



Prescription Produce

An Opportunity Assessment for FairShare CSA
Coalition to Integrate Community-Supported
Agriculture into Healthcare Clinics in Wisconsin

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Professional Project Report

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Executive Summary

This research intends to help determine if there are opportunities for subsidized community-supported agriculture (CSA) produce incentive programs to be implemented by FairShare CSA Coalition (FairShare) member farms in Wisconsin. Farms within the coalition are facing increasing costs to farm, and cost subsidy programs have been shown to provide a large increase in CSA demand. This report seeks to gather positive health behavior outcomes associated with CSA and link mitigated diet-related health costs to increases in fruit and vegetable intake. A mixed methods approach was used to synthesize the literature, document produce incentive program best-practices, and identify high-need areas across Wisconsin.

Overall, utilizing CSA and implementing prescription produce programs in a healthcare setting can improve health behavior outcomes for patients managing diet-related illness and facing limited access to healthy food. The cost of a CSA share has been shown to be more than offset by the benefits reaped from reduced health claims, improved patient-provider care relationships, and increased wellness vitality for participating households. Particularly in Southwest Wisconsin, FairShare farms are in close proximity to socially disadvantaged areas reporting poor health. This research urges FairShare and farms within the coalition to build partnerships with healthcare providers and expand subsidized CSA programs to include prescription produce.

Background

CSA Programs at FairShare

FairShare CSA Coalition (FairShare) is a non-profit coalition of over 40 small, organic farms that provides farmer education workshops and conducts outreach to connect individuals with local food. Farms in the coalition offer varying community-supported agriculture (CSA) subscription options based on a general cycle of receiving up-front payment from households in exchange for delivered produce throughout the May to October harvesting season. The CSA model has undergone change in recent years, experiencing market growth, stagnation, and decline within a relatively short time spanⁱ. Cost has been found to be a major driver in long-term CSA participationⁱⁱ, and farms within FairShare's coalition have reported increasing CSA costs due to uncontrollable factors such as tight labor markets and difficult growing conditions rising from climate change.

Currently, FairShare administers a subsidized CSA program, Partner Shares, that focuses on providing food access for limited-income households, covering 50% of CSA costs (up to \$300) for qualifying households based on a 185% federal poverty income level scale. The Partner Shares program also offers custom payment plans for participants, accepting food voucher (SNAP/EBT) credit. In 2019, over 180 households participated in the Partner Shares program, amounting to over \$40,000 of distributed funds and \$90,000 of farm-generated revenue.

A Snapshot of Partner Shares Participants

- ❖ The program has served more than **2,000 recipients** over the past 22 years
- ❖ **28%** of participants **utilized SNAP** benefits to pay for their CSA shares in 2019
- ❖ Between 2018 and 2019, the program experienced a peak participation **retention rate** of 66%
- ❖ The majority of participants are **Caucasian (80%)** and identify as **female (90%)**
- ❖ **82 farms** have served members through the program since its inception in 1998

Partner Shares Participants Across Wisconsin Counties 1998 - 2019

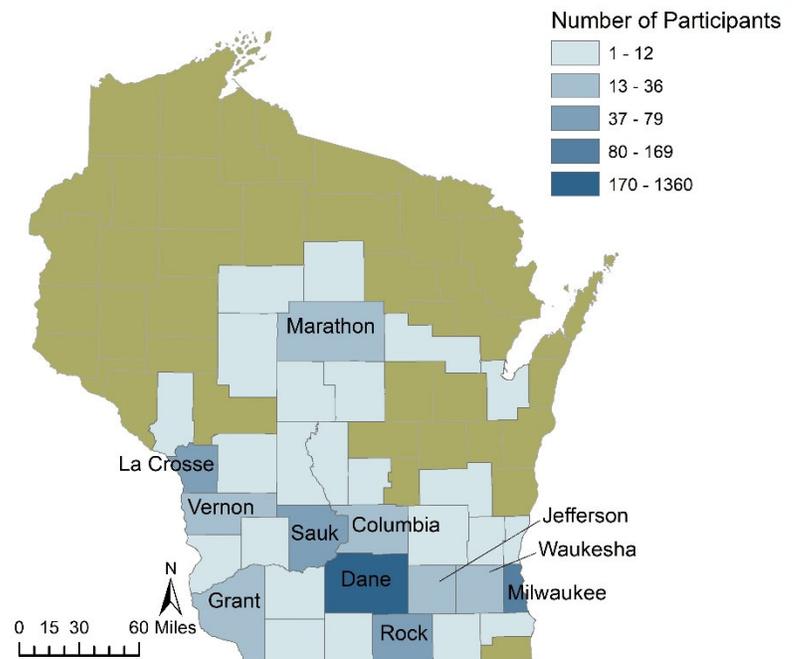


Figure 1. Partner Shares Program Participants Between 1998 - 2019 in Wisconsin. Map: Created by Author. Source Data: FairShare CSA Coalition

FairShare has also had success partnering with health maintenance organizations (HMO) to provide CSA rebates for insureds (regardless of income level) as part of wellness programsⁱⁱⁱ. The first pilot HMO rebate program was launched in 2005, providing \$200-family and \$100-individual CSA rebates; by 2011, all four HMO health insurers in Madison, WI, were participating in the program and 7,300 HMO rebates were distributed to participants. During this time, farms were selling out CSA shares and attributing the demand to these insurer rebate programs. Only one insurer continues to provide the CSA cash-incentive rebate program today, with 1,200 enrollments in 2019.

A nationwide United States Department of Agriculture (USDA) survey of CSA farm managers found that 14% of farms were participating in limited-income CSA voucher programs (like Partner Shares) and over 35% of farms not currently participating in such a program reported being 'very interested' in doing so^{iv}. Only 6% of farms reported participating in a CSA health and wellness voucher program (like the HMO rebate) but 45% of farms responded they would be 'very interested' in such a program. If adopted, a prescription produce program would combine attributes of both the Partner Shares and HMO wellness programs, targeting limited-income individuals with low food access by partnering with healthcare institutions to enroll participants and provide cost subsidies.

An Overview of Prescription Produce

Prescription produce programs empower healthcare providers as key stakeholders in the effort towards increasing fruit and vegetable consumption and decreasing the prevalence of diet-related diseases in their patient communities. In the program, healthcare providers screen patients with diet-related illness for food insecurity^v and share information with patients about the option to receive produce as a way to help manage illness. Most prescription produce programs function through a

voucher system, where healthcare providers distribute redeemable coupons to patients. Figure 2 provides a sample flow diagram of how prescription programs work.

Pairing healthcare and food choices can be a strong verbal message for patients^{vi,vii}. Follow-up interviews with prescription produce participants have reported positive social and care-based interactions, and that patients feel a sense of worthiness after being a part of the program^{viii}.



Figure 2. An Example Prescription Produce Program. Source: Wholesome Wave

Cost is a Barrier for Produce Access

Reducing the cost of produce has been identified as a major strategy to improve access to fruits and vegetables by the Wisconsin Department of Health Services^{ix}. Studies have shown that limited-income households have consumer-demand for fruits and vegetables^x but are unable to afford them due to their cost relative to other food prices^{xi}. A study found that when the cost of fruits and vegetables was decreased by 25%, participants purchased higher volumes of fruits and vegetables and purchased less unhealthy food as a proportion of total household food cost (p-value 0.0006)^{xii}. Researchers have found both fruits and vegetables are price elastic^{xiii}; fruit has an elasticity of 0.7 (95% CI 0.41 - 0.98) and vegetables have a price elasticity of 0.58 (95% CI 0.44-0.71). These values would imply that a 50% decrease of price would lead to a 35% increase of fruit purchases and a 29% increase of vegetable purchases.

