



Understaffed and overworked: The stark reality of acute care surgeon staffing in the United States, an Eastern Association for the Surgery of Trauma multicenter study



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Quality Improvement Project

There is a critical knowledge gap regarding the number of surgeons required to reasonably and safely staff a division of acute care surgery. This multicenter study represents a comprehensive examination of acute care surgeon staffing across US trauma centers. Understanding the true scope of ACS staffing shortages will enable evidence-based advocacy for increased staffing, inform national workforce policy, and help hospital systems develop sustainable coverage models. **We hypothesized a significant proportion of trauma centers operate understaffed when a standardized definition of a 1.0 cFTE (clinical Full Time Equivalent) is applied.**

Primary Aims

- ❖ Estimate the shortage of full-time trauma and acute care surgeons at Level I and Level II trauma centers in the USA.
- ❖ Explore perspectives of surgeons on safe provider-to-patient ratios for trauma, acute care surgery and surgical intensive care.
- ❖ Compare trauma outcomes between critically short-staffed trauma and acute care surgery divisions and non-critically short-staffed in an exploratory analysis.

By better understanding the shortage of surgeons our results will inform our long-term goal of creating a sustainable ACS workforce to ensure high-quality patient care.

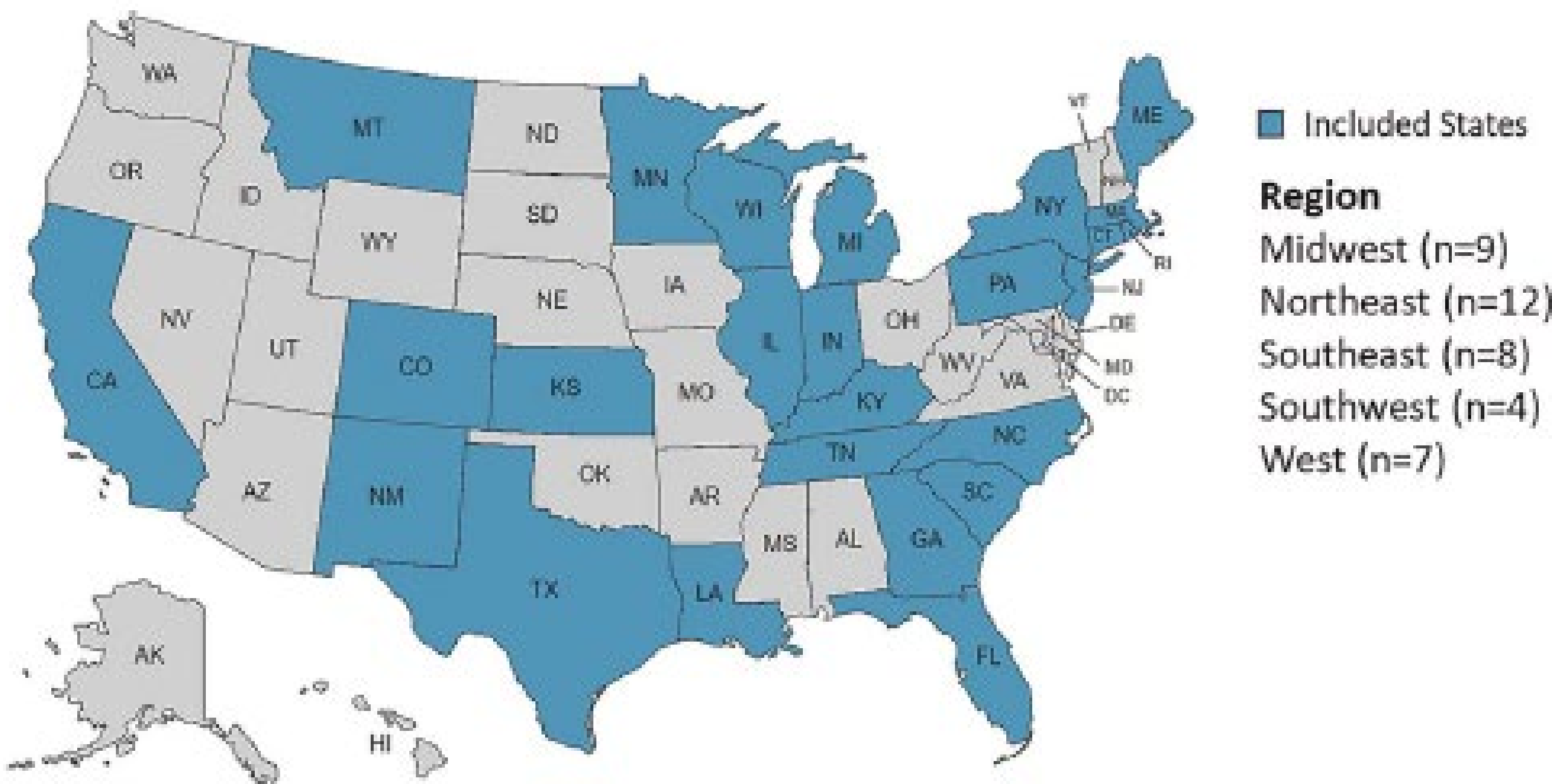


Figure 1. Geographic distribution of included centers.



Bar graph of clinical shift deficit (red) or surplus (green) per hospital (January 1, 2022, to December 31, 2022) and the line graph of cFTEs (1.0 cFTE=204 shifts per year) compared with needed cFTEs. There is a shortage of 392 shifts (red line) or 2.1 cFTE per hospital on average.

Method

This is a multi-center, retrospective review of trauma surgeon clinical schedules from 2022. The lead site is The Eastern Association for the Surgery of Trauma. Eligible centers submitted 2022 clinical schedules for conversion into annual shifts. A 1-hr video interview will be arranged between the Division Head to establish clinical demand and assigned FTEs of each Division staff.

