

Implementation of a farmers market incentive program in Maryland: Perspectives from vendors

Caitlin A. Misiaszek,^a * Amelie A. Hecht,^{a, b} and Gabby Headrick^c
Johns Hopkins Bloomberg School of Public Health

Shelley Brosius^d and Amy Crone^d
Maryland Farmers Market Association

Pamela J. Surkan^c
Johns Hopkins Bloomberg School of Public Health

Submitted February 22, 2019 / Revised May 13 and June 14, 2019 / Accepted June 17, 2019 / Published online February 28, 2020

Citation: Misiaszek, C. A., Hecht, A. A., Headrick, G., Brosius, S., Crone, A., & Surkan, P. J. (2020). Implementation of a farmers market incentive program in Maryland: Perspectives from vendors. *Journal of Agriculture, Food Systems, and Community Development*, 9(2), 255–266. <https://doi.org/10.5304/jafscd.2020.092.004>

Copyright © 2020 by the Authors. Published by the Lyson Center for Civic Agriculture and Food Systems. Open access under CC-BY license.

Abstract

A number of farmers markets have begun to offer matching incentive programs as a way to increase access to fresh foods for low-income families and increase sales among vendors. However, research evaluating the implementation of these programs is

limited. This process evaluation study employed a qualitative approach, interviewing vendors ($n=19$) selling at four farmers markets in Maryland to understand the barriers and facilitators to implementing the Maryland Market Money program. Overall, vendors reported positive attitudes toward the incentive program. Interviewed vendors identified key facilitators such as ease of implementation and positive social and economic impact of the program for participants and themselves. Vendors also discussed barriers, which included a lack of understanding among customers about how the program operated, poor program promotion, and lack of educational materials. Some vendors described nega-

^a Caitlin A. Misiaszek and Amelie A. Hecht, Center for a Livable Future, Johns Hopkins Bloomberg School of Public Health; Baltimore, MD 21202 USA.

^b Amelie A. Hecht, BA, Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health; Baltimore, MD 21202 USA.

^c Gabby Headrick, MSPH, RD, LDN, and Pamela J. Surkan, ScD, Department of International Health, Johns Hopkins Bloomberg School of Public Health; Baltimore, MD 21202 USA.

^d Shelley Brosius, MPH, and Amy Crone, MA, Maryland Farmers Market Association; Millersville, MD 21108 USA.

* *Corresponding author:* Caitlin Misiaszek, MPH, Center for a Livable Future, Johns Hopkins Bloomberg School of Public Health; 111 Market Place, Suite 840; Baltimore, Maryland 21202 USA; +1-410-223-1732; cfishe29@jhu.edu

Funding Disclosure

This research was supported by funding from the Johns Hopkins Center for a Livable Future and a cooperative agreement between the Maryland Farmers Market Association and the U.S. Department of Agriculture Agricultural Marketing Service. Training support for AAH was provided by the Johns Hopkins Center for a Livable Future–Lerner Fellowship. The funders had no role in the design, analysis, or writing of this manuscript.

tive experiences with customers and expressed stigmatizing views toward customers. Given that vendors are key stakeholders in program implementation, as incentive programs continue to expand, it is important to take into account their views and concerns to create successful programs.

Keywords

Barrier, Facilitator, Farmers, Farmers Markets, Nutrition Incentive Program, SNAP, WIC

Introduction

The number of farmers markets (FMs) operating in the U.S. has grown dramatically in recent decades, with almost 8,700 operating markets in 2017 as compared to only 1,755 in 1994 (U.S. Department of Agriculture [USDA] Agriculture Marketing Service, 2017). Research suggests that FMs result in social and economic benefits for both buyers and sellers by promoting a sense of community, providing fresh and local foods for consumers, and increasing sales and opportunities to develop business for farmers (Brown & Miller, 2008; Hunt, 2007). In addition, FMs have been promoted as one potential strategy to increase fresh food access and fruit and vegetable consumption, especially among low-income populations (Centers for Disease Control and Prevention, 2011).

