

Access to Healthy Foods in the Built Environment

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*Access to healthy foods is key to a nutritious diet and good health, yet 25 to 30 million Americans—about 9 percent of the total U.S. population—live with limited access to supermarkets or grocery stores.*¹ The Centers for Disease Control and Prevention (CDC), Institute of Medicine (IOM), and American Heart Association (AHA), among other national agencies, have recognized increasing access to healthy foods as a necessary strategy to reduce obesity and improve the public's health.*

* Includes supermarkets, supercenters, and grocery stores

Limited Access to Healthy Food and Obesity

Research shows that lack of access to healthy foods is a major contributor to the country's growing obesity epidemic and only further emphasizes the importance of accessibility to healthy food options. The CDC defines "overweight" and "obese" with a range of body mass indexes (BMIs); an adult who has a BMI between 25 and 29.9 is considered overweight, and an adult who has a BMI of 30 or higher is considered obese.²

For decades, millions of Americans—especially those living in low-income communities, communities of color, and rural communities—have seen grocery stores and fresh, affordable food disappear from their neighborhoods. These communities often have a greater prevalence of fast food restaurants and convenience stores, which offer a limited variety of food, most specializing in highly processed foods high in fat, salt, and sugar.

Based on obesity rate, Delaware ranked thirty-first in the nation in 2012. In the same

year, 66 percent of adults in Delaware were either overweight or obese.³ Rates were higher among minorities; 69.5 percent of African Americans and 68.3 percent of Hispanics were overweight or obese, compared to just 65.3 percent of whites.³ In 2011, 40 percent of Delaware children ages 2–17 were either overweight or obese.⁴ As with adults, obesity rates in minority children were higher than their white peers.⁴

Obesity has become one of the biggest threats to public health. Currently, every state has an obesity rate over 20 percent. In 1991, no state was above 20 percent.⁵ In 1980, no state was above 15 percent.⁵ The greatest challenge in fighting obesity is the complexity of the disease. Obesity is often tied to a combination of environmental, behavioral, and genetic components; therefore, there is no one intervention appropriate for all people.

Quite simply, quality is more important than quantity. It may be counterintuitive to think that lack of access to food is related to obesity. Yet populations without access to fresh, healthy foods often rely on inexpensive, high calorie, energy-dense options that lead to excess weight gain.

The Role of Food Deserts

While there are many ways to classify a food desert, the U.S. Department of Agriculture (USDA), U.S. Department of the Treasury, and U.S. Department of Health and Human Services (HHS) have defined a food desert as an area (i.e., census tract[†]) that is substantially low-income[‡] and has limited access to a grocery store or other healthy, affordable retail food outlet.

Food deserts are calculated using three additional variables: type of access, level of access (severity), and distance. The USDA recommends using distances of a half-mile or one mile in urban areas and 10 or 20 miles in rural areas to define a food desert. We consider areas outside the 10-mile boundary to be food deserts in Delaware.⁶ For example, if 33 percent of an urban census tract must walk more than a mile the area is considered “low access.” Likewise, if at least 33 percent of people in a rural census tract have to drive more than 10 miles to a grocery store, they are living in a lower-access area. Descriptions for these three variables are provided below:

Walking Access

Level of Access	Distance from Supermarket
High	within 1/2 mile
Medium	between 1/2 and 1 mile
Low	more than 1 mile

Driving Access

Level of Access	Distance from Supermarket
High	within 10 mile
Medium	between 10 and 20 mile
Low	more than 20 mile

[†] Census track is defined as an area representing a geographic region for the purpose of taking a census.

[‡] The USDA defines low-income communities as a community with a poverty rate of 20 percent or greater, or the median family income being at or below 80 percent of the area’s median family income.

