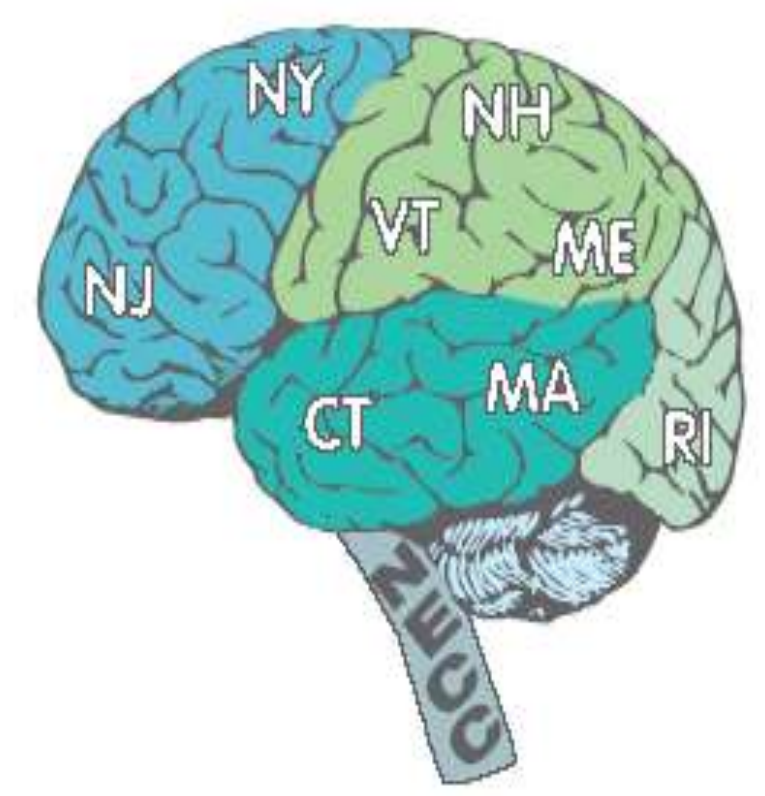


# National Institutes of Health Stroke Scale (NIHSS) Use in the Northeast

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The NorthEast  
Cerebrovascular Consortium

## Background

- The Northeast Cerebrovascular Consortium (NECC) was established in 2006 in eight states in the Northeast (CT, MA, ME, NH, NJ, NY, RI & VT) to address regional disparities in stroke care.
- The NIHSS is widely accepted as a standard clinical measure of stroke severity.
- Although clinical guidelines recommend the use of standardized measures for stroke severity<sup>1</sup>, the American Stroke Association's Get With The Guidelines<sup>®</sup>-Stroke (GWTG-S) regional data for 2010 showed that only 61.3% of patients (40300/65791 patients) had a NIHSS score reported<sup>2</sup>.
- We sought to analyze patterns of use and barriers to hospital based implementation of the NIHSS.