The ability to use federal nutrition assistance benefits at FMs can further increase healthy food accessibility for low-income households (Hughes, Brown, Miller, & McConnell, 2008; Jilcott Pitts et al., 2014; Olsho et al., 2015; Woodruff et al., 2018). In 2017, over 7,000 authorized FMs accepted Supplemental Nutrition Assistance Program (SNAP) benefits, the largest federal nutrition program in the U.S., with a total of US\$22,440,312 in annual FM SNAP redemption (USDA Economic Research Service, 2017). Many FMs also accept other benefits, including the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) and the Farmers Market Nutrition Program (FMNP) for WIC participants and seniors.

A growing number of FMs have begun providing incentives or matching programs to customers who use their nutrition assistance benefits to both further increase access to healthy foods and encourage FM use (King, Dixit-Joshi, MacAllum,

Steketee, & Leard, 2014). Many matching programs at FMs in the U.S. provide a dollar-for-dollar match up to a designated amount, but differ according to the amount of match, the types of benefits matched, and the types of food purchases eligible for match. These factors are often determined by the organization managing the program and the source of funding. For example, the Maryland Farmers Market Association (MDFMA) established the state's first unified matching initiative, the Maryland Market Money (MMM) program in 2013 (Maryland Farmers Market Association, 2017). The MDFMA provides participating FMs with funds to support a match of US\$5 per customer per day for individuals using federal nutrition assistance benefits, including SNAP, WIC, and FMNP (WIC and senior).

Previous research on matching programs has primarily focused on customer impacts and perspectives. Studies have found positive impacts on participating customers, including increased food security, FM use, and fruit and vegetable consumption (Pellegrino et al., 2018; Savoie Roskos, Wengreen, Gast, LeBlanc, & Durward, 2017; Young et al., 2013). While some research has explored the economic benefits to vendors, including an increase in sales and new customers (Lehnerd, Scheck, Griffin, Goldberg, & Cash, 2018; Mann et al., 2018; Oberholtzer, Dimitri, & Schumacher, 2012), few studies to date have examined vendor perspectives on participation in matching programs. These studies conducted surveys with vendors and report that vendors participating in matching programs did not perceive program logistics as complex or burdensome to their business (Lehnerd et al., 2018; Payne et al., 2013). In addition, one study found that the lack of matching program promotion is a major barrier to maximizing benefits for vendors (Lehnerd et al., 2018). These studies lack qualitative data to provide an in-depth understanding of vendor perspectives.

Due to the significant role FM vendors play in administering match programs and the potential economic and social benefits they may receive, more research is needed to understand their perspective on barriers and best practices for program implementation. This study addresses this gap by employing a qualitative approach to explore FM

vendors' overall perspective on the MMM program, barriers and facilitators in program implementation, and experiences with customers. A multilevel evaluation framework established by Grol and Wensing (2004) was used to conceptualize barriers and facilitators and vendor recommendations to strengthen program operations at each level of implementation. The findings from this process evaluation can be used to identify best practices that can be employed by other FM matching programs across the country.

Methods

Program Background

Maryland Farmers Market Association launched the MMM program in order to streamline multiple incentive programs across the state by centralizing and expanding program operations (Maryland Farmers Market Association, 2017). In 2017, there were a total of 156 FMs across the state, ranging in size and days and hours in operation, with 24 markets participating in the MMM program (Maryland Farmers Market Association, 2017). A total of US\$333,961 in federal nutrition benefits and matching dollars were spent with 237 vendors (Maryland Farmers Market Association, 2017). Grant and government funding, local business sponsorships, private donations, and contributions by participating FMs financially support the MMM program.

The Maryland Market Money match was distributed as US\$1 tokens and could be used to purchase any SNAP-eligible item, including fruits and vegetables; breads and baked goods; meats, fish and poultry; dairy; eggs; jams, preserves, condiments; and seeds and plants that produce food. Market managers distributed MMM tokens differently to customers based on benefit type. Customers using WIC and FMNP benefits spent their WIC and FMNP benefits directly at vendors' stands on eligible products (fruits and vegetables), and in turn, vendors were responsible for providing WIC and FMNP customers with a receipt. Customers then turned in the receipt at the market manager's table in exchange for MMM tokens to spend directly with vendors. In contrast, SNAP customers first visited the market manager's table

to swipe their Electronic Benefits Transfer (EBT) card to receive market-specific SNAP tokens and their MMM tokens to spend directly with vendors, eliminating the vendor receipt process.