In 2009, 23.5 million Americans lacked access to a supermarket within one mile of their home. An additional 3.4 million households lived less than one mile away from a supermarket but were still limited by vehicle accessibility.⁷

Nationally, 49 million people are at risk for hunger and 17 million children live in households that have run short on food in the past year.⁸ One nationwide study found that zip codes comprising lower-income households have 25 percent fewer supermarkets than zip codes comprising higher-income households.⁹ The study also found that African-American populations had half as much access to chain supermarkets as whites, controlling for other factors.⁹ An additional longitudinal study comparing the changes in food availability in 1997 versus 2008 showed that lower-income and predominantly African-American neighborhoods had the smallest growth in overall access to food stores and the largest decrease in the number of grocery stores since 1997.¹⁰

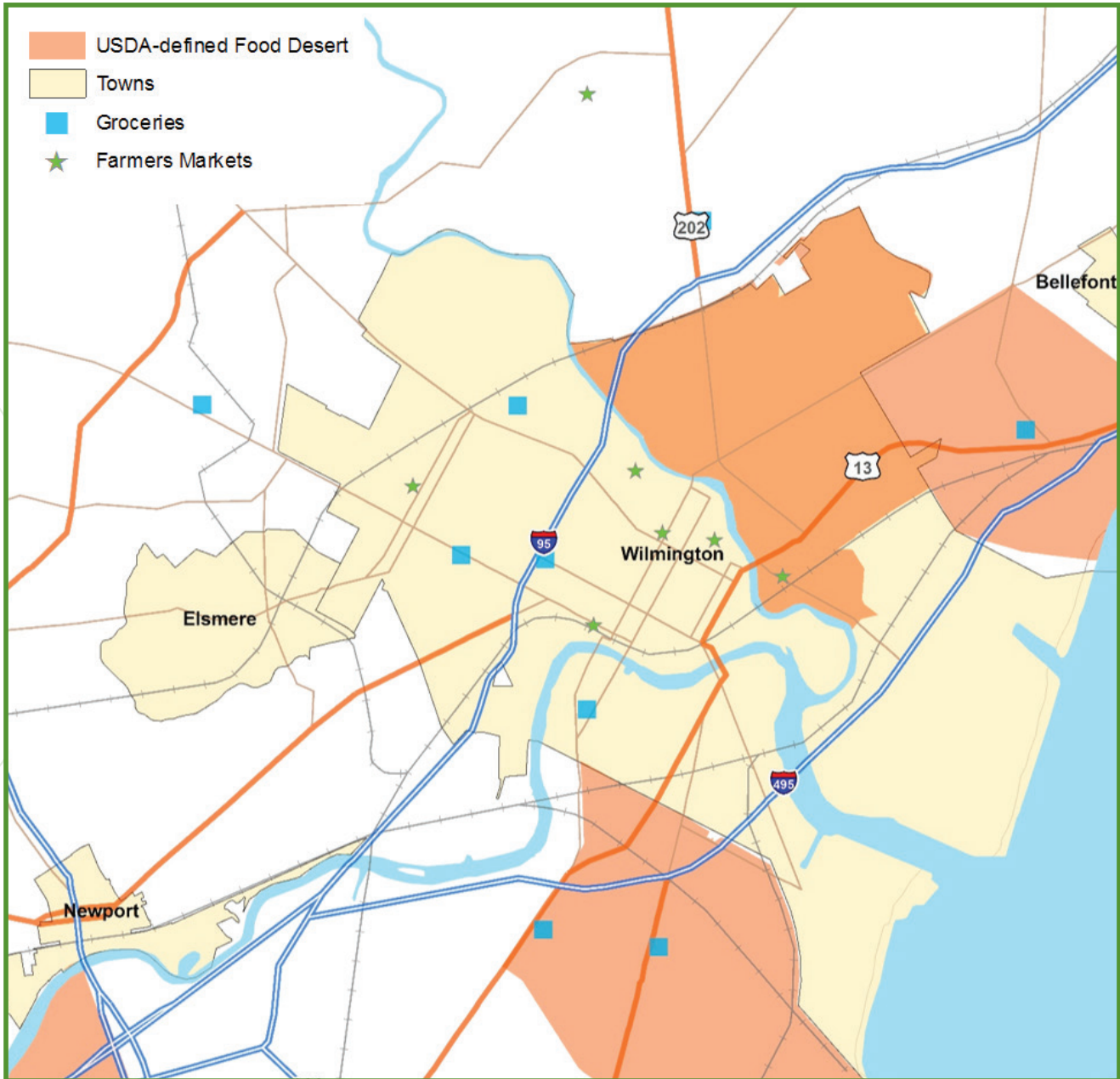
Food access is not limited only to geographic factors, reflected in the USDA’s use of neighborhood and individual factors in determining food access. Additional factors that play a role are ability to pay for and the affordability of healthy foods; having the necessary skills and equipment to make healthy meals; and having the free time to shop for and prepare healthy meals. To increase healthy eating, it is not only necessary to increase and improve supply, but also to increase demand of healthy foods via promotion and education.

