

# Reference Guide for Virtual Acute Stroke Ready Hospital Designation

NORTH DAKOTA ACUTE STROKE READY HOSPITAL DESIGNATION

## Welcome!

We are pleased that your facility has decided to become an Acute Stroke Ready Hospital (ASRH). This resource is your all-in-one guide to organizing everything you need to submit your application successfully. This includes overview of the requirements, specifics about what to submit, and an Appendix full of samples to reference. If you have questions or need clarification about any of the following criteria and supplemental documentation that you will be asked to submit as part of your ASRH designation application, please contact Christine Greff, State Stroke and Cardiac System Coordinator by email at [cgreff@nd.gov](mailto:cgreff@nd.gov).

## Tips for Successfully Submitting your Application

Please pay close attention to the following tips and the documentation details asked of you for each criterion. This will benefit you and the North Dakota Department of Health (NDDoH) greatly by making the process much more efficient in the long run. Be mindful of the deadline for submission and send a thorough and complete application.

- ✓ Getting started:
  - Your application will be provided to you via email from the ND Department of Health, Division of Emergency Medical Systems (DEMS) Stroke and Cardiac Coordinator.
  - Contact the DEMS at [cbrondyk@nd.gov](mailto:cbrondyk@nd.gov) as you begin your application. We can provide clinical and programmatic support
  - Please also refer to the checklist at the end of this document to ensure you have all the required documentation
- ✓ Uploading Documentation:
  - All attachments must be in PDF format
  - Name files with short titles, or the file may not upload properly
  - Eliminate pages of unnecessary documentation by uploading only the documents, or sections of documents that are necessary to illustrate the required criteria
  - Ensure uploads are easy to read (i.e., not upside down, not vertical layout when should be horizontal, are legible, etc.)
  - Ensure all documentation (protocols, policies, agreements, letters, etc.) are up-to-date and not missing signatures

- If you are unsure or need clarification on required documentation, ask questions as you go
- ✓ Completing the Application
  - Your CEO must sign the CEO Attestation Letter provided. Download the template, print on your hospital letterhead, obtain the signature of the CEO, then upload.
  - Submit application via e-mail to **cgreff@nd.gov**.

## Contact Information

Please completely fill in the hospital contact information form as described below. This form will need to be completed and resubmitted anytime there is a change in the information provided. *See Appendix A1 for the template entitled, "Contact Information Form".*

- Official facility name and address (as you would like it to appear on the certificate)
- CEO name and email
- Primary Contact
  - Your primary contact is your on-site designated stroke coordinator. This person manages the day-to-day work of your stroke program. This role, in collaboration with the stroke medical director, comprises the Stroke Program leadership team.
- Secondary Contact
  - The secondary contact may be a designated administrator (i.e. DON, quality department director, etc.) for your hospital and someone who supports the implementation of your stroke program. This person will handle the stroke program in the absence of the stroke coordinator and will be contacted when the primary contact cannot be reached.
- Stroke Medical Director
  - The physician (or mid-level professional) who works with the stroke coordinator and oversees championing the stroke work at your hospital.
- Registry/Data Entry
  - This person is the abstractor who submits data into the North Dakota State Stroke Registry for your hospital.
- Stroke Registry Reimbursement Contact

- This person is responsible for stroke registry reimbursement and may be in contact with our Grant Coordinator regarding Grant Awards and stroke registry reimbursement for your facility.

## Stroke Program Summary

Please provide a brief description of the Stroke Program at your hospital facility. This is to include the following components:

- ✓ Which EMS agencies deliver and how do you collaborate with EMS
- ✓ Who is on your Acute Stroke Team (AST), how is it activated (i.e. overhead page, etc.)
- ✓ How your acute stroke protocol is implemented: describe what happens when you activate (your stroke process from start to finish)
- ✓ How and where you transfer your patients, and whether you keep alteplase patients
- ✓ How you address staff education and what are the different methods of education your facility partakes in?
- ✓ How you conduct data collection and performance improvement
- ✓ Who are the key providers and staff involved in your program and in the care of stroke patients
- ✓ Any other pertinent data you would like to share

## Required Documentation

The following nine criteria should be addressed in your application. Please read thoroughly and prepare the documentation to be uploaded in an e-mail sent with your application.

