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"Ocular and Systemic Complications of Type II Diabetes: Sociodemographic Predictors of Emergency Department Utilization"

Emergency department (ED) overutilization can serve as an indicator of restricted access to consistent primary care and the systemic barriers that shape health outcomes. Diabetic patients who overly rely on the ED and not primary care providers or relevant specialists could be prone to higher disease burden, such as diabetic complications. This study uses data from the All of Us Workbench to investigate sociodemographic factors (self-reported race and insurance status) in emergency department (ED) utilization for type II diabetes-related complications. The analysis focused on three major complications: retinopathy/cataracts (ocular), kidney dysfunction, and foot ulcers.

First, ED visits for each complication were stratified by self-reported race, revealing that Black patients utilized the ED more frequently than White patients across all three complication types. This finding suggests the presence of racial disparities in emergency care for diabetes management.

To explore whether socioeconomic status (SES) might contribute to these racial disparities, the study then examined the representation of patients by race and insurance status within patients with diabetic complications. Analysis revealed that Black individuals comprised 44% of the Medicaid group and 26% of the private insurance group, which are larger proportions given the nine racial categorizations represented. This pattern suggests that Black patients may be more likely to develop certain diabetes-related complications, which could potentially contribute to their higher reliance on the ED.

Moreover, the overrepresentation of Black patients in both Medicaid and private insurance groups indicates that disparities may extend beyond insurance coverage and may reflect deeper systemic inequities. However, while disproportionate complication burden offers important context, it does not confirm ED utilization trends across insurance types. Therefore, a critical next step is to examine total ED visits by complication, stratified by self-reported race and insurance status, to better understand how access to care, SES, and race influence emergency department utilization. Other future directions include developing a risk score that uses sociodemographic factors to predict future ED use and a patient engagement program to help connect patients to primary care and other relevant specialties.