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The Crossroads of Radiology

YaleNewHavenHealth
Bridgeport Hospital

Resident education and standardized communication protocol can improve and maintain timely reporting of Head CT in Stroke Code

Audit of adherence to National Institute of Neurological Disorder and Stroke critical time goal and our institutional goal over 5 years

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Disclosures

- None of the authors declare any potential conflict of interest.

Introduction

- National Institute of Neurological Disorder and Stroke critical time goals:
  - CT head should be reported within 20 minutes of completion of the study
- Yale New Haven Health Bridgeport Hospital institutional goal for "stroke code" cases:
  - CT head should be read and results directly communicated to and acknowledged by the referring provider within 10 minutes of completion of the study

Objectives

- To improve the reporting time of Head CT in Stroke Code cases and to improve the adherence to NINDS critical time goal and our institutional goal

Methods

- A resident-led quality improvement project was done using the PlanDoStudyAct model advocated by the American Board of Radiology.
- Audit of time between completion of Head CT and informing the clinical team was done in the Department of Radiology between 3/21/12 to 9/5/12.
  - Mean report time was 11.1 mins in 25 stroke code cases. Reporting time ranged from 2 to 33 mins with median 10 mins. Though 24 cases (96%) were reported within NINDS critical time goal of 20 mins, only 13 cases (52%) were reported within our institutional goal of 10 mins.
- Discussions were held and suboptimal performance was thought to be lack of awareness of NINDS/institutional goals as well as clinical significance of timely reporting, and lack of effective communication.

Methods

- We thus aimed to improve reporting time by making residents and CT techs aware of report time goals and clinical importance, and implementing a standardized communication protocol. Audit of stroke code head CT report time was again performed 9/13/12 to 2/9/13 including 25 cases and mean/median reporting times were reassessed.

- Then, resident education was repeated at the beginning of each academic year and audit of all cases in our stroke code logbook was done to assess consistency in our performance during academic years 2014, 2015 and 2016 up to 11/8/16.

Results

- After resident education and strict communication protocol implementation, mean reporting time decreased to 8.4 mins, median 7 mins with a range 1 to 17 mins (100% within NINDS goal and 80% within hospital goal).

- After implementation of annual resident education at the start of each academic year since July 2014, subsequent audit of 134 cases showed our reporting time consistently achieved NINDS goal at 100% and hospital goal at 80% overall, with mean 7.6 mins, median 7 mins with a range 1 to 20 min.

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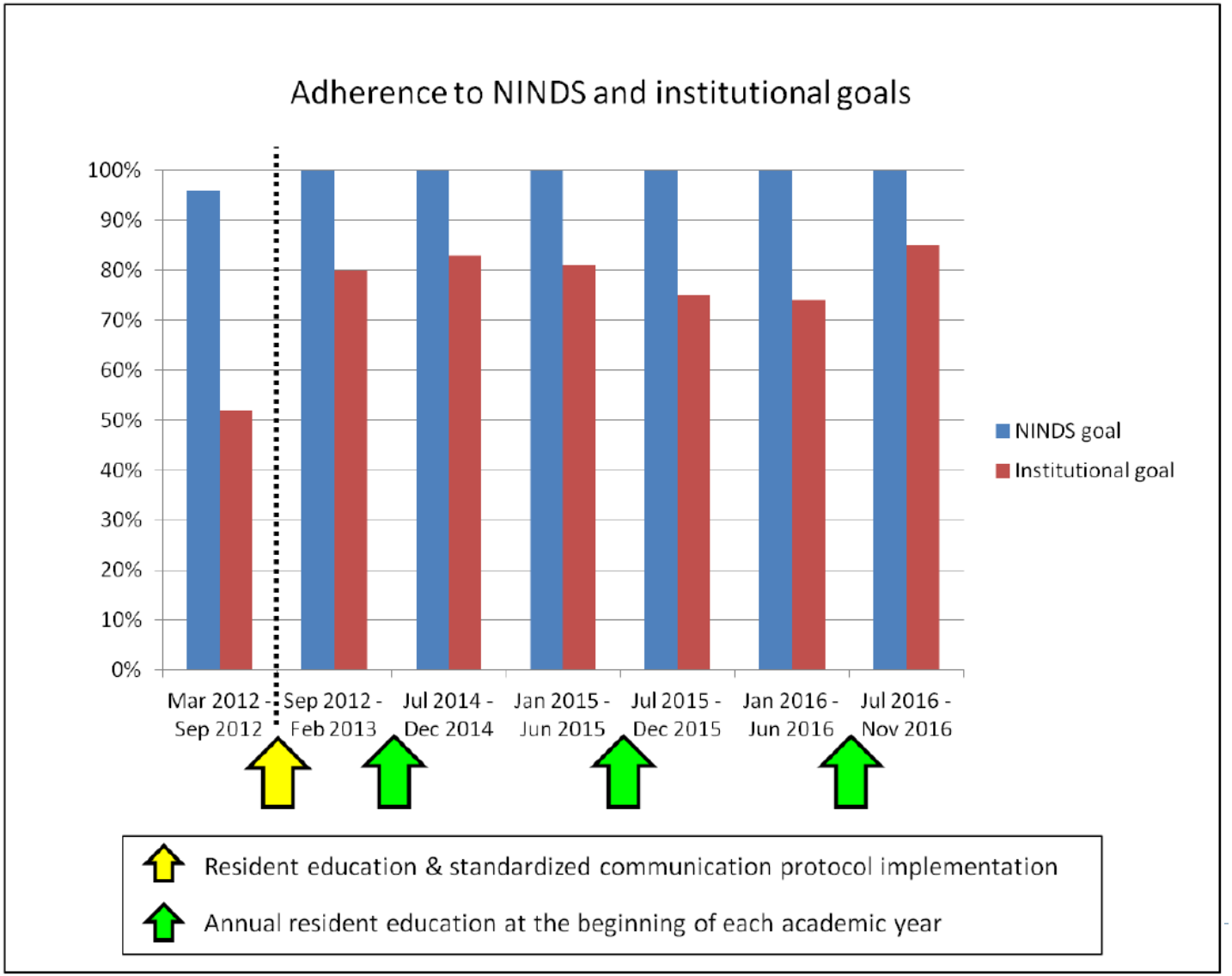
Results



Results

Table 1. Mean, median and range of CT head reporting time (in minutes) in Stroke Code cases

	Mar 2012 – Sep 2012	Sep 2012 – Feb 2013	Jul 2014 – Dec 2014	Jan 2015 – Jun 2015	Jul 2015 – Dec 2015	Jan 2016 – Jun 2016	Jul 2016 – Nov 2016
No. of cases	25	25	30	26	20	31	27
Mean	11.1	8.4	8.3	8.6	9.6	6.7	5.3
Median	10	7	8.5	8	8	5	4
Minimum	2	1	1	3	2	1	1
Maximum	33	17	20	17	18	17	20

Conclusion

- At our community hospital, annual resident education and adherence to strict standardized communication protocol between radiologists and CT techs improved and maintained our performance in stroke code CT head reporting time, consistently over the last 5 years.