## Methods

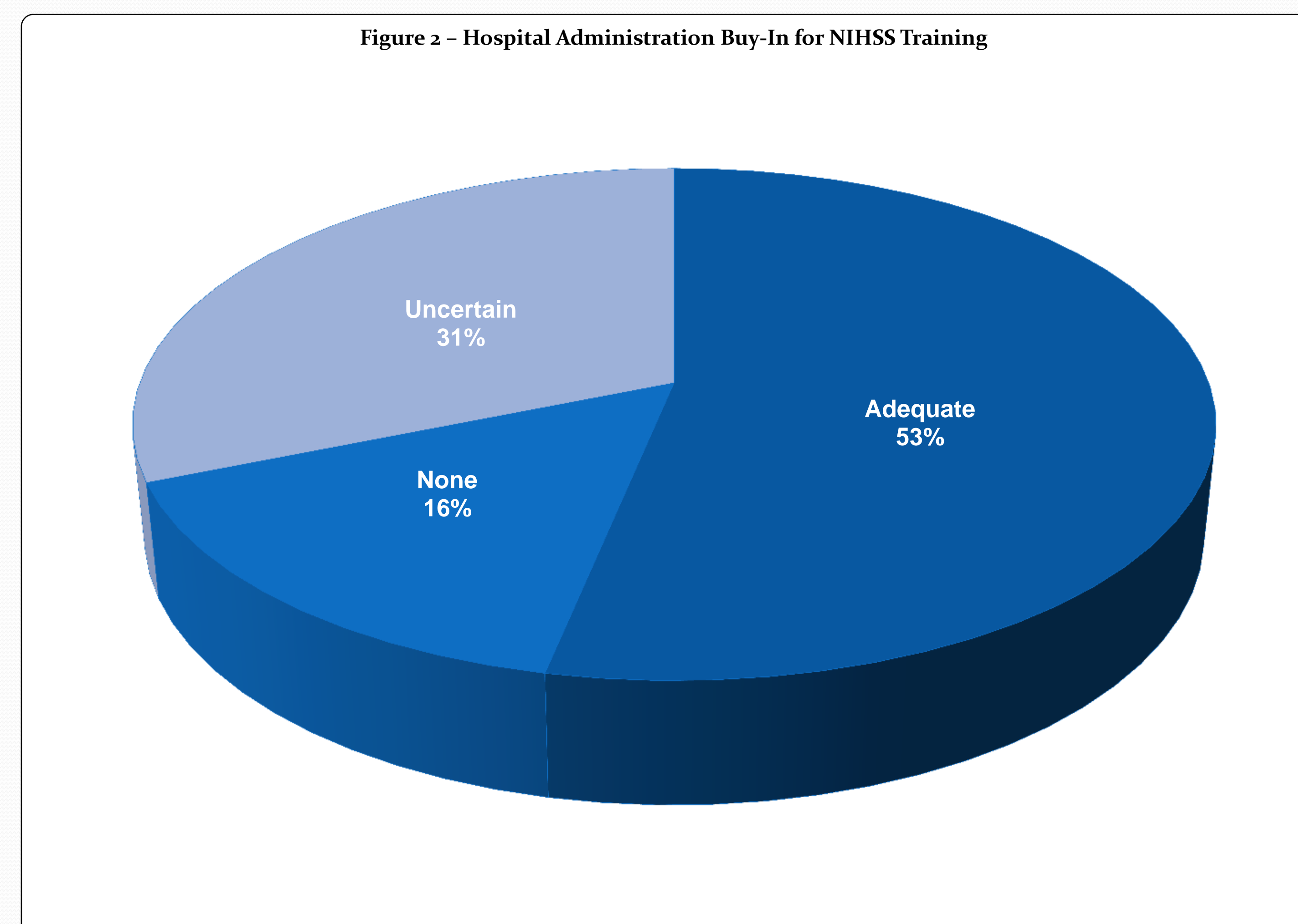
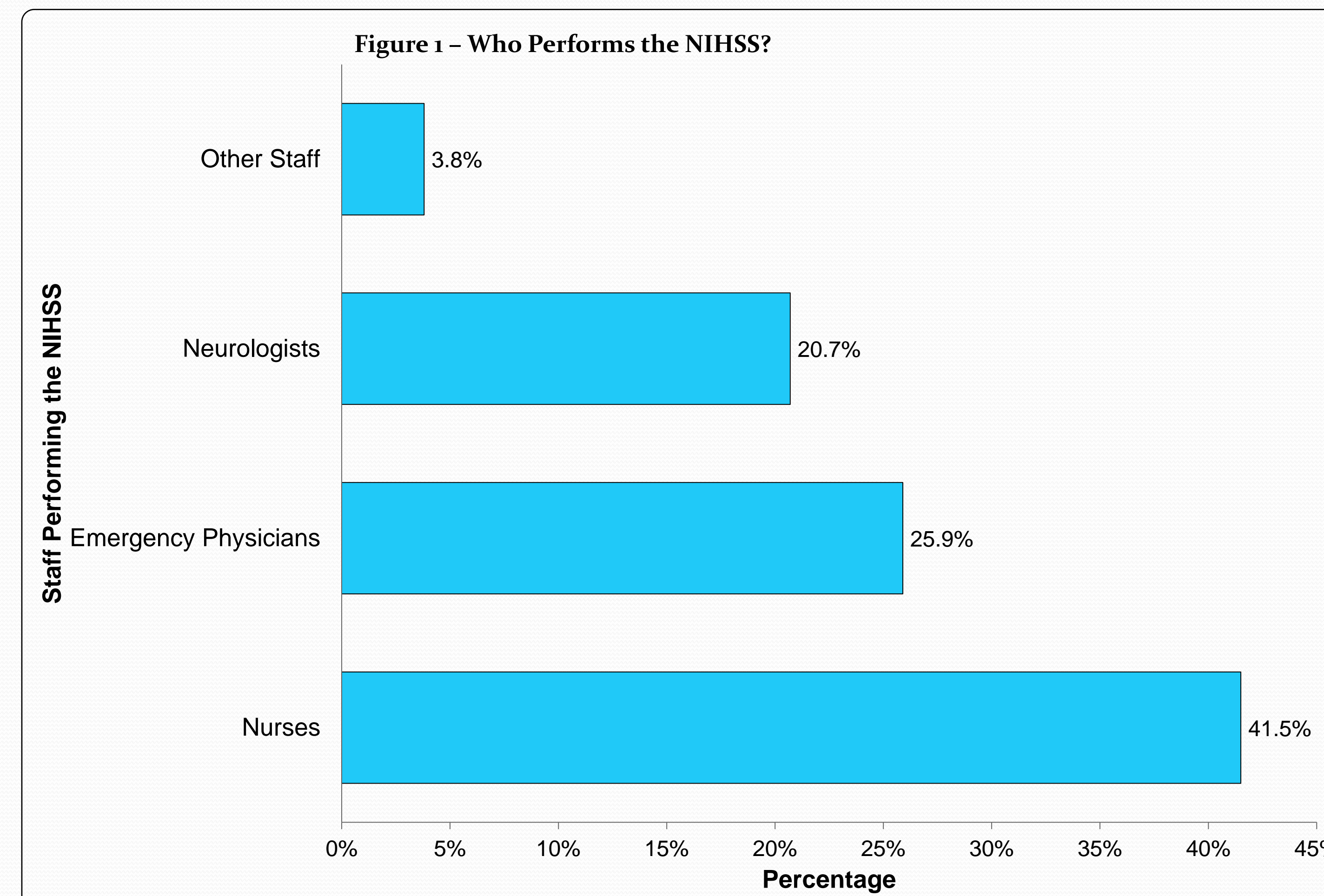
- Online surveys were sent to the stroke coordinator at the GWTG-S hospitals in the NECC Region in June 2010 (N=240).
- The surveys assessed use of the NIHSS and any need for additional NIHSS training.
- Response options allowed multi-selection of categories.
- Differences in responses were evaluated using Fisher's Exact Test.

