

2022 DOUBLE UP FOOD BUCKS EVALUATION REPORT

Prepared for Fair Food Network

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SCHOOL OF SOCIAL WORK
PROGRAM EVALUATION GROUP
UNIVERSITY OF MICHIGAN

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EXECUTIVE SUMMARY



The 2022 evaluation of Double Up Food Bucks draws on 212 participant surveys between June and August of 2022, 30 participant interviews conducted between December 2022 and April 2023, and 146 vendor surveys collected between January and March of both 2022 and 2023. Participant surveys included 122 current program participants, 29 former program participants, and 61 people using Double Up for the first time on the day of the survey. Vendor surveys represented 110 unique farms.

Surveys showed that participants like the Double Up program and reported high levels of satisfaction and feeling welcome. Former program participants stopped using the program primarily because of logistic reasons or because they were no longer eligible.

Many survey respondents reported a high level of engagement with Double Up and were savvy about navigating the program across multiple sites and different incentive types. Nearly half of current participants redeemed Double Up almost every time they shopped. Program participation resulted in an average savings of \$22 per household member per month.

The large majority of vendors rated their experience as positive. Percent sales from Double Up ranged from less than one percent to 65%, with an average of 12%.

Both vendors and participants advocated for more promotion of the program and expressed concerns about the lower daily earning cap.

“Before the program... the healthy foods were the things that I put on the back burner... Now with the Double Up Food Bucks... it really becomes a focus on the fruits and vegetables as a mainstay and not as a special or a once in a while treat.”

- Muskegon resident

“It’s a program that supports small-scale Michigan vegetable growers while also increasing access of fresh healthy foods for low-income folks - a win-win.”

- Wayne County vendor

Evaluation data collected showed that Double Up Food Bucks is meeting program goals.

- ▶ Double Up is reaching high-need households.
- ▶ Fruit and vegetable consumption is related to program participation.
- ▶ Interviewees stories of impact show increases in food security and ability to make value-based food choices.
- ▶ Double Up is benefiting young, diverse producers operating small farms.
- ▶ Double Up is facilitating farm profitability.

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Quotations used in this report have been transcribed using the clean verbatim style. Speech errors, false starts, stutters, repetitions, and filler words have been omitted so long as their removal did not change the meaning or sentiment of the statement.

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INTRODUCTION



Program Background

Fair Food Network is a non-profit organization based in Southeast Michigan with a mission to grow community health and wealth through food. Double Up Food Bucks launched in 2009 as the organization's flagship program. In Michigan, shoppers with a Bridge Card (Michigan's Food Assistance program) can participate in Double Up at over 250 locations. Double Up matches fruit and vegetable purchases made at participating sites dollar for dollar, making fresh, local produce more widely accessible. The program goals are to increase investment in Michigan farmers and to promote healthy outcomes for Michiganders through increased fruit and vegetable consumption.

Federal and State increases in EBT benefits throughout the pandemic nearly doubled the average SNAP benefit in dollars per household member between 2019 and early 2023, when the increased benefits ended. During this time period, the average benefit per person in Michigan was \$240 each month.¹ This evaluation, therefore, occurred during a time of higher average levels of SNAP benefits.

Purpose & Evaluation Questions

The 2022 evaluation of the Double Up Food Bucks program was guided by six main questions, as shown in Table 1. To answer these questions, we used three different methods to collect data: 1) surveys with individuals who were currently participating in the Double Up program or had done so in the past, 2) interviews with current participants in the program, and 3) surveys with direct market farmers and vendors selling produce through Double Up at one or more markets.

The data collection timeline differed for each method. We collected 212 participant surveys between June and August of 2022. We conducted 30 participant interviews between December 2022 and April 2023. Finally, we collected 146 vendor surveys over two different years: between January and March of both 2022 and 2023. While some analyses look at changes over time for respondents that completed the survey in both years, the majority of the analyses focus on the 110 unique farms represented in the two-year dataset.

In the analysis of participant surveys, the report includes several comparisons between 2022 and 2021 survey responses. However, each year's survey sample represents a cross-section of the overall population of Double Up participants, meaning the respondents are not necessarily the same each year. This means that differences from year to year may be attributable to differences in the people responding to the survey, rather than change over time.



Figure 1: 2022 Evaluation Questions

Evaluation Question		Data Collection Strategy
1	How do Double Up participants compare to the population of SNAP users in Michigan?	Participant survey
2	How do Double Up participants use the program and what are the barriers to program use?	
3	To what extent does program participation improve health outcomes: fruit and vegetable consumption, food security, and health status?	
4	What types and degrees of impact does the Double Up Food Bucks program have for participants?	Semi-structured participant interviews
5	What outcomes do direct market vendors experience from selling produce through Double Up Food Bucks?	Direct market vendor survey
6	Do outcomes vary across groups of direct market vendors?	

PARTICIPANT EXPERIENCES

SURVEY RESPONDENTS

The 2022 Double Up Participant Survey included 212 responses, which is less than half the number collected in 2021 (508). Even so, participants represented a range of identities and program participation levels. However, despite renewed efforts to recruit Spanish and Arabic speakers, only four participants completed the survey in Spanish, and no responses in Arabic were collected.

Household Composition. In the sample, households with children and households with older adults fell about ten percent below representation in the Michigan SNAP population. Connecting households with children and older adults to the benefits of Double Up may prove to be useful areas of focus for future outreach and communications campaigns.

Latinx Identities. Compared to the 2021 Participant Survey, representation of Latinx participants was lower this year. In 2021, 23% of Double Up participants surveyed identified as Latinx, compared to 8% in 2022. This may reflect changes in sampling strategy. In 2021 we reached Latinx participants at stores. In 2022, we attempted to reach Spanish-speaking individuals at community events but were unsuccessful at identifying Double Up participants.

Racial Identities. Black participants were more heavily represented in the survey sample than in the population of Michigan SNAP users broadly. This was likely due to large numbers of respondents from Flint and Detroit, two majority Black cities. White users were under-represented in the sample compared to the population. Proportions of other racial identities were closely aligned between Michigan SNAP users and the survey sample.

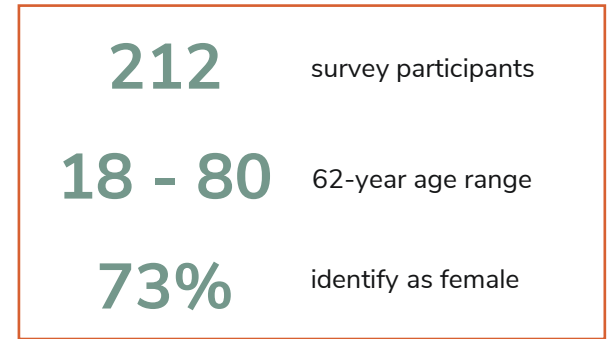
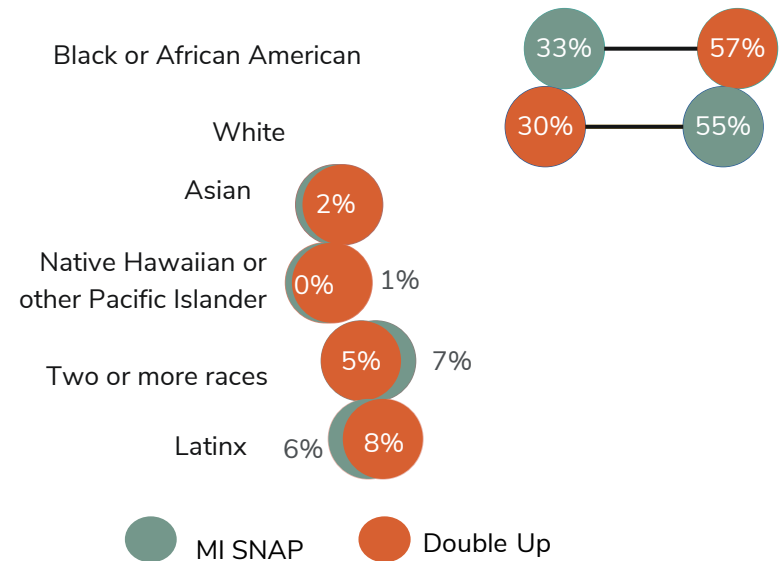


Figure 2: Double Up Participants (N = 204) Compared to the Michigan SNAP Population²



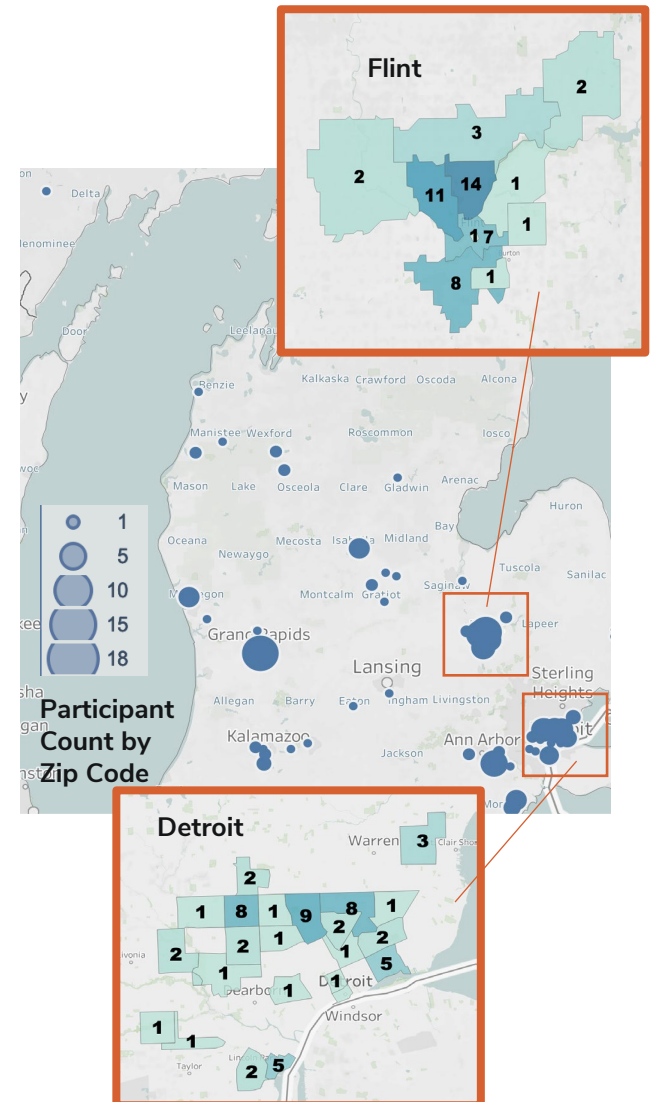
PARTICIPANT GEOGRAPHY

Participants came from 22 counties and 76 zip codes and reported 49 different sites as the primary location for using Double Up. The majority came from four areas of the state: Southeast Michigan, Grand Rapids, Kalamazoo, and Flint. This year, only one participant from the Upper Peninsula completed the survey. In other words, the experience of residents in the northern half of the state is largely missing from this data set.

Despite high survey participation, Southeast Michigan is underrepresented in the data as a proportion of the state's total population of SNAP users. In total, Macomb, Oakland, and Wayne counties account for 46% of Michigan's SNAP users and less than 30% of survey respondents. Conversely, Genesee County (+18%) and Kent (+10%) are proportionally overrepresented in this sample.

The four Double Up sites most strongly represented in the dataset were Glory Supermarket – Outer Drive (Detroit), Great Giant Grand Rapids, Landmark Food Center – Fenton Road (Flint) and Landmark Food Center – Pierson Road (Flint). Collectively, these four sites were the primary shopping location for 51 of the 212 respondents, or almost 25%.

Figure 3: Surveyed participants were clustered in urban areas in the lower half of the state (N = 212).



SHOPPING PATTERNS

68%
of current participants were high-frequency shoppers, using Double Up at 2+ site types at least twice per month

Among the 212 respondents, 58% were current program participants, 14% were former participants, and 29% used Double Up for the first time on the day of the survey. (Many of the first-time participants learned about Double Up from the survey recruitment team.)

The majority of respondents had been using both SNAP and Double Up Food Bucks for more than a year. However, more people were new to Double Up than were new to SNAP, indicating that **for some people there is a lag between eligibility for Double Up and utilization of the program.**

In 2021, the most frequented site types were farmers markets followed by grocery stores. But this year more people reported using Double Up at grocery stores. Current participants reported using Double Up at 2.8 different site types on average.