In 2012, the USDA ran a produce-incentive pilot program that credited all Supplemental Nutrition Assistance Program (SNAP) participants with additional money when participants used their SNAP cards to purchase fruits and vegetables. The study found that produce consumption increased by

25%, and 95% of participants responded they would continue in the program if given the choice^{xiv}. In response to the success of the pilot study, the USDA awarded \$31.5 million dollars in 2015 for grants promoting the consumption of fruits and vegetables for SNAP participants^{xv}. Programs like these that subsidize the cost of produce are becoming more common today.

Methods

A mixed method research approach was used to determine if prescription produce could be a foreseeable opportunity for FairShare and farms within the coalition to pursue. First, a comprehensive review of literature was completed to ascertain health outcomes and overall cost-savings components of subsidized CSA subscriptions. Next, qualitative interviews were conducted with prescription produce field experts, including farmers, healthcare providers, nonprofits and researchers. Lastly, quantitative data was gathered from census surveys and health tracking databases to locate farms near poor health areas in Wisconsin. These steps align with Wisconsin's 'Got Access' tool for understanding community access to fruits and vegetables^{xvi}.

Health Outcomes of CSA Participation

CSA is part of the Center for Disease Control and Prevention's (CDC) strategy framework for obesity and chronic disease prevention^{xvii}, and has been shown to increase fruit and vegetable consumption in the home, especially for limited-income households^{xviii}. Studies have shown that CSAs increase diet quality for overweight participants (p-value 0.03) and reduce food insecurity (p-value 0.03)^{xix}. Similar studies have reported weight loss (p-value 0.01), a reduction of body fat percentage (p-value 0.01) and a higher self-reported quality of life (p-value 0.03) as outcomes of CSA participation for limited-income households^{xx}.

While many of these intervention-based studies report positive health outcomes, the benefits are incremental (a no-change outcome is statistically significant) and study sample groups report a disproportionate number of older, higher-educated women participants^{xxi}. It has also been found that individuals participating in subsidized CSA programs are self-selecting and already have healthy eating habits^{xxii}. Therefore, sited study health outcomes may disproportionately reflect benefits to these segments of the population rather than the broader set of limited-income households suffering from diet-related illness.

Duration is also a limitation of these studies since measures are commonly taken before and after a CSA season, approximately 6 months, and only focus on adult health outcomes. A current four-year longitudinal study is underway researching if CSAs are a cost-efficient way to improve childhood health in limited-income households^{xxiii}. This study will be a novel approach to further learn how produce incentive programs can alter long-term diet habits and health for the entire household.

On the other hand, many of the existing health-focused claims studies underestimate the full cost-benefit of produce incentive programs. Namely, it has been shown that CSA reduces diet-related medical expenditures for high-expenditure insureds^{xxiv}. In one example, CSA participants who had historically high diet-related health expenditures decreased annual diet-related medical expenses by \$1,300 (p-value <0.001) and pharmacy expenses by \$230 (p-value 0.01) after a six-month enrollment in a CSA. Given the average cost of a weekly FairShare farm CSA share was \$630 in 2019, in this example the net benefit of an individual's participation in a CSA would be \$900 for a single year

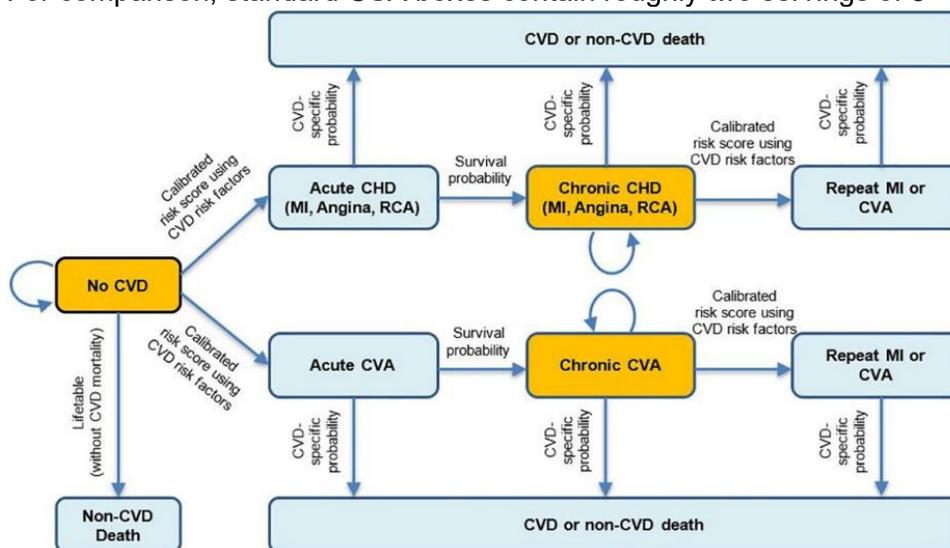
(estimated annual cost-reduction of \$1530 [\$1300 + \$230]). Additionally, these diet-related cost savings are an underestimation: they do not account for other CSA-consuming household members and other individuals maintaining low diet-related costs throughout the study period.

Diving Further into the Cost-Benefit Component

Healthcare costs have been rising steadily for decades and are accounting for larger portions of household and public spending budgets^{xxv}. The CDC estimates 75% of the \$2 trillion dollars spent annually on medical health in the United States is associated with obesity^{xxvi}. In addition to direct medical costs, reduced productivity, absenteeism, and medical expenditures cost from obesity are estimated to amount to an additional \$70 billion dollars^{xxvii}. On an individual level, a high mass-body index (BMI) has been shown to hinder financial and economic gain^{xxviii}. Limited-income individuals and ethnic minorities have a higher risk for obesity and associated co-morbidities^{xxix,xxx}, and are most likely to feel a financial burden from diet-related diseases such as facing barriers to work, covering medical costs, and earning money for the household^{xxxi}.

A review of the rising healthcare costs found that despite the known link between nutrition and chronic disease, diet is infrequently addressed or included in healthcare^{xxxii}. Not only has it been shown that a diet high in fruits and vegetables decreases the risk of chronic disease^{xxxiii}, but conversely, a diet low in fruits and vegetables and high in processed meats has been associated with the onset of cardiometabolic diseases, such as obesity, heart disease, type 2 diabetes, and stroke^{xxxiv}. Fruits and vegetables also align with health management strategies by possessing disease-fighting vitamins and nutrients that block illnesses^{xxxv} and sustain body weight levels^{xxxvi}.

Cardiovascular disease (CVD) is an umbrella term for a number of diet-related illnesses, such as heart disease and stroke, that cite diet as a risk factor. A 2019 economic analysis of healthy diet changes found that over 1.93 million CVD events and 0.35 million deaths could be prevented amongst the 82 million U.S. adults on Medicare or Medicaid if provided a 30% fruit and vegetable incentive^{xxxvii} (see Figure 3). These results are based on a daily total increase of 0.8 servings of produce per day. For comparison, standard CSA boxes contain roughly two servings of 8 – 13 varieties of fresh



produce each week. These metrics also don't incorporate other disease events and deaths that would be mitigated through diet-change, such as diabetes.

