American Stroke Association.
A division of the
American Heart Association.

INTERNATIONAL STROKE CENTER CERTIFICATION

Program Manual

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Please read this manual in its entirety BEFORE completing the application.

International Stroke Center Certification

Program Criteria

PROGRAM CRITERIA

**Only applies to Acute Stroke Ready Centers that admit stroke patients*

Requirement	Acute Stroke Ready Center (ASRC)	Primary Stroke Center (PSC)	Comprehensive Stroke Center (CSC)
Infrastructure			
Stroke Unit [2, 7 17]	*(dedicated beds for admitted stroke patients)	√	√
Intensive Care Unit		√	√
Operating room staffed 24/7		√	√
Angio Suite and staffed 24/7		(if performing neurosurgical procedures)	√
Stroke registry [4, 6]	√	√	√
Research program			√
Community education	√	√	√
Professional education / Training Program	√	√	√
Quality Improvement Program should be in place within the last 12 months	√	√	√
The facility has a charting system/consolidated record in place that allows for information to be accessible 24/7 by all team members	√	√	√
Staffing			
Medical Director	√	√	√
Stroke Program Coordinator/Director		√	√
Acute Stroke Team 24/7	√	√	√
Multidisciplinary clinical team	*(for stroke patients that are admitted)	√	√
Neurology 24/7 (telemedicine accepted)	√	√	√
Neurosurgeon 24/7			√
Vascular surgery			√
Neuroradiology 24/7			√
Diagnostic radiology	(onsite personnel or Teleradiology)	√	√
Interventional/endovascular physician(s) 24/7			√
Critical Care Medicine			√
Rehabilitation therapy (physical, occupational speech therapy)		√	√
Respiratory Therapy		√	√
Dedicated stroke data collector(s)			√

Annual Volume Requirements			
SAH cases per year			15
Endovascular coiling or microsurgical clipping per year			15
IV thrombolytic cases per year		10	25
Mechanical thrombectomies per year			10
Diagnostic & Procedural Techniques			
Computed Tomography scan (CT) 24/7	√	√	√
Computed Tomographic Angiography (CTA)			√
Magnetic resonance imaging (MRI) with diffusion			√
*PSCs are recommended to have MRI, MRA, or CTA			√
Magnetic Resonance Angiography (MRA)/Magnetic Resonance Venography (MRV)			√
Digital cerebral angiography		√	√
Carotid duplex Ultrasound		√	√
Transthoracic echo			√
Transesophageal echo			√
Surgical and interventional therapies			√
Carotid Endarterectomy (CEA)			
Clipping of intracranial aneurysm			√
Placement of ventriculostomy			√
Hematoma removal/draining			√
Placement of intracranial pressure transducer			√
Endovascular ablation of Intra-arterial Thrombolysis (IA)/Arteriovenous Malformation (AVMs)			√
IA reperfusion therapy			√
Endovascular Rx of vasospasm	√	√	√
Laboratory			√

CERTIFICATION STANDARDS

1.0 Program Management

Definitions	**Program Management:** The systematic and operational oversight of the stroke program. **Interprofessional Committee (IPC):** The committee that oversees and manages the facility's stroke program including the development of the stroke program's mission, goals, scope and organizational structure. This committee is made up of one representative from each discipline that cares for the person receiving acute stroke care. Stroke Program Coordinator: A clinician that provides direction and oversees program development, implementation and quality improvement through collaboration with the Stroke Program Medical Director and the stroke team. **Medical Director:** A neurologist or neurosurgeon or other medical profession available 24/7 to provide medical, logistical, and administrative leadership of the center's stroke program. **Telehealth Champion:** A clinician with experience and expertise (through practice or education) in telehealth. This individual assists with identifying telehealth opportunities and drives the adoption and implementation of services, if indicated. **Acute Stroke Team (AST):** A Stroke Response Team is a multidisciplinary team of specialists. The team includes emergency room staff, stroke physicians, neuroradiologists, nurses, nurse practitioners, intensive care specialists, and laboratory technologists. The team is available 24/7 and provides expert management of all brain blood vessel conditions. The team brings together highly trained neurologists, neuroradiologists, vascular neurologists, and interventionalists who specialize in stroke diagnosis and treatment with emergency department physicians and staff. The AST is responsible for responding to patients with an acute stroke and initiating diagnostic testing and immediate care (not ongoing in-hospital care).
Standards	**1.1 The Interprofessional Committee (IPC) is composed of representation from each discipline that provides care for the individual receiving acute stroke care.**[6] **Representatives must cover the following areas:** √ Stroke Medical Director √ Stroke Coordinator √ Neurology √ Neurosurgery (if appropriate) √ Rehabilitation √ Nursing √ Therapy (PT/OT/SLT) √ Case management √ Social work √ Dietician √ Pharmacy √ Stroke Unit √ Intensive Care Unit √ Emergency Department √ Quality √ Telehealth Champion** ****Note:** *This individual may dually represent telehealth as well as another discipline (e.g., physician, nursing, etc.)* **Note:** *For the Acute Stroke Ready Center, only representation from each discipline on the Acute Stroke Team, the Medical Director, Quality and the Telehealth champion are required for the IPC*

