

A Qualitative Analysis of Emergency Physicians Perceived Barriers to a Pre-Hospital Stroke Alert Protocol

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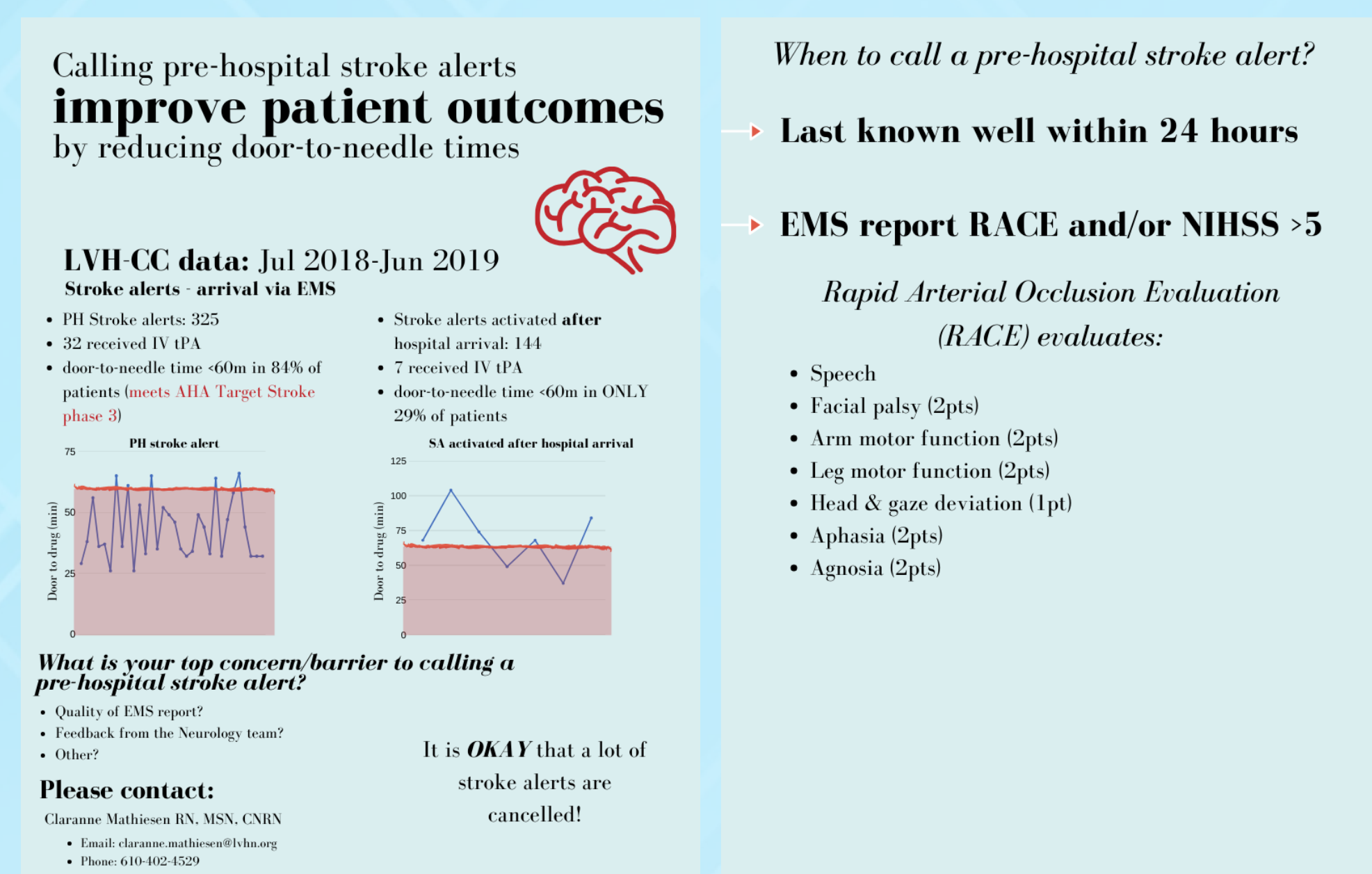
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Background

