elements from Hospital Records and Community Care | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | E1 | E2 | E3 | Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 | Q11 | Q12 | Q13 | Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 |
| **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, | | | | 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 |

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| in-hospital, and post-hospital stroke care practices and resources | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| stroke | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | X | |

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

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

[3] Process 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