	1.2 The Stroke program will have a Stroke Program Coordinator who will drive the program and oversees the implementation and success of the program. **Note:** *Does not apply to the Acute Stroke Ready Center* **1.3 The stroke program will have a designated medical director.**[7] **1.4 The IPC will develop a stroke program charter which will include the following:** √ IPC members and roles in the facility √ IPC meeting frequency and attendance expectations √ Stroke program goals/expectations √ Facility demographics **1.5 The stroke program interprofessional committee identifies evidence-based clinical practice guidelines relevant to the stroke patient population.**[2, 8] **1.6 IPC meeting minutes over the most recent 6 months should include:** √ Member attendance with discipline (title) listed √ Reflect oversight of the stroke program with continued discussion and action items reflecting education, operations, quality improvement **Note:** *See Standard 6.0 for more details specific to the oversight of Performance Improvement*
Guidance	Program charters are strategic plans used by leaders and participants to meet the needs of the program effectively and efficiently. Please reference Appendix A Charter Template in this manual as a guide. References [2, 7, 8]

Required Documentation *(please upload to Program Management in the QCT)*		ASRC	PSC	CSC
	Stroke Interprofessional Committee: Submit Stroke IPC member names, roles and responsibilities specific to the needs of the Stroke System of Care	√	√	√
	Organizational Chart: Delineating stroke program description of how communication flows up/down in the organization	√	√	√
	Stroke Program Charter: Provide program plan or charter delineating the interdisciplinary team's relationship, expectations, accountabilities, and goals for the most recent 12 months and beyond. Program charters are strategic plans used by leaders and participants to meet the needs of the program effectively and efficiently	√	√	√
	Stroke Clinical Practice Guidelines: Submit the chosen clinical practice guideline(s) the stroke center has identified as a reference to develop the program	√	√	√
	IPC Meeting Minutes: Submit meeting minutes for the most recent 6 months. One set of meeting minutes should reflect annual review of protocols	√	√	√

2.0 Healthcare Professional Education & Competencies

Definitions

Healthcare Professional Education: Education requirements for staff and practitioners providing direct care to the individual receiving stroke care.

Identified staff: Practitioners and staff that the stroke IPC identifies as needing to have annual stroke education.

Standards

2.1 The stroke program will have an education policy outlining the following:

√ Identified staff and practitioners (regular & contract) requiring stroke education
√ How the education will be developed/delivered
√ How many hours of education will be required annually
√ The education plan for new-hire staff
√ How will the educational outcomes will be measured/assessed
√ How action plans are developed based on the results of the measurements/assessments

2.2 The stroke program will provide documentation that demonstrates the identified staff educational compliance.

2.3 Educational content provided to identified staff must include the following and be reflective of current evidence-based science:

√ Stroke risk factors (for all identified staff and practitioners)
√ Warning signs/symptoms of stroke (for all identified staff)
  - o Identification of stroke syndromes
√ Internal stroke policies/procedures including:
  - o Facility escalation policy
  - o Transfer policies and procedures.
  - o Facility stroke target time goals (e.g., door to CT, door to needle, etc.)
  - o Care of the stroke patient

Guidance

The **Association** offers several stroke educational courses for healthcare professionals. To learn more visit www.learn.heart.org or ASLS In-Hospital Provider, please contact the Association's staff. References [2, 3, 8]

Required Documentation *(please upload to Personnel Education in the QCT)*

	ASRC	PSC	CSC
Stroke Program Education Policy: Submit education policy outlining the key objectives listed above in 2.1	√	√	√
Staff Education Compliance Documentation: Submit current compliance rate (percentage) by discipline for all staff requiring annual stroke education, including new hires **Example:** RN: N/D = % Compliance MD: N/D = % Compliance Therapists: N/D = % Compliance	√	√	√
Educational Content: Ongoing stroke specific education/ training for staff and clinicians. Learning Objectives or table of contents are sufficient evidence for each educational event	√	√	√

