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Neighborhood Environments and Childhood Obesity in the Kansas City Region

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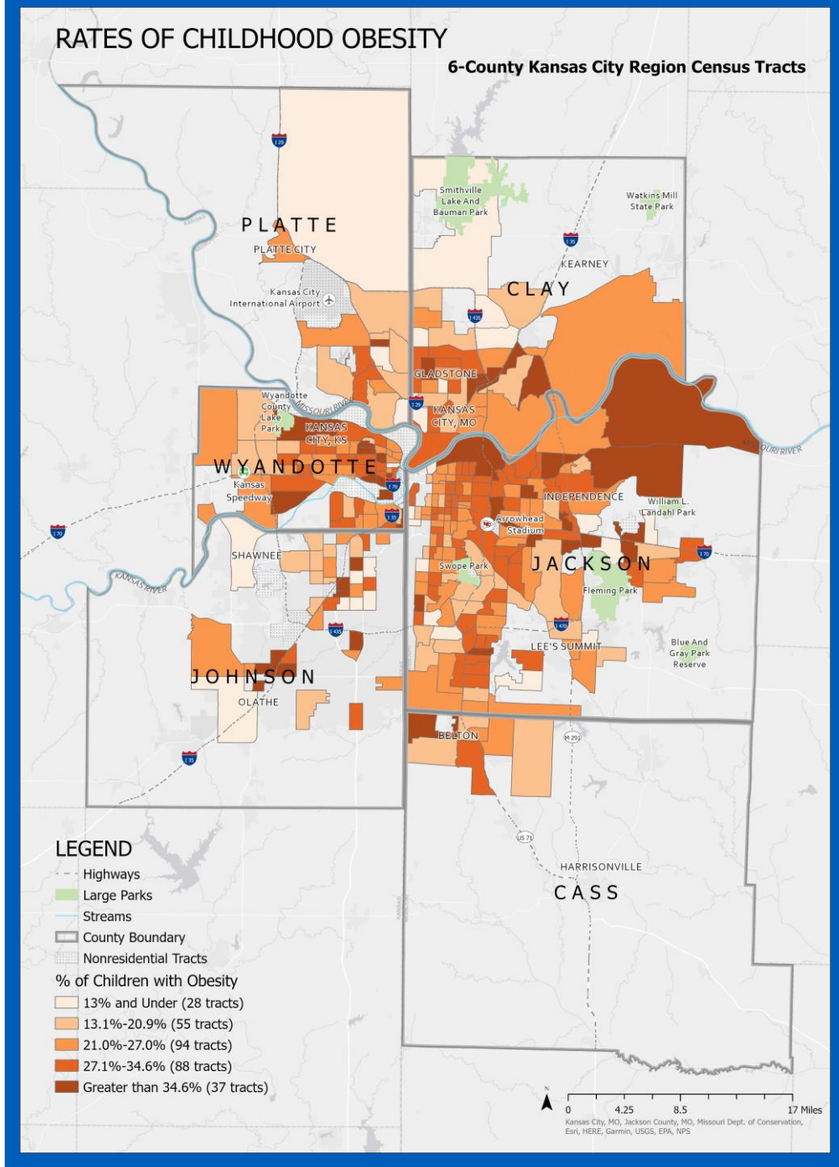
INTRODUCTION

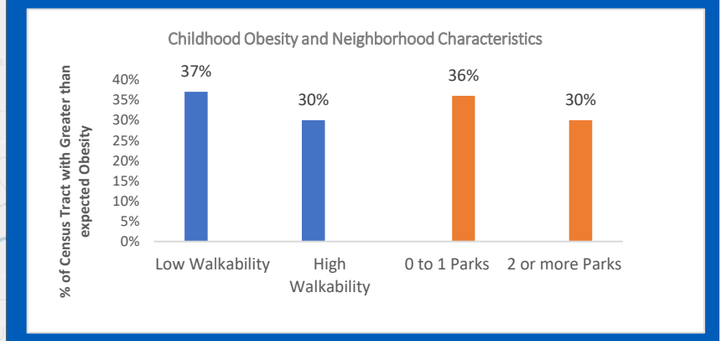
- Neighborhood environments are known to impact health behaviors.
- This project investigated childhood obesity rates and associations with neighborhood environment characteristics: walkability, parks, and poverty.

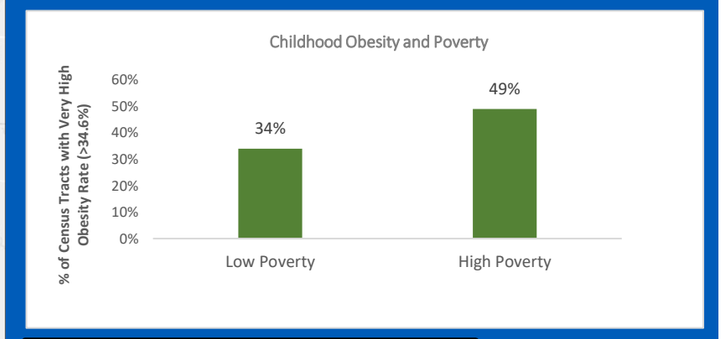
METHOD

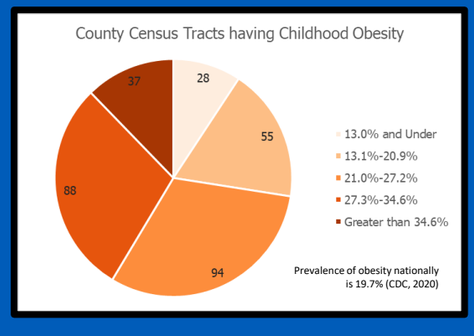
- ~20,000 Children's Mercy primary care patients ages 6-17 (2017-2020)
- Obesity rates were calculated and mapped for all census tracts in the 6-county Kansas City region with ≥15 patients.
- Publicly available socioeconomic and built environment data were integrated.
- Park quality was measured using observational audits.
- Mixed effects regression models were used to test associations and were adjusted for sociodemographics.



Neighborhood Characteristic	Effect on BMIz
Walkability and BMIz (in 9-17 year olds)	-0.03 (-0.06, 0.00); *p=.033*
Parks and BMIz	-0.02 (-0.04, -0.01); *p=.020*
Park Quality and Obesity (odds ratio)	0.94 (0.89, 0.98); *p=.034*







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RESULTS

- The association between greater walkability and lower BMIz was specific to 9–17-year-olds
- Children in the 25% highest walkable tracts were 7% less likely to have obesity than those in one of the 25% lowest walkable tracts.
- Children living in a tract with 3 or more parks were 7% less likely to have obesity than those with 0 parks.
- Children who had a higher quality nearest park were less likely to be obese, especially among 12-14-year-olds, girls, and those in higher income neighborhoods.
- Children in the 25% lowest poverty tracts were 20% less likely to have obesity than those living in one of the 25% highest poverty tracts.

DISCUSSION

- Children in the region are less likely to have obesity if they live in a neighborhood that has high walkability, high park access, and/or a moderate-to-low rate of poverty.
- There are many areas of the city where high poverty, low walkability, and low park access co-occur.
- Multiple sectors must work together and strive for ambitious community transformations to combat the existing environmental health disparities in the region.

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