Some FMs required vendors to have special equipment to process SNAP transactions. In 2016, all but one market participating in MMM received the necessary equipment for processing SNAP on behalf of their vendors through federal funds. However, during the year of the study, the federal funding was no longer available, and vendors had to pay for the processing equipment out of pocket. At the one market (in our study) without market-level SNAP processing equipment, SNAP customers had to register for the "Loyalty" program, a pilot program of an electronic version of MMM (since discontinued) if they wished to receive the MMM match for their purchases with SNAP. In the Loyalty program, the match was automatically loaded onto an electronic Loyalty account, which could be accessed and spent using the customer's EBT card. At this market, vendors were responsible for managing the equipment required to process the EBT cards.

MMM tokens could be spent at any participating market, but Loyalty was only valid at the one market described above. Customers had to spend their tokens in full over the course of the market season and were not able to receive change. Vendors were reimbursed by turning in the MMM tokens spent at their stand to market managers, who then provided checks to the vendors with corresponding amounts.

Data Collection

Researchers conducted semistructured interviews with vendors selling at four FMs participating in the MMM program from December 2016 through December 2017. The four FMs were selected based on high MMM participation across all benefit types (SNAP, WIC, and FMNP), market diversity (e.g., geographic, diversity in number of vendors, and differences in management), and a consistent matching cap (US\$5) per customer per day. All four markets were located in urban or suburban communities, with a total of 162 vendors (prepared food and farm-raised products). One FM was selected because it utilized the Loyalty program for

distributing MMM match for SNAP purchases.

An initial sample of vendors ($n=20$) selling at the four selected FMs was invited to participate in the study. Researchers recruited vendors, in consultation with MDFMA, based on high volume of MMM spent at their stands and to represent a diversity of products sold (e.g., fruits and vegetable vendors, meat and poultry vendors). We sampled vendors who had a high volume of MMM, based on empirical knowledge from MDFMA, spent at their stands with the assumption that they had the most interaction with the program and could speak to specific process barriers and facilitators they faced. Vendors who had minimal sales or did not participate would have fewer or no experiences with the program to draw from and therefore were not included in this study. Researchers recruited vendors in-person at the four selected FMs, by phone, and by email.

The research team developed the protocol for the semistructured interviews. Interviews included questions about the number of years they have participated at FMs and with the MMM program, their overall perception of MMM, the ways in which MMM affected their businesses, facilitators and barriers to implementing MMM, customer interactions, and recommendations to improve the program. After approximately half of the interviews were completed, researchers added additional probes to provide a deeper understanding of challenges and facilitators to program implementation. Interviewers were trained on qualitative methods and interview protocols. Senior research team members read each interview, provided feedback on techniques for administering the remaining interviews, and assessed whether theoretical saturation had been met. We believed no new themes emerged in final interviews, which factored into our decision to not conduct additional interviews.

Researchers conducted in-depth interviews in-person or by phone, depending on the preference of the interviewee. Interviews lasted, on average, approximately 30 minutes, and interviewees received a US\$20 gift card for participating. The interviewer or a third party transcribed all recordings. All the participants provided verbal informed consent prior to the interview. The Johns Hopkins Bloomberg School of Public Health Institutional

Review Board determined this study protocol to be exempt. The overall study included interviews and surveys with market managers and participating customers. Results from these analyses are reported in additional publications (Hecht et al., 2019, Headrick et al., 2019).

