

A spatial analysis of healthy food availability in urban neighborhoods

Guidry, Marilyn (2010)

Abstract: Food insecurity and poor access to healthy foods is a global and local issue. In the United States, urban populations demonstrate enormous disparities in quality and access to food resources necessary for a healthy life. This study demonstrates that although healthy foods may be available within a close proximity to some urban neighborhoods, these resources may be in limited supply or inaccessible by segments of local populations. In south and southwest Philadelphia, two neighborhoods demonstrate a high concentration of fresh food and vegetable availability characterized by supermarket service regions of approximately 0.10 square miles. Six additional high density neighborhoods demonstrate much lower availability with supermarket service regions extending to 2.53 square miles. Gaps or underserved areas outside supermarket service areas demonstrate a lower rate of accessibility to fresh fruit and vegetables than the corresponding service iv areas of supermarkets. Within supermarket service areas the density of grocers stocking fresh fruits and vegetables is 35.3 grocers per square mile. In supermarket gap areas this number drops to 7.1 grocers per square mile. Thus some neighborhoods have access not only to supermarkets, but also benefit from a higher density of smaller grocers stocking fresh fruits and vegetables. Similarly, the mean produce accessibility rate for pedestrian supermarket service areas is 887.3 square feet of fresh fruits and vegetables per 1000 population. The produce accessibility rate drops significantly in pedestrian and public transit gap areas. In spite of statistical relationships between produce accessibility and location in a gap or service area, fruit and vegetable intake does not show a correlation with an accessibility measure to supermarkets. Policy recommendations include aligning transportation and food access for underserved areas and coupling education with improved access to improve healthy food intake. Neighborhoods vulnerable to poor fresh fruit and vegetable access tend to be less dense fringe areas of well established urban neighborhoods.