Promising Approaches to Increase Healthy Food Access

Given that research shows a positive relationship between the number of grocery stores located in a community and the consumption of fruits and vegetables, it is important to identify appropriate policies that increase healthy food access. A 2010 multistate study of 10,230 adults living in 208 urban, suburban, and rural census tracts showed that for every additional supermarket located in the census tract, consumption of fruit and vegetables rose 32 percent among African Americans and 11 percent among whites.¹¹

Successful programs designed to address limited access to affordable and nutritious foods require involvement at the local, state, and federal levels and focus on using

Food Deserts in New Castle County, Delaware



a cross-sector approach. Some successful solutions include streamlining the development processes for potential grocery stores; offering technical assistance to enable corner stores to stock healthy food options; introducing farmers markets and community gardens to urban areas; expanding food assistance policies; and using alternative land use and transportation planning approaches to effectively reduce access problems in the built environment.

Additionally, access to healthy food has a significant impact on the local economy. Grocery stores benefit local economies by supplying jobs in food retail. The economic potential of just one store is immense: an estimated 24 new jobs are created for every 10,000 square feet of retail grocery space created.¹ The average store ranges from 20,000 to 50,000 square feet, meaning one new store can generate between 48 and 120 new, local jobs.¹² Additionally, grocery stores act as “economic

anchors” drawing in foot traffic to support additional retailers like banks, restaurants, and pharmacies.¹²

However, simply introducing a new supermarket or grocery store may not be enough to change a community’s dietary habits. One study found that after a grocery store was introduced to a Philadelphia community with low food access, only 26 percent of respondents had made the store their primary food retailer after six months.¹³ This study demonstrates that simply introducing a food retailer to a community is not a guarantee of use; food access initiatives that include nutrition education and marketing campaigns are vital to success.

Effective local programs, such as the Healthy Corner Stores Initiative implemented by The Food Trust and the Healthy Bodegas Initiative implemented by the New York City Health Department, provide evidence that well-targeted financial and technical assistance can help businesses provide better options within communities with limited access to healthy foods. For example, 660 participating stores in Philadelphia are now stocked to sell whole grain and low-fat dairy products, items that would have been less accessible otherwise.¹⁴ These investments not only improve food options but also can create jobs and help revitalize distressed communities.

