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Central Question

The purpose of this study is to identify areas of disparate need for emergent hand care and to discuss strategies for the of mitigation of these gaps

Background & Motivation

- Approximately 10% of the US population lacks access to sufficient trauma care
- The availability of care is shown to favor more affluent and metropolitan communities
- Surveys have shown that only 40% of Tennessee hospitals provide 24/7 hand coverage
- Only 15% of Tennessee Hospitals employ a fellowship trained hand specialist

Methods

- 2019 census population estimates were used to acquire demographic data for Tennessee's 95 Counties
- 2010 Office of Management and Budget standards were used to stratify counties as either metropolitan (>50,000 individuals), micropolitan (10,000- 50,000 individuals), or non-micropolitan other (<10,000 individuals)
- Hospital services data was acquired by way of 2018 survey of Tennessee Hospital Associated registered hospitals asking the following
 - Does your hospital manage hand trauma?
 - Do you have a hand specialist on call?
 - Is your hand specialist on call 24/7?

Results

119 Tennessee hospitals were identified, 95 hospitals had both an operating room and an emergency room and qualified for the survey, from which 93 responded to the survey (98% response rate)

Table 1. County Demographics of Included Tennessee Hospitals

Demographic	Cohort (n=93 hospitals)
Metropolitan, Micropolitan, Rural	66 metropolitan, 17 micropolitan, 14 rural
White	82 ± 18%
Black or African American	14 ± 17%
Hispanic or Latino	5 ± 3%
Asian	2 ± 1%
American Indian, Alaska Native, Native Hawaiian, or Pacific Islander	1 ± 0%
Population over age 65	17 ± 4%
Median household income	\$51,000 ± 11,000

Data are presented as mean ± standard deviation.
Metropolitan: ≥50,000 persons. Micropolitan: 10,000-49,999 persons. Rural: ≤9,999 persons.

Table 2. County Demographics of Included Tennessee Hospitals

Demographic	Likelihood of Managing Hand Trauma	P value	Likelihood of Having a Hand Surgeon on call	P value
Micropolitan Status	Lesser	0.019	Lesser	0.001
Increased Age >65	Lesser	0.004	Lesser	<.001
Increased Median Income	Greater	0.009	Greater	0.013
White Race	Lesser	0.011	Lesser	<.001
Black Race	Greater	0.017	Greater	<.001

Conclusions

- There is a bias in favor of metropolitan-located hospitals having increased availability of both hand care and hand specialist
- Traditionally more vulnerable communities (i.e. increased age, decreased income) are more likely to experience deficits in care
- Available technologies like tele-medicine and tele-health may present opportunities to alleviate disparities in areas of lesser coverage alongside incentive programs

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