Good&HEALTHY
SOUTH DAKOTA COMMUNITIES

The Role of the Built Environment to Promote Nutrition

This brief is the second in a three-part series on the built environment.
Part one focuses on physical activity and part three is tobacco use.

Health starts where you live, learn, work and play.[1] A healthy community depends to a large extent on human, institutional, organizational and environmental resources available within the community.

The link between the community and health is well recognized. A growing body of research has demonstrated the link between the built environment and its substantial impact on health. The built environment includes all of the man-made structures where people live and work such as homes, buildings, streets, open spaces, and infrastructure.[2] The physical design of the community affects health every time a person steps out the front door and into neighborhoods, schools, childcare centers and workplaces.[3]

The built environment also influences health through food access and availability. Healthy food retailers are critical components of healthy, thriving communities. Retailers include grocery stores, farmers' markets, cooperatives, mobile markets and other vendors of fresh and affordable, nutritious food. In addition, lack of access to nutritious foods is primarily associated with malnutrition and starvation, but it can also result in obesity. Even as recognition of the problem is growing and progress is being made, between 6 and 9 percent of all U.S. households are still without access to healthy food.[4]

Healthy Food Access or Environment

A healthy community ensures access to healthy foods for its residents. Without access to healthy foods, a nutritious diet and good health are out of reach.[5]

The challenges of accessing healthy food are compounded by a significant lack of healthy food retailers in urban and rural communities, low-income communities of color and oversaturation of fast food restaurants, liquor stores and other sources of inexpensive, low-quality and high calorie food.[3] Populations without access to fresh, locally grown foods often rely on inexpensive, high calorie and energy-dense options that lead to excess weight gain.[6] By focusing on healthy food access in relation to the built environment, it shifts the focus from telling people how to eat healthy to changing the nutrition environment so that it is easier for people to access healthy food.[7]

According to Lisa Feldstein, former director of the Land Use and Health Program for Public Health Law & Policy, disinvestment and poor land use planning disproportionately impact low income neighborhoods and contribute to the creation of "food deserts." The United States Department of Agriculture, Treasury and Health and Human Services have defined a food desert as a "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."[8]

In South Dakota, food deserts are prevalent, as identified in Figure 1, which denotes a significant percentage of food deserts with low income census tract populations who also have a low access to healthy foods.

Residents living in areas with limited access to healthy food options are often forced to shop at local convenience stores or eat at fast-food establishments if that is all that is available. Both options result in a diet that is calorically dense, but nutritionally poor, leading to an increased risk of obesity and diabetes.[9] This is especially true for low-income residents without access to sufficient transportation options.[10]
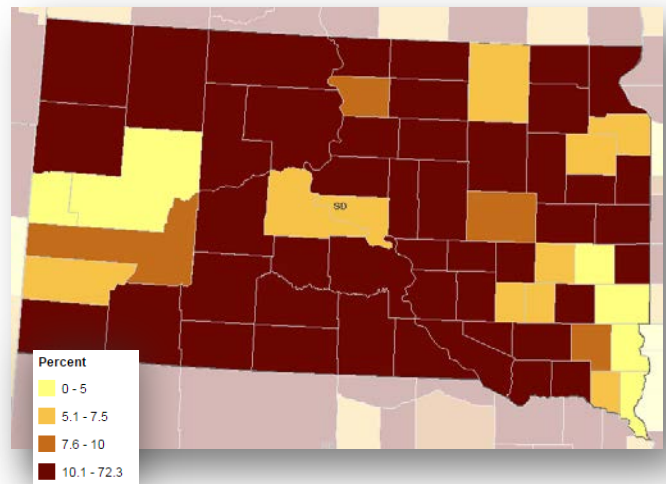
Higher-income neighborhoods, especially in suburban areas, are much more likely to have residents with access to a vehicle to shop at retailers with fresh, healthy, and affordable food. Obesity statistics from the CDC reveal that only 45.5 percent of SD census tracts have a healthier food retailer, as many as 39.3 percent of adults in the state consume *less* than one serving of fruit, and 24.5 percent less than one vegetable per day.[11]

Factors that Affect Healthy Food Access: Zip Code, Transportation and Retail

Many factors influence the makeup of a community's physical, social, and economic environments, and these factors affect residents' health status, including eating behaviors. Findings suggest underlying factors also affect healthy food access such as zip code, transportation and the availability of healthy food retail.