A CVD microsimulation study for prescribing fruits and vegetables

❖ *There are 82 million adults in the Medicare or Medicaid system; these insurance programs constitute 25% of the federal budget*

Figure 3. The Cardiovascular Disease (CVD) - PREDICT Microsimulation Model Used to Simulate the Number of CVD Deaths and Event Changes for U.S. Medicare and Medicaid Recipients Provided a Fruit and Vegetable Incentive. Source: doi.org/10.1371/journal.pmed.1002761.g001

- ❖ *Health outcomes and trends were modeled using **National Health and Nutritional Examination Survey (NHANES)** data*
- ❖ *With a **30% cost reduction**, researchers estimate an increase of 0.4 servings of fruits and an increase of 0.4 servings of vegetables increase per day*

*Overall, the model estimates a **reduction of 1.93 million CVD events and 0.35 million CVD deaths** with a 30% fruit and vegetable incentive, for a total of **4.64 million quality-adjusted life years (QALY) gained**. An incremental cost-effectiveness change ratio (ICER) [ICER = net change in costs / net change in QALY] was calculated to determine the cost-benefit between health outcomes and incentive cost. Using a willingness-to-pay threshold between \$50,000 and \$150,000 per QALY (set by the American College of Cardiology and American Health Association^{xxxviii}), the program had an estimated **ICER of \$18,184 QALY** [95% CI \$9,270, \$29,371], well below the lower-bound \$50,000 threshold. Additionally, from a societal perspective that includes benefits gained from productivity and reduced informal healthcare costs, the model led to an **ICER of \$14,576 QALY**, indicating even more gains. The health outcomes of CVD Medicare and Medicaid patients when given access to a 30% cost reduction to fruits and vegetables is estimated to produce **\$40 billion in healthcare cost savings**.*

Hearing from Key Stakeholders

To draw from experiences developing, implementing, and running prescription produce incentive programs, interviews and written correspondences were gathered from a number of stakeholders. Interview notes and program information from Zenger Farm’s CSA program are detailed below.

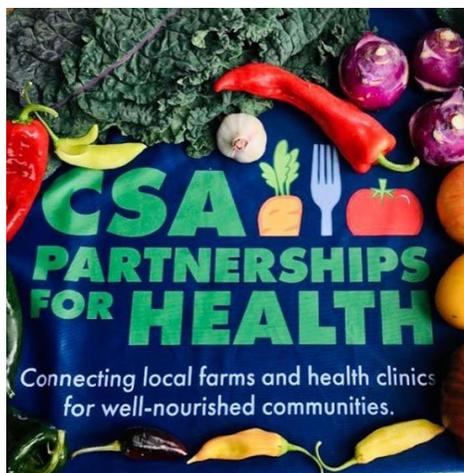


Figure 4. Program Sign. Source: Zenger Farms

Program: CSA Partnerships for Health

Expert: Lauren Lubowicki, Health Director

Zenger Farms, located in Portland, Oregon, was approached by the Multnomah County Health Department and the National College of Natural Medicine in 2014 to help provide fresh produce access to patients managing chronic disease. During that initial pilot year, 20 patients were prescribed CSA shares that Zenger Farms delivered to the clinic. Now in 2020, Zenger Farm’s CSA Partnerships for Health program serves patients across 9 clinics, serving approximately 250 households per week. Participating farms set up market-style CSA pick-ups at health clinics as patients arrive and select their produce. Though all of the produce brought to the clinic is spoken for, farms open up sales after the CSA pick-up time window, and clinics keep an up-to-date waitlist of participants.

Patients contribute \$5 by cash or food voucher transfer (SNAP/EBT) for their CSA share during pick-up and receive approximately \$28 dollars’ worth of produce. The program assists participants in a multitude of ways, including: sending participants text message reminders the day prior and the day of CSA pick-up, providing free transportation to and from the clinic on CSA pick-up days, and hosting chefs at the market to showcase culturally-appropriate recipes for participants. Zenger Farms finds having a market-based CSA stand provides participants the ability to form stronger relationships with

their farmers, their food, and their communities. Zenger Farms is also able to administer and serve program participants at the markets in Spanish, Russian, and Somali with the help of community health workers.

Currently in Wisconsin, NorthLakes Community Clinic serves over 400 households through a 100% subsidized CSA incentive program across 12 clinics in the Northern region of the state. In 2017, the City of Madison and Second Harvest Foodbank of Southern Wisconsin piloted a voucher-based



Figure 5. Chefs at the Farmers Market. Source: Zenger Farms

<p style="text-align: center;">Cattail Organics Farm cattailorganics.com/</p> <p>Cattail Organics is a farm within FairShare’s coalition that partners with Asprius Arise HMO to serve approximately 45 members through CSA in north central Wisconsin. CSA members are selected by nurse case managers based on the presence of chronic illness and level of care engagement.</p>
<p style="text-align: center;">Department of Population and Quantitative Health Sciences, Case Western Reserve University* epbiwww.case.edu/erika-s-trapl-phd/</p> <p>In 2015, researchers at Case Western Reserve University ran a pilot, voucher-based prescription produce program targeting pregnant mother nutrition. The program has since expanded to serve patients with chronic disease, and they have published numerous reports on their work and findings.</p>
<p style="text-align: center;">NorthLakes Community Clinic* northlakesclinic.org/community-programs/</p> <p>NorthLakes Community Clinic provides a Farm-to-Patient program offering CSA shares to nearly 400 patients across twelve clinics in northern Wisconsin. The clinic covers all costs to patients and views this work as part of their larger vision to bring vitality and health to rural WI communities.</p>
<p style="text-align: center;">Second Harvest Foodbank of Southern Wisconsin* www.secondharvestmadison.org/our-impact/hungercare-coalition/diabetes-wellness-program</p> <p>Through their Diabetes Wellness Program, food insecure adults diagnosed with diabetes or heart disease receive monthly 30-pound boxes of food specifically created to help manage an individual's disease. This work is done in close partnership with participating health clinics and hospitals across southern Wisconsin.</p>
<p style="text-align: center;">Wholesome Wave* www.wholesomewave.org/how-we-work/produce-prescriptions</p> <p>Wholesome Wave is the major national organization leading prescription program work and advocacy in the United States. They have an extensive inventory of resources and toolkits related to produce incentive program work.</p>

prescription produce program at the UW-Health Northeast Family Medical Center, prescribing \$20 vouchers redeemable at Willy Street Co-op North. More program details from the list above (*), including interview notes and implementation toolkits, can be found in Appendix 1.

Overall, these programs are generally run through wellness programs at federally qualified health clinics (FQHC) and are provided at a minimal or no cost to participants. Healthcare providers enroll select patients into the CSA program on a rolling basis, and farmers deliver the CSAs directly to the clinic. Some programs monitor patient health outcomes and self-determined goals in patient electronic health records, allowing for documented CSA check-ins during regular healthcare provider visits and accessible data for program evaluation. In general, a full-time staff person is dedicated either at the clinic or at a partnering non-profit to oversee the program.