Data Analysis

Two members of the research team who had conducted or supervised the interviews analyzed transcripts using ATLAS.ti (version 6.0, ATLAS.ti). Researchers coded all transcripts independently, after which they discussed inconsistencies to come to agreement on emerging themes. The final codebook included a total of 79 codes. The established Grol and Wensing implementation framework was used to organize all major themes identified (Grol & Wensing, 2004). The framework employs a multilevel approach to describe barriers and facilitators to implementing interventions, illuminating how results can be used to impact change at multiple levels of implementation. The levels include innovation (MMM program); professional delivering innovation (vendors); patient (customers); social context (FM vendor culture and opinions); organizational context (FM itself and market managers); and economic and external context. Results presented characterize major themes as well as ideas put forth by a small subset of participants that researchers found to be especially novel. Quotations were chosen based on representativeness and clarity.

Results

Vendor Overview

Nineteen of 20 vendors contacted agreed to participate. One vendor could not be reached to schedule an interview. Four were interviewed in person, and 15 were interviewed by phone. Most vendors sold their products at more than one FM, and all vendors had participated in the MMM program for at least one year.

Barriers and Facilitators to Implementation and Program Recommendations

Vendors interviewed described many perceived barriers and facilitators to implementing the MMM

program (Table 1), presented according to Grol and Wensing level of implementation. In addition, vendors provided recommendations to strengthen and improve the MMM program (Table 2).

Innovation: Maryland Market Money Program

Within the first level of the implementation framework, the innovation (in this case, the MMM pro-

gram), we examined vendor perspectives on the feasibility and impact of the MMM program. Overall, most vendors interviewed described MMM as an effective program that was easy to implement. The majority of vendors described the structure and logistics of the program as straightforward and easy, and not time-consuming to participate in. One vendor summed up their role in the program:

Table 1. Perceived Facilitators and Barriers to Implementation of the Maryland Market Money Program among Vendors (n=19)

Level of Implementation	Themes	Facilitators/Barriers
Innovation: Maryland Market Money Program	Feasibility of program	+ Easy to implement
	Impact of program	+ Helps families stretch their dollars - Match amount may not be enough - Unsure program has long-term impact
Professionals Delivering Innovation: Vendors	Motivation to participate in program	+ Extra revenue and additional customers + Helping families in need
	Knowledge to implement program	+/- Varying degrees of comprehension
Participants: Customers	Knowledge about program	- Lack of knowledge about program, including program details and funding sources
	Attitude toward program	+ Most customers are appreciative of program - Some customers may take program for granted
Social Context: Vendor Culture and Opinions	Opinions and culture of network	+ Empathy towards customers - Stigmatizing views towards customers
Organizational Context: Farmers Market and Market Managers	Staff	+ Market staff are helpful
	Resources	- More education and communication are needed
	Promotion	- More promotion is needed
Economic and External Context	Financial arrangements	+ Reimbursement process is easy
	Role of other organizations	- Lack of promotion and education from other organizations

+ Facilitator
 - Barrier

Table 2. Vendor Recommendations to Improve Maryland Market Money (n=19)

Barrier	Recommendation
Incentive	Increase match amount for customers
Education	Provide customers with educational opportunities and materials to improve understanding of program details and funding sources
	Include other organizations in providing education to customers on program details and funding sources
	Provide vendors with more educational opportunities and materials to improve understanding of program details and funding sources
Communication	Increase communication between MDFMA, managers, and vendors about funding status
Promotion	Increase signage at market and vendor stands
	Include other external organizations in marketing and promotion strategies, including WIC clinics and senior centers

“It’s been flawless. I mean, people pay with [the tokens] and . . . I accumulate them and count it and write it down, how many I received, turn them into the Market Master at the end of the market, and the next week I have a check for that money.”

Many vendors described MMM as a program with a positive impact that has helped low-income families to stretch their budgets and purchase more fresh items from the FM. One vendor explained how important the additional money is for many families: “Well, I think it’s a great incentive program, because the people really appreciate that dollar savings, you know, that—getting that bonus dollars is important for them. For them, it’s an important contribution to their budget.”