3.0 Patient/Caregiver Support & Education

Definitions	**Patient/Caregiver Education: Stroke and other education provided to the stroke patient and their caregiver(s).**
Standards	**3.1 A pre-assessment should be done on the individual receiving acute stroke care and their caregiver(s) prior to providing education for the following:** √ Educational learning gaps √ Preferred method of receiving education **3.2 Individualized education should be provided on the following:**[8, 14, 16] √ Stroke risk factors and prevention. √ Warning signs & symptoms of stroke √ Lifestyle coaching √ Medication √ Plan of care √ Follow-up plan √ When to call the country specific emergency number √ Appointments (PCP, specialists, outpatient therapy) √ Community Resources **3.3 Educational touchpoints/frequency:** √ Admission √ Change in status/care plan √ On patient/caregiver request √ Prior to discharge[14] √ Post-discharge follow-up **3.4 Public Education:**[5, 9] √ The stroke center collaborates with local public health leaders including emergency medical services to increase the use of the country specific emergency number to increase timely access and treatment[8, 9] The public educational program should include the following: o Stroke warning signs o When and who to call o Risk factors
Guidance	The Association offers several stroke awareness and educational materials for patients. To learn more visit www.stroke.org. Examples of public education may include, but is not limited to, outpatient clinic education, BP management in clinic and provide stroke education, banners/signage in hospitals, etc. References [5, 8, 9, 14, 16]

		ASRC	PSC	CSC
Required Documentation *(please upload to Patient/Caregiver Education & Support in the QCT)*	**Patient Pre-Assessment:** Upload screen shot from electronic medical record that reflects where the pre-assessment is documented	√	√	√
	Education Content: Patient/caregiver educational content materials specific to stroke	√	√	√
	Education Policy: Submit education policy outlying which disciplines provide patient/caregiver education and at what frequencies	√	√	√
	Public Education Plan: Documentation that reflects public education initiatives specific to stroke (i.e. summary of events or initiatives with supporting evidence such as flyers, photos, social media campaigns etc.)	√	√	√

4.0 Care Coordination

Definitions	**Care Coordination:** The ability of the stroke program to coordinate care across 3 domains: prehospital to acute, during the person's stay at the acute care facility, and acute care facility to discharge destination. **Acute Stroke Team (AST):** Responsible for responding to patients with an acute stroke and initiating diagnostic testing and immediate care (See full definition under Requirement 1.0). Organized Clinical Care Team: A multidisciplinary group of physicians, nurses, therapists, dieticians, social workers, and other health professionals that have an established line of collaboration, communication, and cooperation to better serve the person receiving ongoing in-hospital acute stroke care. **Stroke Unit:** A defined group of beds, staff, and protocols that are used for the acute care of patients with a stroke.
Standards	**4.1 The stroke center works with the local emergency medical services to ensure appropriate protocols are in place including:** [2, 14] √ Stroke assessment tools √ Pre-arrival notification √ Transporting to the most appropriate stroke center **4.2 The stroke program has a process in place for receiving a handoff report from emergency medical services. The handoff report includes the following:** √ Last known well √ Stroke screen results including identified deficits √ Blood glucose history √ Health history √ Witness name and contact information √ Next of kin or family name and contact information **4.3 The stroke program has appropriate agreements and processes in place to expedite the transfer to other stroke centers that provide a higher level of care when indicated.** [8, 12]

Standards	**4.4 The stroke center is part of a system that collaborates to develop regional protocols and includes the following stakeholders:**[2] √ Healthcare facilities that provide initial emergency care including the administration of IV alteplase √ Healthcare facilities capable of performing endovascular stroke treatment √ Post-acute care facilities √ EMS leaders √ Local/regional/state agencies **4.5 There is an organized clinical care stroke team that has regular multidisciplinary team conferences to develop an individualized plan of care for the person receiving ongoing acute stroke care.**[6] **Note:** *This applies to the Acute Stroke Ready Center if stroke patients are admitted* **4.6 The Stroke program has a referral protocol in place which includes:**[14] √ A process for providers to place referrals as indicated by the patient's condition √ A process for referrals to be performed in a timely manner based on the patient's condition √ Results of the referral to be available and accessible to all care providers within 24 hours of referral completed **4.7 The stroke program develops an individualized discharge plan for each person diagnosed with a stroke. For persons being discharged home/home with home health or continuing care at another facility:**[10] √ Discharge planning includes family members and/or caregiver(s) and includes the following: o Discharge location o The type of care that will be needed o Community resources o Medications o Diet √ A discharge summary is provided to patient at discharge √ The site provides all persons diagnosed with a stroke and caregiver(s) with an identified staff member contact information so that the person/caregiver may call with any questions after discharge √ A designated staff member(s) keeps an up-to-date list of available community resources for the person receiving stroke rehabilitation √ The stroke program team recommends community resources specific to the needs of the person receiving stroke rehabilitation[14] √ Appointments with PCP and referrals are made prior to discharge[14] **4.8 The stroke program contacts the person/caregiver within 14 days of being discharged home to assess compliance with post-discharge care plan.** **Note:** *The facility may use an external company to meet this requirement. This requirement is only applicable to stroke patients that have been discharged home* **Note:** *This is only applicable for Acute Stroke Ready Centers if stroke patients are discharged to home from the facility*
Guidance	**References** [2, 8, 10, 12, 14]