- Acute ischemic stroke is the leading cause of significant long-term disability and affects more than 795,000 people each year in the USA.
- Quicker time between onset of symptoms to treatment with IV tPA, in 15-minute increments, is associated with reduced in-hospital mortality, reduced symptomatic intracranial hemorrhage, increased achievement of independent ambulation at discharge, and increased discharge to home.
- Data from our most recent fiscal year, July 2018 to June 2019, shows that when a pre-hospital stroke alert is called, there is a difference of 19 minutes that can be saved by pre-notifying the teams and by starting the process early.
- Taking a closer look at the decision to call a pre-hospital stroke alert has the potential to greatly impact the speed at which we can get our patients to endovascular intervention.

Methods (cont.)

Figure 1. Back and front of the document that was taken around the ED.



Discussion

- A majority of EM providers listed EMS report as a reason for hesitation. As the first point of medical contact EMS must accurately identify strokes, deliver information with clarity, and transport to the appropriate facility.
- EMS education is the next best step to increasing efficacy and timeliness for our stroke patients.
 - Specific guidelines that indicate the right questions to ask to elicit sufficient information
 - Checklist of pertinent positives and negatives, can improve the decision-making process that the physicians are faced with.
- Bringing this to light can help standardize the process across the different EMS serving LVH-CC and show EMS the most effective way of communicating their concern for a stroke.
- Relationship to SELECT: Finding out specific barriers in the decision-making process of the activation of our pre-hospital stroke alerts with the future direction of breaking them down to increase efficiency relates to improvement of Health Systems.