Approximately two-thirds of current shoppers (68%) were considered high frequency shoppers, defined as those who use Double Up at two or more site types at least twice a month. The only statistically significant correlation with potential home or on-site barriers to Double Up use was that high frequency shoppers affirmed a preference for canned, dried, or frozen food less often than their counterparts who shop less often, a preference that is consistent with the pattern of grocery shopping frequently.

Over 75% of respondents stated that they “agree” or “strongly agree” that they feel welcome when using Double Up. This aligns with broader positive feedback: 85% of surveyed participants rate their experience with Double Up as positive.

Fig. 4: Some long-time SNAP participants were just beginning to use Double Up.

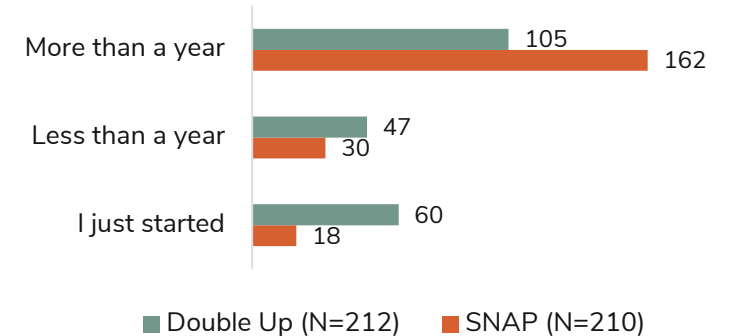
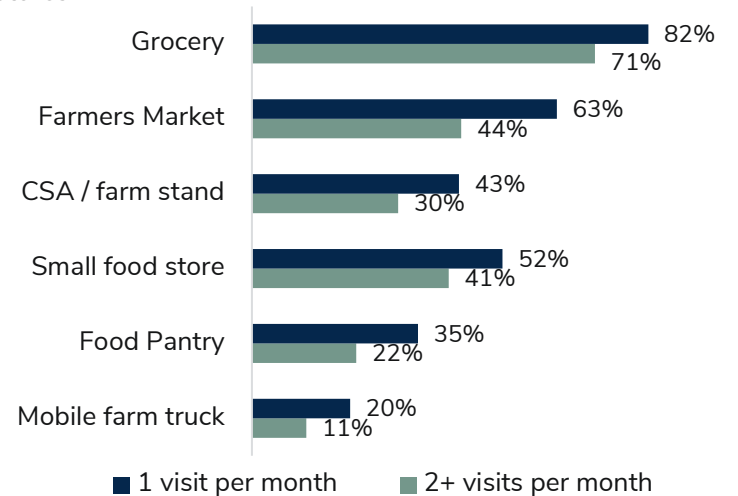


Fig. 5: Most shoppers regularly use Double Up at grocery stores.



\$22

average amount saved from Double Up per household member per month

Close to half of current participants (45%) used more than one incentive type, with an average of 2.4 incentive types (out of 5 total incentive types) used per person. The participants using all three common incentive types – coupons, the Double Up card, and tokens – were primarily in Southwest Michigan, including Kent, Barry, and Kalamazoo counties, and Southeast Michigan, including Genesee, Macomb, Washtenaw, and Wayne counties. In other words, the participants using more incentive types were also more likely to be in denser areas with more Double Up sites. In the rest of the state, only five participants described using all three incentives. These participants shopped in Manistee, Isabella, and Gratiot counties, which are all rural areas.

Many interviewees and survey respondents spoke about financial savings as the most important area of impact from Double Up. For the first time, the survey attempted to quantify the level of financial savings from the program. Based on responses, Double Up participants had an average savings of \$22 per household member each month³ with 68% of respondents saving less than \$25 per person per month. (Ten of the 122 current respondents either skipped this question or said “I don’t know.”)

We did not find a relationship between average monthly savings per household and either health status or number of site-level barriers (such as prices or limited selection) to program utilization. However, interview conversations indicated, now that the daily earning cap has decreased to \$10, participants who shop only once per week will likely save less through Double Up than they were previously. In other words, people who have limited time or transportation options, or face other barriers, will have a harder time fully utilizing the program.

Interviews indicated the lower daily earning cap will have a bigger impact on people with barriers to frequent shopping trips.

Fig. 6: Percent Using Incentive Type 2+ Times per Month (N = 117)

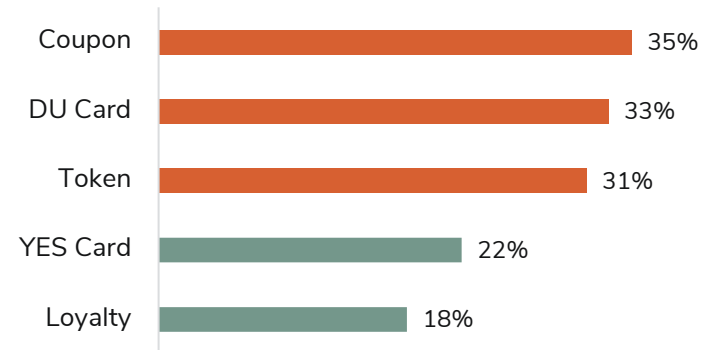
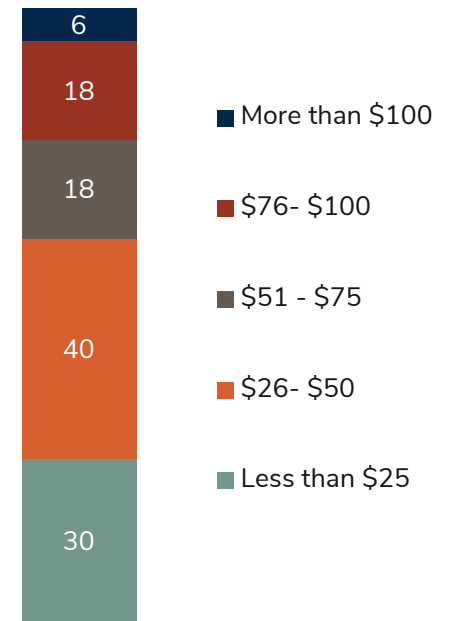


Fig. 7: Number of Households per Savings Category (N = 112)



“[Double up] makes that last struggle week not so much of a struggle.”

- Dearborn Heights resident

Nearly half of current participants redeemed Double Up almost every time they shopped. Not far behind were those who said they rely on Double Up when Bridge Card funds run out. Those households with the highest average savings per month tended to spend Double Up every or nearly every time they shop. These frequent redeemers average almost five dollars more in savings per household member per month than those who save them up.

Holidays was the occasion most often selected as a reason for saving Double Up dollars. However, in 2022 the timing of the temporary pause on Double Up earnings (August 1, 2022 – January 14, 2023) caused some participants frustration in their efforts to save up for holidays at the end of the year.

Shoppers who use tokens reported saving the most per household member, at \$28.07 per person per month. Those who use the Double Up Card had \$23.28 in savings per person per month. Those using coupons and the Yes Card averaged \$21.39 and \$21.72 in savings per person per month respectively. (Note that these estimates include users of multiple incentive types in the calculation for each group to which they belong.)



“If I'm out of stamps - I don't have a lot of money, I still can go get fruits and vegetables because I have my Double Up Bucks card. I appreciate that.”

- Detroit resident

Fig. 8: Nearly half of current participants redeem Double Up consistently when grocery shopping (N = 84)

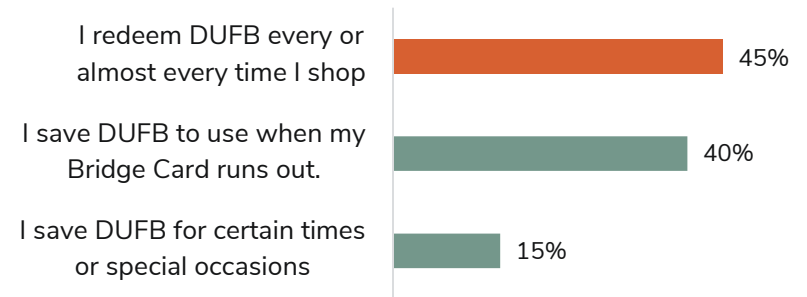
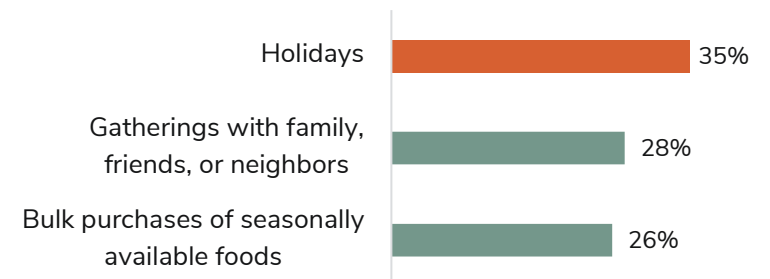


Fig. 9: Holidays was the most frequent reason for saving Double Up dollars (N = 63)



BARRIERS TO PARTICIPATION

More than half of Double Up participants said that produce prices limit their purchases and nearly half said the prices at Double Up sites are higher than where they usually shop.

The limitations on produce purchases were very similar between 2021 and 2022, indicating that these experiences are fairly consistent across different groups of participants. In both years, more than half of program participants said that price limits their produce purchases.

On the other hand, the patterns of site-specific barriers to using Double Up were different between 2021 and 2022. In 2022, nearly half of participants said that the prices at Double Up sites were higher than where they normally shop for food whereas a third reported this concern in 2021. While some of the greater focus on

price in 2022 could relate to the broader inflation trends that year, the variations also indicate that program participants have different experiences at different Double Up sites.

We did not find any patterns in the sites, site types, or geographic areas where participants reported higher prices at the Double Up site than where they typically shop for food. This could indicate that the experience of this site-specific barrier depends just as much on individuals' shopping patterns as it does on the site itself.

Fig. 10: Produce prices are a consistent barrier for Double Up participants



*This item was not included in the 2021 survey.

While ease of access to Double Up sites can be measured by many metrics, site operating hours and distance from home were two factors that participants mentioned most often in interviews. The map in Figure 11 shows the ratio of Double Up sites per 5,000 SNAP households. While Wayne and Kent counties have the largest number of sites, Antrim county has the highest ratio, with 23 sites per household. Although counties are large areas, the map provides some insight into which counties provide the most opportunity to use Double Up.

Mapping shows that the Detroit metro area has the fewest sites per qualified household. The top twenty counties with the densest ratio of Double Up sites to SNAP households all have less than 10,000 households qualifying for SNAP benefits. Still, in these less densely populated areas of the state, Double Up sites may be geographically dispersed, presenting barriers in terms of time and transportation.