		ASRC	PSC	CSC
Required Documentation *(please upload to Care Coordination in the QCT)*	**EMS Collaboration:** Submit the EMS pre-hospital protocol that includes the stroke assessment tool used and pre-arrival notification and transport protocols	√	√	√
	EMS Hand Off Report: Provide the hand off report reflecting the items outlined in Standard 4.2	√	√	√
	Transfer Agreement: Provide agreements in place with other stroke centers that provide a higher level of care	√	√	CSCs to have agree-ments in place with local PSC/ ASRC
	Stroke System of Care: Provide documentation that reflects the stroke center participating in a regional system of care (e.g. meeting minutes, regional care diagram, etc.)	√	√	√
	Stroke Team: Documentation that reflects how often the multidisciplinary clinical team rounds (i.e. huddles, team conferences) and the disciplines involved	√	√	√
	Referral Protocol: Provide documentation that reflects how referrals are made and in a timely manner	*Applicable for ASRCs that admit stroke patients	√	√
	Discharge Plan: Provide a deidentified discharge summary for a person being discharged home that demonstrates the components in Standard 4.7	Applicable for ASRCs that discharge stroke patients to home	√	√
Required Documentation *(please upload to Care Coordination in the QCT)*		ASRC	PSC	CSC
	Community Resources: Provide a list of available local community resources	Applicable for ASRCs that discharge stroke patients to home	√	√
	Post Discharge Follow-Up: Provide log or record demonstrating post discharge follow up phone calls. Include script or questions asked to assess for patient compliance	Applicable for ASRCs that discharge stroke patients to home	√	√

5.0 Clinical Management

Definitions	**Evidenced-based scientific clinical practice guidelines (CPG): S**ystematically published statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances. **Acute Stroke Team (AST):** Responsible for responding to patients with an acute stroke and initiating diagnostic testing and immediate care (See full definition under Standard 1.0).
Standards	**5.1 The stroke program has implemented a method to ensure that the identified evidence-based guidelines are followed.** **5.2 The stroke center has a designated acute stroke team available 24/7.**[2] **5.3 The stroke program has standardized written protocols for the following, of which each should be reviewed and updated at least once per year by the interprofessional committee:** [3, 17] √ Emergency identification, triage and evaluation of patients with suspected stroke and those eligible for treatment (IV fibrinolytic administration and/or mechanical throm bectomy) [1, 2, 8] √ Administration of acute stroke treatment (ischemic and hemorrhagic) including IV alteplase as well as other acute therapies (management of increased intracranial pressure, blood pressure management, reversal of coagulopathies) [11, 17] √ Monitoring following IV fibrinolytic administration and/or mechanical thrombectomy including vital signs, neurovascular checks, and signs/symptoms of medical complications[3, 17] √ Monitoring of all stroke patients including frequency of assessment of vital signs and neurological function [2, 17] √ Written protocols should include identified target time goals (e.g., Time to first brain image, door-to-needle time, time to initiate telemedicine link, etc.) [17] **5.4 Early assessment of rehabilitation needs and initiation of rehabilitation therapy including speech therapy (ST), physical therapy (PT), and occupational therapy (OT) should be readily available.**[2] ***Note:** *Only applicable for the Acute Stroke Ready Center that admits stroke patients* **5.5 A speech-language pathologist or designated trained healthcare professional is available to formally assesses swallowing and communication impairment in all persons receiving stroke care.**[2]

5.0 Clinical Management

Standards

5.6 Neurosurgical coverage should be documented in a written plan approved by the IPC.[3]
Note: *If the Primary Stroke Center does not have neurosurgical services on-site, the facility should have a plan to access neurosurgery within 2 hours including a transfer agreement in place with a facility that does provide 24/7 neurosurgical services* [2]
Note: *The Acute Stroke Ready Center should have neurosurgical services available within 3 hours including a transfer agreement in place with a facility that does provide 24/7 neurosurgical services* [17]

5.7 The stroke program has medical staff available and protocol in place to assess, manage, and escalate medical complications.[2, 3, 17]

Guidance

References [1, 2, 3, 8, 11, 17]

Required Documentation *(please upload to Clinical Management in the QCT)*

	ASRC	PSC	CSC
Guideline Adherence: Stroke pathways and order sets that are reflective of the chosen clinical practice guidelines	√	√	√
24/7 Stroke Team: Documentation that demonstrates those identified to serve on the acute stroke team are available 24/7 (call schedules, response time expectations)	√	√	√
Stroke Protocols: Provide protocols that demonstrate components outlined in Standard 5.4	√	√	√
Rehabilitation Assessment: Protocol that demonstrates a process for early rehabilitation referral and assessment for ST/PT/OT	*Applicable for ASRHs that admit stroke patients	√	√
Speech Assessment: Deidentified assessment for a stroke patient that captures both swallow and communication impairment evaluations	*Applicable for ASRHs that admit stroke patients	√	√
24/7 Neurosurgical Coverage: Provide documentation of 24/7 on-call coverage for neurosurgery (neurosurgeons and OR staff)		(if performing neurosurgical procedures)	√
Medical Staff and Protocols: Provide call schedules for neurointervention (physicians and angio staff), neuro critical care, vascular surgery and radiology NIR procedures)		(if performing neurosurgical/	√
Escalation Protocol: Submit the escalation protocol in place for when medical complications arise for the stroke patient	√	√	√

