

Pediatric Traumatic Brain Injuries in Central Texas 2013-2018



Sawyer Stubbs^{1,2}, Linda Yoo³, Prarthana Pilla¹, Doru Gucer¹, Karla Lawson⁴, Karen Piper⁴, Amanda N. Barczyk⁴, Nico Osier^{2,5}

¹College of Natural Sciences, The University of Texas at Austin, ²Dell Medical School, ³School of Nursing, The University of Washington, ⁴Dell Children's Trauma & Injury Research, ⁵School of Nursing, The University of Texas at Austin



Introduction

TBI remains the greatest cause of pediatric death in the state of Texas¹

Pediatric TBI is associated with increased risk of behavioral impairments, poor school performance, and premature death^{2,3}

Determining risk factors for pediatric TBI can aid in:

- Appropriately allocating resources to populations in need
- Understanding spatial inequalities
- Creating population specific educational tools

Research Goal

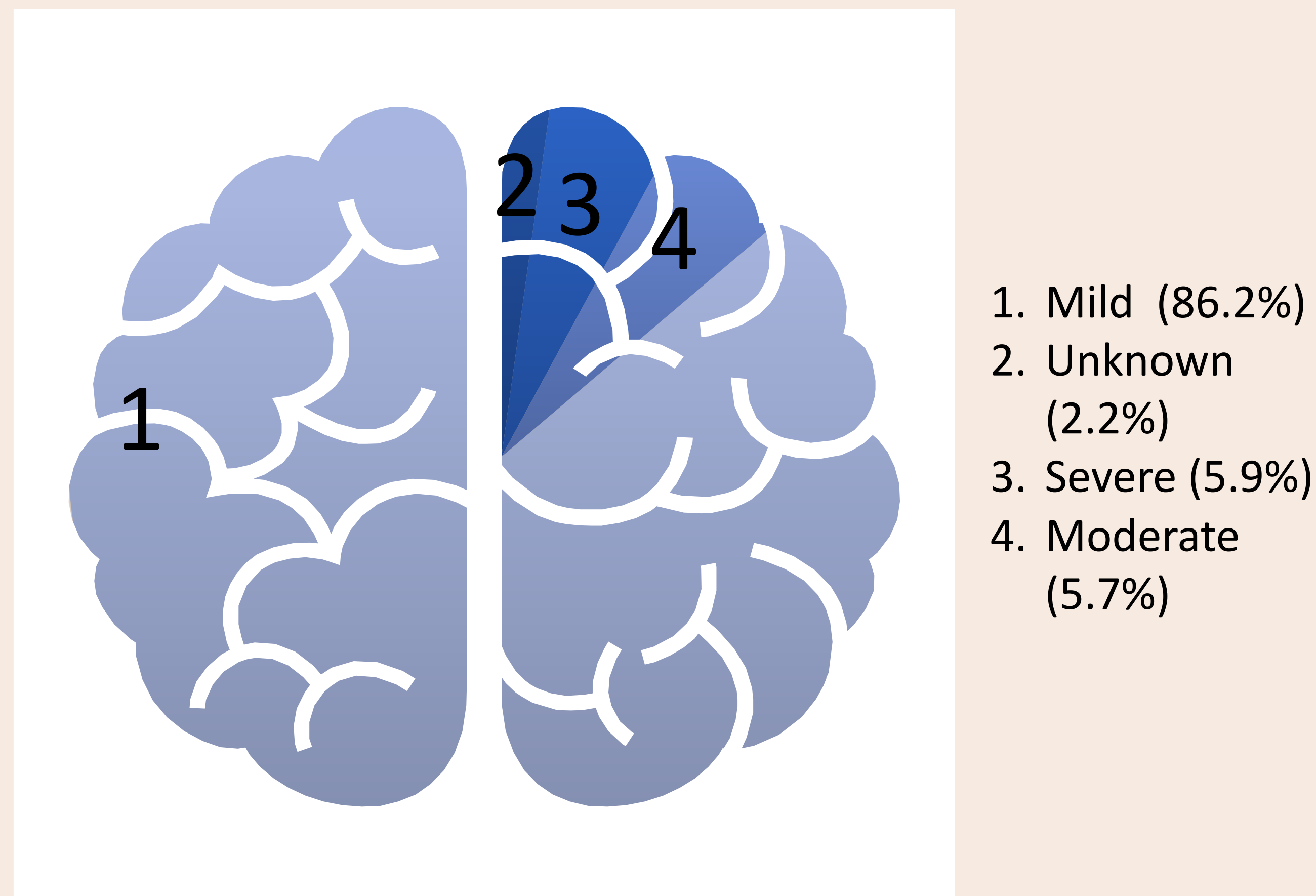
This study aims to explore demographic and clinical characteristics of pediatric patients seeking care for Traumatic Brain Injury (TBI) in Central Texas.

Methods

A trauma registry database was used to identify 1,662 pediatric encounters with various head injury diagnoses in Central Texas between July 2013 and December 2018 for analysis. Personal health information (PHI) was redacted, following Health Insurance Portability and Accountability Act (HIPAA) guidelines. Data was cleaned to assign ICD 10 classifications to any record where ICD 9 codes had been used. The Pediatric Glasgow Coma Scale (GCS) was used to categorize TBI severity. Data analysis was conducted through the Jamovi Project.