While many vendors saw the MMM program as helping stretch budgets, some described the match amount as too low and having limited impact. Some vendors recommended an increase in the match amount if the budget allowed for it, noting that both customers and vendors would benefit from an increase. When asked whether the US\$5 match was an appropriate amount, one vendor said: “I wish it could be as much as it could be, but I know that it just can’t always be the case given—the program, I’m sure it is not funded as much as it could be or as well as it should be. I mean, that’s a million-dollar question. I mean, if it was 10 or 15 dollars it would be great, because realistically, five dollars is not—that’s not that much produce. The prices that most farmers sell, that’s a bunch and a half of kale, or two pounds of tomatoes or like a box of cherries. Five dollars doesn’t buy that much, especially if you have kids to feed.”

A small number of vendors were skeptical of the long-term impact of the MMM program. One vendor explained that while they understood some families benefit from the MMM program, they worried that the program would not increase participants’ overall shopping at FMs or result in a healthier diet, as intended. When asked about their opinion of the MMM program, one vendor explained their concerns: “Well, I have a lot of opinions . . . It creates a system of . . . where our food has no value. It’s worth nothing. Because you can get it for free. And, so, I have a concern that we are devaluing the most important products that we have . . . , so when people have money, they are

spending it on Coca-Cola and Twinkies. Or candy, or cigarettes, or alcohol—or whatever else, you know. So I’m a little concerned that that’s what we have done. I don’t know how to change that, and I’m not saying that there aren’t people that desperately need it and [whom] it helps tremendously.”

Professionals Delivering Innovation: Vendors

The next level of the framework describes the vendors’ personal motivation for participating in the MMM program and knowledge of program details. Most vendors described the economic benefits of participating in MMM. Many described the program as a win-win program that benefited both customers and vendors and was worth the time required to participate; they were motivated to participate due to an increased income. One vendor described: “So I’m willing to do whatever it takes and work with them, to accept that money. Because that’s increased revenue for us.”

A few vendors disagreed and believed that MMM was not financially worthwhile, as it represented a very small percentage of overall sales, although they recognized that other vendors may benefit more. According to one vendor, MMM did not have a major impact on sales: “. . . as a percentage of my total overall sales, it’s minimal. I mean, it may be—it’s less than one percent of my total sales, but yet it probably takes 10, 15 minutes of my time to record and transact with it, so I would say if the program disappeared and went away, I wouldn’t be disappointed because I wouldn’t be losing that much in sales. So that’s my personal experience. There’s probably some vendors there that it’s a much larger portion of their sales. But for me, it’s not.”

Vendors mentioned other economic benefits, including gaining new customers they may not have attracted without the MMM program. While FMNP and WIC customers could only use their benefits at fruit and vegetable stands, they could use their MMM match at stands selling any SNAP-eligible foods—which also include meat, dairy, and bread. Therefore, some vendors that sold SNAP-eligible foods other than fresh fruits and vegetables mentioned the benefit of growing their customer base through the MMM program. One vendor said: “For us, when they use the WIC checks, they’re

not able to, say, buy eggs or honey or even some of the meats that we sell. When they use the matching program there aren't restrictions on there to buy the eggs or buy the meats. Some of the people that are using that money are trying to eat healthier, and with that program they're able to actually eat healthier. They're able to afford the products that, because there are rules for those programs, they have to work within the confines of it. But with the matching program they're able to get those extra things."

Some vendors recognized the need that the program helped to fill and were motivated by altruistic reasons, including giving back to their community and helping low-income individuals and families. As one vendor described, "But when it comes to getting access to people who need it, that is why we got into the FM. And that's why we will remain in the FM. That aspect alone is why we're here or why we come to the markets—is to be able to give people that opportunity."

Many vendors reported that they understood the rules of MMM; however, when asked about specific details, the majority of vendors answered incorrectly or asked clarifying questions throughout the interview. For example, some vendors did not know the dollar amount customers were matched per day or which foods could be purchased using MMM. While lack of knowledge was not a perceived barrier from the vendors' perspective, we identified it as a potential barrier to implementation.