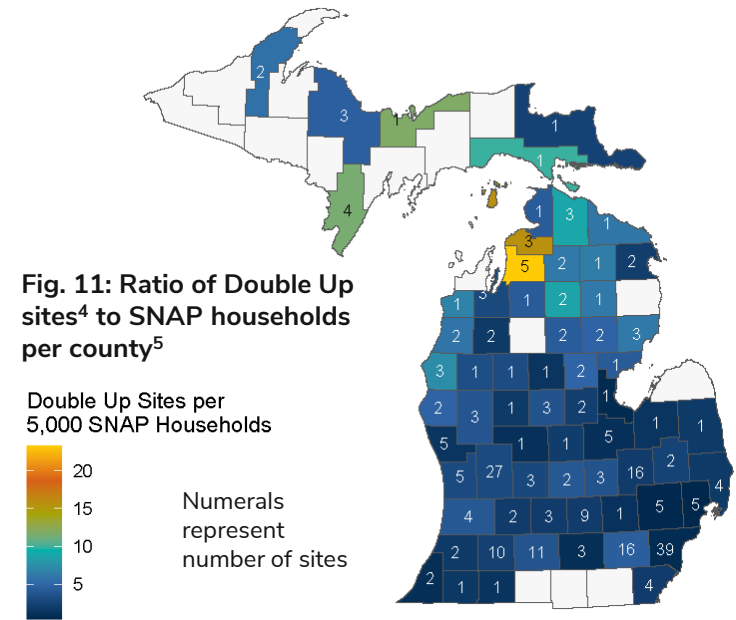
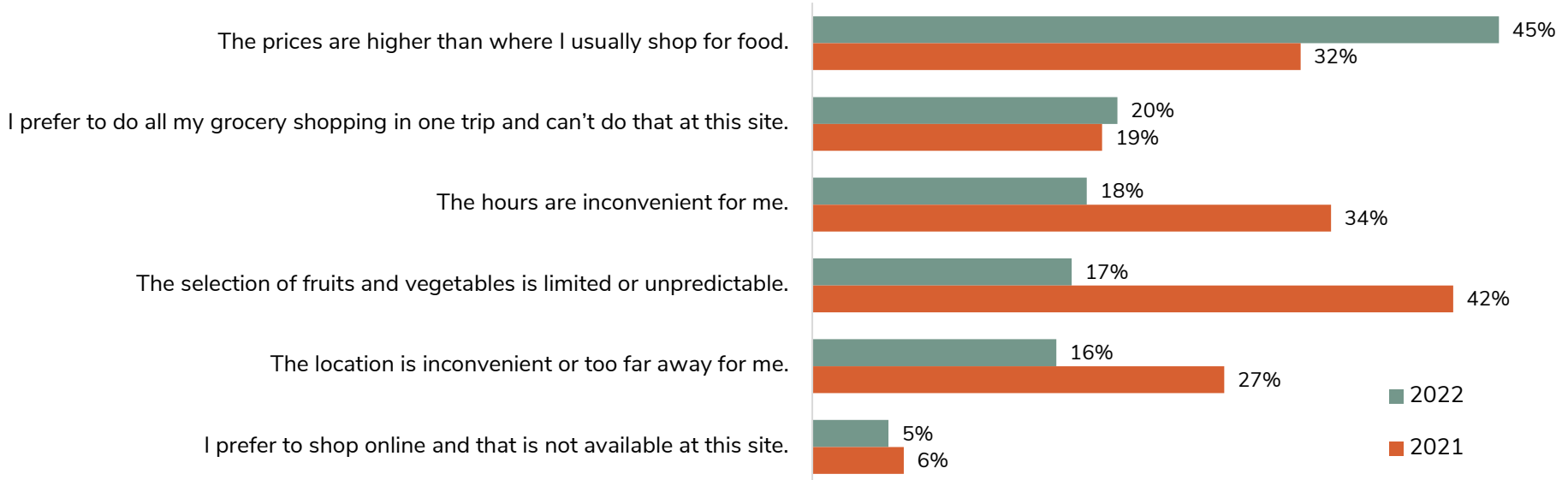


Fig. 12: Prices are the biggest barrier to using Double Up (N = 177)



The interviews revealed four themes related to program barriers and overall limitations on produce purchases, as described in the table below. Interviews also showed that the barriers are intersectional. Shoppers that seemed busiest in their personal lives tied what might alone be minor inconveniences (i.e. daily spending limit, location of sites) to other logistical barriers, like working long hours or taking young children shopping at an out-of-the way site multiple times a week. Location also mattered. Some

interviewees said the logistics of getting to a Double Up grocery store, or to a farmers market during limited hours, were not always worth it when they had another store closer to home. This became especially true for those who were used to the \$20 per day earning limit. With the Double Up cap set at \$10 per day at the time of interviews, the financial incentive for making the trip was lower.

Barriers to Maximizing Double Up Benefits

Daily Spending Limits



Many participants described frustration with daily spending limits. A parent and small business owner in Marquette described how the daily limit requires significantly more shopping trips to get the most financial impact from her Double Up card. She noted that a weekly limit might be a happy medium between no limits and daily cap.

Program Promotion



Some participants suggested increased partnerships to reach out to customers who qualify for other benefits programs like WIC or communities where high rates of food insecurity occur, like in assisted living communities. Participants also suggested events like market tours and canning or pickling classes to help Double Up shoppers make the most of their produce.

Program Availability



Interviewees felt that expanding the program to new sites would lead to more choice in terms of where and when to shop and greater logistical ease in making the most of their Double Up dollars.

Program Processes



Even though using multiple incentive types is common, many participants felt that one currency would make the program more accessible across different site types. Multiple participants expressed a strong preference for the experience of using Double Up at the farmers markets, citing the ease of using tokens and vendors' nearly uniform understanding of the program. Some participants found the differences in logistics from site to site to be enough of a deterrent to limit their program engagement to farmers markets only. Still, likely due to farmers markets' limited hours and locations, overall grocery stores are the most common site for Double Up redemption.

FORMER PARTICIPANTS

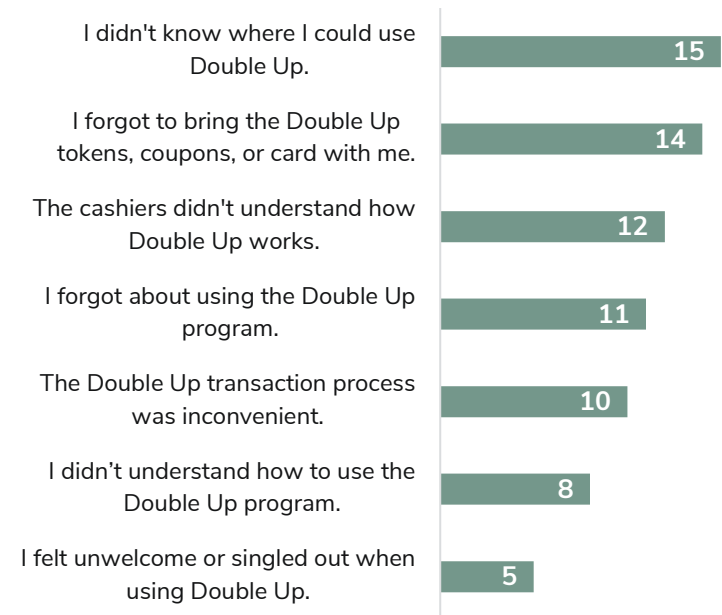
Former Double Up participants reported high program satisfaction but cited logistic barriers.

Anecdotally, some Double Up participants are known to stop using the program after a short time. The 2022 survey sought to understand reasons for discontinuing participation by seeking responses from former participants, defined as those who had previously used the program but not within the past three months.

Most of the 29 shoppers in this category⁶ had used Double Up at least three times (82%). Figure 12 shows about half of former participants cited logistic barriers of not knowing where to use the program or not remembering to bring the required currency. Twenty participants, or 70% of this group, experienced more than one of these barriers. In open-ended responses, the largest number shared that they stopped using the program because they no longer qualified. Others cited insufficient time, lack of transportation, and getting help from other sources.

Stigma was rarely cited as a factor in former participants' experiences. Former users felt just as positively about the program as current users and felt welcome when using Double Up at nearly the same rate. In short, while logistic barriers may be limiting participation, participants are not leaving the program because they are dissatisfied. Unfortunately, former participants still experience food insecurity at a similar, if not higher, rate (55%) than active Double Up users (47%).

Figure 12: Former Participants' Experiences of Barriers (N = 29)



PARTICIPANT OUTCOMES

EXPERIENCES OF FOOD INSECURITY

“Without [Double Up], I’d only be eating about 20 percent of my daily intake. With the Double Up card, I’m able to get maybe 50 percent, but not every week. I’d say half the month. It’s really tight because I’m a disabled senior on \$1,300 fixed income a month.”

- Flint resident

Double Up Food Bucks participants **reported experiencing food insecurity at more than four times the rate of the general population in the U.S.**, similar to what was seen in 2021.

About one of every seven survey participants (14%) reported very low food security, such that eating patterns are disrupted and food intake is reduced for one or more household members. Within this group, twelve people, or over 40%, were trying Double Up for the first time on the day of the survey, suggesting that additional program outreach could reach households with critical food access needs.

Those experiencing food insecurity affirmed the financial impact of Covid-19 at roughly twice the rate of those not facing food insecurity. Likewise, half of individuals experiencing food insecurity affirmed that the pandemic made it harder to access fresh fruits and vegetables. This is a stark finding given that there was increased emergency funding for nutrition programs, including Double Up, available during the pandemic.

Collectively, these findings show that **Double Up is meeting a critical food need for many participants.** Interviews also showed the extent to which many participants relied on Double Up to reduce food insecurity.

Fig. 13: Rates of Food Insecurity^{7,8}

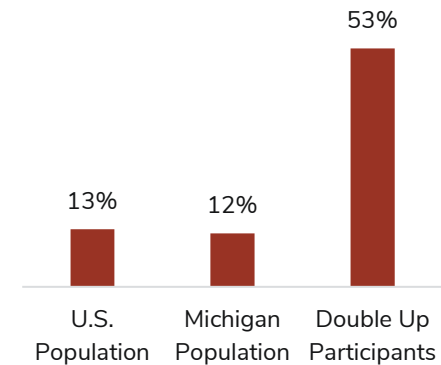
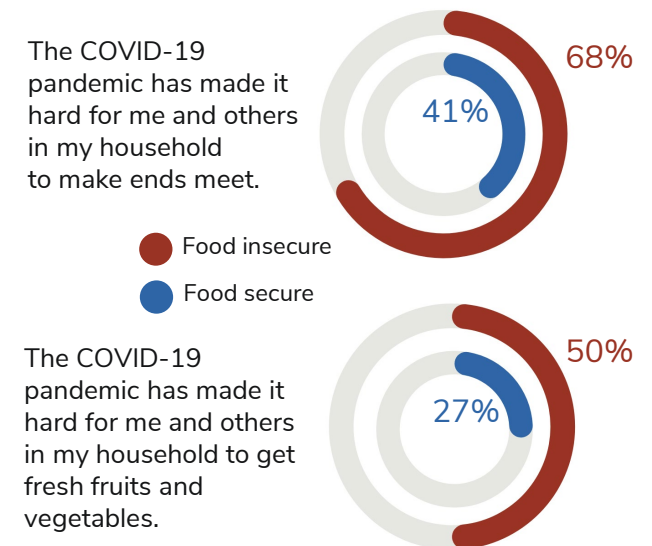


Fig. 14: Percent Agreement with Covid Impacts (N = 204)



FRUIT AND VEGETABLE CONSUMPTION

Fruit and vegetable consumption was higher for those redeeming more Double Up dollars and with more time in the program.

Survey respondents reported fruit and vegetable consumption averaged 2.5 cups⁹ per day out of a recommended 3.5 to 5 cups.¹⁰ **Average fruit and vegetable intake was more than one-third cup higher for those redeeming the most Double Up Food Bucks dollars per household member.** We also saw more fruit and vegetable consumption among participants with longer use of Double Up. This trend was stronger in the 2022 data than in 2021.

We did not find fruit and vegetable consumption to differ in a meaningful way by food security status. In 2022, food secure participants with more time in the program had greater produce consumption but food insecure participants did not. This is the opposite of what we saw in 2021, where food insecure with more time in the program had greater produce consumption.

Daily intake averages for Latinx respondents (N = 14) was higher than for any other demographic group and higher than the previous survey year, with an average of 2.44 cups in 2021 and 3.20 cups in 2022. While the sample is small, this observation is consistent with typically high produce consumption observed in various Latinx groups.¹¹ (For full comparisons of fruit and vegetable intake by demographic group, see p. 27.)

“Before the program... the healthy foods were the things that I put on the back burner... Now with the Double Up Food Bucks... it really becomes a focus on the fruits and vegetables as a mainstay and not as a special or a once in a while treat.”

