

Morningside Graduate School of Biomedical Sciences

Masters in Clinical Investigation Program

Announces the MSCI Thesis Defense of

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Neighborhood-level social vulnerability and emergency department utilization in adults with type 2 diabetes: a cross-sectional study

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Introduction: Type 2 diabetes mellitus (T2DM) imposes a significant burden on individual health. The emergency department (ED) plays a crucial role in providing access to emergency and non-emergency care for T2DM patients. Excessive ED use leads to higher healthcare costs, overcrowding, and fragmented care. Individual and county level social vulnerability are associated with increased ED use for T2DM patients. This study aims to investigate the relationship between neighborhood-level social vulnerability and ED utilization in T2DM patients.

Methods: Electronic medical records from a large health system in central Massachusetts were queried to find adult T2DM patients who had outpatient visits between 2018 and 2020. The primary exposure, the social vulnerability index, was geo-coded to individual patients and then divided into preset quintiles for analysis. The primary outcome was ED use during calendar year 2021. Associations were examined using logistic and multinomial logistic regression models.

Results: 17,642 patients met inclusion criteria. Patients in the most socially vulnerable neighborhoods had 1.45 times higher odds of having one or more ED visits compared to the least vulnerable. This relationship persisted for frequent use (4+ visits) and low use (1-3 visits) compared to no use. Social vulnerability index sub-themes related to household characteristics and racial and ethnic minority status were also associated with increased ED use for those living in the most vulnerable quintiles compared to the least.

Conclusions: Neighborhood-level social vulnerability is linked to increased ED use among T2DM patients. Targeting interventions and resources to communities with increased social vulnerability may reduce ED use and improve outcomes for T2DM patients.

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