Health and Food Access in Wisconsin

Community-supported agriculture is a food distribution model that provides seasonal, fresh produce directly to local eaters. In the CSA model, farmers

harvest, wash, and pack produce in the morning and distribute it in CSA boxes that afternoon; therefore, proximity is a key operations component. To understand the current landscape of FairShare farms in Wisconsin, farm locations and existing CSA drop-off sites were mapped using geographic information system (GIS) software. To identify areas suffering from poor health and food access barriers (i.e. where prescription produce may serve a needed role in the area), data was sourced from CDC Wonder, County Health Rankings, and The Applied Population Laboratory (Wisconsin Food Security Project). FQHC sites were also gathered as prospective partner locations; these clinics position themselves to serve vulnerable communities and already support CSA prescription produce programs at 12 clinic locations.

As seen in Figure 6, many FQHCs are scattered throughout the Northwest region of the state and clusters of clinics appear around metro city areas, including Eau Claire in Northwest Wisconsin and Milwaukee and Madison in Southern Wisconsin. The majority of FairShare farms are located in Southern Wisconsin, with two notable concentrations around Dane and Richland County. Within and surrounding Vernon County are 8 FQHC locations as well as 11 FairShare farms. Additionally, there are 4 FairShare farms near FQHC centers in the central part of the state throughout Marathon, Portage, and Lincoln counties.



Figure 6. Reference of Wisconsin County Names, Locations of Federally Qualified Health Centers and FairShare Farms. Map: Created by Author, Data Source: WI DNR County Boundaries, Health Resources & Service Administration, and FairShare CSA Coalition (accessed March 10, 2020)

To begin identifying service opportunities for FairShare farms to connect with FQHCs, farm and clinic locations were overlaid with county health indicators; see Figure 7 for 2014 adult obesity rates by county. Then, a boundary was drawn around farms to highlight FQHCs within a 20-mile radius of farm locations or within a 5-mile radius of an existing CSA farm drop-off site; see Figure 8 for FQHCs in close proximity to farms.

Using adult obesity rates to identify service opportunities is just one of the ways to connect health and prescription produce programs. *Additional maps highlighting regions of diet-related mortality, poverty, food insecurity, race, and limited vehicle access are located in Appendix 2 to identify additional potential service areas for FairShare farms.*

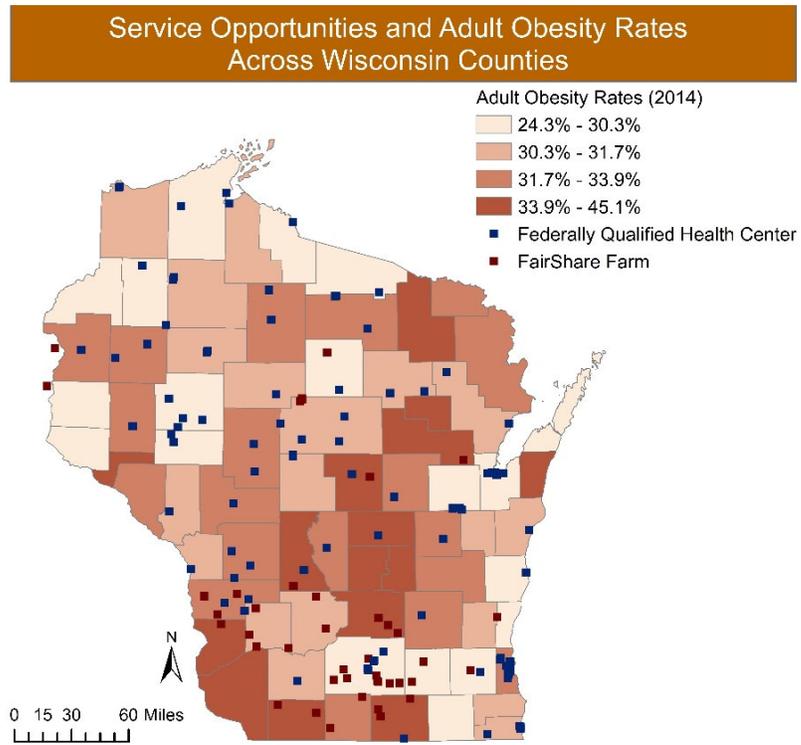


Figure 7. Wisconsin Adult Obesity Rates (2014) Overlaid with Federally Qualified Health Centers and FairShare Farms. Map: Created by Author, Source Data: Wisconsin Food Security Project, Health Resources & Service Administration, and FairShare CSA Coalition

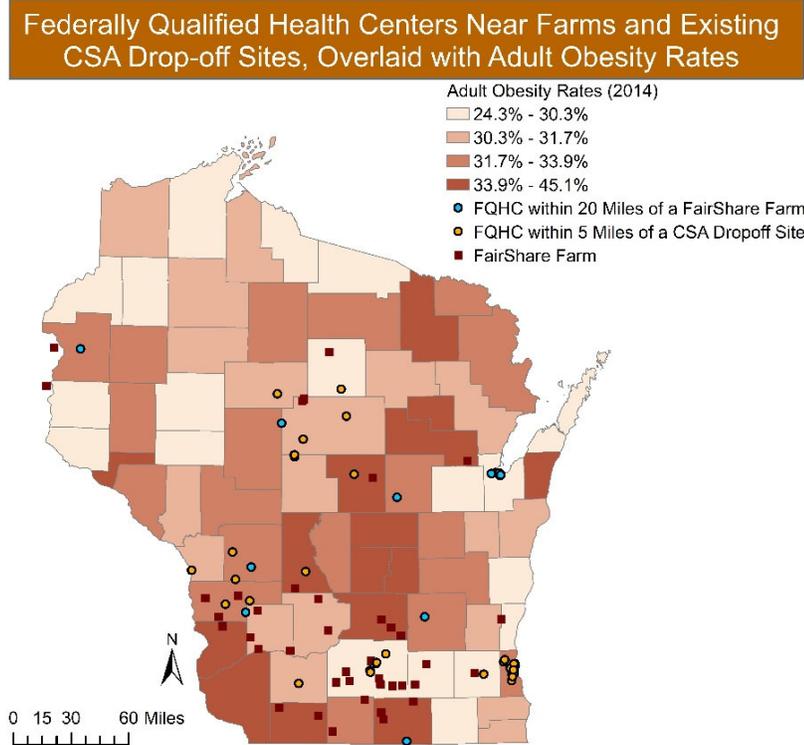


Figure 8. Proximity of Farms and CSA Drop-off Sites to Federally Qualified Health Centers, Overlaid with Adult Obesity Rates (2014). Map: Created by Author, Source Data: Wisconsin Food Security Project, Health Resources & Service Administration, and FairShare CSA Coalition

Key Observations

- ❖ There are **10 FQHC centers located within a 20-mile radius of a FairShare farm**, and there are **over 20 current CSA drop-off sites that are within a 5-mile radius of a FQHC**.
- ❖ The **Southwest region** of the state highlights a concentration of FQHCs in close proximity to FairShare farms and current CSA drop-off locations. **Monroe (33.7%) and Vernon (32.2%)** counties in this region, especially, report high rates of adult obesity.
- ❖ **Rock (34.2%), Portage (34.4%), and Juneau (35.3%)** counties report high adult obesity rates and contain at least one FairShare farm in close proximity to a FQHC.
- ❖ There are many FQHCs near existing CSA drop-off sites in **Milwaukee county**.