Results

Forty Level I/II hospitals representing 412 acute care surgeons (287 cFTEs) from 25 states were included. Seventy-nine percent of hospitals were short-staffed. Compared with well-staffed hospitals, short-staffed hospitals had fewer cFTEs (6.5 [interquartile range (IQR), 3] vs. 8.6 [IQR, 3], $p < 0.05$), a higher demand for clinical work (1,889 [IQR, 933] vs. 1,388 [IQR, 674] shifts, $p = 0.05$) and a higher work relative value unit/cFTE (8,779 vs. 7,456, $p = 0.12$). The aggregate clinical demand exceeded available surgeon capacity by 21% overall. Based on volume, a 1.0 cFTE is needed for every 285 (IQR, 169) trauma admissions. There was a deficit of 75 cFTEs across the centers. Key themes identified were related to the value of acute care surgery and balancing unpredictable demand, intensity, and efficiency.

TABLE 3. Comparison of Well-Staffed to Short-Staffed Centers (2022 Data)

	Well-Staffed Center (n = 8)	Short-Staffed Center (n = 30)	Total (n = 38)	<i>p</i>
Clinical FTEs, median (IQR)	8.6 (3.3)	6.5 (2.9)	6.9 (3.7)	0.05
Shift demand per center, median (IQR)	1,388 (674)	1,889 (933)	1,859 (928)	0.05
Clinical FTEs needed, median (IQR)	6.8 (3.3)	9.4 (4.1)	9.2 (4.0)	0.11
Clinical FTE surplus/shortage, median (IQR)	+1.0 (1.4)	-2.4 (2.5)	-2.1 (3.4)	<0.001
wRVU per cFTE, median (IQR)	7,456 (3,791)	8,779 (2,478)	8,321 (2,510)	0.12
wRVU per shift, median (IQR)	42 (13.5)	35 (11)	36 (12)	0.18

FTE, full-time equivalent.

Conclusions

There appears to be a shortage of acute care surgeons in the United States when a definition of 204 shifts per year cFTE is applied. Hospitals face significant financial and administrative barriers to workforce expansion despite the overabundance of clinical volume. Future research is needed to ascertain the effects of expanding the existing workforce on both clinical outcomes and surgeon well-being. **This study was published in the Journal of Trauma and Acute Care Surgery PMID: 40611385**