Current Challenges in Determining the Impact of Food Deserts on Urban childhood Nutrition and Health

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Multidisciplinary review team and references available at z.umn.edu/PolicyBriefs

Summary of Findings:

- ‘Food desert’ is an emotionally charged term with no commonly accepted definition.
- Many urban residents have limited access to healthful and affordable foods.
- Children are most vulnerable to the growth and health impacts of poor nutrition.
- It is unclear how living in an urban area with limited access to healthful and affordable food contributes to childhood growth and health.
- Numerous interventions have been proposed to address food deserts, however, limited scientific evaluations have been found that examine their specific impact on childhood health.

What is a Food Desert?

Definitions of the term “food desert” vary widely (see Table 1) and can be the subject of emotionally-charged debate. With no standard definition of a food desert in place, assessment of how much of the US population is affected can vary tremendously. The term food deserts is also widely criticized within urban and food justice circles, for being disrespectful. Observational studies demonstrate the inconsistency in how to determine a neighborhood as a food desert. The USDA Economic Research Services created a food environment atlas based on distance to grocery stores and supermarkets (last updated on February 18th 2014). A limitation of this atlas is that there is wide variability in the kinds of healthy foods grocery stores (beyond traditional supermarkets) sell, making it difficult to define which stores might be relevant to dietary outcomes and health. Locally, according to this database, the seven-county metropolitan region of the Minnesota Twin Cities area has a high prevalence of food deserts based on available nation-wide census tract data (see Figure 1). Whereas 5.5% of children in the US have low access to grocery stores, this estimate is 8.5% in the Twin Cities metropolitan area.

Table 1. Examples of varying definitions of the term ‘food desert’ provided by government organizations.

<table>
<thead>
<tr>
<th>Organization(s) providing definition</th>
<th>Definition of ‘food desert’</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States Department of Agriculture (USDA)</td>
<td>Urban neighborhood or rural town without ready access to fresh, healthy, and affordable food</td>
</tr>
<tr>
<td>Centers for Disease Control and Prevention (CDC)</td>
<td>Area that lacks access to affordable fruits, vegetables, whole grains, low-fat milk, and other foods that make up the full range of a healthy diet</td>
</tr>
<tr>
<td>Joint definition by: USDA, US Department of Treasury, and US Department of Health and Human Services</td>
<td>Census tract with a substantial share of residents who live in low income areas that have low levels of access to a grocery store or healthy, affordable food retail outlet</td>
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</tbody>
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Do Urban Interventions Decrease the Impact of Food Deserts on Children?

The potential negative impact of food deserts on child nutrition, and in turn child growth, development, and overall health, is a public health issue of particular concern. The CDC has identified Farm to School (FTS) programs as potentially effective approaches to improve childhood and adolescent health.

FTS programs are one strategy aimed at lessening the impact of food deserts by increasing the availability of fresh produce in the inner city. However, rigorous intervention studies on FTS have been limited. Revised dietary requirements for the School Lunch Program, school breakfast, and summer lunch programs, after school and weekend food programs all provide the potential opportunity to enhance the nutrition of all children, independent of where they live.

Non-school related urban strategies targeting food deserts, such as local policies and interventions that improve the community food environment (see Table 2), could have an impact, but have not been rigorously evaluated with respect to childhood nutrition and health.

Future Research Challenges

Research on the impact of food deserts on childhood nutrition and health face a variety of challenges including the lack of a standard definition and the difficulties of attribution (the effect of specific interventions when multiple programs are underway). For example, what is the impact of an urban gardening program, given the seasonal availability of food, and how does this relate to societal and cultural influences on diet?

Research demonstrates a clear link between the food environment and the types of foods people eat. Nearly all studies provide a snapshot of the situation at one point in time, and thus it is difficult to determine the impact of interventions over time.

Carefully designed experimental studies are needed to answer these questions. We suggest that future research evaluating the impact of food deserts on childhood nutrition and health include a dynamic approach that measures social, cultural, and demographic influences simultaneously, as well as health outcomes over time.
Table 2. Examples of programs and policies intended to increase food access and food literacy to underserved communities and potentially alleviate the effects of food deserts.

<table>
<thead>
<tr>
<th>Program</th>
<th>Web Link for More Information</th>
</tr>
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<tbody>
<tr>
<td>Minneapolis Healthy Corner Store Program</td>
<td><a href="http://www.health.state.mn.us/divs/oshii/docs/Mpls_Healthy_Corner_Store.pdf">http://www.health.state.mn.us/divs/oshii/docs/Mpls_Healthy_Corner_Store.pdf</a></td>
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<td>Dream of Wild Health</td>
<td><a href="http://dreamofwildhealth.org">http://dreamofwildhealth.org</a></td>
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<tr>
<td>Urban Oasis Food Hub</td>
<td><a href="https://www.facebook.com/ForeverStPaulUrbanOasis">https://www.facebook.com/ForeverStPaulUrbanOasis</a></td>
</tr>
<tr>
<td>Hennepin County Medical Center Food Shelf</td>
<td><a href="http://www.hcmc.org/foodshelf/index.htm">http://www.hcmc.org/foodshelf/index.htm</a></td>
</tr>
<tr>
<td>Minnesota Food Charter</td>
<td><a href="http://mnfoodcharter.com/the-charter/">http://mnfoodcharter.com/the-charter/</a></td>
</tr>
<tr>
<td>Healthy Food Financing Initiative</td>
<td><a href="http://healthyfoodaccess.org/policy-efforts-and-impacts/federal">http://healthyfoodaccess.org/policy-efforts-and-impacts/federal</a></td>
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References