- Muskegon resident

Fig. 15: Average Daily Cups of Fruits and Vegetables by Data Source

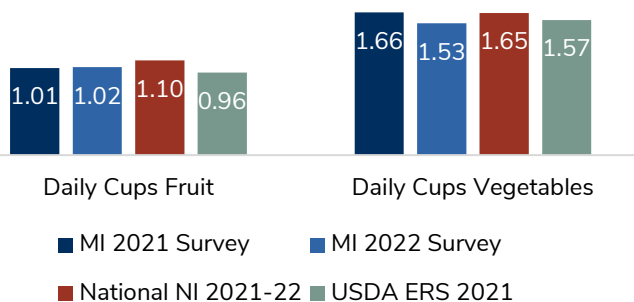


Fig. 16: Average Daily Cups of Fruits and Vegetables by Monthly Double Up Redemption Value (N = 96)

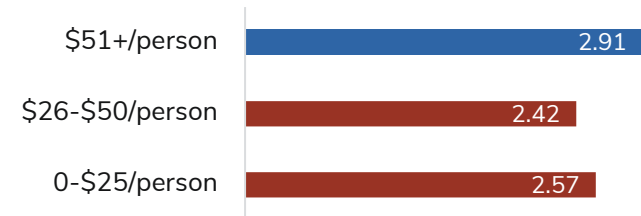


Fig. 17: Average Daily Cups of Fruits and Vegetables by Length of Double Up Participation (N = 186)

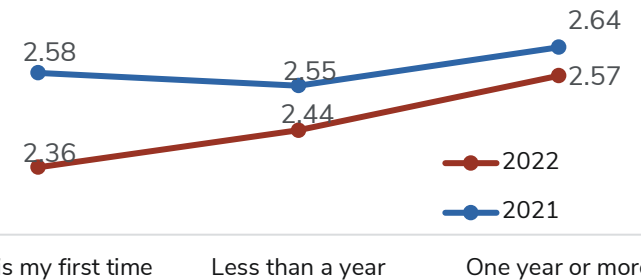
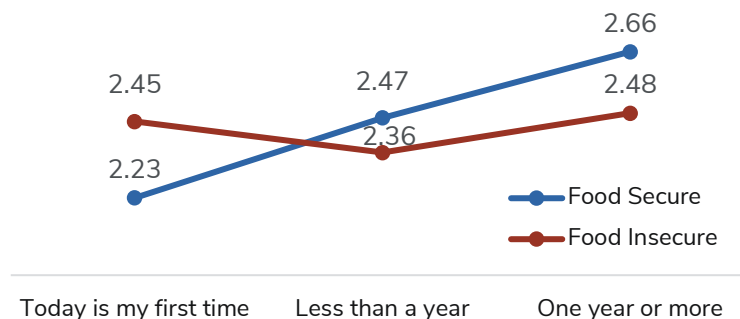


Fig. 18: Average Daily Cups of Fruits and Vegetables by Length of Double Up Participation and Food Security (N = 184)



HEALTH STATUS

Unlike 2021, improved health status was not related to length of participation. The relationship between health status and more frequent utilization continued.

This year saw a higher portion of participants reporting their health as “poor” or “fair” than in the previous two years of surveys. While both the 2021 participant survey and the GusNIP Year 2 Impact Findings found a relationship between health status and length of program participation, we did not see this relationship among 2022 participants.

High-frequency program users, who visit multiple Double Up sites at least twice per month, had a higher self-rating of health than their counterparts. The same thing was seen in 2021: high-frequency shoppers assessed their health status at an average of 3.3 on a 5-point scale while low-frequency shoppers averaged 2.8. This suggests that, although many factors influence health, frequent program participation and better health status are related.

“To be able to go and buy fresh food and know that you're going to have enough money and it's going to be taken care of, and you can buy the highest possible quality food that's available... It makes a really big difference in the quality of my life.”

- Kalamazoo resident



Fig. 19: Health Status by Group^{12, 13}

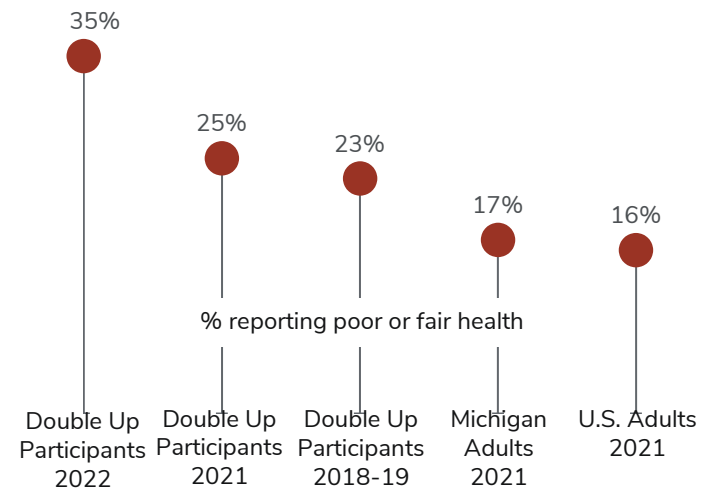
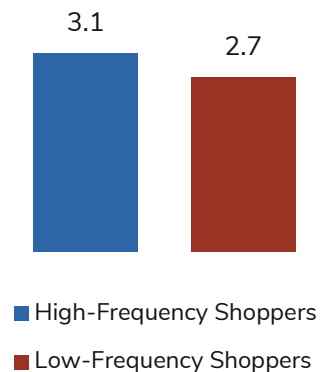


Fig. 20: Average health status from poor (1) to excellent (5) by shopping status (N = 130)



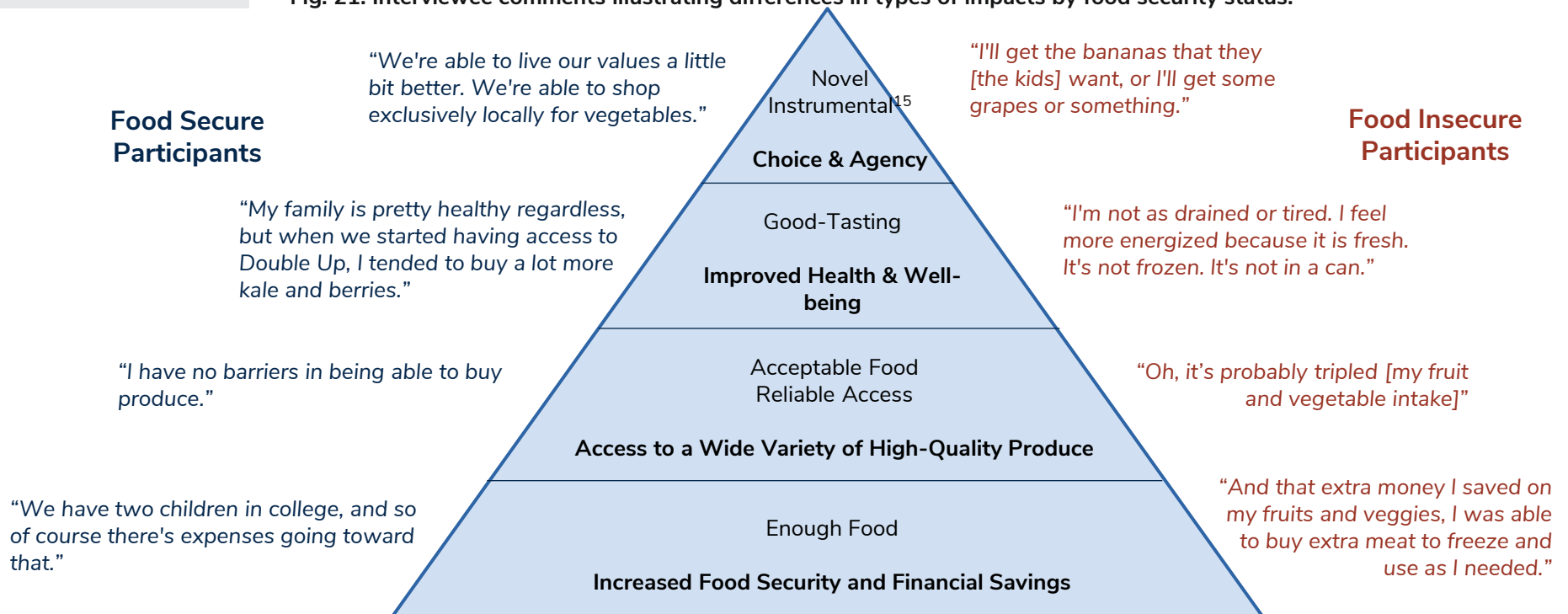
TYPES OF IMPACT

We found that food security status related to the types of impacts experienced from Double Up. Food secure interviewees described impacts related to increases in well-being, access to higher quality foods, aligning purchases with values (agency), and spending savings on other activities like trips or educational expenses. In contrast, those facing food insecurity, while occasionally mentioning these same impacts, more often described impacts in terms of sufficient food, financial benefits, and eating more fruits and vegetables. In short, food insecure interviewees more often spoke of the program meeting immediate needs.

Ellyn Satter’s Hierarchy of Food Needs¹⁴ provides a framework for understanding the different impacts experienced by these groups. According to Satter, an individual’s food security status influences how they make decisions about food. Only when the needs on the bottom of the pyramid are met, can someone focus on the needs listed above. This means food insecure individuals are more likely to focus on getting enough food, reliable access, and acceptable food. Food secure individuals are more likely to focus on good-tasting food and food that serves “to achieve a desired physical, cognitive, or spiritual outcome.”

Interviews showed that Double Up helps those with the least resources afford produce and helps those with slightly more resources try new foods and shop based on personal values.

Fig. 21: Interviewee comments illustrating differences in types of impacts by food security status.

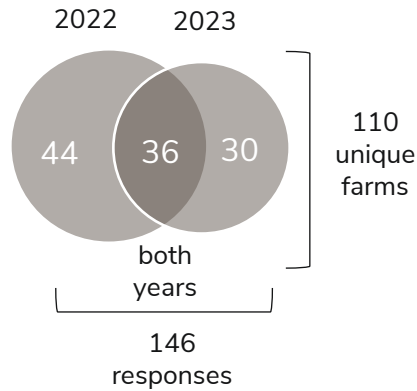


VENDOR EXPERIENCES

SURVEY RESPONDENTS

Double Up is engaging direct-market farmers and vendors that are younger, more diverse, and operating smaller farms compared to Michigan farms and producers overall.

Fig. 22: Survey Responses



Over two years, the Double Up Direct Market Farmer and Vendor Survey generated 146 total responses, representing 110 unique farms.

Compared to all producers in Michigan,¹⁶ Double Up producers responding to the survey were younger, with an average age of 45 compared to 57. Nearly a quarter of producers were under the age of 35, compared to 10% for the state.

Double Up producers were also more diverse, with between 2 - 5% identifying as Black, American Indian-Alaskan Native, and Asian compared to less than half a percent in each of these groups in the state overall.

Direct-market Double Up farms were also notably smaller, both in acreage and average gross sales, than farms in Michigan overall. More than 50% of farms surveyed were under ten acres.

Fig. 23: Percent of Producers Under 35

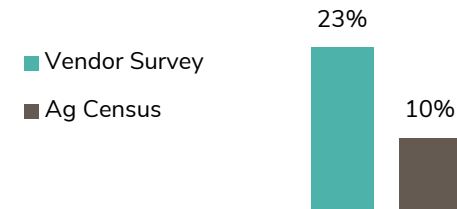
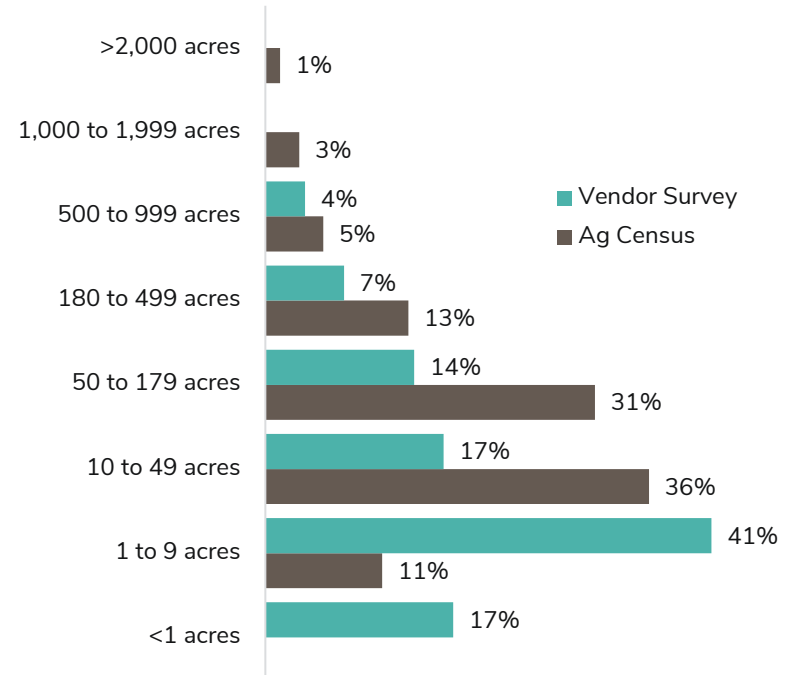


Fig. 24: Percent of Farms by Acreage Category



Terminology

Producer: someone who grows agricultural products; used interchangeably in this report with “farmer” and “vendor”

Direct market: selling directly to customers, including through farmers markets, farm stands, and community supported agriculture operations

93%

of vendors had a positive experience with Double Up

“It’s a program that supports small-scale Michigan vegetable growers while also increasing access of fresh healthy foods for low-income folks – a win-win.”