### **I. Evidence of an Acute Stroke Team (AST) available 24 hours a day, 7 days a week.**

The AST may be staffed by a variety of healthcare personnel depending on the resources available at your facility. The AST includes all nurses and providers that respond to a stroke, at a minimum, one nurse and one provider. Members of your AST should be available and/or on-call 24 hours a day, 7 days a week. *Your stroke protocol (to be submitted in #2) must detail the roles of the Acute Stroke Team.*

The hospital should support the development of a document that captures key data points such as the number of AST activations, response times, and patient diagnosis,

treatments and/or disposition. A worksheet for “real time” collection of response times may be helpful in collecting these data.

### What do I need to submit?

Documentation of activating your Acute Stroke Team in the ED. This should include the following data points: date and time of activation, response time to bedside, final admitting diagnosis in the ED, treatments, and discharge disposition (admit, discharge, transfer). The log illustrates the use and implementation of an Acute Stroke Team. *Please submit data from the previous calendar year.*

*If you do not have data for this yet, please attach a template of the log you plan to use to track activations going forward.*

*For an example of a list of stroke code activations, please refer to Appendix A2.*

Document detailing your stroke alert activation plan. This document should include how and when your facility calls a stroke code and the AST response to the code.

## **II. Written stroke protocols or algorithms for acute treatment in the Emergency Department**

This protocol should encompass care in the ED. A separate protocol for inpatient care may also be submitted. Protocols should be developed by a multidisciplinary team and reviewed and revised as needed at least once a year to reflect changes in the medical knowledge, cares standards, and guidelines.

Include protocols for the diagnostic work-up, intervention (including IV alteplase dosing and administration guidelines), and patient monitoring required for IV alteplase. Also include guidelines for identification of contraindications to IV alteplase (often referred to as inclusion/exclusion criteria) and blood pressure management prior to and during IV alteplase.

A written protocol should include standardized order sets that deal with aspects of acute diagnosis, such as check of vital signs and neurologic function, blood work, and brain imaging studies.

### What do I need to submit?

A document that serves as a stroke protocol for the ED which should include roles of the Acute Stroke Team and show consideration of diagnosis and acute treatment of ischemic stroke, transient ischemic attack (TIA), and hemorrhagic stroke patients. Please include your algorithm that helps guide care in the ED. Include time goals in your algorithm and/or protocol.

Order sets that reflect the protocol Include those that address initial workup of an ischemic or hemorrhagic stroke, acute treatment after CT is read, and alteplase dosing, administration, and monitoring. Please also include how often these order sets are reviewed and updated.

Dysphagia Screen As part of your protocol, you may require your nursing staff to complete a dysphagia screen (otherwise patient is to remain NPO). If your protocol requires a dysphagia screen be completed, please submit your dysphagia screen.

If you admit any alteplase patients, please attach your admitting order sets, which should be reflective of best practice recommendations for care of stroke patients. Please also attach a letter explaining the circumstances in which you would admit an alteplase patient (this can be signed by the coordinator).

On-call schedule for Acute Stroke Team for previous month. This should include an on-call schedule for each department of your AST.

To ensure you have included all necessary documents, please reference the checklist at the end of the Reference Guide.

*For an example of a stroke algorithm, please refer to Appendix B1. For an example of a written stroke protocol, please refer to Appendix B2. For an example of a dysphagia screen, please refer to Appendix B3.* Please do not simply copy these resources. We recommend you turn your current stroke protocol into your own algorithm which can be easily followed in the ED during a stroke code. Ideas for implementation include putting in on the wall, or in a folder with stroke team checklists and other stroke code materials.

### **III. Collaboration with EMS**

The EMS feedback form should be utilized to enhance communication and ensure loop closure between EMS and hospital personnel on stroke alerts.

## What do I need to submit?

EMS feedback form. This form should include an area to highlight what went well along with any opportunities for improvement that were noted.

*For an example of an EMS feedback form, please refer to Appendix C.*

### **IV. Education on identification and treatment of acute stroke**

All Acute Stroke Team (AST) members (at a minimum all nurses and providers that respond to stroke) are required to receive at least two hours of stroke education per year. This education must include National Institute of Health Stroke Scale (NIHSS) certification for all AST members performing NIHSS. Your facility should develop a system to track AST participation in stroke education. Acceptable options include maintaining educational records in each individual employee personnel file or keeping a master list of participants for each educational offering.

