

ARE STROKE PATIENTS BEING ASSESSED FOR REHABILITATION IN THE ACUTE HOSPITAL?

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BACKGROUND & SIGNIFICANCE

- Stroke is a leading cause of serious, long-term disability in the United States, with 15-30% of adult stroke patients reporting severe disability post-stroke.¹
- Rehabilitation care is central to a stroke patient's recovery. A considerable body of evidence indicates better clinical outcomes when patients with stroke are treated in a setting that provides coordinated, multidisciplinary stroke-related evaluation and services. Effective rehabilitation interventions initiated early following stroke can enhance the recovery process and minimize functional disability.²⁻³
- Strong evidence for stroke rehabilitation led to a 2005 clinical recommendation that all acute stroke patients be *assessed for rehabilitation services* as early as medically and neurologically possible to ensure optimal outcomes.⁴
- In support of developing stroke systems of care, The NorthEast Cerebrovascular Consortium (NECC) (which includes CT, MA, ME, NH, NJ, NY, RI, VT) subsequently recommended that, "all hospitalized stroke patients should be assessed for and referred to the appropriate level of post-stroke care" and that "every stroke patient's functional status should be assessed during inpatient hospitalization with a standardized screening and assessment tool."⁵

OBJECTIVE

This study aimed to:

- determine the proportion of stroke registry hospitals meeting the clinical guideline and quality of care performance indicator for conducting a standardized assessment for rehabilitation; and,
- explore what standardized measures (function and stroke severity) are used by those hospitals in compliance.

