



Pre-Hospital Stroke Care: A Descriptive Analysis

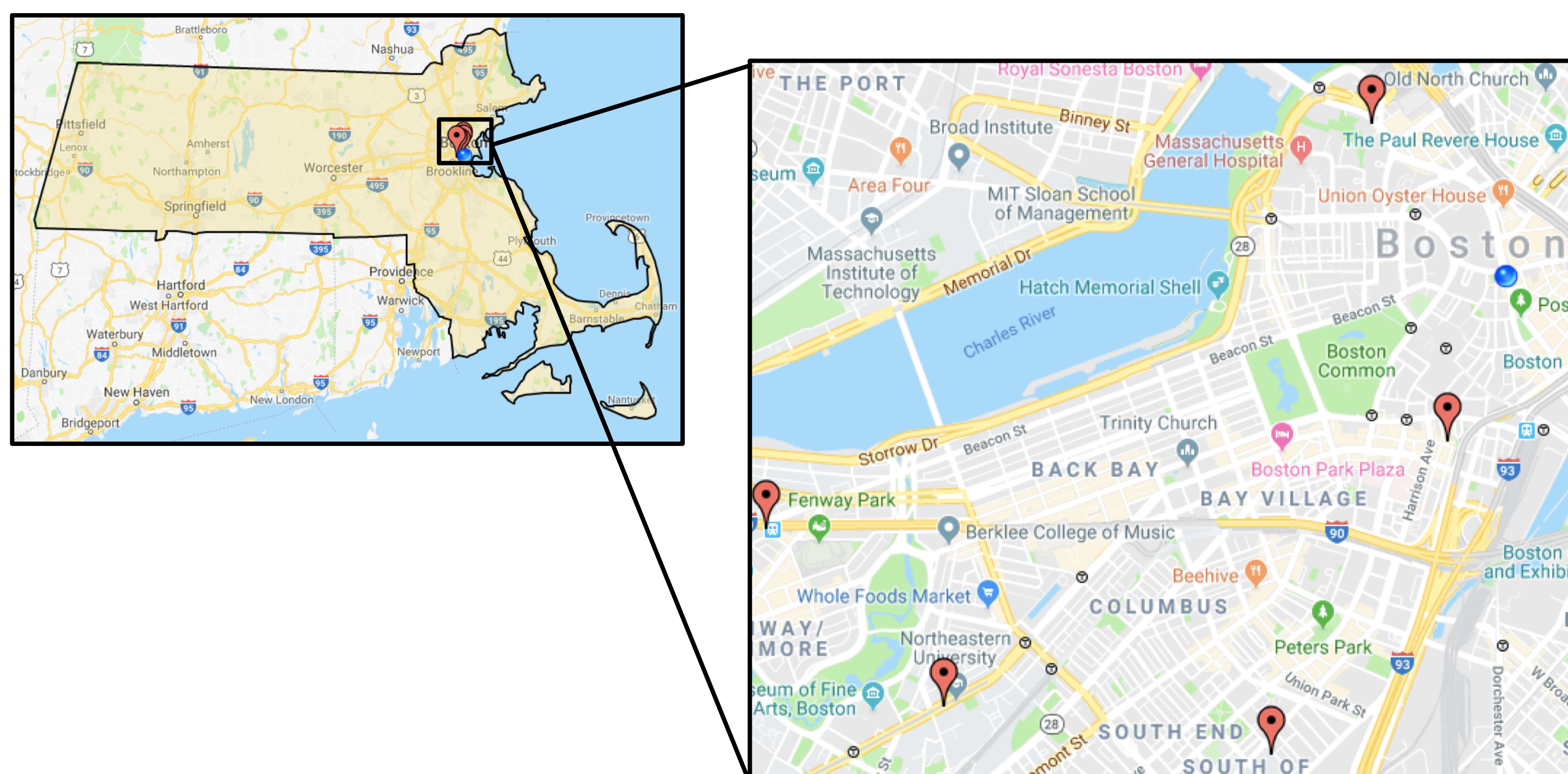
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INTRODUCTION

- With the advent of evidence for mechanical thrombectomy in strokes due to large vessel occlusion, stroke systems of care must be designed to **efficiently triage patients in the pre-hospital setting.**
- **Stroke severity scales are helpful for pre-hospital providers to assess patients and guide destination decisions.**
- As of 2018, **performance of pre-hospital stroke severity testing/scoring is now mandated in Massachusetts.**
- Below you will find a **map of the comprehensive stroke centers (currently 5) in Massachusetts**, where mechanical thrombectomies are provided. Note that comprehensive stroke centers are not the only endovascular capable hospitals.