Stroke education does not need to be formal CEUs. Examples of stroke education for your AST members and other staff involved in the care of stroke patients may include but are not limited to:

- ✓ Implementing mock stroke codes at least annually (incorporating EMS)
- ✓ Partnering with Telestroke provider or Primary or Comprehensive Stroke Center partner on formal education opportunities and case reviews
- ✓ National acute stroke best practice tools, trainings, and resources:
  - National Stroke Association (including NIHSS training)
  - American Heart Association / American Stroke Association
  - Activase/Alteplase administration
- ✓ North Dakota State Stroke and Cardiac Conference

## What do I need to submit?

Letter on hospital letterhead signed by your facilities Stroke Coordinator attesting that all AST members receive stroke education at least two hours to two times a year and that further education may be provided at the discretion of the stroke program for all other hospital staff involved in the care of stroke patients.

A detailed grid of stroke education for the next year with the estimated date, staff targeted and expected educational hours. Please do NOT include your educational

materials, PowerPoints, agendas, or attendance lists (keep these education details in your files for validation at in-person site visits).

*For an example of a detailed grid of stroke education opportunities, please refer to Appendix D2.*

**V. The capacity to complete basic laboratory tests 24 hours a day, 7 days a week.**

Ability to complete basic lab tests at all times (24 hours a day, 7 days a week).

**What do I need to submit?**

Scope of Service (SOS) or policy document, and supporting letter if necessary, delineating hours of operation (both on-site and on-call) for lab, specifying process for STAT labs, and roles and response times of on-call staff.

**VI. The capacity to perform and interpret brain imaging studies 24/7**

Acute brain imaging capabilities and interpretation services must be available on a 24/7 basis. Personnel interpreting such scans should be board-certified radiologists with experience and expertise in reading head CTs and brain MRIs.

**What Do I need to submit?**

Scope of Service (SOS) or policy document delineating hours of operation (both on-site and on-call) and describing both on-call response times for staff as well as any contract radiology services (times of coverage, and read/call back times, and STAT status for strokes).

*For an example of the required components of a SOS/policy document with response times, which can be further outlined in a supporting letter if necessary, please refer to Appendix E.*



## VII. Demonstrate collection of data and utilization of data for performance improvement.

### Data Collection

Your facility must be up-to-date on data submission to the ND Stroke Registry at the time of your site visit (we strongly recommend this be current at the time of application submission). If you do not upload your facility's stroke data, identify the person responsible for abstraction at your facility and work closely with them to minimize duplicate work and to ensure you are both using the same information for the registry and for your case review.

### Data Utilization

Demonstrate that there is a process in place to utilize the data you capture. What do you do with the data that you collect? For example:

- ✓ Step 1: Use the activation log in your ED as your first step for case identification.
- ✓ Step 2: Additionally, look at cases that resulted in a stroke ICD-10 code.
- ✓ Step 3: Look through all these identified charts and utilize a case review form (see Appendix F2, F3, and F4) to track your times and whether they met your goals (Door to CT (Imaging Initiated), Door to Needle, Door to Transfer), and to find themes and any opportunities for improvement.

Review your data in a regularly convened meeting. This can be in an existing structure, such as an ED or trauma meeting, or in a separate Stroke Committee meeting, and should involve the Acute Stroke Team and other providers who touch stroke patients (ED physicians, nurses, radiology, lab and registration). This provides an opportunity for all to review care and identify areas to improve. The agenda should include the following:

- ✓ Review your data, such as your Door to CT, Door to Needle and Door to Transfer times, as well as describe themes recurring in your cases. Additionally, take this opportunity to call out the great work people are doing, and find ways to promote excitement on your team! Build your program through engagement at these meetings.
- ✓ Review individual stroke cases. This is an opportunity to identify areas for performance improvement and areas in which your team excels. As a reminder, a Stroke Meeting may be included as part of a pre-existing meeting (trauma, ED), may be part of your telestroke contract, or may function on its own.

## What do I need to submit?

Evidence of data collection – a report showing data from the previous calendar year.

This is to include, at a minimum, the following measures:

- Door to CT
- Door to CT read
- Door to Needle
- Door to Transfer
- Door to ECG

You may provide these reports in any format, from your own internal data collection process OR from the ND Stroke Registry.

Evidence of utilization of data for performance improvement. Upload example Stroke Meeting agendas or minutes (from the previous calendar year) (if you have not yet met, include a sample agenda of an upcoming Stroke Meeting). Upload projects around performance improvement efforts or projects identified via your Stroke Meetings.

Document detailing your performance improvement process. This should include how often your stroke cases are reviewed, who they are reviewed by, and any improvements you have made within your facility after reviewing the data.