- Wayne County vendor

Terminology

Direct sales: portion of sales through a direct market channel, including through farmers markets, farm stands, and community supported agriculture operations

Most farms in the survey sample relied heavily on direct market sales, with 82% (90 of the 110) stating more than 75% of sales were from direct markets, including 65% of farms reporting 100% of their sales from direct markets. About a third of farms also reported retail sales and between 15-20% reported sales to institutional and intermediate markets.

The vast majority of vendors rated their experience with Double Up as either positive (37%) or very positive (56%). Five said their experience was neutral and only two vendors had a negative experience, expressing frustration with needing to explain the program to customers and multiple token types at farmers markets.

In open-ended comments explaining their experience, many vendors indicated they appreciated the opportunity to expand access to healthy food to more people. Without prompting, 56% of vendors mentioned being motivated by the social mission of Double Up.

The 110 farms in the survey sample were spread across 47 different counties. Washtenaw County had the largest number of farms, with 11. Percent sales from Double Up ranged from less than one percent to 65%, reached by a three-acre farm in the Thumb region primarily selling through farmers markets. Collectively, farms reported an average of 12% of sales from Double Up.

We did not find any associations between race, gender, education level, household income, or distribution of sales across market channels and Double Up experience, including rating of the program, number of Double Up market outlets, and percent of sales from Double Up. In other words, we found a consistent level of participation and a consistently high level of satisfaction across socio-demographic lines. We did find that farm size and Double Up sales were moderately correlated.

Fig. 25: Number of Farms per County and Average Percent Sales from Double Up (N = 110)

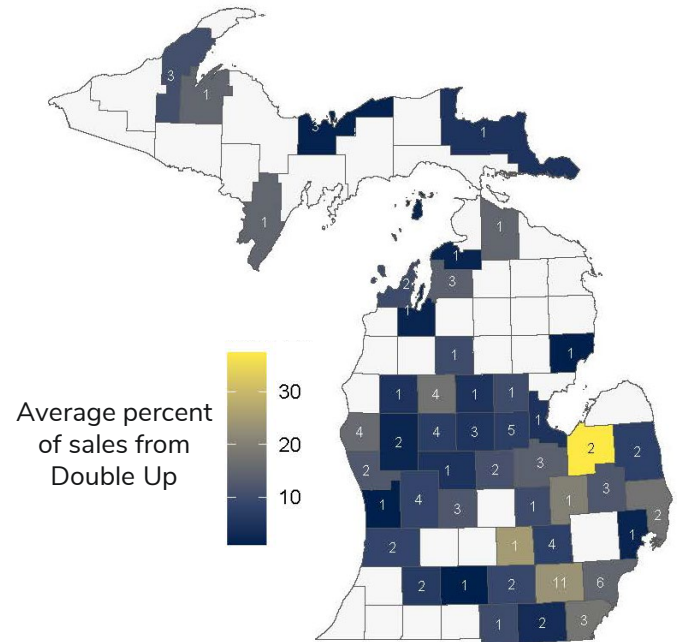
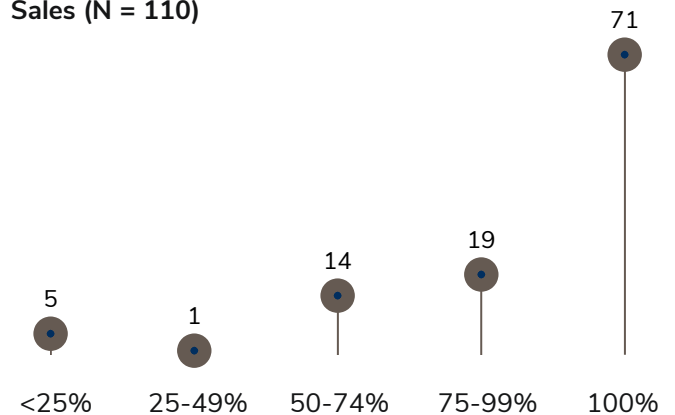


Fig. 26: Number of Farms by Category of Percent Direct Sales (N = 110)



BARRIERS and POTENTIAL IMPROVEMENTS

“I regularly meet customers who are unfamiliar with the program - it would be great to find a way to communicate this to all individuals who are eligible for food benefits.”

- Muskegon County vendor

When asked about program barriers and potential improvements, the most frequent response was the desire for more promotion of the Double Up program to eligible individuals. The need for more education about the program also emerged. Over 40% of vendors agreed they often have to explain how the program works, though most seemed not to mind this task. The desire for more program education, including eligible products, available sites, and differences between incentive types, was the second most common theme in suggested improvements.

Other themes in suggested improvements included the desire to reinstate the higher earning limits of previous years and streamline incentive types. However, thoughts on the specific incentive types were mixed, with some vendors preferring tokens, some preferring cards, and others just wanting consistency across sites.

Fig. 27: Top Themes in Suggested Program Improvements

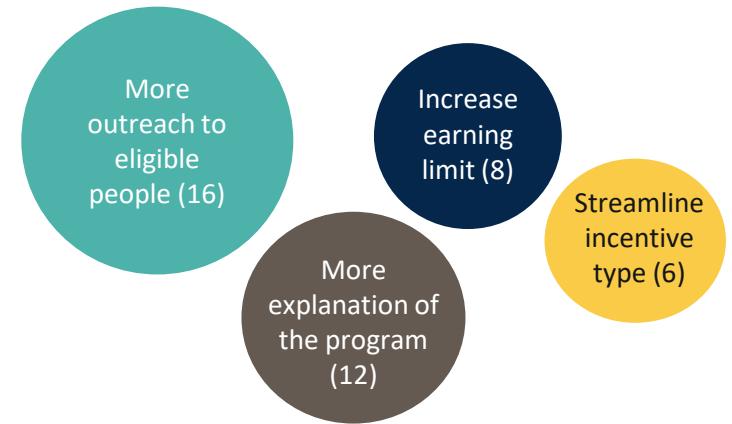
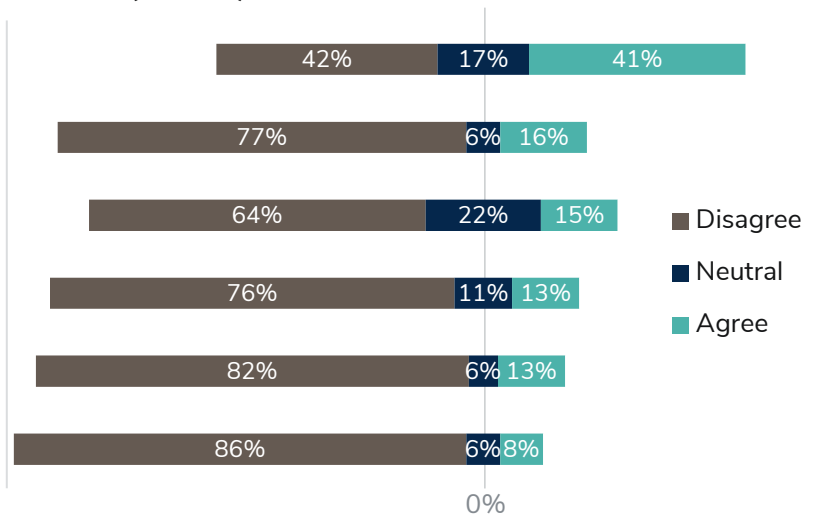


Fig. 28: Level of Agreement with Double Up Administration Barriers (N = 110)

“For the bit of work I have to do it's worth it for my customer and my farm.”

- Osceola County vendor

- I often have to explain how the program works.
- Transactions take longer when customers use Double Up.
- Reporting requirements of this program are a burden.
- It is difficult to understand differences between programs.
- It is difficult to understand which products are eligible.
- It is difficult to understand the reimbursement process.



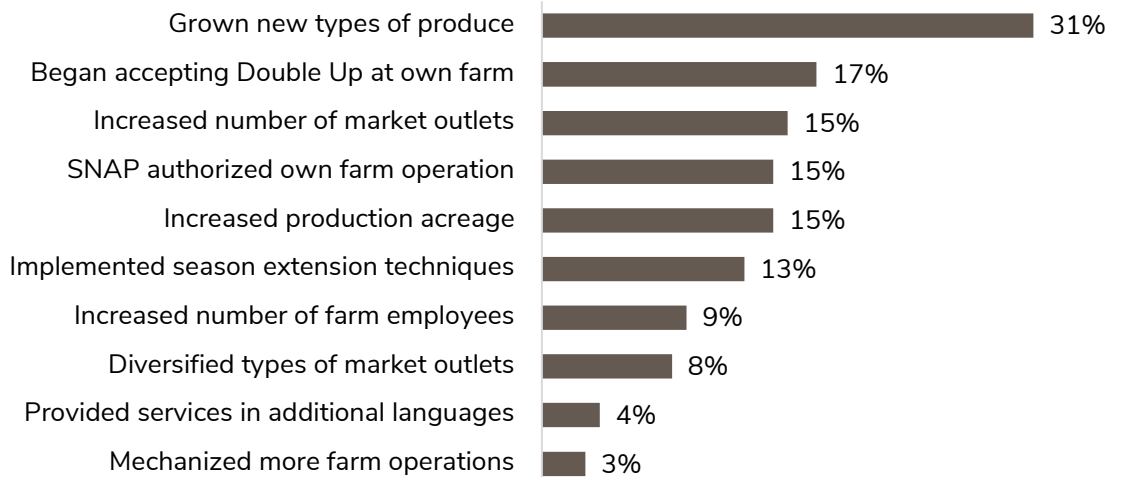
VENDOR OUTCOMES

Greater level of participation in Double Up related to greater potential for Double Up's influence on farm operations.

The survey asked whether participation in Double Up was a significant factor in changes in farm operations. **Nearly a third of respondents said they had grown new types of produce.** Several people described how conversations with customers, such as requests for specific foods, led to the decision to diversity products grown. For all but one of the listed changes, the farms indicating that Double Up had a role in the change had greater average Double Up sales than those who did not. The average difference between those who made any change and those who made no changes was 9.3 percentage points. In other words, the greater the level of participation in Double Up, the greater the potential for influence on farm operations.

The only two people that had a negative experience with Double Up accepted the program at a single farmers market and had a relatively low percent of their sales from the program (average of 7%). In short, their low level of participation may have brought more hassles than benefits.

Fig. 29: Percent of Farms Reporting Double Up Influenced Changes (N = 110)



Approximately **three-quarters of responding direct-market vendors agreed that they had both more customers and more repeat customers as a result of participating in Double Up.** The majority also agreed that their farms had higher gross sales and were more profitable.

We also found a relationship between reporting higher gross sales and the level of participation in Double Up. The 18 farms that disagreed that Double Up contributed to higher gross sales had an average of 6% of sales from Double Up and accepted the program at an average of 1.9 markets. The 75 farms that agreed Double Up contributed to higher gross sales had an average of 14% of sales from Double Up and accepted the program at an average of 2.2 markets. In other words, higher participation levels in the program are more likely to bring economic gains for participating farms.

“Conversations with diverse customers leads to broader variety of produce we grow.”
- Ingham County vendor

The farms accepting Double Up at more markets and with higher average sales from Double Up were more likely to agree that they had higher gross sales because of Double Up.

