Clustering of Fast-Food Restaurants Around Schools: A Novel Application of Spatial Statistics to the Study of Food Environments

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ABSTRACT

RESEARCH AND PRACTICE

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Objectives: We examined the concentration of fast food restaurants in areas proximal to schools to characterize school neighborhood food environments.

Methods: secondary schools in Chicago. We used the bivariate K function statistical method to quantify the degree of clustering (spatial dependence) of fast-food restaurants around school locations.

Results: The median distance from any school in Chicago to the nearest fast-food restaurant was 0.52 km, a distance that an adult can walk in little more than 5 minutes, and 78% of schools had at least 1 fast-food restaurant within 800 m. Fast-food restaurants were statistically significantly clustered in areas within a short walking distance from schools, with an estimated 3 to 4 times as many fast-food restaurants within 1.5 km from schools than would be expected if the restaurants were distributed throughout the city in a way unrelated to school locations.

Conclusions: Fast-food restaurants are concentrated within a short walking distance from schools, exposing children to poor-quality food environments in their school neighborhoods.

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