Participants: Customers

The next level of the framework focuses on how vendors perceived customers' knowledge of and attitude toward receiving the MMM match. Most vendors agreed that a key challenge in program implementation was customers' lack of understanding of MMM program implementation and funding. Some vendors found customers' lack of knowledge challenging as they were often responsible for answering questions at the point of purchase. One vendor mentioned how taking the time to explain the program, especially if there was a language barrier, could interfere with business. Another vendor described the process of explaining to WIC and FMNP customers that they have to

return to the market manager's stall to receive their MMM tokens, which resulted in some unpleasant interactions: "Some people I guess it's hard for them to understand how much they should get. There's a language barrier with some people, and so it can be time-consuming when we're trying to explain things to them, and we have other customers that we're trying to help, and then they get upset because we're trying to talk to someone for five minutes. So I don't know if there is a way to clarify things for people, so it'd make it easier and faster for everyone." Further, the year prior to the study, funding for the MMM program ran out before the season was over, and some vendors described challenging experiences with customers who were upset or confused by the program ending early.

A few vendors mentioned that other specific details of how the program operated were unclear to customers and were a challenge to clarify, such as the inability to give change back from purchases made with match tokens. In contrast, a few vendors described giving customers a few extra items to compensate for not giving change. One vendor explained, "When the numbers don't come out to five, I always give them six dollars' worth of something rather than five, and that makes the math come out better, and I always tell them that that's my contribution to the program."

When describing customers' attitudes toward the program, vendors shared a range of views. A small number of vendors described customers as ungrateful for the additional match. One vendor described customers as taking the MMM program for granted: "Yeah, I have a problem with it, and it's just that the people come to expect from us, it's just gimme, gimme."

In contrast, many vendors described how customers valued and appreciated the program. One vendor told a story of a customer who saved up their MMM tokens throughout the season to buy a turkey for Thanksgiving, something they may not have been able to do without the program. Another vendor explained the excitement when customers received their MMM tokens: "I would say half of the customers that get the matching money have no idea they're going to get the matching money and they're tickled pink when they do get

the matching money...so they're all very happy to have the matching dollars."

Social Context: Vendor Culture and Opinions

The next level of the Grol and Wensing framework focuses on the social context, including the broader opinions and culture of the vendors as it relates to the MMM program and customers. A handful of vendors described above who believed customers had ungrateful attitudes expressed broadly stigmatizing and discriminatory views toward customers participating in the MMM program. Some of these vendors described the MMM customer base in a negative light, such as rude or taking the program for granted. One vendor described their view toward customers and the program: "There again I think it would be better for everybody if they teach them how to participate in the workforce and make their own money and not depend on me and you to pay—you know—for food. They are used to it now."

However, some vendors recognized the stigma associated with receiving nutrition assistance benefits and were empathetic toward customers. One described their interaction with MMM customers: "And the whole thing is with programs like this, the whole idea is to be able to not draw too much attention because there's still a stigma out there with these kinds of programs. And some people are more comfortable with using them than others as far as consumers. And sometimes they're a little sheepish to ask because they're afraid; maybe somebody is going to think whatever about me. But we're also happy to explain it. And we're not yelling it across the aisle. We just explain it one-on-one nice and discreetly, so people don't feel like we're calling all their business out on the street."

Organizational Context: Market and Market Manager

The next framework level explores the organization, including the staff, resources, and market managers' promotional efforts. Vendors interviewed described the market staff as a valuable resource who helped both vendors and customers navigate the MMM program. While most vendors said they did not receive any formal training on the MMM program, some vendors described receiving

information from market managers about it, such as paper or email instructions. Many vendors also described witnessing market managers helping customers navigate the program and answering questions as needed. One vendor said: "And that's because when they get [the tokens] from the market manager, he gives them a thorough description of what they can do with that, so that helps a lot, yeah. He has a booth there at the market, and he's always busy."

Some vendors, however, still wanted market staff to provide additional information on the program for themselves and for customers. Some vendors indicated that more reading material, not only on the details of the program but also on the mission and purpose of providing matching dollars to low-income families, would be helpful. One vendor recommended providing more information, or a class, for customers to learn more about why the program exists and how to use the match: "Well, for the customers that are actually receiving it, I think maybe like a class that actually emphasizes ... where it comes from, how it's spent, and how can they use it. So if they have, I don't know, a crash course, that way they know what they're getting, what's the value of it and how it can be used."

