WIC DATA
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Larger obesity reductions observed in neighborhoods with more healthy food outlets

Our role at WIC: WIC provides food packages that include healthy foods to participating families.

Across time: Larger reductions in obesity were observed in neighborhoods with higher density of healthy food outlets.

Implication: Consideration of neighborhood context, and policies that support increased access to healthy food are likely to support reductions in obesity.

WIC food packages were modified in 2009 to maintain alignment with the Dietary Guidelines for Americans and these modifications introduced a cash value benefit for the purchase of fruits and vegetables. Previous research has identified significantly reduced risk of childhood obesity among child WIC participants following the food package change in Los Angeles County.[1] This brief aims to show how the availability of healthy foods, like those provided by WIC supplemental food packages, in neighborhoods around WIC-participants' homes also influences childhood obesity. We examine neighborhood availability of healthy and unhealthy foods, and demonstrate that higher levels of healthy food availability are associated with improved obesity rates.

Using data collected between 2003 and 2016, obesity risk was compared between WIC-participating children before and after the 2009 food package change.[2] The number of healthy outlets (supermarkets, grocery stores, and produce vendors) per square mile in the neighborhood of residence was the healthy food environment density, with higher values indicating more outlets that sell healthy foods including fresh fruits and vegetables in the neighborhood (**Figure 1**). The number of unhealthy outlets (convenience stores, fast food, and liquor stores) per square mile is the unhealthy food environment density, with higher values indicating more outlets that sell unhealthy foods in the neighborhood. The percent change in obesity risk between children receiving old and new WIC food packages was calculated for children living in neighborhoods with high, medium and low density of healthy foods.

We know from previous work that reductions in childhood obesity risk were evident from the change to the WIC food package alone. Thus, regardless of healthy food density, the new WIC food package was associated with reduced obesity regardless of neighborhood density of healthy foods in Los Angeles County.[1]

Figure 1. Neighborhood density of healthy and unhealthy food outlets in Los Angeles County, California, 2003-2013.

