

Neighborhood Disadvantage and Healthcare Utilization in Pediatric Sickle Cell Patients

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Background: Sickle cell disease (SCD) is a complex heritable blood disorder associated with higher acute healthcare utilization further complicated by psychosocial and socioeconomic factors. Other studies have indicated a relationship between neighborhood disadvantage and increased healthcare utilization. We hypothesize that those with greater neighborhood disadvantage will have greater acute healthcare utilization.

Methods: Data was collected retrospectively from the electronic medical record between 9/30/2021 and 7/11/2023 for patients followed at Riley Hospital for Children's Pediatric SCD Clinic who completed a psychosocial needs assessment (PAT). Number of emergency department (ED) visits, hospitalizations, and missed clinic visits were collected from the time the PAT was completed up to 1 year after (or the end of the data collection period). Data regarding area deprivation index (ADI) and childhood opportunity index (COI) were collected utilizing patient home address. Descriptive statistics were performed on all data above, as well as t-tests and chi square tests for univariate analyses.

Results: 142 patients completed a PAT during the study period. 88% had a primary care provider documented, and 73% had public insurance. The median state and national ADI (6, 76.5) and COI (2, 2) demonstrated greater neighborhood disadvantage and less childhood opportunity. There was no statistically significant difference between ADI or COI and number of ED encounters or hospitalizations. However, patients who missed 1 or more SCD visits had a higher median state ADI than those who did not miss a visit (7.5 vs 5, $p=0.002$). Median state COI was also lower in this group than those who did not miss a visit (1 vs 2, $p=0.001$).

Conclusion: Those with higher ADI and lower COI could benefit from more directed support to improve access to preventative care visits. Further analysis accounting for comorbidities (seizures, asthma, depression) could disambiguate a relationship between ADI or COI and acute care utilization.