

Effect of living in an underserved area on fruit and vegetable purchases among households participating in the New Jersey Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)

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Disclaimer

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Background: WIC

- The Special Supplemental Nutrition Program for Women, Infants and Children (WIC) is a preventive public health nutrition program that provides services to low and moderate-income **pregnant, postpartum and breastfeeding women and young children** with, or at risk of developing nutrition related health problems.
- **Cash Value Vouchers (CVVs)** are provided to WIC participants to purchase fruits and vegetables.

Background: Healthy Food Access

- Research has shown an association between limited access to healthy food choices and increased risk of poor diets and obesity.
- However, the actual effects of living in an underserved area on healthy food access are largely unknown.

Purpose

- To assess the effects of living in an undeserved area on fruit and vegetable purchases among New Jersey WIC participants

Methods: Data Sources

- All WIC demographic variables and CVV data were obtained from the New Jersey Department of Health WIC Unit (analysis period: 06/2013—05/2014)
- WIC household addresses were geocoded using ArcGIS
- All statistical analyses were performed using SAS 9.3

Methods: Exposure Variables

- WIC households were divided into 2 groups based on CDC's **Modified Retail Food Environment Index (mRFEI)**
 - Households in census tracts that had at least one healthy food store (mRFEI \geq 1)
 - Households in census tracts without any healthy food stores (mRFEI=0)

Methods: Exposure Variables

$$mRFEI = 100 \times \frac{\# \text{ Healthy Food Retailers}}{\# \text{ Healthy Food Retailers} + \# \text{ Less Healthy Food Retailers}}$$

- **Healthy Food Retailers:** supermarkets, larger grocery stores, supercenters, and produce stores
- **Less Healthy Food Retailers:** convenience stores, fast food restaurants, and small grocery stores with three or fewer employees

Methods: Outcome Variable

- Complete CVV redemption defined as redemption percentage $\geq 70\%$

$$\text{Redemption Percentage} = \frac{\text{total dollar amount of CVVs redeemed}}{\text{total dollar amount of CVVs issued}} \times 100\%$$

Methods: Analyses

- Logistic regression was used to model the association between food access and complete CVV redemption
- Final model adjusted for mother's age, race, education, and household SNAP participation

Results: Demographics

- 30,078 WIC households
- 11.4% lived in underserved areas
- 73% of mothers do not have a college degree
- 52% of mothers were 25-35 years of age
- 55% of mothers were Hispanic
- 56% of households also received Supplemental Nutrition Assistance Program (SNAP)

Results

Percent of WIC households with complete CVV redemption		
No Healthy Food Stores	At Least 1 Healthy Food Store	OR (CI)
83.0%	88.5%	0.7 ^a (0.6-0.8)

^a p<0.0001 adjusted for mother's age, mother's race, mother's education, and household SNAP participation

Conclusions

- The odds of complete CVV redemption were significantly lower for WIC households in underserved areas
- Findings suggest that public health efforts aimed at increasing healthy food access are warranted
- NJDOH has begun addressing the issue through policy change and healthy corner store initiatives in partnership with The Food Trust
- The study provides a framework for evaluating these efforts

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Questions?

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