Zip Code: Where we live, work, and play affects access to healthy foods. Social and environmental factors, including income, race/ethnicity, housing and geography are factors that have been shown to contribute to the lack of access to healthy foods. "Disparities in access to healthy foods have affected both low-income urban and rural communities for decades."[3]

South Dakota is considered one of the nation's most rural and frontier states. The state is comprised of two urban counties, 30 rural and 34 frontier (less than six people per square mile). Approximately 14 percent of South Dakota's population lives in households with income below the Federal Poverty Level (FPL). This means that a family of four lives on less than $23,850 per year according to 2014 Poverty Guidelines.

Figure 2: Percentage of South Dakotans Below the Federal Poverty Level

Sioux Falls	11%
Rapid City	10%
South Dakota	14%
United States	15.4%
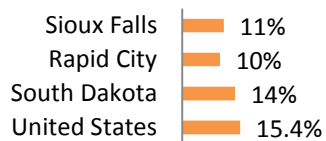
Healthy food access is affected by factors associated with low-income, minority populations living in South Dakota's two largest and urban cities, Rapid City and Sioux Falls housing a large percentage of minority populations with American Indians, Blacks and Hispanics comprising between 10-15 percent of the populations in both cities.[12]

Moreover, approximately 10 percent of Rapid City's population and 11 percent of Sioux Falls' population live in poverty when compared to 14 percent of South Dakotans (Figure 2).[12]

Residents of low-income, rural communities often must travel farther distances than residents of larger, urban cities to access healthy food. This lack of access to healthy foods in rural communities is concerning, especially in American Indian reservations, with 10 of the poorest counties in South Dakota part of or adjacent to one of nine American Indian reservations in the state. Recent data from Feeding America reports that approximately 26 percent of households on the Pine Ridge American Indian reservation in South Dakota experience hunger and food insecurity. Rural communities are also challenged by the availability of quality, affordable and desirable healthy foods when compared to urban areas due to a lower density of healthy food retail outlets.

Transportation: A lack of transportation presents a considerable barrier to accessing quality goods and services in a community. The inability to access grocery stores impedes a resident's ability to eat heathy, regardless of a personal desire to eat healthy. Recent data shows that 2.1 million households do not own a vehicle and live more than one mile from the nearest supermarket. In addition, the lowest vehicle ownership occurs among low-income people, which intensifies the challenges they face with accessing healthy food. In South Dakota, 5.21 percent of households do not have a motor vehicle and public transportation is either very limited or unavailable in many communities.[12]

These limitations require residents to rely on available smaller convenience stores closer to their homes, which usually have higher prices and an unhealthy inventory such as high-fat, high-sugar snacks, soft drinks and alcoholic beverages.[4] Residents in many of South Dakota's food deserts may have to travel more than 50 miles to reach the nearest grocery store.[13]

Evidence consistently indicates that accessing quality and affordable healthy foods is particularly challenging for urban low-income, communities of color, despite the existence of a public transportation system which often does not include planned routes with direct access to grocery stores. Despite the geographical differences, rural and urban communities face similar challenges of a lack of reliable transportation to access healthy food.

Healthy Food Retail: "Research suggests that residents who have better access to supermarkets and other fresh food retailers tend to have healthier diets and lower levels of obesity."[6] However, "approximately 9 percent of the United States population is living in communities that do not provide adequate access to healthy food retailers – supermarkets or grocery stores, within a reasonable distance from their home."[6]

In South Dakota there are 197 grocery stores available in a state of 814,180 people, highlighting food insecurity and healthy food access and environmental influences on dietary behaviors.[14] Healthy food access to nutritious and affordable food is an important factor enabling community residents to make easy, healthy choices about their diets.[4]

Strategies to Support a Healthy Food Environment

Every community, regardless of similarities in their lack of access, will require unique solutions that are culturally relevant, take advantage of local resources and engage with community members to maximize impact and awareness. Adopting effective strategies to improve local food environments requires a mix of assessment, policy, and educational changes.

Assessment

Comprehensive assessments such as the USDA's Community Food Security Assessment Toolkit[15] are recommended to establish a baseline of the community's access to healthy food. Once
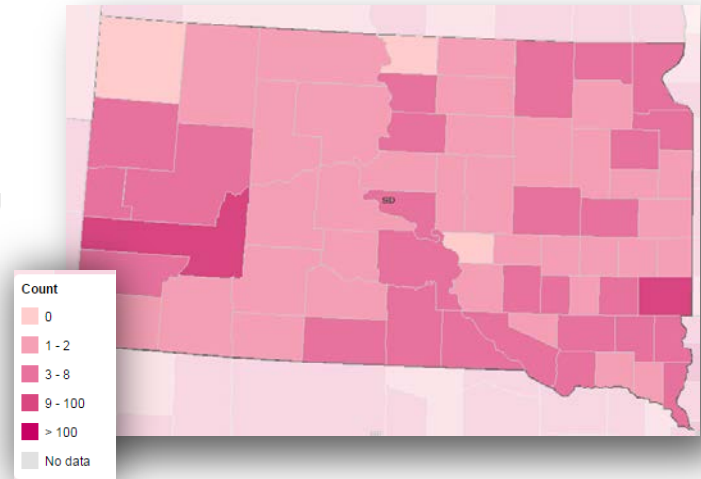
complete, local residents, organizations, health professionals and other stakeholders should be engaged in helping to create programs that address the problems identified by the assessment.

