Neighborhood Child Opportunity Index and Household-Level Social Needs

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Background and objectives: New regulations require hospitals to screen patients for health-related social needs (HRSNs). Neighborhood indices, like the Child Opportunity Index (COI), may help identify families at risk of experiencing HRSNs and inform targeting of health system-based resources and support. However, it is unknown how well the neighborhood-level COI predicts household-level HRSNs.

Methods: In this cross-sectional study of 1096 patients admitted to a quaternary children's hospital from July 2022 to August 2023, we combined data on household-level HRSNs from standardized screening with data on each patient's neighborhood COI. We used logistic regression to estimate odds of experiencing HRSNs among families in the 2 lowest COI quintiles (low/very low), relative to the 3 highest quintiles (moderate/high/very high). We then calculated positive and negative predictive values of low/very low COI in identifying household-level HRSNs and compared rates of resource connection among those with low/very low COI vs moderate/high/very high COI.

Results: Low/very low COI was associated with greater odds of reporting household-level HRSNs (odds ratio, 2.62; 95% CI, 2.04-3.36). COI showed low positive predictive value (3% to 31%) in identifying HRSNs and high negative predictive value for each need (91% to 99%) except mental health (76%). Resource connection rates were not significantly different across COI strata.

Conclusions: Families in disadvantaged neighborhoods have greater odds of reporting HRSNs, but COI is a poor proxy for household-level screening. Findings suggest that health systems can use COI to focus HRSN screening and interventions on communities with the likely highest prevalence of reported HRSNs.

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