METHODS

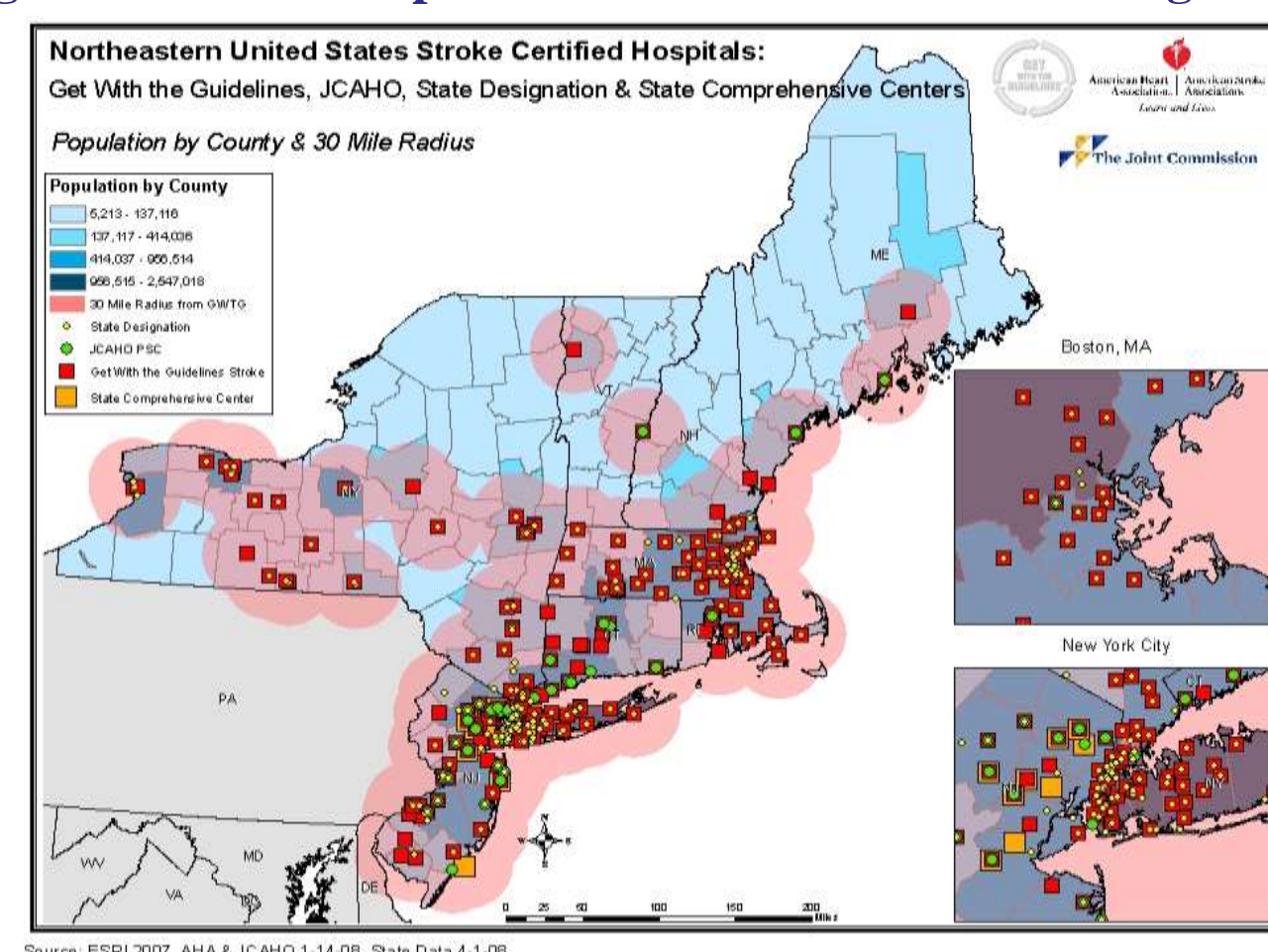
Design

This is a mixed-methods study including analysis of data collected for clinical practice improvement and survey data of hospitals participating in the quality improvement program.

Clinical Practice Improvement Registry and the NECC Sample

- Supported by the American Heart Association, Get With The Guidelines®-Stroke (GWTG-Stroke) is a registry and quality improvement program developed to improve the outcomes of stroke patients by improving the delivery of evidence-based clinical care.
- Initiated as a pilot in 8 states in 2001, GWTG-Stroke was made available nationally in 2003. It now includes over 1400 hospitals across the US with data on over one million patients.
- July 1, 2008 – June 30, 2009 performance data for this study on "assessed for rehabilitation" is presented for the 330 acute care hospitals in the Northeast U.S. (CT, MA, ME, NH, NJ, NY, PA, RI, VT) participating GWTG-Stroke.
- Figure 1 depicts the geographical location of GWTG-Stroke hospitals and their relationship with other stroke quality of care initiatives.

Figure 1. NECC Hospitals with at least one stroke designation



Acute Stroke Care Practice Survey and Sample

In December 2009, the 263 active GWTG-Stroke hospitals were surveyed on their use of evidence-based measures recommended for informing an acute assessment for rehabilitation including: routine measurement of activities of daily living, motor function or disability, and NIH Stroke Scale on admission and at discharge.

RESULTS

Stroke Quality Measure for Acute Rehabilitation Assessment: Percent of ischemic or hemorrhage stroke patients who were assessed for rehabilitation services **96.2%**

- For the 58,976 ischemic and hemorrhagic stroke patients discharged from the NECC GWTG-Stroke participating hospitals from July 1, 2008-June 30, 2009, 96.2% had a rehabilitation assessment documented.
- The national average for the 1414 participating hospitals nationwide was 95.6%.

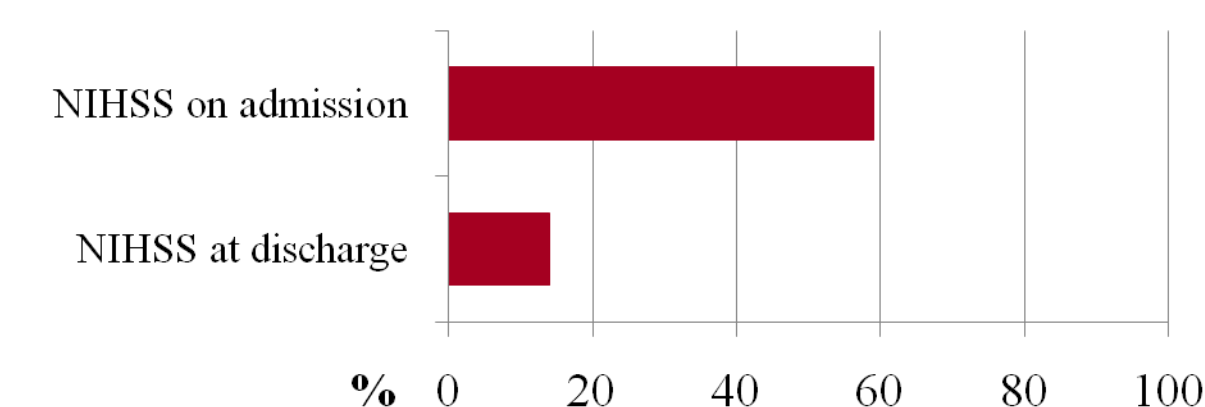
Use of Recommended Standardized Measures to Inform Acute Assessment for Rehabilitation

