US Academic Centers: A Comparison Study of Airway Management in Trauma and Emergency Medicine Bays

K.H. Chan, J.W. Sappenfield, M.A. Cometa, M.M. Brennan, G. DePortu, P.J. Tighe, R.L. Ison, J. Eidelman, and C. Giordano

Department of Anesthesiology, University of Florida College of Medicine, Gainesville

Background

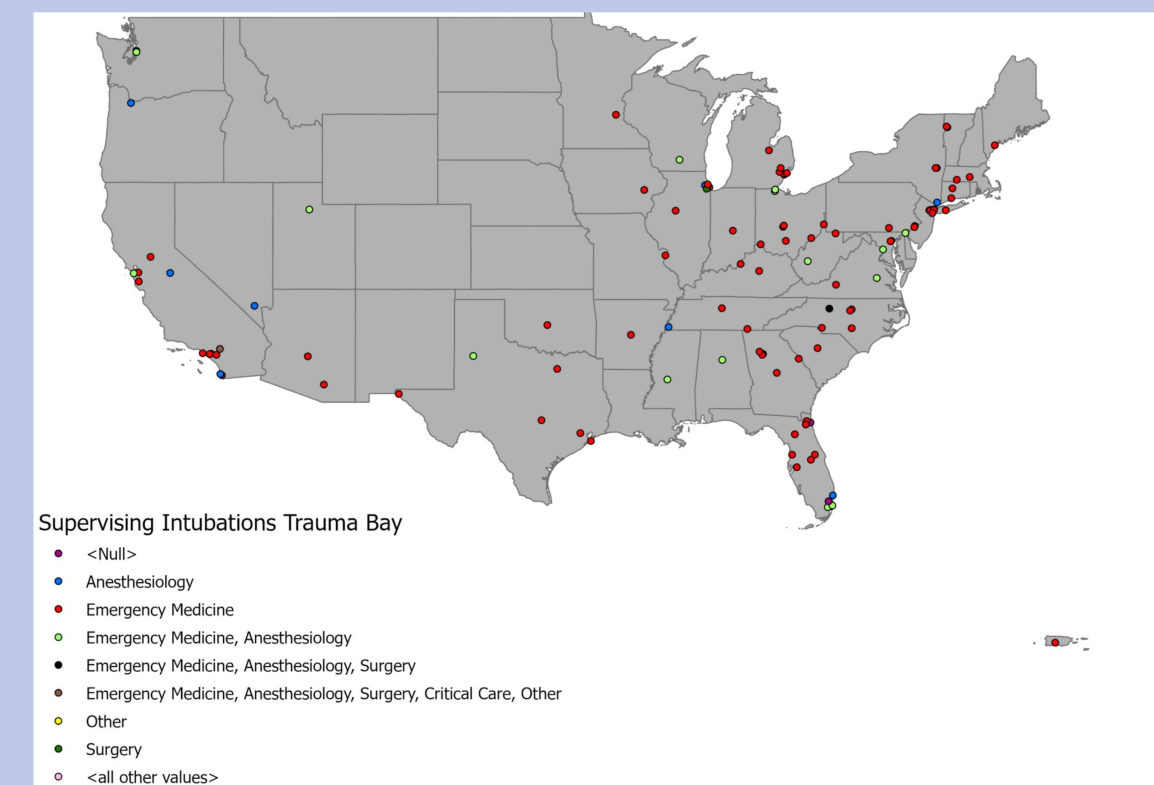
The department responsible for airway management in the emergency room and trauma bay varies among different institutions. In 1996, Nayyar et al.[1] showed that emergency medicine (EM) physicians were responsible for intubations in the emergency room at approximately one-half of American institutions. A follow-up study over 2013 to 2014 by Chiaghana et al.[2] suggested that the percentage of emergency room and trauma bay settings where EM physicians are primarily responsible has increased in the past two decades. However, those studies were difficult to compare because the 1996 study surveyed academic centers, whereas the 2013 study surveyed members of professional societies, which may include more private practice groups.

