



The Commonwealth of Massachusetts
Executive Office of Health and Human Services
Department of Public Health
Bureau of Health Care Safety and Quality
99 Chauncy Street, 11th Floor, Boston, MA 02111
617-753-8000

DEVAL L. PATRICK
GOVERNOR

JOHN W. POLANOWICZ
SECRETARY

CHERYL BARTLETT, RN
COMMISSIONER

PRIMARY STROKE SERVICES (PSS) - Frequently Asked Questions

Q1. How is an “acute stroke” defined for the National Institutes of Health Stroke Scale (NIHSS) data entry purposes?

Patients included in the NIHSS measure have a primary **DISCHARGE** diagnosis listed below:

- Ischemic Stroke
- Stroke not otherwise specified

Q2. How is an “acute stroke” defined for the Department of Public Health (DPH) PSS data entry purposes?

At a minimum, a PSS hospital must collect, analyze and enter data into the registry, as defined by the DPH, on patients who:

- (1) Present to the Emergency Department (ED) with acute ischemic stroke who arrived within 3 hours of last known well (described in regulation as “within 3 hrs of symptom onset”), (130.1410(B)) to identify opportunities for improvement in the service, **AND**
- (2) Have a primary **DISCHARGE** diagnosis listed below:
 - Ischemic Stroke
 - Transient Ischemic Attack (TIA)
 - Stroke not otherwise specified

ICD-9 Codes for Primary Stroke Services include 433.00, 433.01, 433.11, 433.20, 433.20, 433.21, 433.30, 433.31, 433.80, 433.81, 433.90, 433.91, 434.00, 434.10, 434.11, 434.90, 434.91, 435, 435.0, 435.1, 435.2, 435.8, 435.9, (**436 - new addition**).

All cases as defined above are required to be entered in the database; however, it is optional to enter additional cases not included in the definition.

Q3. Are data to be collected on patients presenting with acute ischemic stroke regardless of their eligibility for thrombolysis?

At a minimum, a PSS hospital must collect, analyze and enter data in the registry, as defined above, regardless of whether or not thrombolytic therapy was initiated at the hospital.

Q4. Is there a set of rules for the selection of cases for data entry?

Please see information above and detailed guidance in the PSS Stroke Patient Management Tool (PMT) Coding Instructions, including Notes for Abstraction.

Q5. Which patients are required to have a National Institutes of Health Stroke Scale (NIHSS) performed in the ED as part of the initial assessment?

An assessment of stroke severity is to be performed as part of the initial evaluation for all patients who:

1. have stroke-like deficits and are suspected of having an acute ischemic stroke, and
2. present to the ED within 4.5 hours of last known well.

This is typically done as part of the patient's initial assessment in the ED by hospital staff or as part of an ED neurology consultation. It is performed to obtain a baseline measure of severity, to establish eligibility for thrombolysis and to assess the risk for complications and the level of acuity.

The NIHSS is the scale used to record this information, and should be completed prior to thrombolytic treatment. The NIHSS is not required to be performed for patients with hemorrhagic stroke; however, it may provide a useful complementary measure of neurological disability in patients with hemorrhagic strokes, in addition to other scales such as GCS, Hunt and Hess, and can be used over time to assess changes in disability that may prompt intervention.

For patients presenting beyond 4.5 hours of last known well, the NIHSS may be done either as part of the admission process or as part of the initial neurological examination, and may be deferred for up to 48 hours of arrival to the ED.

The NIHSS is a systematic assessment tool¹ that provides a quantitative measure of stroke-related neurologic deficit. Use of a standardized assessment and stroke severity scale, such as the NIHSS, is a recommended clinical guideline² (Class 1, Level of Evidence B). The NIHSS is considered one of the most reliable and valid instruments as a clinical measure of stroke severity and is endorsed in national guidelines including the American Heart Association/American Stroke Association.³

Q6. Who is expected to be trained in the NIHSS? Is certification necessary, or can training be provided to the ED team by neurologists on staff at the hospital?

The decision regarding who is expected to be trained in use of the NIHSS is institutional; however, emergency physicians and nurses, neurologists, neuroscience nurses and other stroke team members are typical examples of providers who could be certified to perform the NIHSS. The scale is designed to be a simple, valid, and reliable tool that can be administered at a patient's bedside. It is highly recommended that the NIHSS be performed by a practitioner who has been certified to perform the NIHSS; however, it is not a DPH requirement at this time. The training may be provided by neurologists or qualified staff educators (i.e., trained in use of the NIHSS).

¹ http://www.ninds.nih.gov/doctors/stroke_scale_training.htm

² <http://stroke.ahajournals.org/content/38/5/1655.full.pdf>

³ <http://stroke.ahajournals.org/content/early/2014/02/11/STR.000000000000014.full.pdf>

Listed below are links to two web-based NIHSS training resources:

<http://nihss-english.trainingcampus.net/uas/modules/trees/windex.aspx>

<http://www.stroke.org/site/PageServer?pagename=nihss&gclid=COuXiLGU5sACFSgV7AodOBIAxQ>

Q7. Is the NIHSS required to be performed and documented while a patient is on an inpatient unit?

