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Whose line is it anyway? The impact of injury transport across state lines

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Dr Zain G Hashmi; mhashmi@ uabmc.edu Previous research has shown that nearly 30 million, mostly rural, US residents lack access to a level 1 or 2 trauma center within 60 min by air or ground transportation.^{1 2} Kumar *et al* now demonstrate that nearly 22 million, mostly rural, US residents can have faster access to an out-of-state versus an in-state level 1 or 2 trauma center.³ Nearly 33% of census block groups examined would reach an outof-state level 1 or 2 trauma center between 15 and 60 min faster. These data suggest that for patients in these rural locations, cross-border transport could result in expedited, potentially life-saving, care.

However, a subsequent finding of this study that almost all states have policies encouraging crossborder transport raises some questions. Is this practice already being used, and if so, what factors are influencing its use? Is it consistently being used in locations farthest from in-state trauma centers, or is this a case-by-case decision made by emergency medical service professionals perhaps based on patient and/or injury factors? What is the impact of cross-border transport on both immediate and long-term clinical and patient-reported outcomes including financial well-being?

The findings of this study must be contextualized within the paradigm of needs-based and equitable allocation trauma system resources. On one hand, contemporary assessments of population-level trauma center access are state border agnostic.¹² This strategy correctly prioritizes and assumes the transport of an injured patient to a trauma center with the shortest possible drive/fly-time. Yet, on the other hand, trauma system planning tools such as the Need Based Assessment of Trauma Systems are more commonly employed at the state level.^{4–7} This strategy is seemingly useful given the relative ease of planning, coordination and execution of trauma systems within a single state versus the more difficult task of regional planning across multiple jurisdictions. In this context, Kumar et al's meaningful and timely study signals a need to reconcile the various approaches to trauma system needs assessment and planning with a renewed focus on better serving state border regions with a predominantly rural population.

Cross-border transport of injured patients is a daily occurrence. When life or limb is on the line, faster is better. Kumar *et al* now highlight that cross-border transport would hasten time to trauma center.³ This could potentially serve as a crucial lifeline for injured rural patients. Future work exploring the degree to which cross-border transport already happens, barriers and facilitators of its use and its impact on our patients will provide meaningful insights to inform our ongoing quest to get the right patient, to the right place, at the right time.

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REFERENCES

- Choi J, Karr S, Jain A, Harris TC, Chavez JC, Spain DA. Access to American College of Surgeons Committee on trauma-verified trauma centers in the US, 2013-2019. JAMA 2022;328:391–3.
- 2 Carr BG, Bowman AJ, Wolff CS, Mullen MT, Holena DN, Branas CC, Wiebe DJ. Disparities in access to trauma care in the United States: a population-based analysis. *Injury* 2017;48:332–8.
- 3 Kumar S, Song J, Reilly PM, Dickinson ET, Buckler DG, Haddad DN, Kaufman E. Crossing the line: access to trauma care across state borders. *Trauma Surg Acute Care Open* 2024;9:e001228.
- 4 Winchell RJ, Stewart RM, Price MA. Committee on trauma introduces needs assessment tool aimed at resolving trauma center debate. The Bulletin. 2016. Available: https://bulletin.facs.org/2016/09/ committee-trauma-introduces-needs-assessment-tool-aimedresolving-trauma-center-debate/.
- 5 Uribe-Leitz T, Esquivel MM, Knowlton LM, Ciesla D, Lin F, Hsia RY, Spain DA, Winchell RJ, Staudenmayer KL. The American College of Surgeons needs-based assessment of trauma systems: estimates for the state of California. *J Trauma Acute Care Surg* 2017;82:861–6.
- 6 Nolan HR, Ashley DW, Stokes NA, Christie DB. Increasing incidence of all-terrain vehicle trauma admissions in the pediatric and adult populations: an evaluation of injury types and severity. *Int J Orthop Trauma Nurs* 2018;28:33–6.
- 7 Dalton MK, Uribe-Leitz T, Hashmi ZG, Salim A, Haider AH, Jarman MP. A national assessment of trauma systems using the American College of Surgeons NBATS tool: geographic distribution of trauma center need. *Ann Surg* 2022;276:e584–90.