6.0 Quality Improvement

Definitions	**Quality Improvement:** Ongoing quality improvement measuring adherence to evidence-based guidelines aimed at improving acute stroke care, and related outcomes for individuals receiving acute stroke care.
Standards	**6.1 The stroke program identifies areas of quality improvement specific to the stroke program. These quality improvement initiatives measure adherence to evidence-based clinical practice guidelines by the following:** √ The site identifies and tracks target time goals for the acute stroke patient[17] √ The site has a formal and active quality improvement plan in place related to the identified areas of performance improvement [3, 14, 15] √ The site has a plan in place to communicate identified performance improvement plans to front-line staff. These plans are reflected in the programmatic meeting minutes √ The site has an educational plan, as deemed necessary for any performance improvement plan. Education provided is documented and includes follow-up assessments and further action plans as indicated √ Each center should monitor its complication rates and overall outcomes for comparison with national benchmarks after correcting for various comorbidities [3] √ If site is performing procedures, periprocedural complication rates should be tracked and reviewed, and any significant deviations should be addressed at regular quality improvement/ quality assessment (QI/QA) meetings [3] **6.2 Research – Participate in patient-centered research**[3] **Note:** *Research applies to Comprehensive Stroke Centers only*
Guidance	*References* [3, 14, 15, 17]

		ASRC	PSC	CSC
Required Documentation *(please upload to Quality Improvement in the QCT)*	**Stroke Quality Improvement Program:** Submit the identified target time goals and any corresponding quality Improvement plans. Plans should reflect education and communication plans with front line staff. These plans should be reflected in the Stroke IPC meeting minutes uploaded under Req.[1]	√	√	√
	Complication Rates: Provide the identified complications the stroke program will monitor for and any corresponding quality improvement initiatives	√	√	√
	Periprocedural Complications Rates: Provide deidentified data that is tracked and reviewed by the Stroke IPC. These discussions should be reflected in the meeting minutes uploaded under Req.[1] **Note:** *Applies to centers performing procedures. Comprehensive Stroke Centers must include this data*			√
	Research: Provide documentation that reflects patient-centered research specific to stroke			√

REQUIRED STANDARDIZED MEASURES

In addition to meeting the above standards, the stroke program will also submit metrics to demonstrate compliance towards the following criteria.

Acute Stroke Ready Center Performance Measures Outpatient Measures	
Applicable for Acute Stroke Ready Centers- Outpatient Measures	
ASRC 1	Door-in/Door-Out Time at First Hospital Prior to Transfer for Acute Therapy < 90 minutes in 50% of cases (not to exceed 120 minutes)
ASRC 2	Door to CT < 25 minutes
ASRC 3	Documentation of Last Known Well Time or Time of Discovery of Stroke Symptoms if symptom onset is within 24 hours, call a stroke alert
ASRC 4	NIH Stroke Scale: Required for all patients in the ED, either by ER, internal medicine, local neurologist or through telemedicine by Neurologist
ASRC 5	Dysphagia screen: keep patient NPO, until dysphagia screen done in ASR
ASRC 6	Neurology consult or Neurology Telestroke consult prior to transfer

Acute Stroke Ready Center Performance Measures- InPatient Measures	
Applicable for Acute Stroke Ready Centers	
ASRCIN 1	Time to intravenous thrombolytics within 60 mins
ASRCIN 2	Thrombolytic therapy at admission arrive by 3.5 treat by 4.5
ASRCIN 3	Antithrombotic therapy by end of hospital day 2
ASRCIN 4	Discharged on antithrombotic therapy

Primary Stroke Center & Comprehensive Stroke Center Performance Measures
Applicable fore Primary and Comprehensive Stroke Centers
1 Venous Thromboembolism (VTE): Ischemic or hemorrhagic stroke patients who received VTE prophylaxis or have documentation why no VTE prophylaxis was given the day of or the day after hospital admission.
2 Discharged on Antithrombotic Therapy: Ischemic stroke patients prescribed antithrombotic therapy at hospital discharge
3 Anticoagulation Therapy for Atrial Fibrillation/Flutter: Ischemic stroke patients with atrial fibrillation/flutter who are prescribed anticoagulation therapy at hospital discharge
4 Discharged Thrombolytic Therapy: 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 4.5 hours of time last known well
5 Antithrombotic Therapy by End of Hospital Day Two: Ischemic stroke patients administered antithrombotic therapy by the end of hospital day 2
6 Discharged on Statin Medication: Ischemic stroke patients who are prescribed statin medication at hospital discharge
7 Stroke Education: Ischemic or hemorrhagic stroke patients or their 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, patient specific risk factors for stroke, and warning signs and symptoms of stroke
8 Assessed for Rehabilitation: Ischemic or hemorrhagic stroke patients who were assessed for rehabilitation services