Fig. 30: Percent of Farms Reporting Outcomes as a Result of Double Up (N = 110)

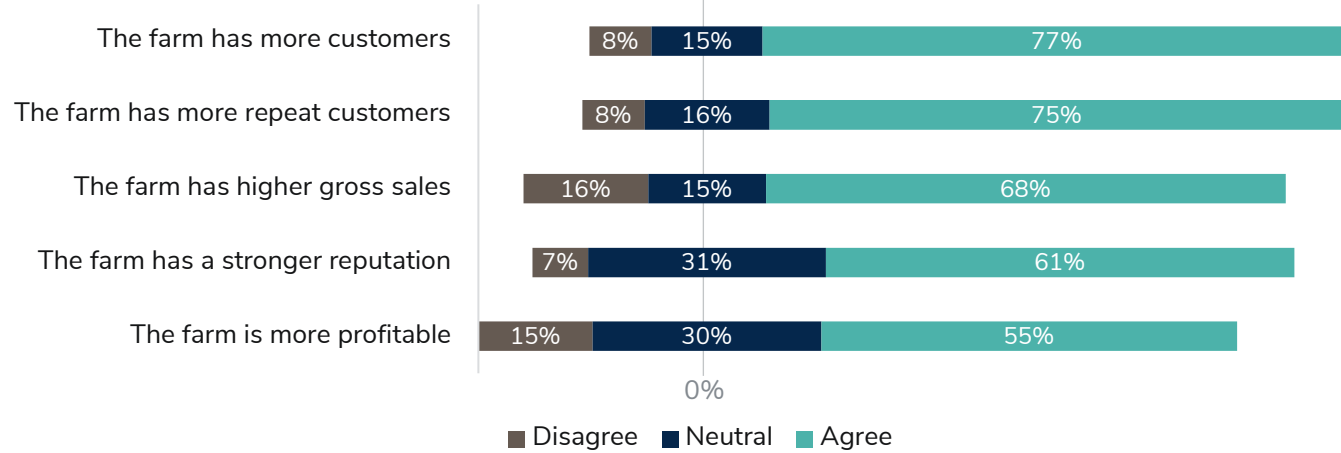
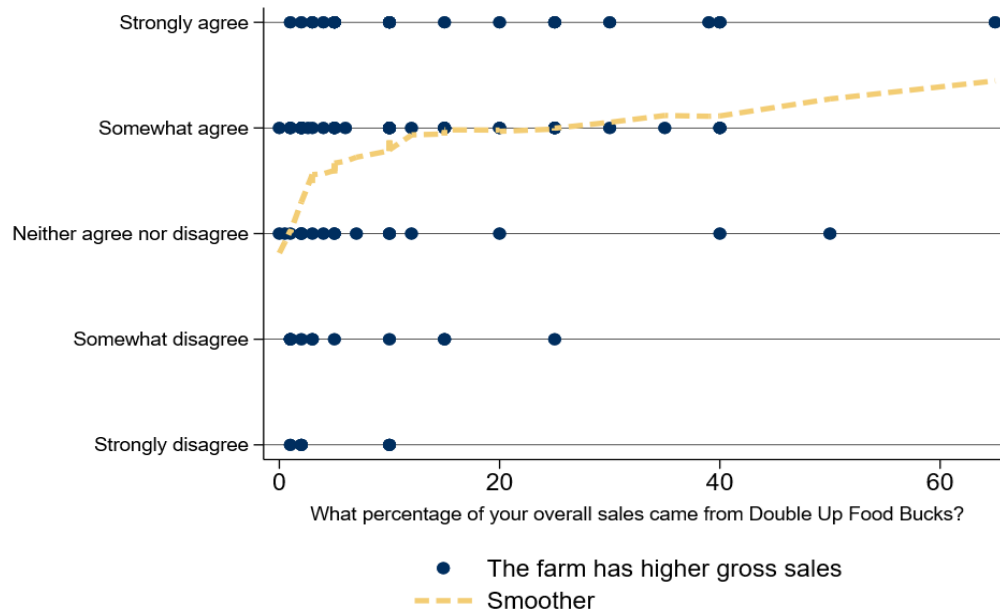


Fig. 31: Relationship between Percent Double Up Sales and Reporting Higher Gross Sales (N = 110)



The smoother line is a mathematical prediction of the relationship between the two variables.

“We have gained other customers by word of mouth from those who purchased from us using the Double Up program.”
 - Tuscola County vendor

DOUBLE UP SALES OVER TIME

Overall, Double Up sales increased by an average of \$1,958 per farm between 2021 and 2022.

Farms had a wide range of experiences related to changes in gross sales and the portion of sales from Double Up between 2021 and 2022. Of the 35 farms providing data for both years, the majority (23) saw gross sales increase, with an average increase of 28% overall. Nine of the farms that expanded sales simultaneously increased the portion of their sales from Double Up. Four farms increased their gross sales and maintained the same percent of Double Up sales. For others that expanded sales, their Double Up

sales did not keep pace, resulting in a small average decrease in Double Up sales. Five farms saw decreases in gross sales but increases in the portion of sales from Double Up. In other words, even though the average Double Up sales decreased, the decrease was smaller than the decrease in overall sales. In short, most farms increased the portion of Double Up sales relative to changes in overall sales, with an average increase of \$1,958 in Double Up sales per farm.

5 farms: Gross sales went down but the portion of Double Up sales went up; average of \$1,208 fewer dollars in DU sales

1 farm: Both gross sales and the portion of Double Up sales went down; \$3200 fewer dollars in DU sales

9 farms: Both gross sales and the portion of Double Up sales went up; average of \$3,411 additional dollars in DU sales

10 farms: Gross sales went up but Double Up sales did not increase as quickly; average of \$440 fewer dollars in DU sales

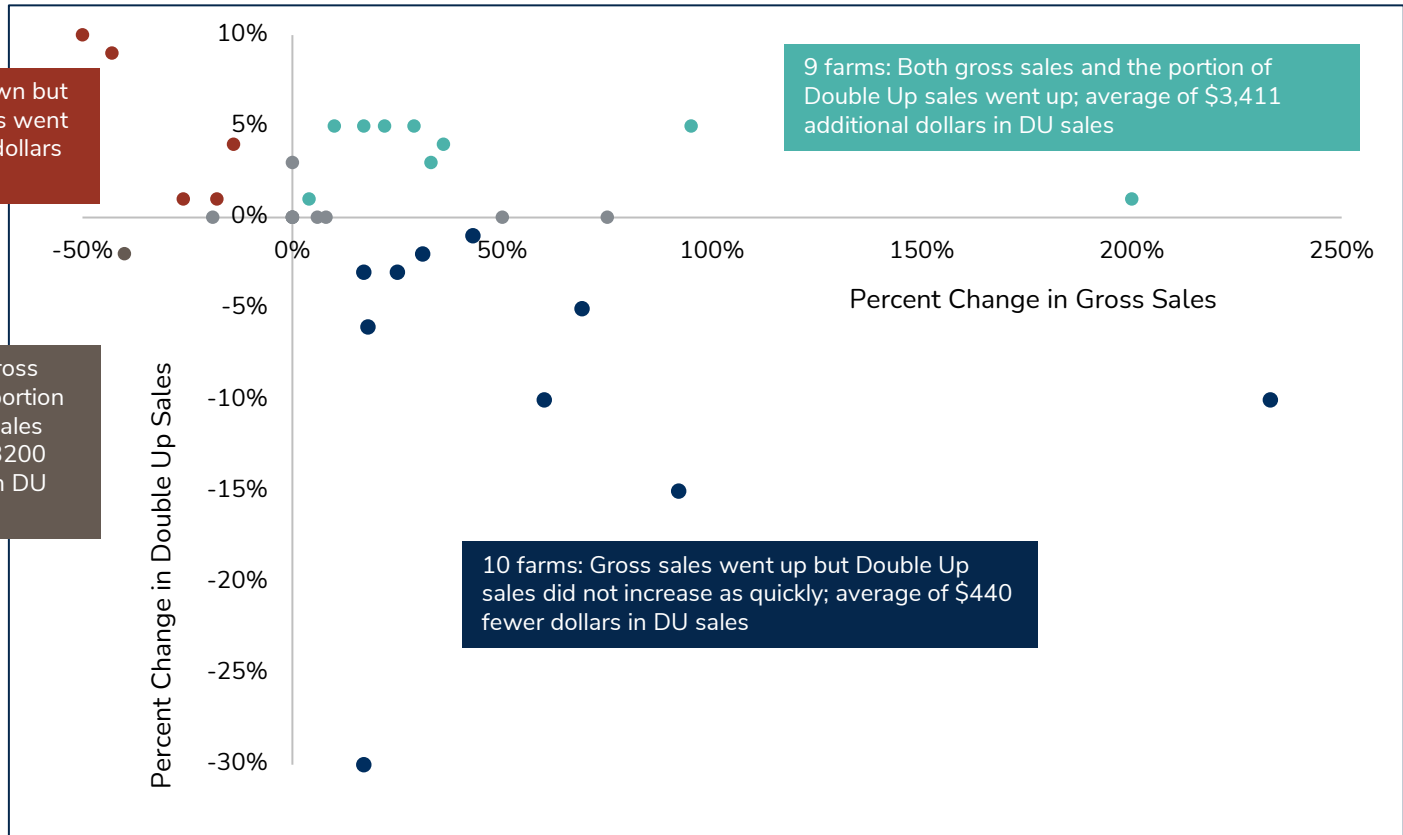


Fig. 32: Relationship between Change in Double Up Sales and Change in Gross Sales (N = 35)

KEY FINDINGS

Satisfaction with Double Up is high.

Participants like the Double Up program and reported high levels of satisfaction and feeling welcome. Their main critique is that they would like to be able to access the program at more sites and with higher earning limits. Likewise, former program participants are leaving the program not because they are dissatisfied but, assuming they remain eligible, because of logistic hurdles.

Many participants are savvy shoppers.

Many survey respondents and interviewees had a high level of engagement with Double Up and were savvy about navigating the program across multiple sites and different incentive types. Nearly half of current participants redeemed Double Up almost every time they shopped. On average, current participants used Double Up at 2.8 different sites and used 2.4 different incentive types.

More program promotion is needed.

We found multiple indications of opportunities for increased program promotion. Survey responses showed that although SNAP users automatically qualify for Double Up, there is often a lag before SNAP beneficiaries begin using Double Up. Interviewees shared the chance ways in which they learned about the program and described having many acquaintances unfamiliar with the program. Among vendors, the most frequently suggested program improvement was expanding outreach and promotion to more people.

Double Up is reaching high-need households.

As seen in 2021, Double Up is meeting critical food access needs for many people. Even with program benefits, more than half of participants said that price limits their produce purchases. Food insecurity rates among survey respondents were more than five times the rate of the general population in the U.S. Furthermore, among those experiencing food insecurity, a majority said the pandemic made circumstances

worse. The portion of Double Up participants that reported poor or fair health was twice that of Michigan residents overall. Interviewees shared that Double Up was the difference between getting enough to eat and going hungry and between buying fresh fruits and vegetables or going without.

Fruit and vegetable consumption is related to program participation.

Average fruit and vegetable intake was more than one-third cup higher for those redeeming the most Double Up Food Bucks dollars per household member. Fruit and vegetable consumption was also higher for those with more time in the program.

Participants' impacts differ based on food security status.

Through interviews, we learned that participation in the Double Up program benefits people in different ways and that the types of impact seem to relate to food security status. Food insecure interviewees more often spoke of the program meeting immediate needs, like access to sufficient food and the ability to purchase fresh fruits and vegetables. Food secure interviewees more often spoke of the program providing access to higher quality foods and the opportunity to align purchases with values of supporting local producers or organic production methods. Due to Covid relief funding (specifically P-EBT), the program may have been used by folks from a broader range of socioeconomic backgrounds in 2021 and 2022, leading to more diversity in the ways the program was used.

KEY FINDINGS CONTINUED

Double Up is benefiting young, diverse producers operating small farms.

Compared to all producers in Michigan, Double Up producers responding to the survey were younger, more racially diverse, and operating notably smaller farms. The vast majority of vendors rated their experience with Double Up positively and we found a consistently high level of both participation in the program and satisfaction across socio-demographic lines.

Double Up is facilitating farm profitability.

More than half of vendors responding agreed that their farm was more profitable because of participation in Double Up. Even more agreed that they had more customers, higher gross sales, and a stronger reputation. Double Up is also contributing to tangible changes in farm operations, such as growing new types of produce. Greater levels of participation in Double Up were associated with greater likelihood of reporting economic benefits from the program.

The lower earning cap will likely reduce benefits for both participants and vendors.

Both vendors and interviewees expressed concern over the change from the \$20 a day earning limit to a \$10 a day earning limit, which was new at the time of data collection. Interview conversations made clear that the lower cap will make it harder to justify the time and inconvenience of extra shopping trips. This could mean fewer trips to the farmers market, which would reduce sales for participating vendors.