Figures and Results

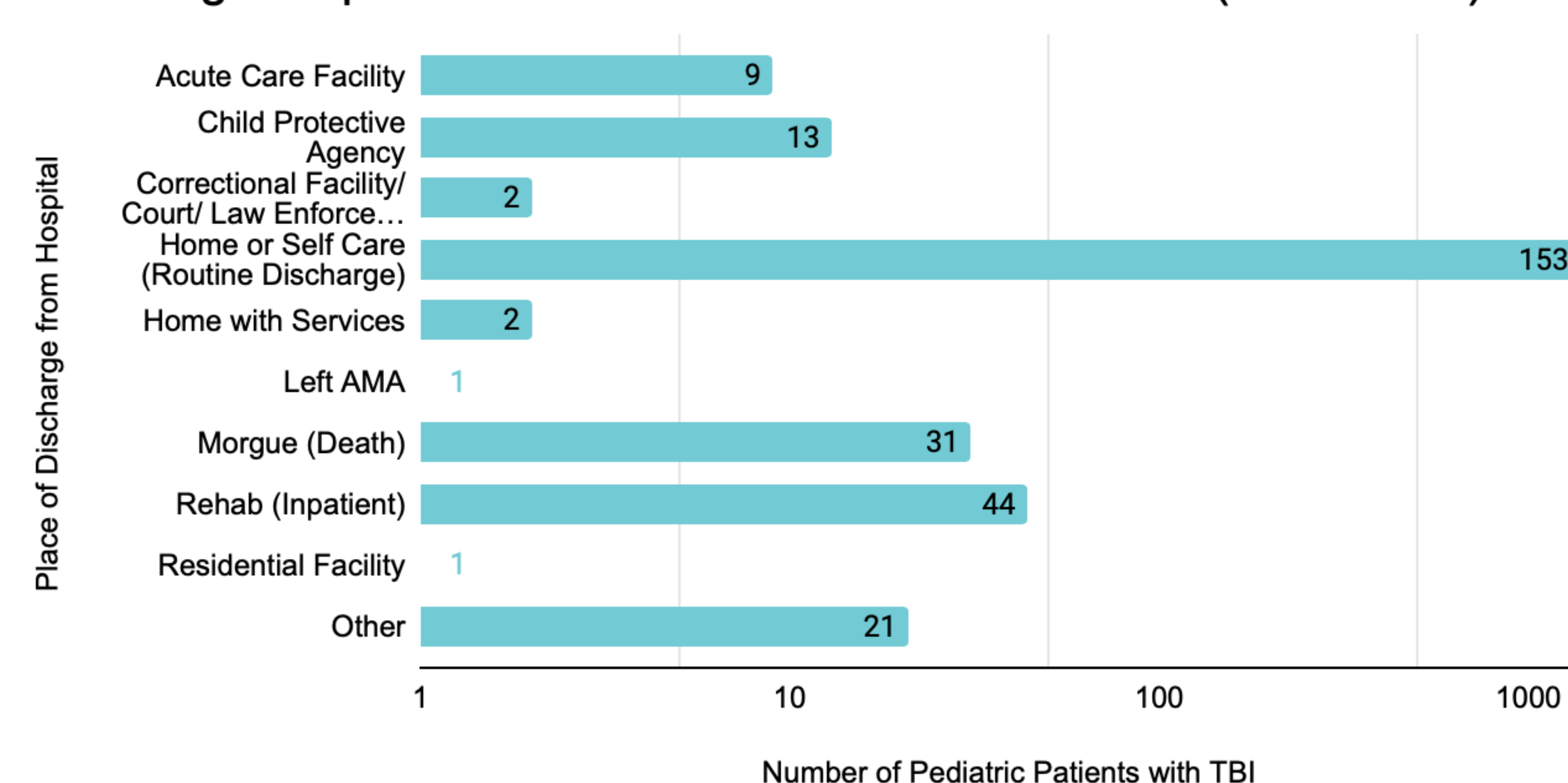
Figure 1:
Severity of TBI Based on GCS for Pediatric Patients



A majority of patients, 50.2%, were insured through Medicaid (n=834). 86.2% of patients had a mild TBI (defined as a GCS score of 13-15). Falls were the most common mechanism of injury, accounting for 43.6% of all recorded head injuries. With respect to injury location, 40.8% of the injuries occurred at home and 30.1% occurred in the street. Most patients (92.5%) were discharged to their home.

Figure 2: Discharge Disposition

Discharge Disposition of Pediatric Patients with a TBI (2013-2018)



Conclusion

Analysis of the trauma registry cases revealed that of the 1,662 recorded cases, the vast majority of TBIs were mild injuries. More than half of the patients were insured using Medicaid. This data suggests that Austin is a prime location for recruiting patients into TBI studies. Continued research is needed and can also contribute to enhanced understanding of pediatric TBIs.

Further analyses will highlight additional clinical and demographic trends to provide population-specific recommendations.

Acknowledgments

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References

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