Policy

Program and policy development as well as implementation are necessary for sustainable systems change, such as:

Figure 3: Number of Grocery Stores in South Dakota

Zoning Regulations: Zoning is a recognized tool for expanding access to healthy foods. These regulations can be used to help establish grocery stores or markets in food desert areas, especially when paired with economic incentives. An example of this is the Federal Government's Healthy Food Financing Initiative (HFFI)[16] which takes empty, unused or abandoned lots and repurposes them as community food gardens, urban agriculture projects or even farmer's market locations. The use of zoning regulations to improve food access has been implemented at every level including rural, suburban and dense urban environments.

Transportation: There are several ways that transportation initiatives can improve access to healthy food. Most importantly, as many low-income residents may not have access to a vehicle, public transportation can be extremely useful in bridging the gap. Expanding routes to focus on low-income neighborhoods and linking them to supermarkets and grocery stores can be a powerful tool for health, especially if local residents are made aware of transportation options. Additionally, discounts can be provided for SNAP registered users or other low-income commuters.

Educational Change

Food access policies, programs, initiatives and regulations are vast and can be adopted in a variety of ways; however, it is critical that any intervention is paired with an appropriate educational component. This will commonly include classes on health and nutrition, such as cooking, eating healthy on a budget, or learning to use farmer's markets and Community Supported Agriculture (CSA). Much of the focus of these efforts should be directed at family and child health, as nearly half of children are Supplemental Nutrition Assistance Program (SNAP) participants at some point throughout their childhood.[17] This might mean addressing mothers' concerns about their child's lack of willingness to consume fruits or vegetables or helping families on a budget learn to prepare food that they can enjoy together.

Role of Community Members

Establishing a balance of food availability and adequate nutrition is a complex issue, and is not an issue that can be solved by any one organization.

While individuals make their own nutritional choices, they make these choices within the context of the built environment. Policymakers, business leaders and other organizations need to come together in a coordinated effort to make it easier for residents, particularly those suffering most from obesity and related health problems, to make healthy choices.

Local solutions come about through local action. Community health is everyone's business, and community partners can become agents of change, ensuring access to healthy foods for all residents, regardless of age, income level or disability status.

Multi-sector partners may include individuals who represent the following:

- City Planners
- Community Development
- Economic Development
- Parks & Recreation
- Farmers
- Gardeners
- Public Health
- Transit Authority
- Elected Officials
- Churches

- Health Care
- Social Services
- Community Coalitions
- Planning and Zoning Boards
- Food Banks/Food Distribution
- Food Retailers
- Farmers Markets
- School, Business and Community Leaders
- Residents of all ages and backgrounds impacted by access to healthy foods

Everyone has a role in building a healthy community to support access to healthy foods. Local actions can support quality of life as well as create a stronger community. Community partners can play various roles in the process:

- Elected officials have the ability to provide leadership, make funding decisions and implement policy changes.

- City planners and engineers work with land and permits for community gardens and farmers markets, as well as zoning regulations for food retail outlets. They also work with the built environment, including streets and sidewalks that impact residents' ability to use various modes of transportation to access healthy foods.

- Public health professionals can work with planners and other land-use professionals to provide strong public health arguments needed to support "smart-growth" designs and initiatives.

- School officials work within federal guidelines for meals served at schools, but they can also impact policies for healthy concession stands at extra-curricular events, fundraisers that sell food that meet or exceed the USDA Smart Snack standards and implementation of policies for healthy foods at school staff meetings.

- Coalitions and advisory groups can convene partners to consider health impacts when making decisions related to the built environment. These groups can include farmers, gardeners and retailers.

- Business leaders can adopt policies and programs that promote healthy meetings, healthy vending and healthy options for snack bars and cafeterias.

It is important to identify partners from all areas of the community, including worksites, healthcare, schools and communities who impact – or may be impacted by – the built environment. Community collaboration can influence both public health policy and other public policy on these issues in order for positive changes to take place that will improve and sustain the health and quality of life for all residents.

