

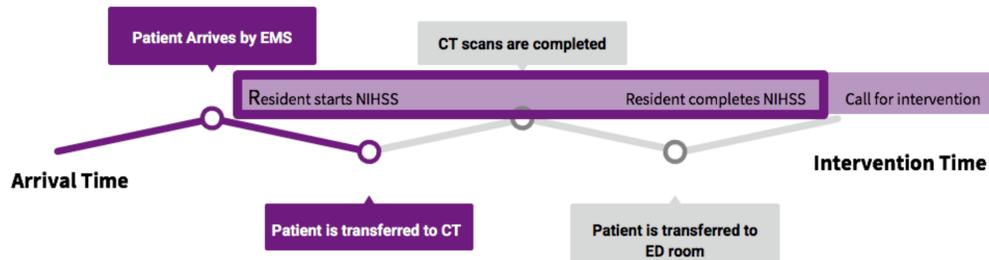
BACKGROUND

- Ischemic stroke is a leading cause of morbidity and mortality. Mean lifetime risk of stroke after age 25 was 24.9% in 2016.
- Two acute interventions are used in practice
- Tissue plasminogen activator (tPA)
 - Prerequisites: NIHSS, CT head, blood glucose, blood pressure control and negative history for contraindications
 - Window of intervention: 0-4.5 hours from last known normal (LKN)
- Mechanical thrombectomy
 - Prerequisites: NIHSS, CT angiogram head/neck
 - Window of intervention: 0-24 hrs from LKN
- Typical brain will lose 1.9 million neurons/minute during acute stroke while awaiting treatment.

METHODS

The FOCUS-PDSA format for quality improvement was used.

- Problem identified: delay in intervention caused by interruption of the NIHSS during transfers of patient and completion of imaging.

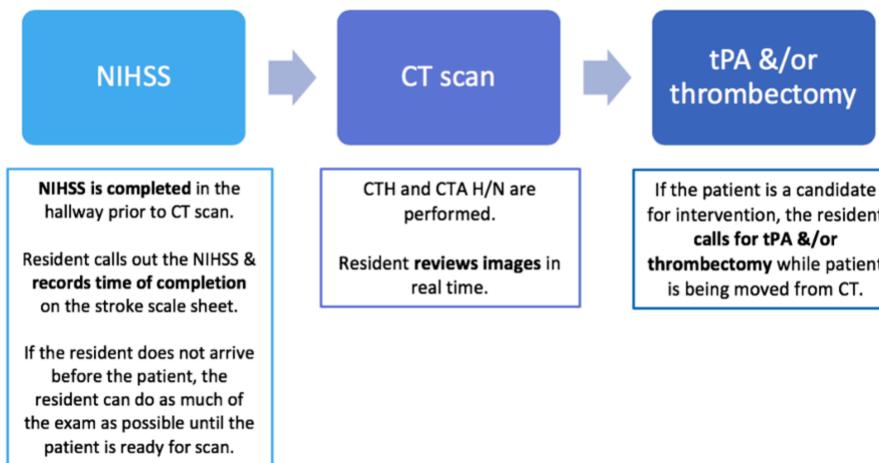


- Root causes of the problem were analyzed including the goals of each service involved: EMS, CT department, ED providers, neurology providers and stroke coordinator.

METHODS Continued

- A new process was implemented which allowed completion of the NIHSS prior to transfer to CT scan.
- This would allow review of imaging in real time and immediate call for intervention from the CT suite.

Stroke Alert Protocol Change: NIHSS Prior to CT



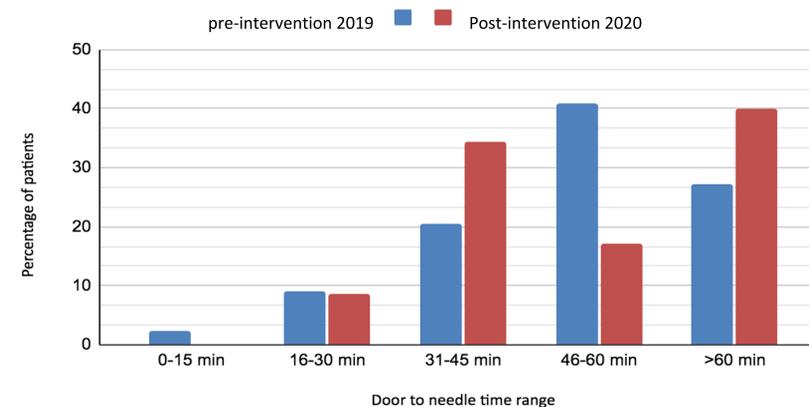
- Data was collected on time from arrival to tPA and thrombectomy pre and post intervention.

RESULTS

Average time from arrival to tPA administration

- Pre-intervention: 53.25 minutes
- Post-intervention: 63.20 minutes

Time to tPA pre & post intervention

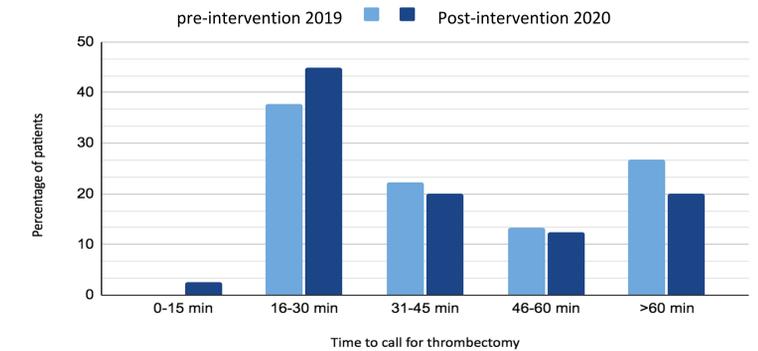


RESULTS cont.

Average time from arrival to thrombectomy

- Pre-intervention: 52.46 minutes
- Post-intervention: 43.63 minutes. 16.8% reduction in time to call for intervention.

Time to Call for Thrombectomy Pre and Post Intervention



CONCLUSIONS

- Despite reduced interruptions in completion of NIHSS, door to needle times for tPA did not improve with this intervention.
- There is a correlation with this intervention and improved time to call for mechanical thrombectomy which may be causative. Calls for thrombectomy could be made immediately after completion of CTA imaging.
- Limitations: Inability to accurately document time to NIHSS completion. Operated under assumption of compliance with protocol. Did not control other variables that may have affected time to intervention.

REFERENCES

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