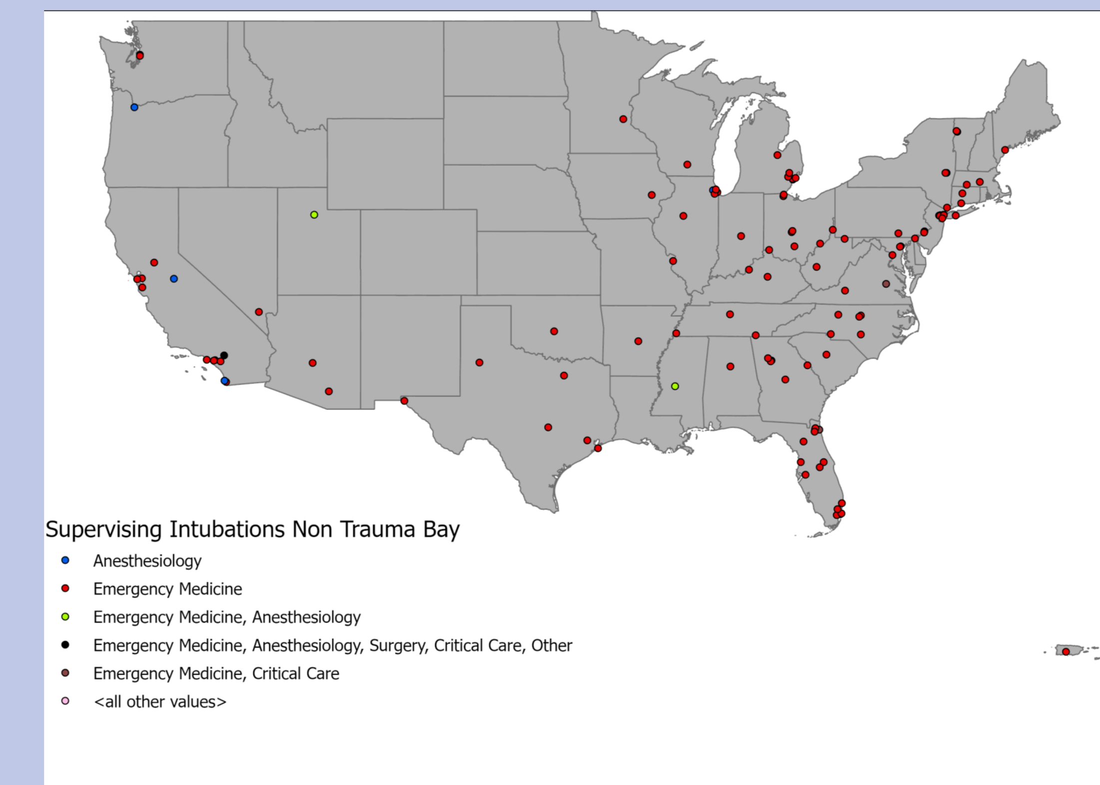
Methods

The purpose of this study was to survey Anesthesiology and Emergency Medicine residency programs to determine which service was primarily responsible for airway management in trauma bays. This allows for a more direct comparison to a similar 1996 study. Furthermore, this study expands on a 2013 study by surveying both Anesthesiology and Emergency Medicine programs to allow broader coverage and potential evaluation of intra-observer reliability.

Results

- We received responses from 50 unique anesthesia programs, for a response rate of 32.3%, and 76 unique EM programs, for a response rate of 30.7%.
- EM physicians had exclusive primary responsibility for airway management in trauma bays in 70% of institutions compared to 61.4% in the 2013 survey.
- EM physicians had exclusive primary responsibility for airway management in emergency medicine bays in 88% of institutions compared to 81% in the 2013 survey and 45% in the 1996 study.
- Eighty-seven percent of institutions had tiered trauma activations, while 30% had a critical airway team.
- There were no geographical patterns for departmental intubation responsibility.
- A majority of institutions surveyed have tiered trauma activation levels, but there were no geographic patterns for which specialty/specialties were responsible for specific levels of acuity trauma activation.
- There were no geographic patterns regarding the brand of video laryngoscopy or bronchoscopy used in the ED and/or trauma bay.





Discussion

The results of this study suggest that EM physicians increasingly provide/supervise airway management in both trauma and non-trauma bays. No geographical relationship was observed in this study. Other factors seem to affect responses from the departments surveyed.

Statistical analysis to determine inter-participant reproducibility when responses were received from multiple individuals representing the same institution is currently pending. Further areas for investigation include exploring the reasoning behind this increased proportion, as well as evaluating whether there were differential outcomes in institutions with different departments responsible for airway management.

References

1. Nayyar P, et al. Non-operating room emergency airway management and endotracheal intubation practices: a survey of anesthesiology program directors. Anesth Analg. 1997;85:62–68.
2. Chiaghana C, et al. Emergency department airway management responsibilities in the United States. Anesth Analg. 2019;128:296–301.