Comprehensive Stroke Center Performance Measures
9 National Institutes of Health Stroke Scale (NIHSS Score Performed for Ischemic Stroke Patients): Ischemic stroke patients for whom an initial NIHSS score is performed prior to any acute recanalization therapy (i.e., IV thrombolytic (t-PA) therapy, or IA thrombolytic (t-PA) therapy, or mechanical endovascular reperfusion therapy) in patients undergoing recanalization therapy and documented in the medical record, OR documented within 12 hours of arrival at the hospital emergency department for patients who do not undergo recanalization therapy.

10 Hemorrhagic Transformation (Overall Rate): Ischemic stroke patients who develop a symptomatic intracranial hemorrhage (i.e., clinical deterioration ≥ 4 point increase on NIHSS and brain image finding of parenchymal hematoma, or subarachnoid hemorrhage, or intraventricular hemorrhage) within (≤) 36 hours after the onset of treatment with intra-venous (IV) or intra-arterial (IA) thrombolytic (t-PA) therapy, or mechanical endovascular reperfusion procedure (i.e., mechanical endovascular thrombectomy with a clot retrieval device).

11 Hemorrhagic Transformation for Patients Treated with Intra-Venous (IV) Thrombolytic (t-PA) Therapy Only: Ischemic stroke patients who develop a symptomatic intracranial hemorrhage (i.e., clinical deterioration ≥ 4-point increase on NIHSS and brain image finding of parenchymal hematoma, or subarachnoid hemorrhage, or intraventricular hemorrhage) within (≤) 36 hours after the onset of treatment with intra-venous (IV) thrombolytic (t-PA) therapy only.

12 Hemorrhagic Transformation for Patients Treated with Intra-Arterial (IA) Thrombolytic (t-PA) Therapy or Mechanical Endovascular Reperfusion Therapy: Ischemic stroke patients who develop a symptomatic intracranial hemorrhage (i.e., clinical deterioration ≥ 4 point increase on NIHSS and brain image finding of parenchymal hematoma, or subarachnoid hemorrhage, or intraventricular hemorrhage) within (≤) 36 hours after the onset of treatment with IA thrombolytic (t-PA) therapy or mechanical endovascular reperfusion therapy (i.e., mechanical endovascular thrombectomy with a clot retrieval device).

13 Thrombolysis in Cerebral Infarction (TICI Post-Treatment Reperfusion Grade): Ischemic stroke patients with a post-treatment reperfusion grade of TICI 2B or higher in the vascular territory beyond the target arterial occlusion at the end of treatment with intra-arterial (IA) thrombolytic (t-PA) therapy and/or mechanical endovascular reperfusion therapy.

14 Modified Rankin Score (mRS at 90 Days: Favorable Outcome): Ischemic stroke patients treated with intra-venous (IV) or intra-arterial (IA) thrombolytic (t-PA) therapy or who undergo mechanical endovascular reperfusion therapy and have a mRS less than or equal to 2 at 90 days (≥75 days and ≤105 days)

15 Timeliness of Reperfusion: Arrival Time to TICI 2B or Higher: Ischemic stroke patients with a large vessel cerebral occlusion (i.e., internal carotid artery (ICA) or ICA terminus (T-lesion; T-occlusion), middle cerebral artery (MCA) M1 or M2, basilar artery) who receive mechanical endovascular reperfusion (MER) therapy within 120 minutes (>/= 0 min. and </= 150 min.) of hospital arrival and achieve TICI 2B or higher at the end of treatment.

16 Timeliness of Reperfusion: Skin Puncture to TICI 2B or Higher Ischemic stroke patients with a large vessel cerebral occlusion (i.e., internal carotid artery (ICA) or ICA terminus (T-lesion; T-occlusion), middle cerebral artery (MCA) M1 or M2, basilar artery) who receive mechanical endovascular reperfusion (MER) therapy and achieve TICI 2B or higher less than (<) or equal to 60 minutes from the time of skin puncture.

17 (optional for CSC) Severity Measurement Performed for SAH and ICH Patients (Overall Rate): Subarachnoid hemorrhage (SAH) and intracerebral hemorrhage (ICH) stroke patients for whom a severity measurement (i.e., Hunt and Hess Scale for SAH patients or ICH Score for ICH patients) is performed prior to surgical intervention (e.g. clipping, coiling, or any surgical intervention) in patients undergoing surgical intervention and documented in the medical record; OR documented within 6 hours of arrival at the hospital emergency department for patients who do not undergo surgical intervention.