- There was a 30% survey response rate (N=79).

NIH Stroke Scale (NIHSS - Figure 2)

- GWTG-Stroke registry data for the 330 NECC hospitals showed 52.6% of patients had a NIHSS score reported.
- 47 of 79 of survey respondents reported the NIHSS is completed on admission for the majority of their patients
- 11 of 79 reported the NIHSS is completed at discharge

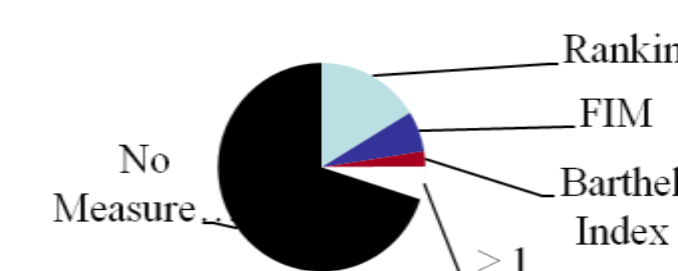
Figure 2. Percent of NECC Hospitals that Report Completing the NIHSS On Admission and/or At Discharge



Function (Figure 3)

- Function was only measured by 30% of hospital respondents
- The Rankin was most common (54%)
- Use of standardized measures for communication, cognition and social support were not surveyed.

Figure 3. Measures of Functional Status Used in These Northeast Acute Care Hospitals (N=79)



CONCLUSIONS

- Almost all ischemic and hemorrhagic stroke patients treated at a GWTG-Stroke participating acute hospital and discharged in FY09 were documented to have been assessed for rehabilitation.
- Use of standardized measures for stroke severity and function by the NECC hospitals that responded to the online survey was low.
- Hospitals that reported to assess the majority of their stroke patients with the NIHSS were not doing so at the same point during the acute inpatient stay.
- Among the small proportion of hospitals that reported to assess stroke patients with some measure of functional status, three different instruments were used.
- While both the 2005 stroke rehabilitation clinical guidelines and the stroke systems of care task force recommend that all stroke patients receive a standardized screening evaluation to determine the type and duration of rehabilitation, an accepted standardized assessment does exist.
- The decision process associated with this assessment to refer a recent stroke patient for post-acute rehabilitation services appears highly variable.
- Both research and focused performance improvement activities are needed to delineate disparities in referral to rehabilitation, the assessment processes currently used, and optimal methods for supporting acute hospitals toward evidence-based care.

REFERENCES

- Lloyd-Jones D, Adams R, Carnethon M, et al. Heart disease and stroke statistics--2009 update: a report from the American Heart Association Statistics Committee and Stroke Statistics Subcommittee. *Circulation*. 2009;119(3):480-486.
- Pruv Bettger JA, Stineman MG. Effectiveness of multidisciplinary rehabilitation services in postacute care: state-of-the-science. *Arch Phys Med Rehabil*. 2007;88:1526-1534.
- Teasell RW, Foley NC, Bhogal SK, Speechley MR. An evidence-based review of stroke rehabilitation. *Top Stroke Rehabil*. 2003;10:29-58.
- Duncan PW, Zorowitz R, Bates B, et al. Management of adult stroke rehabilitation care: a clinical practice guideline. *Stroke*. 2005;36:e100-143.
- Gropen TI, Magdon-Ismail Z, Day D, et al. Regional implementation of the stroke systems of care model: recommendations of the Northeast Cerebrovascular Consortium. *Stroke*. 2009;40:1793-1802.

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