RESPONSE TO LETTER

Traffic Patterns and Emergency Medical Services Prenotification Transport Estimates in Trauma Activations [Response to Letter]

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Dear editor

We thank Luthfiyah et al for their interest in our study and appreciate the opportunity to address their insightful comments. We acknowledge that our research methodology lacked real-time traffic data. This data, when analyzed with the difference between estimated and actual arrival times, could have more conclusively demonstrated that traffic patterns are not responsible for EMS arrival time inaccuracy. Some resources, such as TomTom and Outscraper, do have the ability to provide historical traffic data while the New York Department of Transportation provides more regionally pertinent traffic history.^{1–3} We are reviewing these resources to see if they contain the granularity of data that we would require for additional analysis.

It is true that generalizability of this study is limited by the use of a single level 1 trauma center in an urban area. As this was a pilot study, our next step after successful publication is to expand our dataset to a wider geographic region to evaluate whether the findings are generalizable.

Lastly, our EMS system relies upon the vehicle operator to determine estimated transport interval (ETI). While machine learning models implementing an AI-based system could generate more accurate ETI, GPS enabled, traffic-aware routing software such as Google Maps is already available to address this issue. While this would not account for the use of emergency lights and sirens, the average discrepancy should be under 1 minute.⁴

Understanding the factors leading to accurate EMS arrival time estimates is an important area of research. Our research team has recently shown that there is a "Goldilocks Zone" time-window for prearrival trauma team activation, which results in the most efficient teamwork as measured by time to complete critical actions.⁵ Future studies should explore how ETI discrepancies directly impact trauma patient outcomes, resource allocation, and interdisciplinary teamwork.

Disclosure

The authors report no conflicts of interest in this communication.

References

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