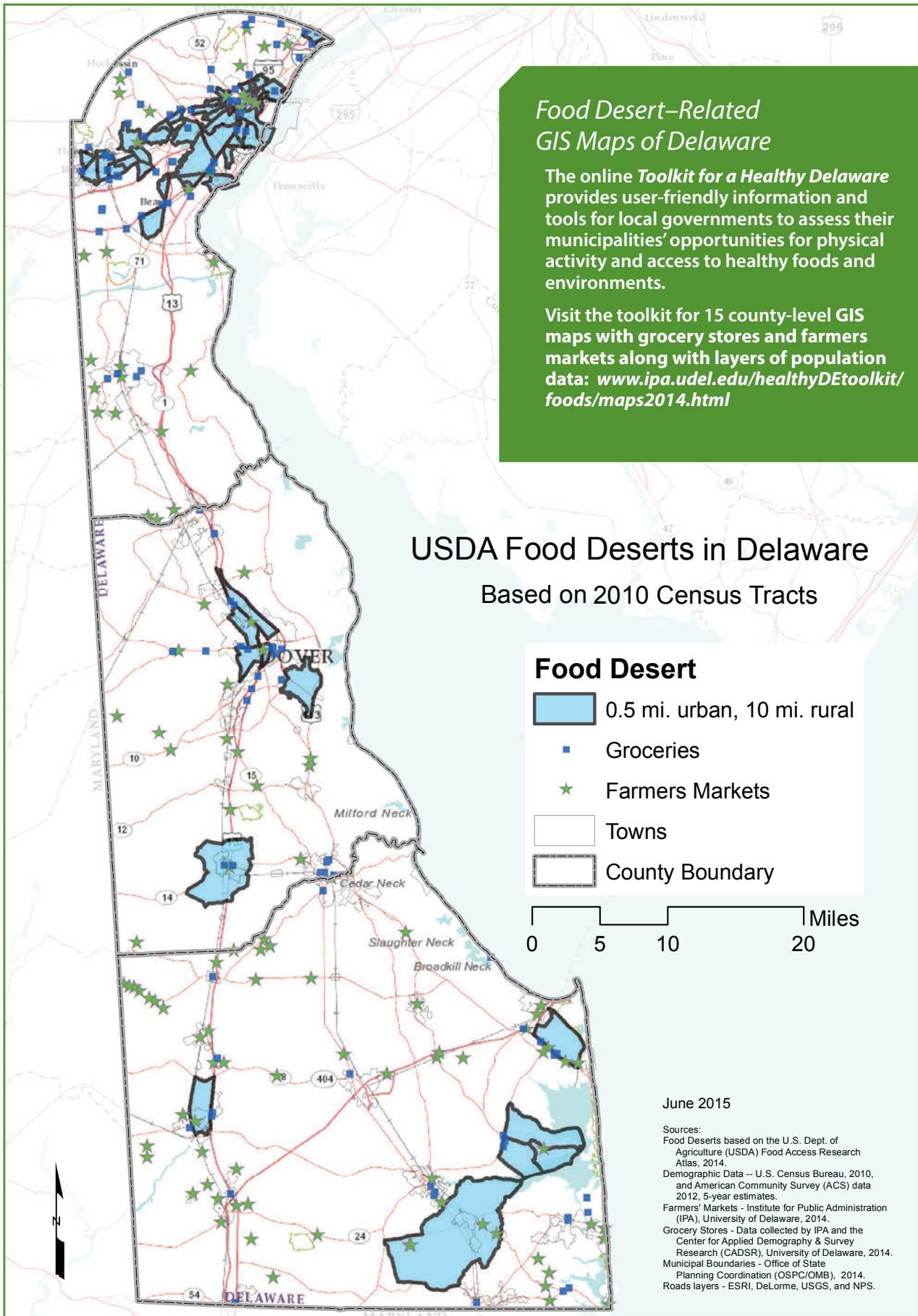
Healthy Food Availability in Delaware

Although the Delaware Department of Agriculture (DDA) reports that the state ranks first in the country in agricultural production value per farm and per acre, Delaware’s communities reflect food access issues similar to the rest of the country. Of the 215 census tracts in Delaware, 142 census tracts (containing 61 percent of the population) lack a grocery store.¹⁵ An additional 56 census tracts (containing approximately 27 percent of the population) have only one grocery store.¹⁵ In 2013, Delaware was ranked sixth in the nation in the percentage of census tracts with access to at least one healthy food retailer within a half mile of the census tract boundary.¹⁶ On a per-capita basis, Delaware ranked twenty-first in the nation for the number of farmers markets, with an average of 3.5 farmers markets per 100,000 people.¹⁶

Farmers markets can be an integral part of a strategy for improving access to healthy foods because they allow consumers to have access to locally grown, farm-fresh produce while enabling farmers the opportunity to develop a personal relationship with their customers and to establish local markets outside traditional

Delaware Farmers Market Sales 2007–2014, in Thousands of Dollars¹⁷





Food Desert-Related GIS Maps of Delaware

The online *Toolkit for a Healthy Delaware* provides user-friendly information and tools for local governments to assess their municipalities' opportunities for physical activity and access to healthy foods and environments.