While it is a recommended best practice to complete an NIHSS assessment for inpatients, at this time there is no DPH requirement to perform or document inpatient NIHSS assessments.

Q8. Is there an expectation of more than one NIHSS to be done at different times?

The frequency of ongoing NIHSS assessments is determined by hospital policy; however, it is recommended that an NIHSS score be performed if there are clinical changes that may indicate a complication of thrombolytic therapy and/or an evolving stroke and that it be considered whenever there is any other major clinical worsening, and at discharge.

Q9. Can the NIHSS score be "estimated" from existing data in the patient's record in lieu of performing the NIHSS?

The NIHSS should be performed as part of an acute stroke patient's assessment to determine the actual score. If a comprehensive neurological examination has been performed which includes all the components of the NIHSS, then the score may be estimated. Otherwise, the score can not be estimated as the score would not be accurate.

Q10. What are the NIHSS data elements?

Required PSS data elements for NIHSS include the following:

- Was the NIHSS performed as part of the initial evaluation? (yes, no/not documented)
- If the NIHSS is recorded on the PSS PMT, what method was used to obtain the NIHSS score recorded? (actual, estimated, not documented)
- Total Score - if the initial NIHSS was performed, what is the first NIHSS total score recorded by hospital personnel? Click on (show/hide) to display the sub-questions from the NIHSS. The total will be computed automatically from these sub-questions. Completing the NIHSS sub-questions is optional.

For more detailed guidance, please refer to the PSS Stroke PMT Coding Instructions, including Notes for Abstraction.

Q11. Is there a requirement for use of the Glasgow Coma Scale (GCS)?

A PSS hospital is not required to perform a GCS, nor enter results in the data registry. However, a GCS may be performed as clinically appropriate.

Q12. Is the requirement that (1) the hospital collects and enters data on whether or not an NIH score was done, or (2) is the requirement that it be done?

It is expected that an NIHSS assessment is performed and results entered in the database. If the NIHSS was not performed and not documented it does not meet the requirement.

Q13. In order to meet the requirement must a score be documented?

It is expected that an initial NIHSS assessment is performed and the score is reported as noted above. If the NIHSS was not performed, and documented as such, it does not meet the requirement.

Q14. Can an abbreviated NIHSS be used?

No, the full NIHSS is required.

Q15. What is the difference between Primary Stroke Services, the Coverdell/SCORE Program, and the AHA/ASA “Get with the Guidelines?”

PSS regulations are the framework for hospitals to provide emergency diagnostic and therapeutic services, delivered by a multi-disciplinary team, available 24 hours per day, 7 days per week to patients presenting with symptoms of acute stroke. PSS regulations establish standards for the designation of a PSS in a hospital with licensed Emergency Services. The hospital must maintain compliance with regulatory requirements in order to be licensed and designated as a PSS. Each participating hospital must also maintain a contract with the designated data vendor for data management services and access to the PSS PMT.

Offered through the American Stroke Association, Get With The Guidelines®-Stroke (GWTG-Stroke) is a nationwide, in-hospital program for improving stroke care by promoting consistent adherence to the latest scientific treatment guidelines. There are benefits to participating in GWTG including recognition for hospital team program achievement, free quality consultations, the ability to benchmark hospital data locally and nationally and a wide selection of clinical and patient education tools.

In Massachusetts, 61 acute care hospitals currently participate in GWTG-Stroke. The majority of these hospitals also participate in the Coverdell Program at DPH. The collaboration between DPH and the American Stroke Association is known as the SCORE QI Collaborative (SCORE).

Organizations participating in SCORE use Quintiles Real-World & Late Phase Support (formerly known as Outcome Sciences) as the data vendor. The SCORE measures include all of the PSS measures as well as additional data reflecting the acute (ED), inpatient care and the discharge process of the stroke patient. The data submitted for the GWTG and the SCORE Programs are the same, with the exception of 5 data elements. The data are used by the hospital to assess adherence and to determine areas for improvement. Additionally, comparison data are provided by SCORE staff to hospital participants, supporting the QI efforts. The SCORE Program also supports hospitals in their efforts to comply with the PSS regulations. Benefits of participation include an annual program review, QI support, stroke care tools and documents, networking opportunities, ongoing formal education, annual performance awards, a website and ListServ connecting coordinators for questions.

The SCORE Program works with Emergency Medical Services (EMS) and the post-acute settings, to coordinate the care of the stroke patient through the continuum. Through participation in the SCORE Program, hospitals are provided opportunities to work with pre- and post-hospital providers to improve the transition of care. Participating hospitals are not known to PSS; there is a firewall between PSS and the Program, prohibiting data and information from being shared. SCORE is not a regulatory agency and is administered through the Division of Prevention and Wellness of the Massachusetts Department of Public Health.

Link to DPH PSS documents:

<http://www.mass.gov/eohhs/gov/departments/dph/programs/hcq/healthcare-quality/health-care-facilities/hospitals/circular-letters/stroke-circular-letters.html>

PSS regulations can be found under 105 CMR 130.1400-130.1413 in the hospital licensure regulations:
<http://www.mass.gov/eohhs/docs/dph/regs/105cmr130.pdf>

For questions about information in this letter please contact Gail Palmeri at gail.palmeri@state.ma.us.