RECOMMENDATIONS

1. Expand program promotion.

Many people eligible for Double Up are not aware that the program exists, based on both our own conversations with shoppers as well as conversations with vendors and site managers. Expanding promotion efforts, particularly in partnership with other food assistance programs, such as the Bridge Card, WIC, and Senior Project Fresh, could help reach more people who could benefit from additional food access support.

2. Provide more program explanation.

While there is evidence that many participants are savvy shoppers, we also find that many people do not fully understand the program. We had many conversations with people who do not know the program operates at multiple sites, did not know where program funding comes from, or did not understand the program logistics. More frequent explanations across more communication channels would help more people benefit more fully.

3. Share program benefits with vendors and sites.

The evidence shows that while direct market Double Up farmers and vendors are benefitting economically, they are primarily motivated by the social mission of the program. Sharing program outcomes with this group is likely to increase their commitment to the program even further. Sharing program outcomes with market managers, market navigators, store managers, and cashiers is likely to have a similar effect. Since these people serve as the face of the program in most instances, more communication will also facilitate greater understanding of the program among shoppers.

4. Share evidence for the importance of the program with funders and policymakers.

Two years of participant survey data provide some evidence for modest increases in fruit and vegetable consumption among participants. However, the evidence for the program need is compelling. We continue to see large numbers of participants who are food insecure and who find produce too expensive to purchase regularly. We continue to hear many stories from people who would not be able to purchase fresh produce without Double Up Food Bucks. Funders and policymakers need to hear that Double Up is meeting a critical need.

APPENDIX A: Data Tables

Table A1: Mean Fruit and Vegetable Intake and Standard Deviation by Sociodemographic Groups for Michigan and National Respondents.

	MICHIGAN				NATIONAL (N = 6,114) ¹⁷		
	N	Fruits and Vegetables ¹⁸	Fruits	Vegetables ¹⁹	Fruits and Vegetables ¹⁸	Fruits	Vegetables ¹⁹
Overall	186	2.48 (0.88)	1.03 (0.62)	1.53 (0.53)			
Age Group							
18-24	11	2.50 (0.77)	1.18 (0.65)	1.42 (0.43)	2.58 (0.85)	1.09 (0.58)	1.51 (0.44)
25-34	51	2.41 (0.83)	1.05 (0.65)	1.47 (0.46)	2.67 (0.85)	1.15 (0.58)	1.57 (0.47)
35-44	39	2.62 (0.84)	1.09 (0.67)	1.63 (0.44)	2.78 (0.86)	1.12 (0.52)	1.69 (0.53)
45-64	63	2.44 (0.93)	0.98 (0.63)	1.52 (0.57)	2.81 (0.90)	1.10 (0.53)	1.71 (0.55)
65+	22	2.53 (1.00)	0.90 (0.45)	1.63 (0.71)	2.69 (0.79)	1.00 (0.42)	1.66 (0.51)
Gender							
Female	137	2.38 (0.84)	1.00 (0.57)	1.46 (0.49)	2.66 (0.81)	1.09 (0.50)	1.59 (0.48)
Male	49	2.76 (0.94)	1.11 (0.76)	1.76 (0.58)	2.99 (0.97)	1.14 (0.62)	1.86 (0.58)
Ethnicity							
Not Latinx	165	2.45 (0.81)	1.01 (0.62)	1.51 (0.46)	2.75 (0.87)	1.11 (0.54)	1.65 (0.52)
Latinx	14	3.20 (1.38)	1.33 (0.69)	2.02 (0.99)	2.66 (0.81)	1.06 (0.48)	1.63 (0.50)
Race							
American Indian or Alaska Native	6	2.63 (1.10)	1.29 (1.16)	1.65 (0.41)	2.53 (0.81)	1.03 (0.50)	1.54 (0.48)
Asian	1	2.71 (-)	0.92 (-)	1.65 (-)	2.72 (0.85)	1.05 (0.50)	1.65 (0.51)
Black or African American	101	2.46 (0.83)	1.06 (0.67)	1.50 (0.50)	2.72 (0.90)	1.13 (0.59)	1.62 (0.53)
White	55	2.55 (0.90)	0.94 (0.46)	1.61 (0.52)	2.73 (0.85)	1.09 (0.50)	1.65 (0.51)
More than one race	8	2.78 (1.40)	1.07 (0.74)	1.80 (0.90)	2.84 (0.91)	1.16 (0.58)	1.69 (0.54)
Race not listed	14	2.19 (0.81)	1.00 (0.52)	1.32 (0.53)	2.88 (0.86)	1.12 (0.48)	1.76 (0.53)

APPENDIX A: Data Tables Continued

Table A2: Perceived Health Status by Program Participation Length for Michigan and National Respondents

Perceived Health Status	First Time Participants		≤ 6 Months*		> 6 Months Participation		Total	
	Michigan (N = 59)	National ¹⁷ (N = 1,332)	Michigan (N = 23)	National	Michigan (N = 96)	National	Michigan (N = 178)	National
Poor	3.4%	6.3%	4.3%	6.2%	2.1%	5.9%	2.8%	6.1%
Fair	28.8%	32.1%	21.7%	26.1%	32.3%	27.3%	29.8%	27.8%
Good	45.8%	39.1%	43.5%	40.3%	41.7%	38.8%	43.3%	39.3%
Very Good	10.2%	15.6%	21.7%	19.6%	11.5%	20.5%	12.4%	19.3%
Excellent	11.9%	5.9%	8.7%	6.9%	12.5%	6.7%	11.8%	6.6%
Don't Know/Prefer Not to Answer	-	0.9%	-	0.9%	-	0.7%	-	0.8%
Missing	-	47	-	55	-	73	-	175
Total	59 (33.1%)	1,332 (18.8%)	23 (13%)	2,289 (32.4%)	96 (54%)	3,449 (48.8%)	178	7,070

*The Michigan survey differentiated between six months or less and more than six months whereas the national report compared less than six months to six months or more.

APPENDIX A: Data Tables Continued

Table A3: Number and Percent of Respondents by Food Security Status and Sociodemographic Groups for Michigan and National Respondents

	Michigan (N = 208)		National (N = 7,370) ¹⁷	
	Food Secure	Food Insecure	Food Secure	Food Insecure
Age Group (Years)				
18-24	9 (75.0%)	3 (25.0%)	244 (45.8%)	289 (54.2%)
25-34	29 (54.7%)	24 (45.3%)	726 (47.0%)	818 (53.0%)
35-44	15 (36.6%)	26 (63.4%)	760 (46.3%)	881 (53.7%)
45-64	31 (45.6%)	37 (54.4%)	768 (40.3%)	1,138 (59.7%)
65+	11 (50%)	11 (50%)	559 (54.6%)	465 (45.4%)
Gender				
Female	71 (49.0%)	74 (51.0%)	2,444 (45.8%)	2,896 (54.2%)
Male	23 (46.0%)	27 (54.0%)	749 (47.2%)	837 (52.8%)
Non-binary/third gender	1 (33.3%)	2 (66.6%)	74 (43.0%)	98 (57.0%)
Ethnicity				
Not Latinx	84 (48.0%)	91 (52.0%)	2,649 (48.0%)	2,865 (52.0%)
Latinx	6 (40.0%)	9 (60.0%)	574 (37.9%)	940 (62.1%)
Race				
American Indian or Alaska Native	1 (16.7%)	5 (83.3%)	57 (35.0%)	106 (65.0%)
Asian	1 (100%)	0 (0.0%)	210 (57.4%)	156 (42.6%)
Black or African American	48 (44.0%)	61 (56.0%)	559 (45.2%)	677 (54.8%)
White	34 (58.6%)	24 (41.4%)	1,733 (47.6%)	1,905 (52.4%)
More than once race	2 (20.0%)	8 (80.0%)	198 (42.0%)	273 (58.0%)
Total	98 (47.1%)	110 (52.8%)	3,399 (46.1%)	3,971 (53.9%)

APPENDIX A: Data Tables Continued

Table A4: Percentage of Respondents Who Experienced Each Impact Area

	Stress	Financial Impact	Dietary Impacts	Health Benefits	No health impact	Choices & Preferences	Values-driven decision-making
Food Insecure (N=7)	57%	71%	100%	86%	0%	29%	29%
Themes	Several participants mentioned that SNAP and Double Up are the reason that they aren't facing as much stress as they used to.	Buying vitamins, buying food in bulk, covering monthly bills, making the Farmers Market affordable	Many mentions of differences in quantity and some mentions of differences in quality	Following doctors' recommendations, improved mood, energy, healthier digestive system		Able to buy additional kinds of fruits or more quantity	Minimizing carbon footprint by shopping at Farmers Market and Co-op, avoiding filler foods
Representative Quote	<i>[Without SNAP and Double Up] I would feel a lot more stress around buying high quality food. I would be forced to buy more processed foods and more canned foods...</i>	<i>And that extra money I saved on my fruits and veggies, I was able to buy extra meat to freeze and use as I needed.</i>	<i>Oh, it's probably tripled it.</i>	<i>I'm not as drained or tired. I feel more energized because it is fresh. It's not frozen. It's not in a can.</i>		<i>I'll get the bananas that they [the kids] want, or I'll get some grapes or something.</i>	<i>I do my best to shop locally like at farmers market or at the co-op, but clean food is expensive.</i>
Food Secure (N=15)	67%	87%	93%	67%	47%	40%	33%
Themes	Double Up in combination with Bridge card as minimizes stress	Some savings used for family outings or education; Stretching budget once Bridge card dollars have run out	Getting creative, getting treats, using fruits and vegetables as snacks, buying higher quality products	Fruits and vegetables are a priority regardless; energy, following doctor's recommendations, healthier diet	Higher baseline of access to food and prioritizing fruits and vegetables	Trying different cuisines, buying local foods, making pizza, getting specialty items, making local market and co-op more affordable, sharing food	Supporting local farmers, putting Farmers Market prices on par with grocery store prices
Representative Quote	<i>Am I gonna have enough to get apples and oranges? Versus me using the Double Up Bucks, I can get the apples and oranges plus additional.</i>	<i>We have two children in college, and so of course there's expenses going toward that.</i>	<i>I have no barriers in being able to buy produce</i>	<i>My family is pretty healthy regardless, but when we started having access to Double Up, I tended to buy a lot more kale and berries.</i>	<i>Because of my priorities and because I'm gonna eat irregardless... I can't honestly say that it's made a significant difference in my health.</i>	<i>It makes it a lot easier when I go in and my son asks if we can get strawberries, and they're \$7 a pound, but I can say yes.</i>	<i>We're able to live our values a little bit better. We're able to shop exclusively locally for vegetables.</i>

This table is adapted from Dedoose Descriptor Fields x Codes Grid Chart and associated transcripts. The percentages shown represent the proportion of respondents in each food security status group who affirmed each type of impact. The six interviewees for whom food security status was incomplete are omitted.

PARTICIPANT SURVEY

Survey Design

The 2022 participant survey was again provided as both a paper and electronic self-administered survey. In contrast to the 2021 survey, the 2022 survey included three separate branches: for current participants (defined as having participated in the program at least twice in the last three months), former participants (defined as having participated at least once before but not in the last three months), and new participants (defined as participating in the program for the first time on the day of the survey). Respondents were offered a \$5 stipend upon completion of the survey. For surveys completed in person, this stipend was given as cash. For electronically-completed surveys, the stipend was given in the form of a link to Tango Rewards Genius, which allowed recipients to select a gift card of their choosing.

Survey Instrument

As was the case in 2021, the majority of the survey questions on the instrument were required as part of the national evaluation led by the GusNIP Training, Technical Assistance, Evaluation, and Information Center (NTAE). In response to Fair Food Network's learning goals, new items on the 2022 survey included: the approximate amount saved in the past month through the use of Double Up, participation by caregivers of young children, experiences of using multiple incentive types, a more detailed question on frequency of visits to Double Up sites, and reasons for stopping use of the program.

Sampling Strategy

We selected 37 Double Up sites for survey recruitment based on several factors: prioritizing those located in ambassadors' communities, those funded by the Gus-CRR grant, and those where few, if any, surveys were

collected in 2021. We also attended two community events in Southwest Detroit in order to recruit Spanish-speaking program participants.

Data Collection

Due to the pause in the Double Up program beginning at grocery stores on August 1, 2022, we completed as much of the 2022 participant survey data collection in July as possible. This allowed us to gather data about how people use the program without the distortion of paused earning at grocery stores.