Visit the toolkit for 15 county-level GIS maps with grocery stores and farmers markets along with layers of population data: www.ipa.udel.edu/healthyDEtoolkit/foods/maps2014.html

USDA Food Deserts in Delaware
 Based on 2010 Census Tracts

supply chains. The free Delaware Fresh app, developed by the DDA and the state's Government Information Center, provides users with market locations, contact information, and a description of available produce.

In Delaware, 2014 marked a historic year for farmers markets. The season produced a record \$2.6 million in sales—a revenue double what was earned only five years ago.¹⁷ Governor Jack Markell stated in a press release, “This record-setting season is a reflection of Delaware’s thriving local food movement.” The Governor also emphasized, “Farmers markets help strengthen our neighborhoods and increase economic opportunity.”¹⁷

In Delaware, there are nine farmers markets that accept Electronic Benefit Transfers (EBT) as a form of payment for fresh produce.¹⁷ The EBT, or Delaware First card, allows customers to purchase food with their Supplemental Nutrition Assistance Program (SNAP) benefits. Over 154,000 Delawareans rely on the SNAP program to purchase their food, making it crucial that farmers markets accept EBT as a form of payment.¹⁸ Otherwise, those using SNAP benefits to buy food are forced to go to alternate food outlets where EBT is accepted. As discussed earlier, these establishments do not always supply healthy food options. In 2014, EBT transactions accounted for \$5,902 of farmers market sales. With several farmers markets planning to accept EBT in 2015 sales are expected to increase.¹⁷

The Food Bank of Delaware has played a large role in improving food access throughout the state. With a Community Food Projects grant from the USDA, they have developed a Community Supported Agriculture Program (CSA) that provides local produce at a discounted rate to low-income individuals and families receiving food assistance. The program is expected to allow 100–200 low-income families access to healthy, local foods while at the same time increasing the revenues of two local farms.¹⁹ Participants pay a \$10 deposit and then receive a weekly share of fresh produce. In addition to the 10–15 pounds of local fruits and vegetables, participants also received \$5–\$10 per week in “market tokens” to be spent at local farmers markets and access to cooking demonstrations.¹⁹ The Food Bank of Delaware seeks to expand the program to new locations.

Additionally, the Food Bank runs a number of nutrition education programs to enable both children and adults to make healthier choices and to improve their food

preparation skills. The Food Bank runs a Backpack Program in which school-age children can qualify to receive a backpack full of nutritious food for weekends and holidays. Nearly 5,000 children participate in the program each week and are able to pick up their food at community centers, churches, and childcare centers after school.²⁰

In May 2011 a forum organized by the Delaware Coalition for Healthy Eating and Active Living (DE HEAL), Delaware Division of Public Health, Delaware Chapter of the American Planning Association, and the University of Delaware’s Institute for Public Administration, convened various stakeholders to address healthy eating habits. During the forum, agencies, organizations, and community leaders discussed innovative, sustainable policy options that can lead to a healthier Delaware.

In 2014, the Centers for Disease Control and Prevention funded the New Castle County Partnerships to Improve Community Health. This new initiative aims to help make healthy choices easier by establishing additional resources to enhance community environments. The partnership focuses on the City of Wilmington and the contiguous communities of New Castle and Bear/Glasgow. Nemours, DE HEAL, Westside Grows Together, Eastside Rising, South Wilmington Planning Network and New Castle County Government are working together to enhance and/or create new opportunities to increase access to healthy eating and physical activity. Strategies for improving healthy food access include introducing or expanding farmers markets and implementing healthy corner stores.

