Finding and Affording Healthy Food in Rural America

Study Results from New Hampshire

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July 22, 2010
Food Deserts

- Geographic areas without food resources

- Distances used in research on food deserts
  - One mile (USDA)
  - Five miles (Carsey)
  - Ten miles (Blanchard and Lyson)
Food Insecurity

Access to adequate food is limited

- By money
- By other resources
- In rural areas this is often TRANSPORTATION
Link to Health

- Food insecurity more likely in food deserts
- Among children, food insecurity linked with
  - More frequent illness
  - More frequent hospitalizations
  - Iron deficiencies
  - Poorer school performance
  - Weaker social skills
  - Overweight and obesity
Nationwide Statistics

- 23.5 million Americans live more than a mile from a supermarket (USDA, 2009)

- 418 rural food desert counties (Morton and Blanchard, 2007)
  - All residents live more than 10 miles from a supermarket
  - 20 percent of all rural counties

- 17 million households (14.6 percent) were food insecure in 2008 (USDA)
Nationwide Statistics for Children

- In households with children, 21 percent were food insecure

- In rural counties (nonmetropolitan), 22 percent of households with children were food insecure

(USDA estimates)
Finding about Rural Food Deserts (Grocery Gap, The Food Trust)

<table>
<thead>
<tr>
<th>Store Type</th>
<th>Number of Rural Stores per 100 Urban Stores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chain supermarket</td>
<td>14</td>
</tr>
<tr>
<td>Non-chain supermarket</td>
<td>43</td>
</tr>
<tr>
<td>Grocery stores</td>
<td>55</td>
</tr>
<tr>
<td>Convenience stores</td>
<td>55</td>
</tr>
</tbody>
</table>

Source: Powell et al., 2007.
Key Findings in New Hampshire

- Grocery stores unevenly distributed
- Deficit in more rural parts of state
- Those same areas have higher rates of obesity, coronary heart disease, and diabetes
Additional Key Findings

- 3.5% of population resides 5+ miles from a grocery store
- Larger percentage in more rural areas
- More than 1 in 10 households experience food insecurity
- Significantly related to income and distance from grocery store
Low Access Areas: Beyond 5-Mile Buffer of Selected Retail Stores

Inaccessible Areas
- Beyond 5-Mile Buffer

Political Boundaries
- State Boundary
- County Boundary
- Town Boundary

Surface Water
- Major Water Body

Major Routes
- Interstate

Conservation Lands
- White Mountain National Forest

Data Sources:
Retail food sources data from INFO USA, March 2009.
All base layers from NH GRANIT database, UNH.
The Effect of Income on Food Insecurity

Conditional Effect Plot

The graph shows the probability of food insecurity varying with income. The probability decreases as income increases, with the highest probability observed for those with an income below $30,000 and the lowest probability for those with an income of $100,000 or more.
The Effect of Distance from Grocery Store on Food Insecurity

Conditional Effect Plot

Predicted Probability of Food Insecurity

Minutes to Grocery Store
Implications for Rural Areas

- NH is affluent, other rural areas are not so fortunate
- In higher poverty rural areas, food deserts more common
- In higher poverty rural areas, food insecurity more common
- In more rural areas, food deserts more common
White House Task Force on Childhood Obesity, 2009 data, USDA estimates
Conclusions

- Rural families and children are more likely to live in a food desert
- Living in a food desert creates barriers to accessing healthy food
- Living in a food desert is associated with food insecurity
- Both are associated with poorer health outcomes