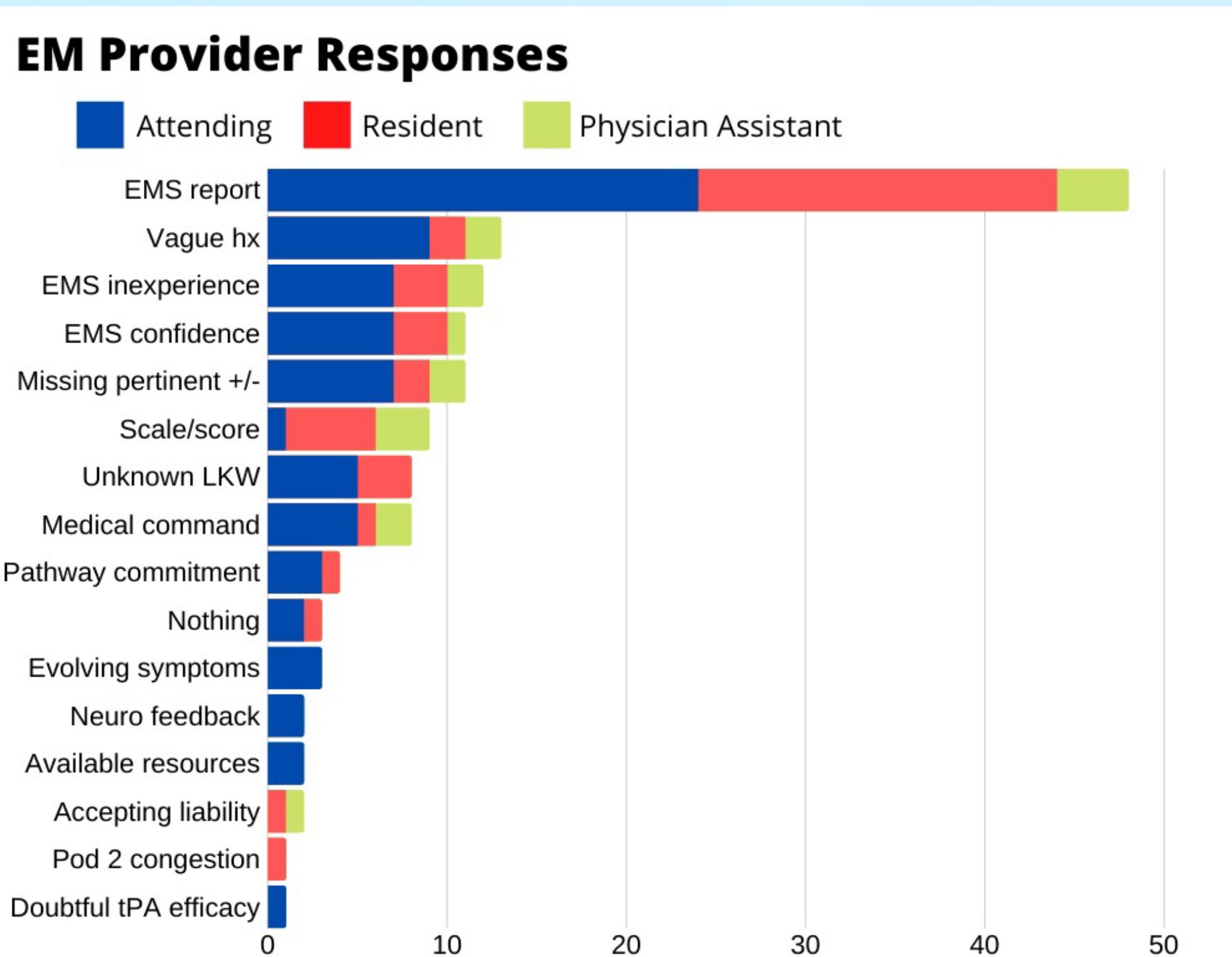
Problem Statement

- What factors impact an emergency medicine provider's decision or hesitation in calling a pre-hospital stroke alert in potential stroke patients arriving via EMS at LVH-CC?

Results

- Feedback from EM providers show that the biggest concern when making the decision to call a pre-hospital stroke alert is the quality of EMS report, which was mentioned in 79% of the interviews.
- The top responses included a vague history and not enough pertinent positives or negatives, such as last known well.
- The way in which the information was delivered, the provider's previous experiences with EMS, and calling medical command were also important factors as shown in Figure 2.

Figure 2. Each unit represents the number of times that each point was mentioned during the interviews with EM providers.



Methods

- A retrospective review of stroke alert data from July 2018 to June 2019, looking at door-to-needle times and average time to CT comparing pre-hospital stroke alert and stroke alerts that were called upon arrival via EMS showed that pre-hospital stroke alerts significantly reduce door-to-needle time.
- A hybrid of academic detailing and interviewing method was used. Emergency medicine providers were asked about their experiences with calling stroke alerts on potential stroke patients who arrive via EMS with the question:
 - "In your experience, what has been a barrier or cause for hesitation to calling a pre-hospital stroke alert upon receiving the call from EMS? What would make you wait to evaluate the patient in the ED before finally calling the stroke alert?"
- Provider responses were sorted through and the barriers highlighted were accounted for and themed based on how many times they were mentioned and analyzed by provider group.
- The decision for how to group the variety of responses into the different categories was at the interviewer's discretion, with interpretation based on how specific the providers were in their responses and the endpoint of examples given in the responses.

Conclusions

- The biggest cause for hesitation in calling a pre-hospital stroke alert at LVH-CC is the quality of EMS report: a vague history, missing pertinent positives and negatives, and/or lack of confidence in the delivery. Our next step to increase the ratio of pre-hospital stroke alerts to stroke alerts that are called after EMS arrival at the hospital would be to target EMS education to better standardize the way in which the reports are given over medical command. The end goal of these next quality improvement projects will be to further streamline the stroke pathway, reduce door-to-needle times, and improve quality of life for as many stroke patients as we can.

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