Toolkit for a Healthy Delaware

Information and resources related to access to healthy foods in Delaware are located in the online *Toolkit for a Healthy Delaware* (www.ipa.udel.edu/healthyDEtoolkit), including:

- > **GIS maps with grocery stores and farmers markets along with layers of population data to illustrate the complexity of the issue;**
- > **Information on transportation, land use, and economic development initiatives underway in other states; and**
- > **Additional resources to help provide a greater understanding of the issue.**

Summary

While the United States boasts one of the most abundant food supplies in the world, disparities in access, affordability, and quality of healthy foods have continued to plague communities across the country. Millions of Americans are living without access to healthy foods, and the alarming rates of obesity and diet-related diseases continue to increase. Nevertheless, many promising practices and policies implemented within diverse communities demonstrate that the challenges to increasing access to healthy foods in underserved communities can be resolved.

Continued research on the issue will encourage local, state, and national attention and allow policymakers, community leaders, and advocates to explore solutions that address the role that access to healthy foods plays in promoting healthy economies, healthy communities, and healthy people.

Other Resources

- > The USDA Food Access Research Atlas provides users a geographic overview of food deserts. www.ers.usda.gov/data-products/food-access-research-atlas.aspx
 - > Based in Philadelphia, The Food Trust is a nonprofit working to address food issues. <http://thefoodtrust.org/>
 - > The Healthy Food Access portal provides research, data, and other resources to support programs in eliminating disparities in food access. <http://healthyfoodaccess.org/>
 - > The Reinvestment Fund is a policy firm conducting analysis on food access. www.trfund.com/policy/public-policy/food-access/
 - > Philabundance is a nonprofit organization serving those with lack of food access in the Delaware Valley area. www.philabundance.org/
 - > Use the "Buy Local Guide" to find farmers markets in your area. <http://dda.delaware.gov/marketing/FarmersMarketsGuide.shtml>
 - > Learn about the Food Bank of Delaware's new programs. www.fbd.org/
 - > The Delaware Urban Farm Coalition works on increasing healthy food access through urban farming. www.facebook.com/DelawareUrbanFarmCoalition/info?tab=page_info
- > Local Harvest is a nationwide database that provides residents with information on CSAs and farmers markets in their area. www.localharvest.org/search.jsp?jmp&scale=9&lat=39.5645&lon=-75.597&ty=6

Sources

1. Bell, J., Hagan, E., Karpyn, A., Mora, G., Rubin, V. (2013). Access to Healthy Food and Why it Matters: A Review of the Research. PolicyLink Retrieved December 5, 2014, from http://thefoodtrust.org/uploads/media_items/access-to-healthy-food.original.pdf
2. Centers for Disease Control And Prevention (n.d.). Defining Overweight and Obesity. Retrieved December 5, 2014, from www.cdc.gov/obesity/adult/defining.html
3. The Kaiser Family Foundation State Health Facts. Data Source: Center for Disease Control and Prevention (CDC)'s Behavioral Risk Factor Surveillance System (BRFSS) 2012 Survey Results. Retrieved December 5, 2014, from <http://kff.org/other/state-indicator/adult-overweightobesity-rate-by-re/>
4. Nemours Health & Prevention Services. (2013) Delaware Survey of Children's Health: Childhood Overweight and Obesity in Delaware. Retrieved December 1, 2014, from www.nemours.org/content/dam/nemours/wwwv2/filebox/about/dsch-obesity-data-brief.pdf
5. Lang, A., Levi, J., Rayburn, J., Segal, L., St. Laurent, R., Thomas, K. (August 2013). F as in Fat. Robert Wood Johnson Foundation. Retrieved December 5, 2014, from www.rwjf.org/content/dam/farm/reports/reports/2013/rwjf407528
6. Economic Research Service (ERS), U.S. Department of Agriculture (USDA). Food Access Research Atlas, www.ers.usda.gov/data-products/food-access-research-atlas.aspx.
7. United States Department of Agriculture. (June 2009). Access to Affordable and Nutritious Food: Measuring and Understanding Food Deserts and Their Consequences. [Report to Congress]. Washington, D.C.: Author. Retrieved November 18, 2010 from www.ers.usda.gov/Publications/AP/AP036/
8. Hidden Epidemic. (n.d.). In Greater Philadelphia Coalition Against Hunger. Retrieved March 3, 2014, from www.hungercoalition.org/hidden-epidemic-single-page