Recommendations

Implementing prescription produce both expands a farmer's CSA customer base and supports community health. These programs have been shown to increase produce consumption, reduce food insecurity, and improve health behavior. Cost has been cited as a major barrier to accessing fruits and vegetables for limited-income individuals; these individuals also disproportionately suffer the financial burden of living with diet-related illness. Subsidizing the cost of fruits and vegetables has been found to increase intake and thereby reduce the number of medical events and healthcare costs for patients. With a well-established network of partners and experience running subsidized CSA programs, FairShare is uniquely positioned to implement prescription produce programs through their network of farms as a way to increase CSA sales and connect households with access to local produce.

Over time, FairShare should assess staff's capability to build relationships with healthcare providers and provide support to farms within the coalition if they independently choose to run a CSA prescription program directly with clinics in their area. If adopted, FairShare should look for efficiencies to provide the farm network, such as: translating program materials into multiple languages, processing food voucher payments, and providing program evaluation support. Prescription produce could complement existing CSA program outreach (HMO insurer rebates), pair with new initiatives (home delivery) and move the organization closer to broader inclusion goals (target diverse, underserved communities).

FairShare's mission is to support and connect farmers and consumers through Community Supported Agriculture (CSA). [FairShare] envisions a future where CSA is the backbone of a strong local food system and where all families have access to locally-produced, organic food from small family farms.

For farmers, the first step towards implementing a prescription produce program is reaching out to wellness managers or human resource directors at federally qualified health clinics in the area. Farmers should discuss how CSA delivery is a tangible way to address signs of food insecurity that healthcare providers may be observing in their patient population. Running a subsidized CSA share program for patients is more than just providing an emergency food system phone number; it is providing consecutive months' worth of fresh, local produce to reduce food insecurity and manage illness. *Additional program considerations and recommendations for farmers are included in Appendix 3.*

This research focuses on CSA's ability to provide food access to limited-income households. Many other direct-to-consumer markets exist, such as farmers markets, that also support increased access to nourishing produce. This research has also only considered providing produce (mostly vegetables) as a healthy food source, though other organizations and programs consider lean meat, eggs, grain, and low-fat dairy as elements of a nutritious, healthy diet.

Overall, incorporating prescription produce into diet-related healthcare management is a cost-effective way to improve health behaviors for patients with limited access to healthy food. Across Wisconsin, especially in the Southwest region, mutually-beneficial opportunities exist for farms to connect with healthcare providers and serve community needs through CSA.

Appendices

Appendix 1 – Interview Notes and Program Best-Practices

NorthLakes Community Clinic

Program: Farm-to-Patient

Experts: Sarah Tarkington, Wellness Manager, and Lesley Burg, Mental Health Therapist

Farm Partners:

❖ Hermit Creek Farm, Highbridge, WI
<https://www.hermitcreekfarm.com/>

❖ North Star Homestead Farms, Hayward, WI
<https://www.northstarhomestead.com/>

❖ Sweet Top Farm, Deer Park, WI
<https://www.sweettopfarm.com/>

Clinic Vision: *Healthy, prosperous, engaged communities where everyone thrives.*



Figure 9. NorthLakes Community Clinics in Wisconsin. Source: northlakesclinic.org/

NorthLakes Community Clinic runs an every-other-week CSA drop-off program, Farm-to-Patient, in 12 clinics located throughout Northern Wisconsin. The program started in 2016 and serves approximately 400 households per year. Clinic healthcare providers screen and recommend patients for the program, and give patients a ‘referral’ to meet with clinic wellness managers, who then follow-up with additional food access barriers and program interest questions. Patients complete an application form indicating household eating habits and key factors that they would need to be successful in the program. Once admitted into the program, patients make SMART (Specific - Measurable - Achievable - Relevant - Time-bound) goals that are entered into the electronic health record system so providers can track progress. Because many rural patients are seasonal workers, there is no weekly monetary requirement when CSA members pick-up their shares.

CSA drop-off sites are located in clinic waiting rooms, and a clinic staff member is present during CSA pick-up times. The participating farms also donate a CSA share to the clinic so staff members can display the week’s produce box items and answer any questions, such as food storage and recipe tips, patients may have. Program managers have found that CSA participants are experimental with their share and find a large benefit from knowing they have access to food on a scheduled basis when enrolled in the program. All of NorthLake’s clinics are located in rural areas; therefore, the program accommodates late CSA pick-ups and works to reduce transportation barriers that may exist for patients.

The goals of the Farm-to-Patient program extend beyond managing diet-related illness for patients. Clinic providers regard CSA as a way to bring vitality and wellness to patients, and the program is interwoven into both mental health care and diet-related care at the clinics. Providers record patients cooking more meals at home, building more touchpoints with the clinic, and becoming more connected to their communities by eating local food. The program also highlights food sovereignty as an important outcome, observing that many participants know how to grow and cook CSA varieties of produce from past experiences (i.e. gardening and eating with family on farms) but have gone without access to the fresh, local produce. For this reason, the clinics encourage participating farms to host on-farm member events to give Farm-to-Patient participants the opportunity to further connect with their food and the land.

Second Harvest Foodbank of Southern Wisconsin

Program: Health Food Box, Diabetes Wellness Program

Expert: Anne Gargano Ahmed, Healthy Programs Coordinator

Second Harvest Foodbank of Southern Wisconsin (Second Harvest) created their Diabetes Wellness Program as a pilot study to deliver monthly food boxes to food insecure individuals managing diabetes. Along with a 30-lb box of food, participants received recipes, nutritional information, and were provided access to workshops that focused on managing illness through food. In 2020, five years since the initial pilot program, the program has expanded to serve 300 participants across seven counties in Southern Wisconsin. Second Harvest also now offers a heart disease-centered healthy box and creates culturally-relevant food boxes for clinics serving specific communities (i.e. Latino). Second Harvest packs the food boxes at their Dane County foodbank facility and then transport the boxes across their networks of food pantries and partnering healthcare clinics. They have found participants prefer pre-filled boxes and offer a drive-through pick-up box option at several locations. Second Harvest is also pursuing opportunities to partner with Aging and Disability Resource Centers to deliver food boxes to patient homes.

As highlighted in Figure 10 above, Second Harvest serves a similar region as FairShare does through its Partner Shares program. This presents partnership opportunities for FairShare and Second Harvest to collaborate on box delivery options, source from FairShare farms, and build on existing partnerships with healthcare clinics in Southwest Wisconsin.