Data Cleaning and Analysis

We analyzed survey results using IBM SPSS Statistics Version: 28.0.0.0. Univariate analyses included calculating means, standard deviations, and frequencies. We converted Likert scale variables into dichotomous variables in some cases, converting "strongly disagree, disagree, or neither" into "no" and "agree, strongly agree" into "yes" when calculating how many barriers a person experiences, for example. We conducted multivariate analyses including comparing frequencies and means by subgroup, using the Chi-square test with cross-tabulations, and calculating odds ratios.

We used secondary data sources for comparative analyses between the participant survey data and the broader population of SNAP participants in Michigan. The American Community Survey 1-Year estimates provide state-level data about household composition and the demographics of individuals who use SNAP. The most recent release of this dataset is from 2021. Although it serves as a useful point of reference, the dataset does not cleanly align with all survey data, leaving some demographic information from the Double Up Food Bucks survey without a point of reference in the SNAP data.

Food Security

The survey included the USDA 6-Item Household Food Security Survey Module.²⁰ To analyze these responses, we followed the USDA's scoring procedure in which each affirmative response to the questions about whether the participant is able to afford food needed is given a score of one. The total possible score, therefore, ranges from 0 – 6. Scores of 0 – 1 are then classified as “high or marginal food security,” scores of 2 – 4 are considered “low food security,” and scores of 5 – 6 are considered “very low food security.” We then further simplified these into just two categories: “food secure” (high or marginal food security) and “food insecure” (low or very low food security).

Fruit and Vegetable Intake

The survey included ten questions about the frequency of eating different categories of fruits and vegetables over the last month. Response options, which ranged from “never” to “2 – 3 times per day” were first converted into a cup equivalent measure. These cup equivalents were then multiplied by an age-sex specific portion size in order to account for variances in the volume consumed at any one time across population subgroups. These values were then multiplied by regression coefficients identified by the National Cancer Institute in order to account for both different quantities of fruits and vegetables in different food items and average margin of error. Finally, the values for selected food groups were added together to calculate 1) daily cup equivalents of fruits and vegetables excluding fried potatoes and including legumes; 2) daily cup equivalents of fruits; and 3) daily cup equivalents of vegetables excluding fried potatoes and including legumes. Full details of this scoring algorithm are available on the National Cancer Institute webpage.²¹

Limitations

The target sample size in 2022 was 600 participant surveys. However, due to the pause in the program from August 2022 to January 2023, data collection was cut short. As a result, the 212 responses (down 58% from 2021) can be used in statistical analyses at a 95% confidence level with a 7% margin of error. With this limitation in mind, we used a combination of descriptive analyses with correlation analyses to compare the survey sample with 2021 data as well as Michigan SNAP data.

QUALITATIVE IMPACT EVALUATION

Evaluation Design

We used a modified Success Case Method²² as a conceptual framework. We invited interview participants to take the 2022 participant survey prior to completing their interview, resulting in 22 of 29 interview participants providing both quantitative and qualitative data. This allowed us to construct an analysis through which the interview data, or participant profiles, could be grouped according to certain criteria from the survey data and vice-versa. Through this linked data, we explored the commonalities between those participants experiencing different types of impacts from the program.

Sampling Strategy

We began by reaching out to participants from the 2022 survey who had indicated that they were open to additional outreach. We then asked Double Up Ambassadors to share the interview opportunity with folks in their communities and to post bi-lingual flyers with a QR sign-up code at Double Up Food Bucks sites in their communities. We paid particular attention to

outreach in four priority areas: Flint, Grand Rapids, Northeast Lower Peninsula, and the Upper Peninsula by contacting store managers, sending flyer packets, and visiting Grand Rapids for in-person recruitment.

Interview Protocol

The interview protocol was developed to explore key areas of potential program impact: health, finances, and dietary behavior. The questions in the semi-structured protocol centered around program utilization, fruit and vegetable purchases, diet, experiences of food security, and overall health and well-being. Interviews were held either by phone or video call.

Data Cleaning and Analysis

We recorded all interviews and cleaned the transcripts to remove identifying information and transcription errors. Using Dedoose, we engaged in an initial round of open coding and established a codebook. We conducted two team meetings to establish inter-rater reliability and refine the codebook by comparing coding samples and using group discussion to reach consensus. After coding all transcripts, we matched participant-level survey data with transcripts.

We then used Dedoose to create Descriptor Field x Codes Grid Charts, which provide frequency counts and excerpts for each combination of variables. We then conducted a thematic analysis of the excerpts at the intersection of each set of variables. We did not consider frequency counts to be significant, given that in many cases one participant provided many excerpts addressing the same theme. Following the Brinkerhoff Success Case Method, we described the commonalities where the greatest and least impacts occurred in the areas of fruit and vegetable intake, finances and food security, health and well-being, and program experience.

Limitations

Despite conducting all outreach in both English and Spanish, we only recruited one Spanish-speaking interviewee. We also did not find success in recruiting participants from the Northeast Lower Peninsula and had limited success in recruitment in the Upper Peninsula. These recruitment challenges led to an incomplete picture of how important subsets of the Michigan population experience Double Up.

VENDOR SURVEY

Survey Design

The Direct Market Farmer and Vendor Survey was designed for farm owners, operators, and managers of farm operations that accept Double Up Food Bucks at their own farm, such as through a CSA share, at a farm stand, or as a vendor at a farmers market. The survey was administered electronically through Qualtrics. The survey took approximately ten minutes to answer and respondents were given a \$5 electronic gift card upon completion.

The survey was administered twice, with dissemination occurring in January – March of both 2022 and 2023. This repeated cross-sectional design allowed us to both to reach more respondents and to assess longitudinal changes for respondents completing the survey both years.

Survey Instrument

The survey was designed to capture demographic information of respondents, farm characteristics, Double Up experience, and perceived impacts of participation in Double Up. The 2022 and 2023 surveys were identical except for changes in the year referenced in questions such as gross sales and number of market channels.

Sampling Strategy

The survey was shared and promoted through emails from FFN staff to managers of farmers markets participating in Double Up and emails to farm stands and CSA farms accepting Double Up directly. Taste the Local Difference staff also promoted the survey to farmers in their network. In 2022 this was done over email and in 2023 this was done through their social media account. Finally, the survey was promoted at Double Up training webinars hosted by FFN and at the Michigan Farmers Market Association conference.

Data Cleaning and Analyses

Survey responses were presumed invalid and eliminated if they were completed outside of Michigan or named a non-existent farm or market. Duplicate responses from the same farm in the same year were also eliminated. We analyzed data using IBM® SPSS Statistics Version: 28.0.1.0 and Microsoft Excel 2016. Univariate analyses included calculating frequencies and means. Multivariate analyses included calculating regressions and pairwise correlations.

Limitations

Because there is no database of all direct market farmers and vendors participating in the Double Up program, we can not determine either the survey response rate or the representativeness of the survey sample. Furthermore, not all respondents completed the survey in both years, which limits the longitudinal analysis. Finally, the analyses that include all unique farms span two calendar years and, therefore, may unduly minimize differences in circumstances across this time period.

¹Michigan Department of Health and Human Services (2023). Food Assistance Program (FAP): Trend Information: FY 2021, 2022, 2023. Lansing, MI, from: https://www.michigan.gov/mdhhs/-/media/Project/Websites/mdhhs/Inside-MDHHS/Reports-and-Statistics---Human-Services/Trend-Reports/GT-024-Trend_FAP.pdf?rev=5e41682f932a4e52a1ba846067d62505&hash=C15B6D6B770425A7F1FA5479D932E4B3

²Michigan SNAP User demographic data from American Community Survey 1-year Estimates Subject Tables: SNAP Participants in Michigan. Available through data.census.gov.

³To calculate an average, we used the midpoint of the ranges in the survey, e.g. \$12.50 for the “less than \$25” category. We then divided this number by the number of household members to determine savings per household member.

⁴Fair Food Network. (2022, February 17). Double Up Michigan Participating Locations. Double Up Food Bucks. Retrieved February 1, 2023, from <https://doubleupfoodbucks.org/wp-content/uploads/2022/02/DU-MI-Participating-Locations-List-Updated-2.17.22.pdf>

⁵Michigan Department of Health and Human Services (2023). Food Assistance Program (FAP): Trend Information: FY 2021, 2022, 2023. Lansing, MI, from: https://www.michigan.gov/mdhhs/-/media/Project/Websites/mdhhs/Inside-MDHHS/Reports-and-Statistics---Human-Services/Trend-Reports/GT-024-Trend_FAP.pdf?rev=5e41682f932a4e52a1ba846067d62505&hash=C15B6D6B770425A7F1FA5479D932E4B3

⁶Nearly a quarter of former participants in this sample were shoppers at Landmark Food Center locations in Flint, which may call into question how representative this subset is of the broader state population.

⁷Rabbitt, M.P., Hales, L.J., Burke, M.P., & Coleman-Jensen, A. (2023). Household Food Security in the United States in 2022 (Report No. ERR-325), U.S. Department of Agriculture, Economic Research Service. Available from: <https://www.ers.usda.gov/publications/pub-details/?pubid=107702>

⁸Ibid.

⁹The survey included the ten-question Dietary Screener Questionnaire. Responses to these questions were converted to daily cup equivalents using a series of scoring algorithms developed by the National Cancer Institute. Total fruit and vegetable consumption was calculated including legumes and excluding fried potatoes. Vegetable consumption also includes legumes and excludes fried potatoes. For details on the scoring algorithms, see: <https://epi.grants.cancer.gov/nhanes/dietscreen/scoring/>

¹⁰United States Department of Agriculture and United States Department of Health and Human Services. Dietary Guidelines for Americans, 2020-2025. 9th Edition. December 2020. Available at: [DietaryGuidelines.gov](https://www.dietaryguidelines.gov).

¹¹Young, S., Guthrie, J., & Lin, B-H. (2021). Food consumption and nutrient intakes. USDA ERS - Food Consumption and Nutrient Intakes. <https://www.ers.usda.gov/data-products/food-consumption-and-nutrientintakes/>

¹²Lee SH, Moore LV, Park S, Harris DM, Blanck HM. Adults Meeting Fruit and Vegetable Intake Recommendations — United States, 2019. MMWR Morb Mortal Wkly Rep 2022;71:1–9. DOI: <http://dx.doi.org/10.15585/mmwr.mm7101a1>

¹³Kaiser Family Foundation. (2022, October 31). Adult self-reported health status, timeframe: 2021. State Health Facts. <https://www.kff.org/other/state-indicator/adult-self-reported-health-status/?currentTimeframe=0&sortModel=%7B%22collId%22%3A%22Location%22%2C%22sort%22%3A%22asc%22%7D>

¹⁴Satter, E. (2007). Hierarchy of food needs. *Journal of Nutrition Education and Behavior*, 39(5). <https://doi.org/10.1016/j.jneb.2007.01.003>

¹⁵The categories *novel* and *instrumental* and *acceptable* and *reliable* are not combined in Satter's model but are combined in this representation due to overlapping themes within qualitative codes.

¹⁶USDA National Agricultural Statistics Service, 2017 Census of Agriculture. Complete data available at www.nass.usda.gov/AgCensus

¹⁷GusNIP NTAE. Gus Schumacher Nutrition Incentive Program (GusNIP): Impact Findings Y3: September 1, 2021 to August 31, 2022. Prepared for U.S. Department of Agriculture, National Institute of Food and Agriculture; 2023. Accessed 06.19.2023. <https://nutritionincentivehub.org/gusnip-ntae-y3-impact-findings>.

¹⁸Fruits and vegetables are calculated with legumes and without French fries.

¹⁹Vegetables are calculated with legumes and without French fries.

²⁰Economic Research Service, USDA. (2012). U.S. Household Food Security Survey Module: Six-Item Short Form. Available from: <https://www.ers.usda.gov/media/8282/short2012.pdf>

²¹National Cancer Institute Division of Cancer Control and Population Studies. (N.D.) Dietary Screener Questionnaire in the NHANES 2009-10: Data Processing & Scoring Procedures Using Current Methods. Available from: <https://epi.grants.cancer.gov/nhanes/dietscreen/scoring/current/>

²²Brinkerhoff, R. O. (2005). The success case method: A strategic evaluation approach to increasing the value and effect of training. *Advances in Developing Human Resources*, 7(1), 86-101.