18 (optional for CSC) Hunt and Hess Scale Performed for SAH Patients: SAH stroke patients for whom a severity measurement is performed prior to surgical intervention in patients undergoing surgical intervention and documented in the medical record; OR documented within 6 hours of hospital arrival for patients who do not undergo surgical intervention.

19 (optional for CSC) ICH Score Performed for ICH Patients ICH stroke patients for whom a severity measurement is performed prior to surgical intervention in patients undergoing surgical intervention and documented in the medical record; OR documented within 6 hours of hospital arrival for patients who do not undergo surgical intervention.

20 (optional for CSC) Nimodipine Treatment Administered: Subarachnoid hemorrhage (SAH) patients for whom nimodipine treatment was administered within 24 hours of arrival at this hospital

Mandatory Metrics

21 Arrival Time to Skin Puncture Median time from hospital arrival to the time of skin puncture to access the artery (e.g., brachial, carotid, femoral, radial) selected for endovascular treatment (EVTE V T), (i.e., intra-arterial (IAI A) alteplase infusion and/or mechanical embolectomy devices), of acute ischemic stroke.

Time (in minutes) from hospital arrival to skin puncture in patients with acute ischemic stroke who undergo endovascular treatment.

Application Process

APPLICATION PROCESS

Application
Complete the application available here.

Participation Agreement
Once the application has been received, an Association representative will confirm its receipt and completeness via e-mail and begin the contracting process. Submitted documentation will not be reviewed until the participation agreement is executed and fees have been paid. An Association representative will provide instructions for submitting the signed participation agreement.

Fees
There is an annual fee for Stroke Center Certification. Please contact your local Quality Improvement Director for more information. The fee includes:

- √ processing the application
- √ confirming eligibility
- √ administering the review process, including review of standardized performance measures collected in GWTG-Stroke or other international stroke registries.

When the agreement is fully executed, a representative from the Association will initiate the invoice process according to the contract terms. Please remit payment to the address located on the invoice. The certification review process and review of submitted documentation begins after receipt of certification fees.

Review Process

CERTIFICATION REVIEW PROCESS

Instructions: Submitting Supporting Documentation
Please DO NOT send any PHI (Protected Health Information) including patient name, date of birth, phone number, address, medical record numbers, or social security numbers.

Certification Readiness and Review Preparation
The Association's staff welcomes ongoing collaboration with the certification candidate program team to help prepare for, obtain, and maintain certification, while remaining mindful of the unique goals and challenges of each program. As candidate program teams prepare for certification, Association staff are available to consult on certification readiness, resource needs, and what to expect at each step in the review process.

Candidates will utilize the Quality and Certification Tool (QCT) to submit all supporting documentation for review. Individualized training on the QCT will be provided to the Primary Contact from each candidate team. When uploading a document to the QCT, please utilize the Description box to explain which certification standard, or aspect of a standard, the document addresses. Documents MAY NOT display PHI (Protected Health Information), such as patient name, date of birth, phone number, address, medical record numbers, or social security numbers.

A unique document should be uploaded only once, to a single standard. If a unique document should be reviewed in concert with more than one standard, please note this in the Description box when uploading the document, e.g., "The attached Stroke Program Policy demonstrates processes for 3.2, 3.3, and 4.7."

Desk Review and Virtual Review
During the Desk Review, the Certification Review Team members examine the documents uploaded to the QCT to evaluate the candidate program's adherence to the certification standards. The Desk Review does not begin until: (a) the participation agreement has been signed, (b) the application fee has been paid, and (c) all supporting documentation has been uploaded into the QCT. Once all three steps have been completed, the Review Team will reach out to the candidate program's Primary Contact to schedule a Launch Call. The Launch Call provides a forum for introductions between the Review Team and the candidate program team; for resolving any initial questions from the Review Team about documents reviewed; and for determining a date for the Virtual Review.
As the Desk Review progresses, the Review Team may reach out to the candidate program's Primary Contact for additional information or clarification regarding the documents. If needed, a conference call will be scheduled on a mutually agreed upon date.

When the Review Team has completed their examination of the uploaded documentation, the Desk Review ends, and the candidate program is ready for the Virtual Review. The Virtual Review is an opportunity for the Review Team to "connect the dots" between the submitted documentation to develop a more complete understanding of the candidate's stroke program and the community it serves. The Virtual Review will be conducted over two days. The first day involves a 120-minute presentation from the candidate team on their stroke program, followed by questions from the Review Team. The second day involves a 120-minute hospital tour. The Review Team will provide more details and a suggested outline for the Virtual Review following the Launch Call.

Certification Evaluation Workgroup Voting
The Review Team compile information from the candidate program's submitted documentation and the Virtual Review into a report that evaluates the compliance of the program with the certification standards. This report is submitted to the Certification Evaluation Workgroup, an expert panel of leaders in the field, who review the report and vote on whether to certify the program.

