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### Association Between Neighborhood Opportunity and Youth Mental Health Emergency Department Visits

Shelby Chesbro

Matt Hall

Adrienne DePorre

Molly Krager

Laura Plencner

*See next page for additional authors*

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**Authors**

Shelby Chesbro, Matt Hall, Adrienne DePorre, Molly Krager, Laura Plencner, Shayla Sullivant, and Henry T. Puls

## BACKGROUND

- Youth mental health emergency department (ED) visits are increasing.
- The prevalence of mental health disorders and ED visits for mental health concerns may differ by the neighborhood youths live in.

## OBJECTIVE

- To determine differences in rates of youth mental health ED visits across zip code levels of neighborhood opportunity.

## METHODS

**Design:** Cross-sectional study using the Hospital Industry Data Institute dataset identifying ED visits with a primary mental health diagnosis in Kansas and Missouri for youths aged 5 -19 years in 2022-2023. Mental health visits were then categorized at the zip code level by neighborhood opportunity using the Child Opportunity Index (COI) 3.0. Mental health diagnoses were identified using ICD-10 codes and categorized using the Child and Adolescent Mental Health Disorders classification system (CAMHD). Population data was acquired from the American Community Survey. Zip code rurality and health care accessibility was categorized by using Rural-Urban Community Area (RUCA) and Primary Care/Mental Health Professional Shortage Area (HPSA).

**Outcome:** Rates of youth mental health ED visits and diagnoses across zip code levels of neighborhood opportunity.

**Analysis:** Poisson regression models determined differences in rates across COI quintiles and calculated adjusted rate ratios and 95% confidence intervals.

# Association between Neighborhood Opportunity and Youth Mental Health Emergency Department Visits

Shelby Chesbro, MD; Matt Hall, PhD; Adrienne DePorre, MD; Molly Krager, MD; Laura Plencner, MD; Shayla Sullivant, MD; Henry Puls, MD

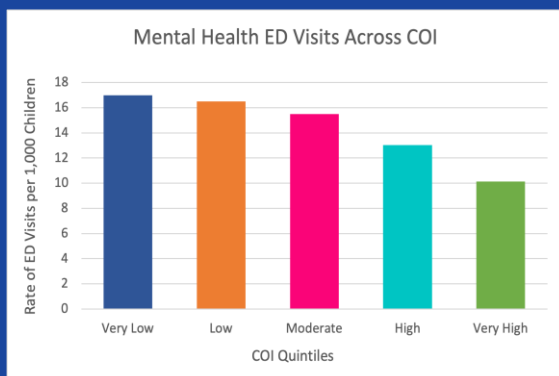
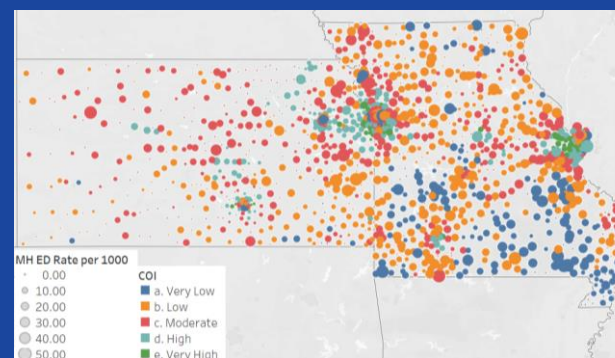


Figure 1 (above): Rate of Mental Health ED Visits Across COI Quintile per 1,000 Children

Figure 2 (below): COI Quintiles and Rates of Youth Mental Health ED Visits per 1,000 Children in KS/MO 2022-2023



COI Quintile	Very Low	Low	Moderate	High	Very High
	1.74 (1.54, 1.98)	1.72 (1.52, 1.94)	1.55 (1.37, 1.75)	1.34 (1.2, 1.5)	Reference
	<0.001	<0.001	<0.001	<0.001	

Table: Adjusted Rate Ratios of Mental Health ED Visits Across COI Quintile

## RESULTS

- Among 1.79 million youths aged 5-19 years in Kansas and Missouri, there were 52,362 ED visits with a primary mental health diagnosis.
- A majority of mental health ED visits were:
  - In Missouri (78.5%)
  - At children's hospitals (85.7%)
  - In female youth (57.5%)
  - Age 15-19 years (57.8%)
- The most common diagnoses included:
  - Suicide/self-injury (30.5%)
  - Depressive disorders (21.7%)
  - Anxiety disorders (9.0%)
  - Substance use disorders (8.4%)
- Rates of mental health ED visits increased as COI decreased overall and for all sub-groups – age, sex, RUCA, health care shortage areas, and both states (figure 1).
- In adjusted modelling, rates of mental health ED visits were 74% greater in zip codes with very low COI compared to zip codes with very high COI (table).

## CONCLUSIONS

- Rates of mental health ED visits in Kansas and Missouri among youths are significantly higher in areas with low neighborhood opportunity/COI.
- Focusing on increased mental health resources in areas with low COI may be critical to improving mental health and equity among youths.

## NEXT STEPS

- Are rates of youth mental health ED visits in Kansas and Missouri changing?
- Do trends differ across COI quintiles?

Questions: [Shelby Chesbro](mailto:schesbro@cmh.edu)  
schesbro@cmh.edu

