Environmental sprawl and weight status: The paradox of obesity in the food desert.

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Abstract
Restricted access to healthy foods, including fresh fruits and vegetables (FFV), is a primary factor in the development of obesity. One previously underexplored measure of access is sprawl, which incorporates complex components of an area’s overall accessibility. This cross-sectional study employed secondary data analysis to quantitatively examine the role of sprawl on obesity and FFV consumption as measured by Body Mass Index (BMI) among a nationally representative sample (n=122,265). Obesity and FFV intake differed significantly by race, education, income, and perceptions of food security. Mutivariate analyses demonstrated that residents of more sprawling areas had significantly higher BMI and FFV intake, particularly with poor and minority populations. The predictors of BMI and FFV differed significantly by education, race, and income. Those with less education, lower incomes, and minorities had higher BMIs and consumed less FFVs.

Methods
The cross-sectional design employed secondary data analysis to quantitatively examine the role of sprawl on obesity and FFV. The analyses included descriptive measures and regression models to estimate the hypothesized predictive effect of sprawl on BMI and FFV. The study utilized the Behavioral Risk Factor Surveillance System for BMI, FFV, and demographic variables merged with Ewing’s County Sprawl Index as a measure of sprawl (n=122,265).

Results
BMI and FFV intake differed significantly by education, race, and income. Those with less education, lower incomes, and minorities had higher BMIs and consumed less FFVs.

Conclusion
This study contributes to the current knowledge base by identifying sprawl as a significant predictor of BMI and FFV consumption net of demographic and economic covariates. Future research should incorporate more sophisticated multi-level modeling techniques to examine how multiple characteristics in an individual’s environment simultaneously may influence obesity and fresh fruit and vegetable consumption.

References