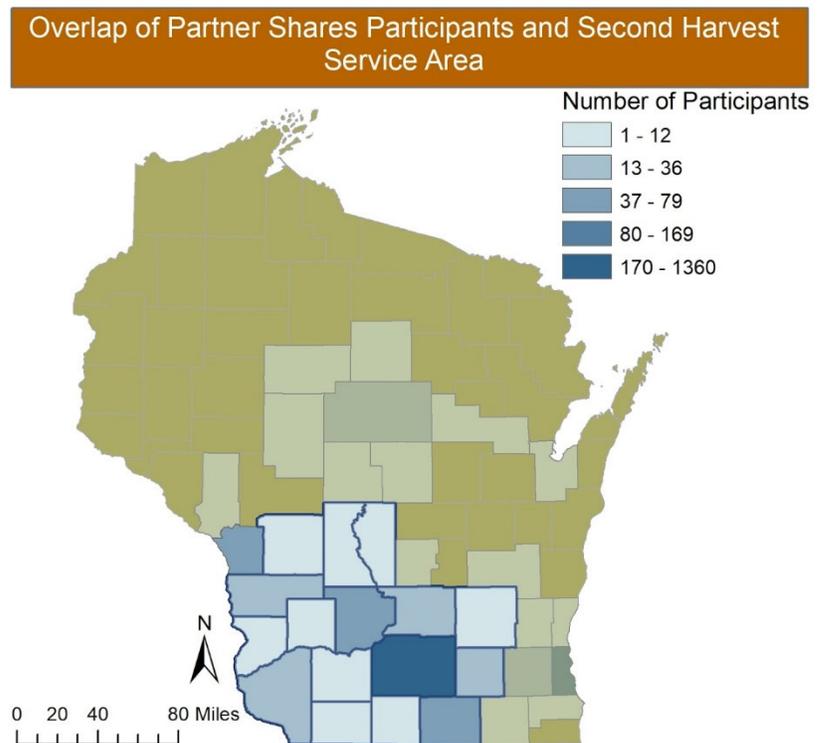
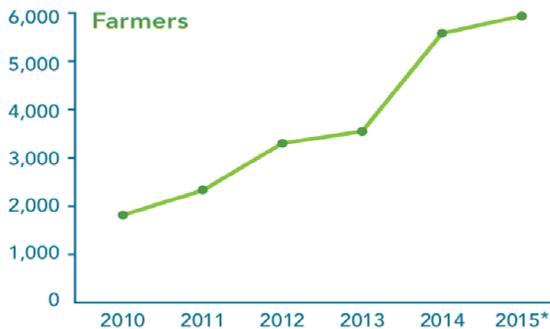
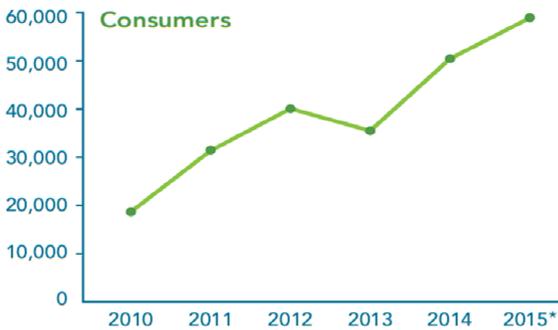
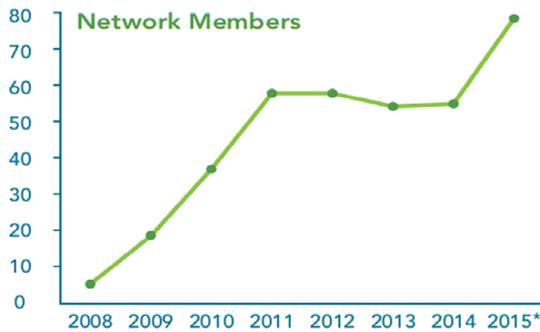


Figure 10. A Shared Service Area of Second Harvest and FairShare's Partner Shares Program (PSP), shown outlined and highlighted in the Southwest region of the state. The number of participants represent the total number of participants in the PSP between 1998 and 2019. Map: Created by Author.

Network Growth



* Projected
 ** Includes Farmers Markets, Mobile Markets, and Community Supported Agriculture (CSA) sites

Figure 11. National Nutrition Incentive Network Fact Sheet, Wholesome Wave 'How to Grow' Toolkit.

Wholesome Wave

Program: Wholesome Rx

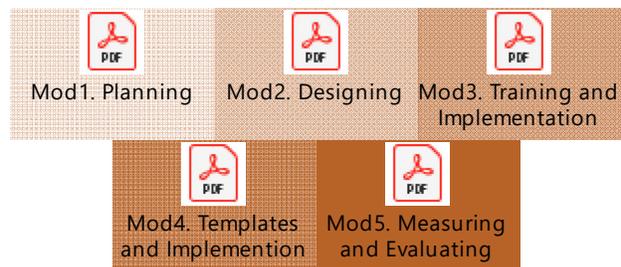
Expert: Olivia Korth, Programs Associate

Founded in 2007, Wholesome Wave is the national organization leading voucher-based prescription produce programs. Wholesome Wave assists produce incentive programs across the United States with technical assistance, data collection, and best-practice standards through its network (see Figure 11). In 2014, the organization was successful in helping secure \$100 million dollars in the Farm Bill to launch produce and nutrition incentive programs for SNAP participants, and directly received \$3.77 million to fund its program work. In 2018, this federal Farm Bill grant program was renamed the Gus Schumacher Nutrition Incentive Program after Wholesome Wave's co-founder.

Some key strategies they recommend to design and implement a prescription produce incentive program include:

- ❖ Acclimating all healthcare clinic staff to the program; there are higher rates of participant registration when patients are provided multiple touchpoints and support during interactions at the clinic.
- ❖ Listening and learning about the population clinics serve and which patients they intend to reach through the program.
- ❖ Building nutrition education and evaluation measures into the program.

Though Wholesome Wave's toolkits are centered on voucher-based programs, many planning aspects are relevant for CSA-based programs, as well. Linked below is their suite of module toolkits for prescription produce.



Case Western Reserve University

Program: Prescription Produce (PRx)

Expert: Kakul Joshi, MPH, Department of Population and Quantitative Health Sciences PhD Candidate



Figure 12. Program Logo, Case Western Reserve University.

Kakul Joshi, Erika Trapl, and other researchers at Case Western Reserve University have collaborated to implement several voucher-based prescription produce programs in Cuyahoga County, Ohio. Their initial 2013 program sought out to serve pregnant moms and distributed \$10 farmers market vouchers to program participants. They have since created and currently run a program that targets patients with hypertension (a diet-related disease) and have published research papers on program outcomes and findings. They attribute their success to their network of strong partnerships, including local extension resources, area hospitals, and Case Western Reserve University. More about their programs and research is linked below.