9. Flournoy, R. (2010). Healthy Food, Healthy Communities: Promising Strategies to Improve Access to Fresh, Healthy Food and Transform Communities. CA: PolicyLink. Retrieved November 18, 2010, from www.policylink.org/atf/cf/%7B97c6d565-bb43-406d-a6d5-eca3bbf35af0%7D/HFHC_SHORT_FINAL.PDF
10. Whitacre, P., Tsai, P. & Mulligan, J. (2009) The Public Health Effects of Food Deserts [Workshop Summary] Washington, D.C.: The National Academies Press. Retrieved January 4, 2011 from www.nap.edu/catalog/12623.html
11. Treahaft, S. & Karpyn, A. (2010). The Grocery Gap: Who Has Access to Healthy Food and Why It Matters. [Report]. CA: PolicyLink & The Food Trust. Retrieved July 14, 2015 from http://thefoodtrust.org/uploads/media_items/grocerygap.original.pdf
12. Hagan, E., Rubin, V. (2013). Economic and Community Development Outcomes of Healthy Food Retail. PolicyLink. Retrieved December 5, 2014, from www.rwjf.org/content/dam/farm/reports/reports/2013/rwjf406490
13. Cummings, S., Flint, E., & Matthews, S. A. (2014, February 24). New neighborhood grocery store increased awareness of food access but did not alter dietary habits or obesity. *Health Affairs*, 33(2), 283-291. doi:10.1377/hlthaff.2013.0512
14. Almaguer Sandoval B., Law Y., and Young C. (2014). Healthier Corner Stores: Positive Impacts and Profitable Changes. The Food Trust. Retrieved December 5, 2014, from http://thefoodtrust.org/uploads/media_items/healthier-corner-stores-positive-impacts-and-profitable-changes.original.pdf
15. Jacobson, E., O'Hanlon, J., Clark, A. (October 2011). Access to Healthy Foods in the Built Environment. Institute for Public Administration. Retrieved December 5, 2014, from www.ipa.udel.edu/publications/HealthPolicyIssueBrief3.pdf
16. Centers for Disease Control and Prevention. (2013) State Indicator Report on Fruits and Vegetables, Retrieved January 15, 2015, from, <http://www.cdc.gov/nutrition/downloads/State-Indicator-Report-Fruits-Vegetables-2013.pdf>
17. State of Delaware (December 26, 2014). Delaware farmers' market sales double in five years; \$2.6 million season sets new record. Retrieved January 15, 2015, from <http://news.delaware.gov/2014/12/26/delaware-farmers-market-sales-double-in-five-years-2-6-million-season-sets-new-record/>
18. Landgraf, R. (November 26, 2013) Fiscal Year 2015 Budget Hearing. Delaware Department of Health and Social Services. Retrieved December 5, 2014, from http://dhss.delaware.gov/dhss/admin/files/finalbudgethearing_fy15.pdf
19. Casini, A. (November 19, 2012). Making Farm Fresh Affordable. UDaily. Retrieved December 8, 2014 from, www.udel.edu/udaily/2013/nov/farm-fresh-foods-111912.html
20. Food Bank of Delaware. (n.d.). Backpack Program. Retrieved December 5, 2014, from www.fbd.org/program/childrens-nutrition-program/backpack-program/



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