## Results

- 32% (77/240) stroke coordinators from 7 of the 8 NECC States completed the survey (no responses from VT).
- NIHSS was used more commonly than a modified NIHSS or other scale, 84.4% (65/77) vs. 5.1% (4/77),  $p=.0001$ . Ten percent (8/77) reported using no scale.
- Nurses were more frequently identified as performing the scale (41.5%), than emergency medicine physicians (25.9%,  $p = .06$ ), neurologists (20.7%,  $p = .009$ ) or other staff (attending physicians, stroke program coordinators) (3.8%,  $p = .0001$ ). See Fig. 1
- Forty five percent of coordinators (35/77) reported using on-line training. Of the 35 sites, use of the American Heart Association on-line tool (77.1%) was significantly higher than use of the National Stroke Association on-line tool (17.1%),  $p=0.0001$ , or the use of alternative tools or methods (5.7%),  $p=0.0001$ .

## Results (Cont.)

- Only 51% of all respondents felt their hospital's present plan for NIHSS training met their needs, regardless of whether they currently use the NIHSS scale, and 70% expressed interest in assistance with formal training on the NIHSS by the NECC.
- Only 53.2% (41/77) indicated adequate administrative buy-in for NIHSS training, with the remainder reporting none (15.6%) or uncertain (31.1%) buy-in. See Fig. 2



## Conclusions

- A majority of hospitals in the Northeast are using the NIHSS to assess stroke severity, and the NIHSS is most often performed by nurses.
- Although hospitals are providing some NIHSS training, stroke coordinators identified a need for more staff training and a need for administration buy-in for NIHSS use and training.

## Next Steps

- Pending funding approval, the NECC is planning to implement a NIHSS train-the-trainer program across the region with the goal to increase the number of staff trained as trainers, increase the number of hospital staff certified in use of the NIHSS and to increase the number of patients that have an NIHSS score recorded on admission.

## Limitations

- The study was limited to hospitals who participate in Get With The Guidelines-Stroke<sup>®</sup> and the survey was sent only to stroke coordinators who represent one perspective of the hospital.
- Of the 240 coordinators who received the survey, 32% (77 out of 240) completed it.

## References

- <sup>1</sup>Adams HP, del Zoppo G, Alberts MJ, Bhatt DL, Brass L, Furlan A, Grubb RL, Higashida RT, Jauch EC, Kidwell C, Lyden PD, Morgenstern LB, Qureshi AI, Rosenwasser RH, Scott PA, Wijedicks EFM. Guidelines for the Early Management of Adults With Ischemic Stroke. Stroke. 2007;38:1655.
- <sup>2</sup>Get With The Guidelines Patient Management Tool<sup>®</sup>, (Outcome Sciences, Inc, Cambridge, Massachusetts)

## For Additional Information

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