

How Does The Rural Food Environment Affect Low-Income Children's Healthy Food Consumption And Obesity Rates ?

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Research Questions

1. How does the community food environment affect the home food environment?
2. How do home and community food environments affect children's healthy food consumption?
3. How do these factors, including eating behavior, affect obesity?

Policy Relevance

Rural obesity rates are higher than urban rates for children and adults.

Children OR 1.25%

Adults 27.4% vs. 23.9%

Our five years of Active Living Research has discovered several rural-specific issues.

Transportation needs

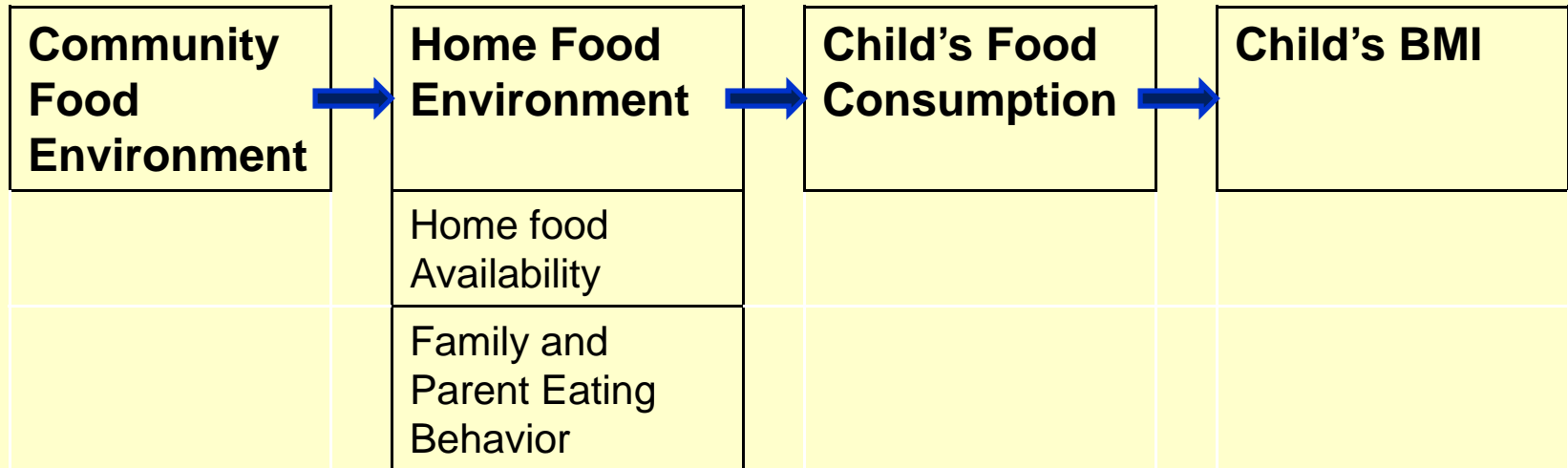
Inappropriate environmental measures

Social barriers – SES, culture, gender, social support, safety and crime

Policy Relevance, cont.

- Relationship between retail food outlet access and obesity has not been demonstrated in rural areas.
- How should the rural food environment be measured?
- How might a rural food desert be different from an urban food desert?

Conceptual Model



Methods

Focus Groups in 6 Maine Communities

Statewide telephone survey of Medicaid families – oversampled in 6 communities

Modified Nutrition Environment

Measurement Survey in 46 food outlets in 6 communities.



Analytic Model

- Focus groups inform “where do you shop”
- NEMS scores aggregated at town level as measure of the community food environment
- Survey data created measures of:
 - Family behavior (eats together, breakfast, veggies)
 - What food is in the home (salty snacks, veggies, sweetened drinks, fast food)
 - How far you drive to your primary food outlet
 - What your child eats (fruit, vegetables, soft drinks)
 - Height and weight

Findings

Oversample of 6 communities $n = 272$

(All are rural and low-income)

47.9% Overweight

27.7% Obese

Findings:

Community food environment →
Home food environment

- No significant relationship between aggregated town NEMS scores and the home food environment
- Families traveling greater distances to their primary food store were shopping at higher scoring stores – suggesting rural residents are traveling farther to obtain lower prices and better selection.
- Families receiving SNAP benefits had greater availability of healthy food in the home.

Findings:

Home food environment →
Child's healthy eating behavior

- 68% of our respondents raised some of their own food (gardening and animal husbandry) and 71% purchased some food from farmers.
- Children in these households exhibited healthier eating behavior than those in households not employing these strategies.
- Child's healthy eating score is a composite of whether and how often the child eats salad, vegetables, fruit and soda.

Home food environment → Child's healthy eating behavior

- Computed scores for food availability in the home, family eating behaviors, and parent eating behaviors were each significantly associated with the child's eating behavior score.
- In multivariate analysis, food availability in the home was **NOT SIGNIFICANT**, controlling for family eating behaviors (family eats together, child eats breakfast, low-fat milk, vegetables served) and parent eating behaviors (fruit, vegetable, soda consumption).

Home food environment →
Child's healthy eating behavior →
Childhood obesity

- In multivariate analysis, parent consumption of healthy foods significantly related to likelihood of child being obese (OR .64)
- In multivariate analysis, food availability in the home, home food behaviors, and child food consumption NOT SIGNIFICANT predictors of obesity.

Recommendations

- Defining and identifying “food deserts” is not a promising approach to measuring the rural food environment due to long distance trips, careful price shopping, and local, alternative strategies.
- Strategies to place healthier food in the home should be combined with interventions directed at parents’ and families’ eating behaviors.

Thanks



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