

Injuries related to lawn mowers affect young children in rural areas most severely

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Table 1. Urban vs. Rural Lawnmower Injuries.	
Urban (N=946)	
Median Age	6.5 ± 5.2 years
Median Income	\$40,758 ± 17357
Infection Rate	4.8% / n=45
Complication Rate	2.6% / n=34
Length of Stay Categories	
Less than 1 day	60.7% / n=790
1-5 days	21.3% / n=277
Greater than 5 days	18.0% / n=234
Rural (N=356)	
Median Age	5.0 ± 4.3 years
Median Income	\$32,354 ± 5359
Infection Rate	9.4% / n=122
Complication Rate	5.5% / n=72
Length of Stay Categories	
Less than 1 day	49.0% / n=638
1-5 days	26.5% / n=345
Greater than 5 days	24.5% / n=319

Urban vs. Rural Lawnmower Injuries. Credit: Ronit Shah

Each year, more than 9,000 children in the United States are treated in emergency departments for lawn mower-related injuries. New research being presented at the American Academy of Pediatrics (AAP) 2019 National Conference & Exhibition in New Orleans found that these injuries are more frequent and severe in rural areas, affecting younger

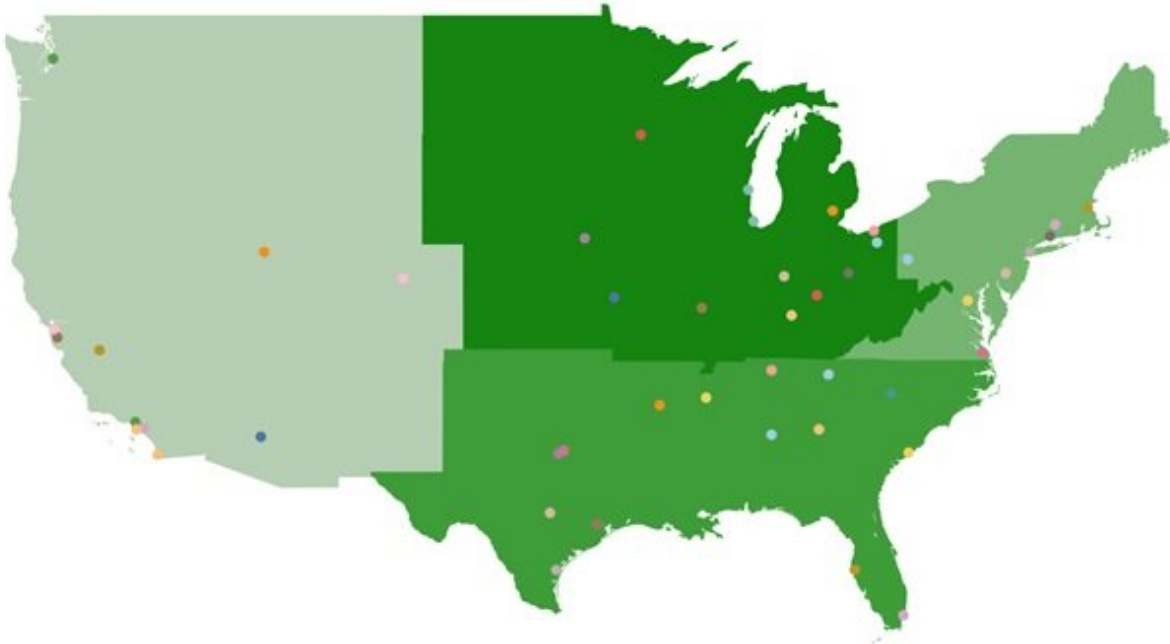
children than in urban regions.

The research abstract, "Urban versus Rural Lawnmower Injuries in Children: A National 13-Year Study," will be presented on Sunday, Oct. 27, at the Hilton New Orleans Riverside.

"Despite efforts within the health community to highlight how easily [children](#) can be injured by lawn mowers, we still see thousands of children in emergency departments each year for lawn-mower-related injuries," said the abstract's presenting author, Ronit Shah, a medical student at the University of Toledo. "Our research shows young children in [rural areas](#) are more likely to be severely hurt."

The research team analyzed data from the Pediatric Health Information System for patients ages 1-18 years old from 2005 to 2017 who came to any of the 49 participating hospitals for a lawn mower [injury](#).

The data showed that rural settings had significantly higher incidence of injuries, a younger median age of the patient, and higher rates of amputations, surgical complications, and infections.



Heat map of lawnmower injuries by region. Darker shades indicate higher incidence. Major locations of PHIS hospitals are shown as dots. Credit: Ronit Shah

Among the findings:

- Rural areas had a nearly five-fold higher rate of in injuries, (7.26 injuries per 100,000 cases), compared with urban areas (1.47 injuries per 100,000 cases).
- By geographic region, the highest rate of injuries was in the South (2.70 injuries per 100,000 cases), followed by the Midwest (2.16 injuries per 100,000 cases) and the Northeast (1.34 injuries per 100,000 cases). The Western United States had the lowest injury rate, 0.56 injuries per 100,000 cases.
- Lawnmower injuries in rural areas required longer hospital stays, had higher rates of surgical complications (5.5% vs 2.6%), and occurred in younger patients.

- Rural areas had an overall amputation rate of 15.5% compared to 9.6% in [urban areas](#), with rural patients being 1.7 times more likely to undergo an amputation.
- Children younger than 10 years old in rural areas had a higher rate of more severe injuries, had longer hospital stays, and incurred greater healthcare costs than children older than 10.

The American Academy of Orthopaedic Surgeons established updated lawnmower safety guidelines in 2014, and the Pediatric Orthopaedic Society of North America is collaborating with the AAP regarding lawnmower injury prevention awareness.

Shah said further public education efforts are needed, focused on geographic disparities pediatric lawnmower injuries.

"Future injury prevention and safety efforts should be specifically targeted for rural communities, especially in the Southern and Midwestern United States," Shah said.

Provided by American Academy of Pediatrics

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