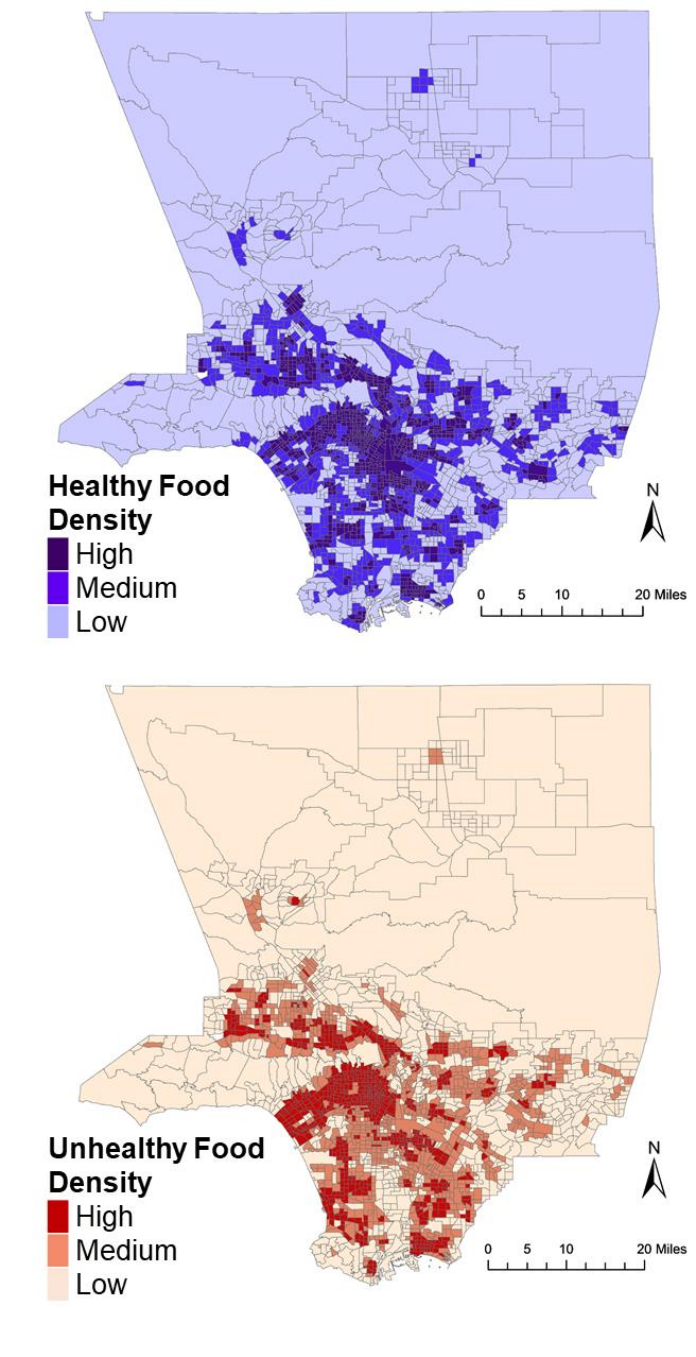
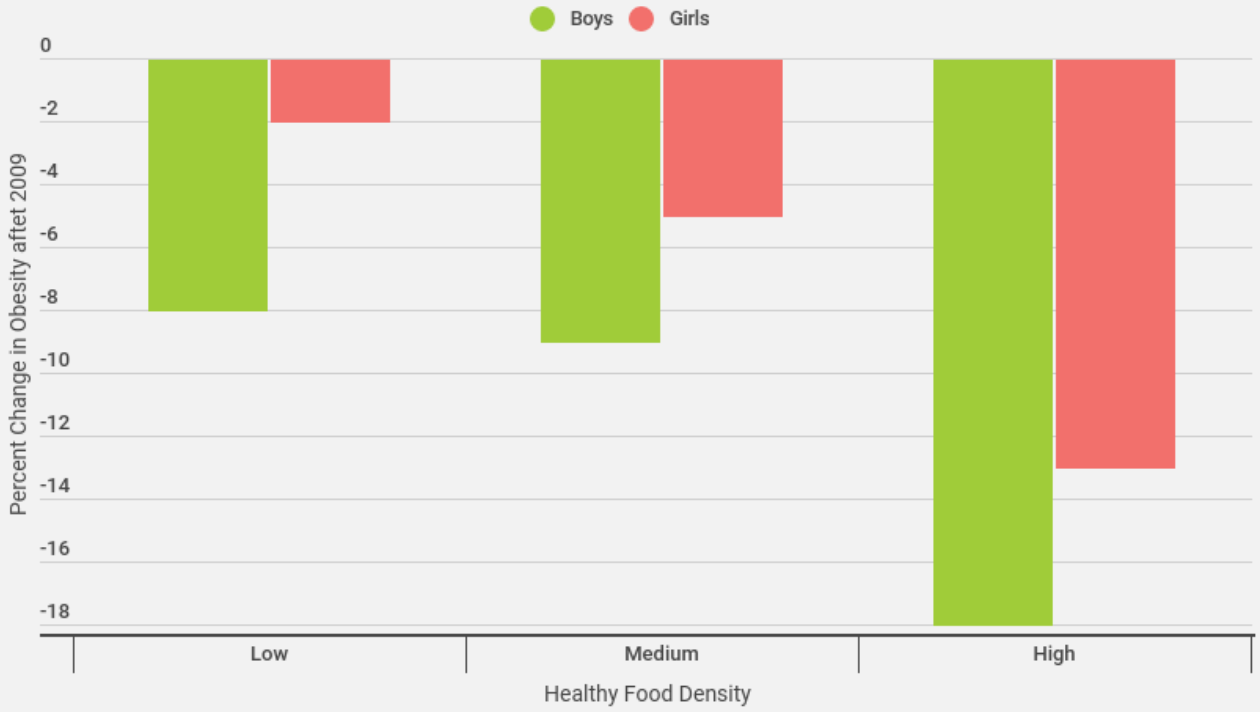


Figure 2. Obesity risk reduction associated with the new food package, by neighborhood density of healthy food outlets.



This study extends that research to show that the reduction in obesity risk for children receiving the new food package was greatest in neighborhoods with more healthy food (**Figure 2**). Obesity risk was 8, 9 and 18% lower for boys receiving the new food package who live in neighborhoods with low, medium and high density of healthy foods, respectively. Obesity risk was 2, 5 and 13% lower for girls receiving the new food package who live in neighborhoods with low, medium and high density of healthy foods, respectively. These data suggest that the neighborhood context is important to child health benefits from WIC participation, with greater benefits for children living in a healthier neighborhood environment. Future policy evaluations would benefit from consideration of neighborhood context, and policies that support increased access to healthy food are likely to support reductions in obesity.

References

1. Chaparro MP, Crespi CM, Anderson CE, Wang MC, Whaley SE. The 2009 Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) food package change and children's growth trajectories and obesity in Los Angeles County. *Am J Clin Nutr.* 2019;109(5):1414-1421.
2. Anderson CE, Crespi CM, Wang MC, Whaley SE, Chaparro MP. The neighborhood food environment modifies the effect of the 2009 WIC food package change on childhood obesity in Los Angeles County, California. *BMC Public Health.* 2020;20(1):678.