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Travel time to hospital and patient outcomes: Why do we use the 30-minute rule?

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Geographic access to hospital-based acute care is a priority because farther travel times may lead to worse outcomes or even death. However, this relationship is not well-established outside of patients requiring trauma care. Despite a lack of empirical support, some policy guidelines and published studies utilize a threshold of 30-minutes to signify adequate access. In this work, we address this lack of knowledge by assessing the relationship between home-to-hospital travel time on hospitalization outcomes including length of stay, discharge location, and mortality. We examine outcomes across a broad range of conditions (32 deemed emergency sensitive, and 7 non-emergent comparators). Our study population included all people hospitalized in the state of Michigan from late 2015 to 2019 (n=3,632,313). For each condition and hospitalization outcome, we used a binomial regression model to evaluate the effect of time traveled from home-to-hospital (minutes) while controlling for age, race/ethnicity, sex, and insurance payor status. Overall, we found that increased travel time led to worse outcomes for some but not all of the 32 emergency sensitive conditions (18 for length of stay, 6 for non-home discharges, 6 for mortality). For the 7 non-emergency conditions, again there were significant results for some of the conditions (3 for length of stay, 0 for non-home discharges, and 2 for mortality). Our results provide an improved understanding of the role that travel time plays in hospitalization outcomes for non-trauma conditions and support continued efforts to monitor and improve geographic access to hospital-based acute care.

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