Appendix 2 - Spatial Analysis Maps

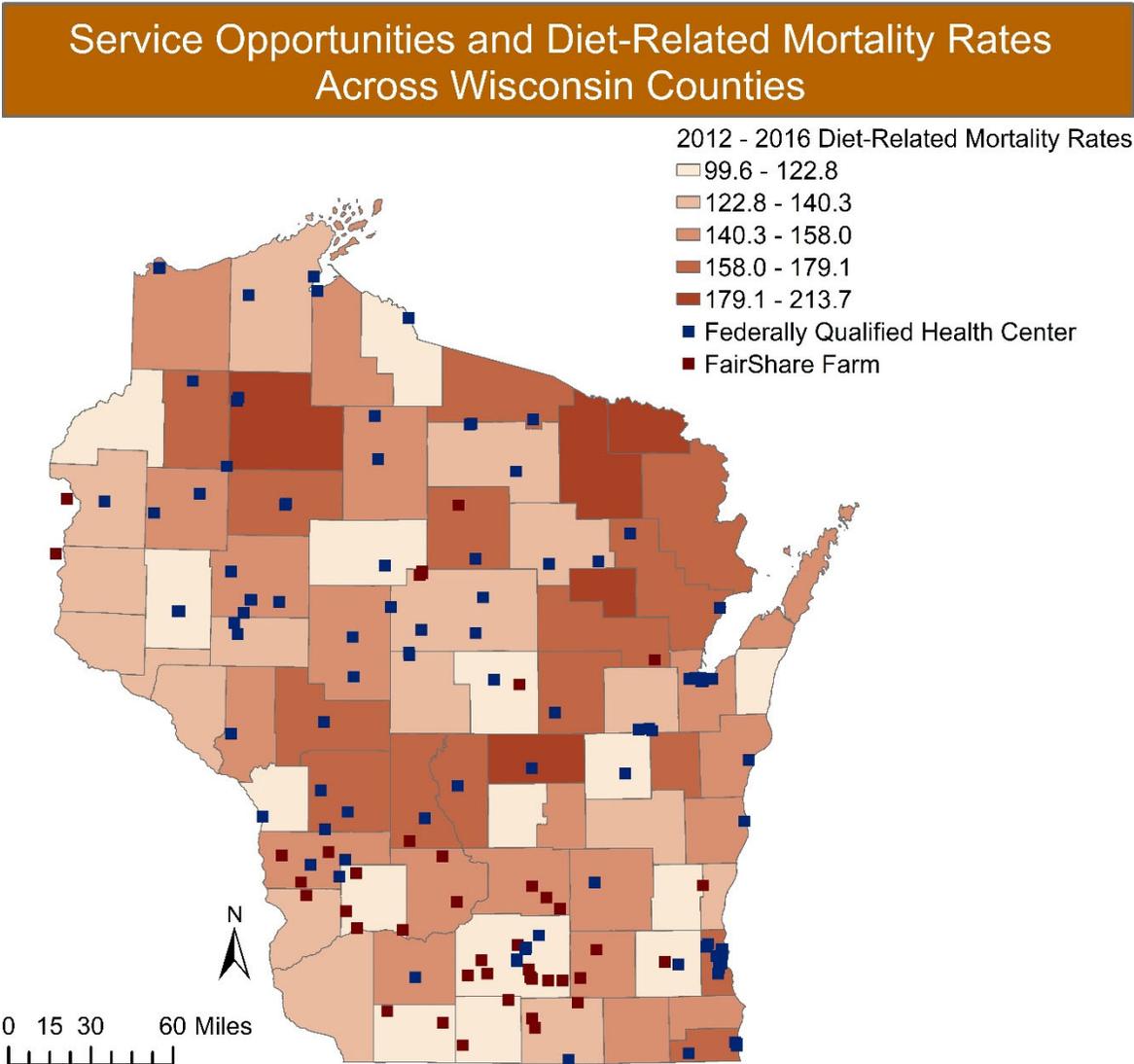


Figure 13. Age-Adjusted Diet-Related Mortality Rates Across Wisconsin Counties, 2012 - 2016. Rates shown are the number of deaths per 100,000. Cause of Death (CDC Wonder Compressed Mortality 1999-2016) and respective ICD-10 Code: Type-2 Diabetes (E11), Obesity (E66), Anemia (D50-D53), Hypertension (I10-I12), Heart Diseases (I20, I21, I25, I50), Atherosclerosis (I70), Digestive Disorders (K58, K59, K90), Kidney Disease (N18), Osteoporosis (M81), Gout (M10), and Elevated Blood Glucose (R73). Map: Created by Author.

Figure 14. 2013 – 2017 Household Poverty Rates, Wisconsin Food Security Project. Map: Created by Author.

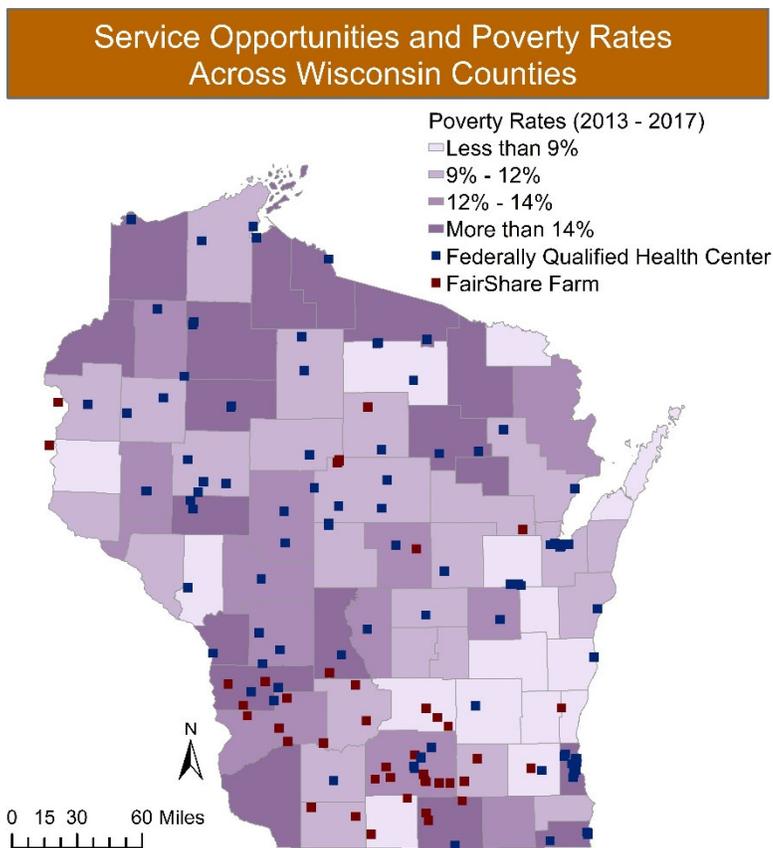


Figure 14.

Figure 15. 2017 Food Insecurity Rates, Wisconsin Food Security Project. Food insecurity is defined by the USDA as individuals who indicate inconsistent access to quality food or experience patterns of hunger. Map: Created by Author.

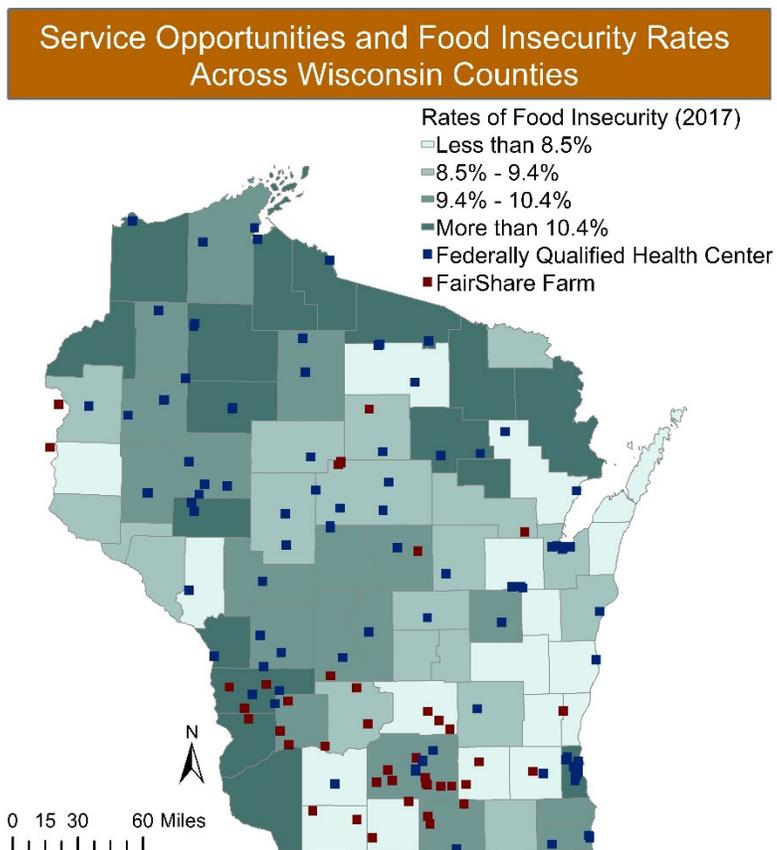


Figure 15.

