**TITLE**

Potentially avoidable emergency department transfers among Medicare beneficiaries

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**ABSTRACT**

Patient transfer between hospitals is common, costly, and may be avoidable in 20 to 89% of transfers, meaning patients do not receive specialized resources or procedures once transferred. Older adults may be especially at risk for developing delirium or other complications due to transfer. In this study we aimed to determine the frequency of potentially avoidable transfer (PAT) among Medicare beneficiaries; identify conditions most likely to involve a PAT; and describe patient, transferring hospital, and community factors associated with PAT.

We performed a retrospective analysis of ED visits resulting in transfer to another hospital from 2008 to 2019 among Medicare fee-for-service beneficiaries 65 years and older. We defined PAT based on resource use at the receiving hospital – transfers resulting in a treat-and-release ED visit, observation stay, or inpatient hospitalization for 2 days or less who did not receive intensive care or an advanced procedure and were discharged alive. We identified conditions with the highest rates of PAT and used multivariable logistic regression to identify the independent association of patient, thospital, and community-linked characteristics with likelihood of PAT.

Among 3,066,029 transfers, 345,930 (11.3%) met criteria for being a PAT. Conditions with high frequency and rates of PAT included transient cerebral ischemia (35.3%), nonspecific chest pain (25.5%), syncope (22.9%), other fractures (18.4%), and intracranial injury (16.9%). These conditions were most strongly associated with PAT in multivariable analysis. For example, compared to transfers for sepsis, transfers for intracranial injury had average marginal effect (AME) 12.8% (95%CI 12.2-13.4) and transient cerebral ischemia had AME 28.2% (27.4-29.1) on the likelihood of PAT. The association of other factors with PAT was weaker, such as high Elixhauser score (AME -10.0% (-10.2 - -9.7)), large hospital size (AME 6.5% (4.5-8.4)), critical access hospital status, (AME 2.6 (2.1 - 2.9), and Black race (AME 1.2 (0.7- 1.7)).

We identified a significant portion of PAT among older adults, particularly among a subset of neurologic, cardiovascular, and injury-related conditions. These conditions may be ideal targets for telemedicine use to minimize avoidable transfers. Research exploring hospital variation in transfer practices and the impact of PAT on health outcomes is also needed.