References

1. National Center for Environmental Health. (2014, January 23). About Healthy Places. Retrieved May 1, 2015 from http://www.cdc.gov/healthyplaces/default.htm.

2. National Center for Environmental Health, Division of Emergency and Environmental Health Services. (June 2011) Impact of the Built Environment on Health. Retrieved May 2015 from http://www.cdc.gov/nceh/publications/factsheets/impactofthebuiltenvironmentonhealth.pdf.

3. Prevention Institute. (2008). Strategies for Enhancing the Built Environment to Support Healthy Eating and Active Living. Retrieved May 2015 from http://www.preventioninstitute.org/component/jlibrary/article/id-60/127.html.

4. Policy Link. (January, 2001) Equitable Development Toolkit: Access to Healthy Food. Retrieved May 2015 from http://www.policylink.org/sites/default/files/access-to-healthy-food.pdf.

5. Beth, J., Mora, G., Haga, E., Rubin, V. & Karpyn, A. (2013). Access to Healthy Food and Why It Matters: A Review of the Research. Policy Link. Retrieved May 2015 from http://thefoodtrust.org/uploads/media_items/access-to-healthy-food.original.pdf.

6. Jacobson, E., O'Hanlon, J. & Clark, A. (2011, October). Access to Healthy Foods in the Built Environment. Institute for Public Administration, Issue Brief 2. Retrieved from http://www.ipa.udel.edu/publications/HealthPolicyIssueBrief3.pdf.

7. Sallis, J. and Glanz, K. (Spring 2006). The Role of Built Environments in Physical Activity, Eating, and Obesity in Childhood. Childhood Obesity. Retrieved May 2015 from http://files.eric.ed.gov/fulltext/EJ795891.pdf.

8. United States Department of Agriculture. Food Deserts. Retrieved May 2015 from http://apps.ams.usda.gov/fooddeserts/fooddeserts.aspx.

9. Dinour, L., Bergen, D., & Yeh, M. (2007). The Food Insecurity -Obesity Paradox: A Review of the Literature and the Role Food Stamps May Play. Journal of the American Dietetic Association, 107(11), 1952-61. Retrieved May 1, 2015, from http://www.andjrnl.org/article/S0002-8223(07)01616-1/pdf.

10. Larson, N., Story, M., & Nelson, M. (2009). Neighborhood Environments: Disparities in Access to Healthy Foods in the US. American Journal of Preventive Medicine, 36(1), 74-81. Retrieved May 1, 2015, from http://www.ajpmonline.org/article/S0749-3797(08)00838-6/pdf.

11. Nutrition, Physical Activity and Obesity Data, Trends and Maps website. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), National Center for Chronic Disease Prevention and Health Promotion, Division of Nutrition, Physical Activity and Obesity, Atlanta, GA, 2015. Available at http://www.cdc.gov/nccdphp/DNPAO/index.html.

12. American Community Survey. (n.d.). Retrieved May 1, 2015, from http://www.census.gov/programs-surveys/acs/.

13. Aakre, S. (2013, March 2). SDSU Received USDA Grant to Create Model to Fight Hunger in Rural Food Deserts. Retrieved May 1, 2015, from http://americanagnetwork.com/2013/03/sdsu-received-usda-grant-to-create-model-to-fight-hunger-in-rural-food-deserts/.

14. Economic Research Service (ERS), U.S. Department of Agriculture (USDA). Food Access Research Atlas. Retrieved May 1, 2015 from http://www.ers.usda.gov/data-products/food-access-research-atlas.aspx.

15. Economic Research Service (ERS), U.S. Department of Agriculture (USDA). Community Food Security Assessment Toolkit. Retrieved May 2015 from http://www.ers.usda.gov/media/327699/efan02013_1_.pdf.

16. U.S. Department of Health and Human Services, Office of Community Services. (n.d.) Healthy Food Financing Initiative. Retrieved May 2015 from http://www.acf.hhs.gov/programs/ocs/programs/community-economic-development/healthy-food-financing.

17. Rank, M. and Hirschl, T. (2009). Estimating the Risk of Food Stamp Use and Impoverishment During Childhood. Arch Pediatr Adolesc Med, 163(11), 994-999. Retrieved May 2015 from http://archpedi.jamanetwork.com/article.aspx?articleid=382364.

Figure References

Figures 1 & 3: Economic Research Service (ERS), U.S. Department of Agriculture (USDA). Food Environment Atlas. http://www.ers.usda.gov/data-products/food-environment-atlas.aspx.

Figure 2: American Community Survey. (n.d.). Retrieved May 1, 2015, from http://www.census.gov/programs-surveys/acs/.

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