*Please refer to Appendix F2-4 for PI resources that can be utilized for case review. These are samples only and indicate a range of possibilities for doing case review and identifying potential opportunities for improvement. See Appendix F2, Appendix F3, and Appendix F4 for examples.*

*Once you perform case review, consider referencing this sample approach to tracking a Performance Improvement project, see Appendix F5.*

## **VIII. Transfer protocols and agreements for stroke patients.**

A written transfer protocol that describes your own facility's process for safely getting a patient transferred out. This document should contain key information such as contact personnel, phone numbers, hours of operation, and transportation options. Please include consideration of mode of transportation, records transfer, handoff to EMS (including the transfer of the alteplase infusion between pumps and tubing), and report to the receiving facility.

Written stroke-specific transfer agreement between the ASRH and at least one hospital that has 24/7 neurosurgery coverage consistent with the Primary Stroke Center or Comprehensive Stroke Center recommendations.

Written stroke-specific transfer agreement between the ASRH and at least one hospital that has 24/7 endovascular coverage consistent with the Primary Stroke Center or Comprehensive Stroke Center recommendations (*This may necessitate two different agreements, if a facility to which you transfer does not perform endovascular therapy*).

### What do I need to submit?

A transfer protocol from your own facility. *This document should outline what you do to initiate and complete a transfer of a stroke patient.* Algorithms are especially helpful to develop for your ED. Include specifics such as phone numbers for receiving facility and for EMS options, considerations for mode of transport, medical management, and information transfer.

A stroke-specific transfer agreement or memorandum of agreement (MOA) with at least one Primary or Comprehensive Stroke Center. This document must include the 24/7 availability of neurosurgery **and** endovascular therapy (mechanical thrombectomy) capabilities. This may require a second agreement with a hospital that has endovascular therapy (mechanical thrombectomy) capabilities.

*For an example of a transfer protocol specific to stroke patients, refer to Appendix G1.*

*For an example of Stroke-Specific Transfer Agreement or Memorandum of Agreement (MOA), refer to Appendix G2.*

## **IX. A designated stroke program leadership team, including a stroke coordinator and medical director.**

A designated on-site medical director with experience and expertise in acute stroke care for the hospital, as well as on on-site designated stroke coordinator.

## What do I need to submit?

Letter on hospital letterhead co-signed by the designated stroke medical director, designated stroke coordinator attesting that each will serve in this capacity for the hospital.

*Additionally, facilities have the option to choose to designate a champion from a PSC/CSC (must be a stroke neurologist).*

*Submit a letter signed by the stroke coordinator, medical director, and CEO, please refer to Appendix H.*

## Application Review

### **CEO Attestation**

The CEO must attest that the application is accurate and current. The signed letter should declare that the documentation provided is a true representation of the hospital's processes, protocols and capabilities.

What do I need to submit?

Letter on hospital letterhead signed by the CEO, attesting to the accuracy of the application.

*See Appendix I for an example of a CEO Letter of Attestation.*

## Submit Application

Upload and attach the completed application, all required documentation, and signed letters to an e-mail and send to the Stroke and Cardiac Coordinator at the North Dakota Department of Health, Division of EMS, at [cgreff@nd.gov](mailto:cgreff@nd.gov).

Congratulations! You have successfully completed your application. The Stroke Coordinator will follow up with any other necessary documentation or questions.

The review team will evaluate your facility's application in entirety and coordinate a date/time for your Virtual Site Visit with your facility's Stroke Coordinator. After your virtual site visit, your strengths, weaknesses, and areas for improvement will

be compiled and recommendation for time period of designation will be formed. Your information will then be blinded and presented to the Stroke Systems of Care advisory committee at the next quarterly Stroke Task Force meeting where your facility will be designated. After designation, your facility will receive an official letter and certification designating your facility, Acute Stroke Ready, for the approved designation period.

Thank you for your hard work in building your stroke program to improve the care of patients throughout North Dakota!

### **Acute Stroke Ready Hospital Designation Checklist**

Use this checklist to organize your documents and ensure you have considered any and all relevant materials to demonstrate your stroke program. Addressing this checklist early will help identify areas where you need to develop documents to support your practice or where you need to communicate with your partner hospitals for agreements; these typically take some time to move through approvals. Please plan accordingly.

- ✓ **Evidence of Acute Stroke Team availability 24/7**
  - Activation documentation: a blank template or filled in, must include the minimum for all stroke alerts: Activation Date and Time, Time of AST response, Diagnosis, Treatment, and Final admitting diagnosis.
  