Figure 16. 2013 – 2017 Demographic Data on Race and Ethnicity, Wisconsin Food Security Project. This data presents a binary categorization of race and ethnicity between: white/Caucasian, non-Hispanic/Latino residents and African American, American Indian, Asian/Pacific Islander, or Multiple Races and/or Hispanic/Latino residents. Map: Created by Author.

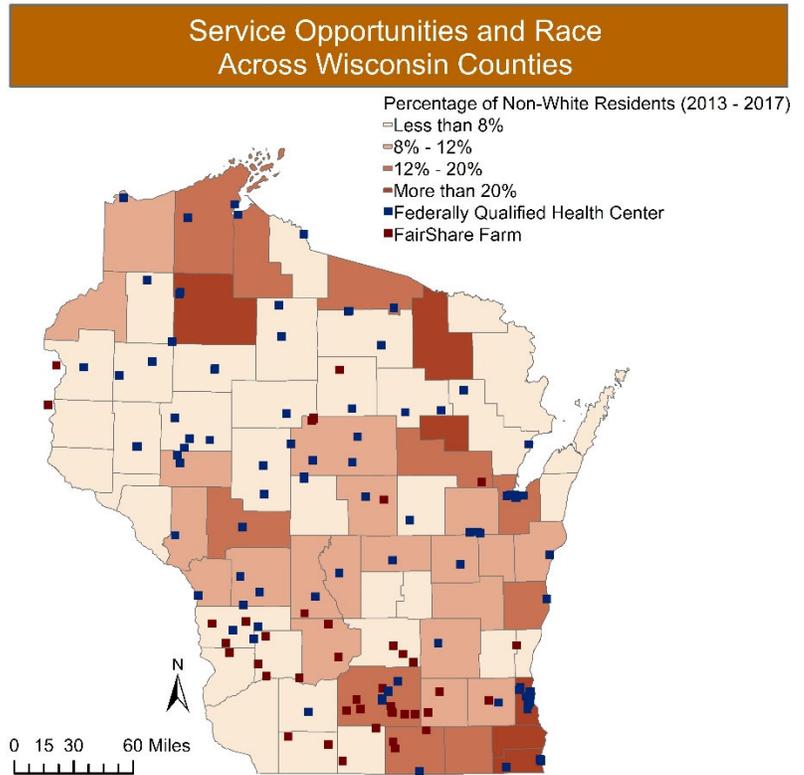


Figure 16.

Figure 17. 2013 – 2017 Percentage of Households Without At Least One Vehicle, Wisconsin Food Security Project. Map: Created by Author.

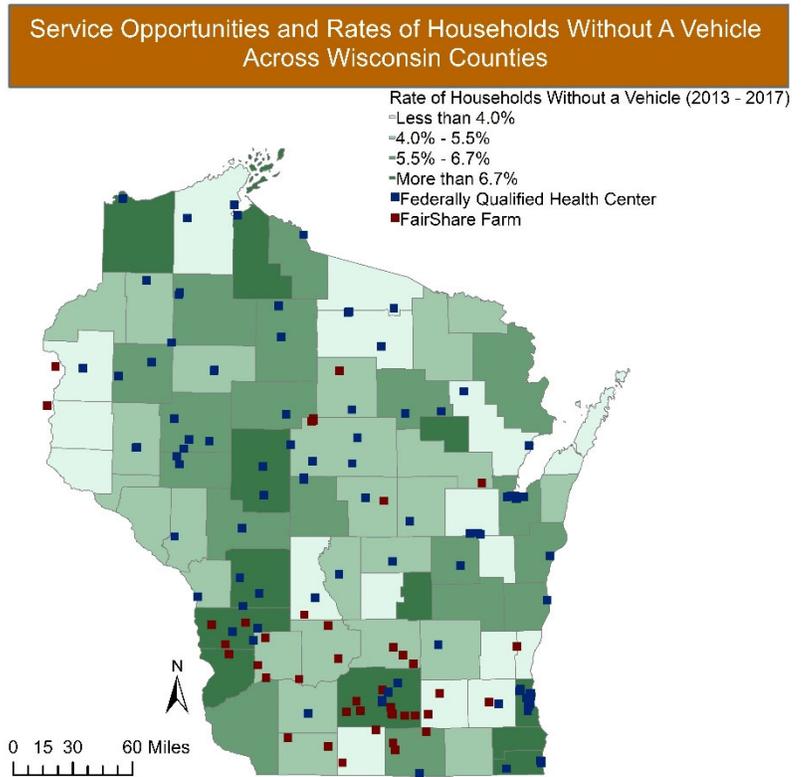


Figure 17.

Appendix 3 - Additional Program Considerations and Recommendations for Farmers

- ❖ Ensure the clinic's underlying mission of serving patients and the community is aligned with your mission as a farm. Set goals for the program that focus on this core mission.
- ❖ Make sure staff at the partnering clinic are aware of the prescription program and know how to direct questions from patients. Similarly, make sure providers are trained on how to identify patients that would benefit and be successful in the program.
- ❖ Discuss how an increased intake of fruits and vegetables has shown to decrease healthcare costs and provide better care management for patients, especially for diet-related illnesses such as obesity, diabetes, cardiovascular disease, etc. Discuss the cost-benefit outcomes of providing such a program.
- ❖ Develop an evaluation scheme based on determined program goals. Decide whether a patient's self-reported pre- and post- CSA season survey provides adequate health data, or if more specific health measurements and cost data should be gathered and evaluated. Make sure clinician and provider experiences are included in program evaluation, and decide who is best positioned to administer and collect that data.
- ❖ Work with the clinic to determine the best drop-off location and distribution set-up, and screen for transportation barriers when accepting participants into the program. For example, Zenger Farm's CSA Partnerships for Health have their farms set up a market stand for CSA pick-up and partner with Uber to provide participants transit to and from the market. In a rural setting, NorthLakes Community Clinics have their CSA drop-off and pick-up sites in the clinic waiting room, staffed and facilitated by clinic staff members, and will store the share on-site for alternative pick-up times if needed for patients.
- ❖ If the health provider does not have enough financial resources to fully cover the cost of CSA shares for patients or the program runs out of distributable funds, consider implementing a sliding scale cost structure [www.spaceonryderfarm.org/sliding-scale], where participants pay based on a handful of self-administered considerations.
- ❖ Consider specific clinic-based CSA member preferences and needs, such as specific diet or culturally appropriate foods, and hosting on-farm events.
- ❖ Review FairShare's *Workplace CSA Toolkit* for additional farm considerations and logistics that may apply to healthcare clinic deliveries and running a prescription produce program; see the farmer self-assessment tool (p.33) for an example of considerations. Additional communications can be found throughout the toolkit, such email templates and CSA FAQs, that would be applicable to use for prescription produce programs.



Endnotes

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