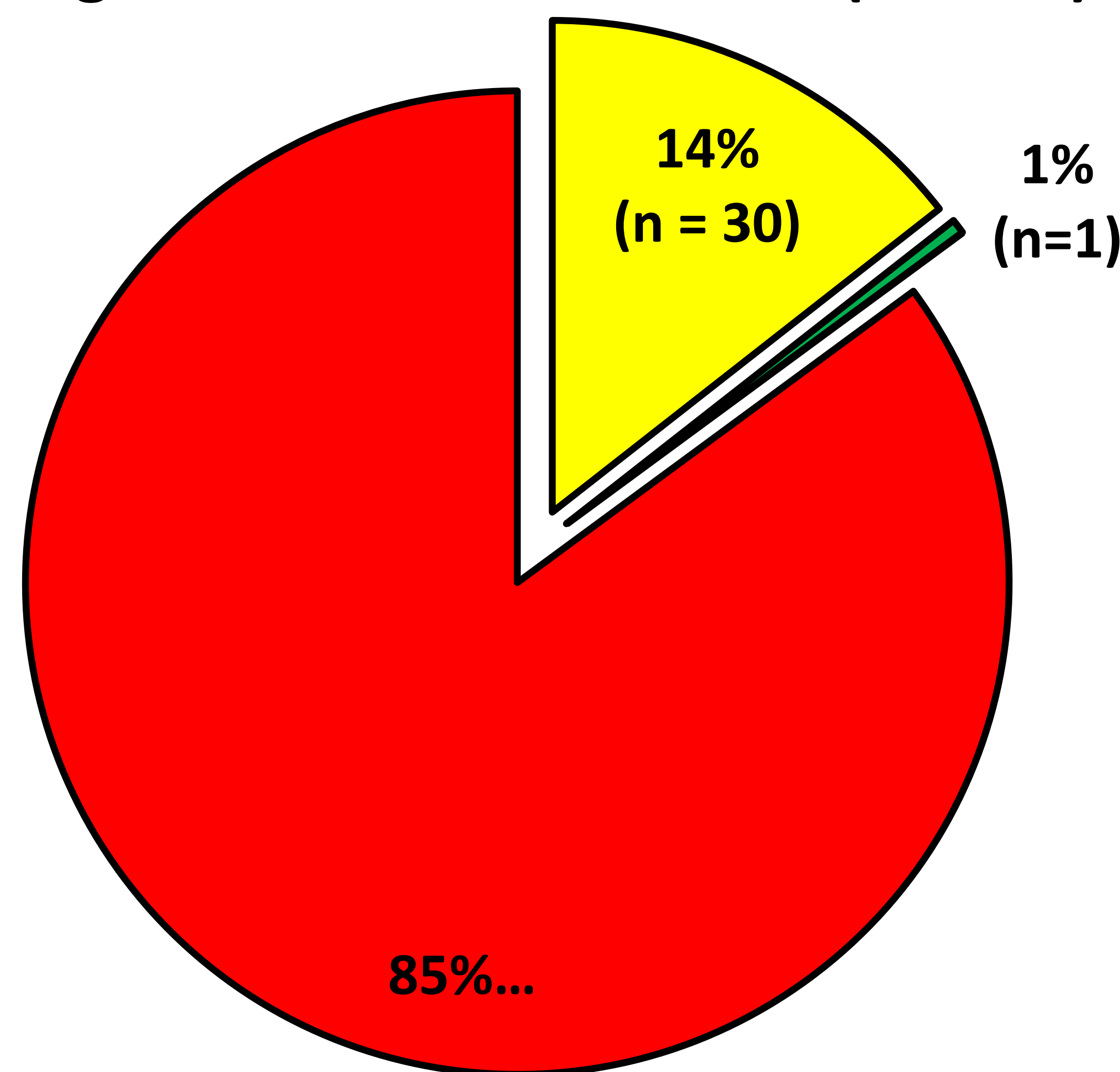
OBJECTIVE

- Our primary objective was to determine **how frequently pre-hospital stroke severity testing was performed** on patients transported by emergency medical services (EMS), and secondarily, to determine the **most common locations of stroke symptom onset.**

RESULTS

- Among 770 encounters, **most strokes occurred at home (69%).**
- There were 395 encounters where patients were transported directly to MGH (51%) while 375 encounters indicated arrival to MGH via transfer from another hospital (49%).
- Of the 395 non-transferred encounters, **53% (n=208) arrived via EMS.**
- Of these 208 EMS-transported direct arrivals to MGH, **14% of the ambulance records acknowledged performance of a stroke severity scale (see graph below).**
- **None of these encounters included a recorded stroke severity score.** It is important to note that the great majority (97%) of these encounters had arrivals in 2017, which was prior to the mandate.

Stroke Severity Acknowledgement Among Direct EMS Encounters (n =208)



■ Performed ■ FAST-ED ■ Not Performed

MATERIALS AND METHODS

- We performed a **retrospective analysis of stroke patients discharged from the Massachusetts General Hospital between December 2016 to May 2018.**
- Charts were identified using the institutional **Get with the Guidelines-Stroke database and subsequently reviewed in EPIC** to collect data on location of onset, ambulance arrival, and performance of pre-hospital stroke scale.
- Chart review was performed by a single investigator (JC), and 32 charts with uncertainty were validated by a second investigator (KSZ).

CONCLUSIONS

- **We found that the majority of charts did not include stroke severity.**
- This research attempts to further **characterize pre-hospital stroke care and identify opportunities for improvement.**
- A goal of this research is to **spur enhanced systems of care that mimic trauma designations or management of acute MI.**
- To date, charts reviewed have been **predominately from 2017 (97%), thus limiting our ability to observe differences in response to the policy mandate.**

ACKNOWLEDGEMENTS

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