

## Conceptualization and Visualization of Community Food Access for Cancer Prevention: A GIS Approach

When compared with any other American group, African Americans are at the greatest risk for cancer. Environmental factors such as access to healthy food choices and opportunities for physical activity could impact upon cancer risk. The objectives were to: i) audit community retail food outlets (RFO) and identify opportunities for physical activity (PAO) in the Alabama Black Belt (ABB) to assess location, cost, access and availability of choices which encourage community members, with and without cancer to make healthy choices; and ii) develop and map indices to illustrate variations in cost, access and availability of healthy food in the ABB. Non-obtrusive, observational cross-sectional study of RFO and PAO were conducted. Geographical information systems (GIS) were applied to develop precise measures, and provide visual and spatial approach to better understand access and availability of the available resources. RFO such as supermarkets and convenience stores were audited using the United States Department of Agriculture (USDA)/Thrifty Food Basket. Of the 19 RFO that were surveyed, none carried low-sodium/low-fat cheese, while 2-supermarkets carried low-sodium grain products. Maps providing visual access to RFO and PAO have been developed. Results from this study could be useful in identifying communities within the ABB at risk for cancer.

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