Certification Approval and Site Summary Report
Certified programs will receive official notice of their certification via email from the Association. They will be able to access their certificate, marketing materials, and Site Summary Report in the QCT. The Site Summary Report is a critical component of the review. It will likely contain Recommendations to help the stroke program team continue to build and refine their newly certified program. It may also contain Opportunities for Improvement (OFIs), items that need to be addressed to better align the program with the certification standards. Program teams will have 90 days from the date of certification (unless otherwise noted) to provide a Plan of Correction for each OFI.

Program Maintenance and Annual Check-In
Certified programs continue entering the Association's certification measures and metrics into the QCT on a quarterly basis. They will receive a Program Maintenance guide from the Association with additional tips and suggestions to support their program throughout the three-year certification cycle.

On an annual basis, the Healthcare Certification team will provide the certified organization with a data report highlighting the previous 12 months of data. The Healthcare Certification team will assess trends that might warrant further feedback or suggestions, as applicable.

Approximately twelve and twenty-four months following the date of certification, programs are due for annual check-ins with an Association Reviewer. The Reviewer will email the program's Primary Contact one month in advance to provide more instructions and to schedule the check-in. Please ensure the Primary Contact in the QCT remains up to date throughout your certification cycle.

Appendix

Appendix

Appendix A – Sources – MENA

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Appendix B – Stroke Center Program Charter Template Sample

Name of Facility

About Our Organization

My Facility Name, is a [number]-bed regional acute-care facility located in Anywhere, Country. It is part of the "We Take Care of You Healthcare System" of over [number] facilities located in the Region. With over [number] staff members, over 25 physicians and 75 volunteers, we are one of the region's largest employers.

Our facility, founded in [year], is governed by a [number-member Board of Directors. We are located in a community located outside of X City serving a diverse population

of [percent]% Arab/Middle Eastern, [percent]% Asian Indian, [percent]% Asian and [percent]% Other. We work with [number] area acute care hospitals delivering the highest quality of care to patients throughout every step of their stroke care journey. Annually our patient volume is [number], with over [number], of stroke patients admitted to our specialized program. Our partner hospitals refer approximately [percent]% of patients to our Stroke Program with the majority being referred from {hospital name}, {hospital name} and {hospital name} hospital.

Mission
The Mission of our acute hospital/system is to strive to provide excellent acute healthcare services to our community through caring, quality, and innovation.
The Mission of our Stroke Program is to provide our patients with quality, patient centered care utilizing the most up to date scientific guidelines. We aim to provide comprehensive care to stroke patients through our specialized program.

Scope
The Scope of the program is to provide specialized patient-centered care to the unique stroke population through a multidisciplinary approach that is evidence-based and outcomes-focused. The hospital provides specialized care to patients by trained staff in a specialized unit.

Our Stroke Program is managed by {managing authority name} who reports to the {governing authority name}. (Or submit the organizational chart demonstrating the reporting structure of the Stroke program.)

Committee Goals
The goals of this committee are to guide the evolution of Stroke care by focusing on identifying areas of opportunity for improvement across the continuum of care. The primary focus of the committee is to ensure that best practice processes are being employed throughout the facility and continuum of care. The Committee will achieve their goals through regular meetings with established agenda items which include but are not limited to:

- Fostering growth and communication among all disciplines as it pertains to the care of the Stroke patient population.
- Assess current state and improve the care of our stroke patients through process improvement.
- Monthly review of our current processes and opportunities to improve using our organization's quality data.
- Evaluate our processes through mapping and flowcharts of the care of the stroke patient to recognize obstacles and opportunities to improve from admission to discharge planning.
- Assure evidence-based best practice guidelines are integrated in our protocols and medical practice.

- Perform an annual review and utilization of all stroke policies, procedures, protocols, or pathways, admission and discharge tools, and patient education materials used by our facility.
- Improving the health of the stroke patient population we serve.

Our Why
Our organization is seeking to obtain certification from the American Heart Association/American Stroke Association because [type reason why]

Committee Structure
Our team is composed of a Stroke Program Director, Dr/PA/ARMP X, and a committee of professionals from the following disciplines: X,X,X.
- Appendix 1: (attached) is our team roster with members, roles and responsibilities.
- Appendix 2: (attached) demonstrates how the stroke program is integrated into the organizational structure (chart).
- Appendix 3: (attached) Meeting agendas, minutes, exhibits and quality improvement initiatives/data for the last 6 months

Appendix C – Glossary

The following glossary defines some of the terms used in the Certification program and in this document.

Certification Cycle: The length of time the certification is awarded.

Desk Review: Process in which supporting documentation for requirements are submitted by the applicant and evaluated by the Reviewer with an open and collaborative exchange of ideas and solutions.

Certification Evaluation Workgroup: A group of international stroke care experts who serve in a volunteer capacity for the American Heart Association/American Stroke Association providing recommendations made by the Reviewer.

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