- ✓ **Written stroke protocols or algorithms for acute treatment in the ED**
  - **Protocol/Algorithm that reflects ED process for stroke**

If you have a policy that provides a detailed description of the stroke code process and roles, we recommend that you also develop an abbreviated algorithm or one-page guideline that can be used as a quick reference by ED personnel. All the following components should be included either in this protocol *or the order sets that support it* (these should reflect your own logo and process at your individual hospital):

    - Roles and responsibilities of AST staff
    - Time goals [Door to Provider, Door to Telestroke, Door to CT, Door to CT read, Door to Needle, Door to Door (Transfer out)]
    - Timeframe for activation/clock time Last Known Well (LKW)

- Symptoms and criteria for Activation
  - Labs (glucose, coags, etc.)
  - IV access
  - Vitals and BP parameters and BP meds
  - NIHSS/Neuro assessment
  - Non-contrast Head CT (do you also provide CTA? Add this into narrative/protocol/algorithm)
  - Consultation with Neurology/Tele-Stroke
  - Consideration of treatment by times from Last Known Well (consideration of alteplase, endovascular, hemorrhage)
  - Inclusion/Exclusion criteria for alteplase
  - Alteplase dosing and administration (accurate weights)
  - Post-alteplase management and consideration of complications
  - Endovascular consideration
- **Protocol/policy for inpatient stroke code**
  - **Oder sets** to support protocol/algorithm
    - ED order sets (ischemic with/without alteplase, which include the initial work-up and management of stroke) to include at a minimum the following:
      - Weights
      - Vital signs and neuro checks
      - BP parameters (Notify MD if BP >220/120, if alteplase candidate >185/110)
      - Pre-checked labs
      - Radiology orders
      - Dysphagia screen/order for strict NPO until screened
      - IV access
    - Alteplase order set and/or supporting documentation (this can be included in above order set)
      - Inclusion/exclusion criteria
      - Alteplase dosing and administration instructions (bolus and infusion)
      - Patient monitoring during and after alteplase infusion
        - Vital signs and neuro checks
        - BP parameters during infusion and meds

- Complications to monitor for and actions to take if they occur
      - Avoid antiplatelets, anticoagulants, IV starts, etc.
    - Transfer (if not admitted)
  - Admission order sets for stroke with alteplase (only if your hospital routinely keeps patients who have received IV alteplase). Also include a letter describing the circumstances when you will admit an alteplase patient, signed by the stroke coordinator.
    - Vital signs and neuro assessments
    - BP parameter and BP meds
    - Imaging – CT/CTA, MRI/MRA, CUS, echocardiogram, TEE
    - Labs
    - Dysphagia screening
    - Core measure related orders
      - PT/OT/SLP
      - Meds – ASA, Plavix, statins
      - Stroke education
    - Cardiac monitoring
    - When to call the provider
- ✓ **EMS**
  - EMS feedback form
- ✓ **Education**
  - Letter stating required education is provided two hours to two times a year
  - Grid showing recent and planned education in the next 1 year, with which type of providers targeted and for how long. Education with CE provided is not required. Mock stroke codes or other learning activities are acceptable.
- ✓ **Lab**
  - Scope of Service showing 24/7 availability
  - STAT labs reflected in ED order set
- ✓ **Radiology**
  - Scope of Service that contains the below. If missing from SOS, attach a letter from radiology to describe the following:
    - CT tech on site or on-call, specify hours, specify expected response time when called in

- Radiologist on site or teleradiology, specify hours, specify expected turnaround time (read back) for stroke
- STAT read for stroke (can be in order sets)

✓ **PI**

- Three years of data from ND Stroke Registry
- Any PI evidence – agendas/minutes describing stroke case review, past PI project descriptions or current PI plans

✓ **Transfer agreements**

- Protocol or algorithm that describes how you prepare a patient to transfer out of your ED. Must contain:
  - Phone number to call for transfer to next level of care (transfer center or similar at receiving facility – if you commonly transfer to more than one facility, include contact information for each)
  - Who makes decisions on air vs ground transport
  - Phone number to call for EMS (or who contacts them if done by receiving facility)
  - Handoff to EMS: Consideration of tubing and pump exchange if sending with alteplase infusion
  - Consideration of how to get records to next hospital (if no shared electronic health record, which records/imaging is sent?)
  - Report to next facility
- MOA or transfer agreement
  - Stroke specific
  - Signed by CEO or designee of both hospitals
  - Must be active

✓ **Stroke Leadership**

- Letter from CEO, co-signed by Stroke Coordinator (SC) and MD, attesting to roles
  - SC or MD must have some time on-site to manage stroke program.
  - MD should be on-site and can have medical direction provided through telestroke with engaged case review.