

Availability of low cost food vendors in the Washington, DC area

Problem addressed

Observers have noted that persons living in low-income areas may have comparatively low access to supermarkets, and instead must rely on higher-cost and lower-quality food options such as fast food and convenience stores.

The presence of supermarkets/grocery stores in a neighbourhood is associated with buying and consuming healthier food. Grocery stores typically sell healthier food items at affordable prices compared with convenience stores and fast-food outlets. Wide ranges of fresh food choices, with relatively lower price points, frequent availability and visually appealing presentation, are associated with choosing healthier food options and healthier diets.¹

This project will use Foursquare to seek to draw inferences regarding whether those types of food access issues are present in the District of Columbia and suburban Maryland and Virginia. Foursquare data will be used to identify various categories of food providers, and clustering techniques will be used to draw inferences regarding the quality of food access across various local areas.

Results from these types of analyses could have public policy significance for local governments or food programs. The results in theory also may be of value for the private sector by identifying underserved markets.

Data to be used

The project primarily or solely will be based on Foursquare data – although, ideally, additional types of data (such as income or health-related data) might be incorporated based on data and time availability.

Food venues will be labeled based on Foursquare categories. Relevant categories will include supermarkets, convenience stores, fast food restaurants and dollar stores, and potentially other categories. Geographic clustering will be used to identify local groupings of food vendors, followed by additional clustering techniques to identify similarities and differences in food access across those geographic clusters.

¹ Abeykoon1, Stringer and Muhajarine, “Health-related outcomes of new grocery store interventions: a systematic review” (footnotes omitted), Public Health Nutrition: 20(12), 2236-48 (available at https://www.researchgate.net/profile/Nazeem_Muhajarine/publication/317287012_Health-related_outcomes_of_new_grocery_store_interventions_A_systematic_review/links/5c2cdb87299bf12be3a83e48/Health-related-outcomes-of-new-grocery-store-interventions-A-systematic-review.pdf).