A few vendors mentioned how it would be beneficial to receive updates on the status of funding throughout the season, given negative past experiences with funds running out early. Vendors recommended that managers send program updates via email so they could feel prepared and able to communicate new information to customers.

Lastly, vendors mentioned the lack of marketing and promotion by market managers as a barrier to implementation. According to vendors, more promotion could increase customer participation. One vendor suggested having more promotional materials at participating markets and vendor stands, suggesting, "Maybe print up a little placard or a—sometimes we get a sign the size of a piece of paper, and maybe that would be good to have, something like, 'Maryland Market Money offered at this market,' that we could just hang up at our stand, and . . . maybe a small sign that would be easy to read and advertise that this market and all the vendors participate in the Maryland Market Money."

Economic and External Context

The last level of the framework addresses external influences, such as economic context and the role of outside organizations. Most vendors were content with the reimbursement process and described it as easy and efficient. Some vendors mentioned the amount of time to receive their reimbursement varied from market to market, but most did not view this as a barrier. According to one vendor, “Yeah, every day we have to count up the market tokens and turn them in at the end of the day, and then—like at [one market], we get a check once a week for the Maryland Market Money, and then at [another market] we also get a check once a week for the Maryland Market Money. So it’s pretty easy.”

Vendors that sold at the market with the Loyalty program described some economic barriers. In order to accept Loyalty, vendors must have specific processing equipment, and during the year of the study, vendors were required to pay for that out of their pocket. Some vendors described this cost as a burden and opted to not participate further in MMM at this market.

Lastly, some vendors described a lack of involvement from external organizations that have contact with nutrition assistance program beneficiaries, such as senior centers and WIC clinics, as a potential barrier. Some vendors recommended that these organizations be more involved in disseminating information on program details and helping to promote the program among their clients. As one vendor said, “Well, I think it would be helpful when they pick up their [voucher] books at the WIC clinics, [and] for the seniors, that they also go over [the MMM program] with them and say, ‘Hey, this is a program that will help you to stretch your food dollar.’”

Discussion

This study found that most vendors reported positive attitudes at each level of program implementation. Vendors interviewed identified key facilitators, such as ease of implementation and positive social and economic impacts for nutrition assistance benefit customers and themselves, as well as barriers, including lack of understanding among customers about how the program operated and

lack of promotion and educational materials. While some vendors described negative experiences and expressed stigmatizing views toward MMM customers, many recognized the positive impact on both customers’ budgets and their own business.

Our findings provide additional support that matching programs like MMM benefit participating vendors through a perceived increase in sales and new customers. Payne et al.’s (2013) evaluation of the implementation of the Health Bucks Program, an FM incentive program in New York City, included customer, market manager and vendor perspectives. In that study, interviewed vendors noted that they had an increase in sales and gained new customers by participating in the program (Payne et al., 2013). In our study, most vendors stated that they were motivated to participate because of an increase in sales, and many vendors who were unable to accept WIC and FMNP benefits perceived a value in gaining new customers due to the MMM program. These findings are also consistent with quantitative studies that show a positive economic impact for vendors participating in FM matching programs. This is important to consider in light of major funders across the country moving toward restricting match-eligible foods to fruits and vegetables only (Mann et al., 2018; Oberholtzer et al., 2012). Limiting the variety of items available for purchase may affect vendors selling items that may contribute to a market basket of healthy items.

A similar study conducted by Lehnerd and colleagues (2018) surveyed fruit and vegetable farmers in the Mid-Atlantic region with the goal of understanding farmers’ perceptions of adopting FM nutrition incentive programs. In their study, vendors who participated in incentive programs reported high product pricing as a top barrier to successful program implementation (Lehnerd et al., 2018). Similarly, our study found that some vendors described the US\$5 match amount to be too low due to price points and recommended increasing the match amount if the budget allowed for it. Additional research should be conducted to better understand what match amount is optimal for both consumers and vendors, while remaining within the program’s budget and reaching as many customers as possible.

In our study, many vendors agreed that addi-

tional promotion and educational resources for customers would strengthen the program. While not perceived by vendors as a challenge, we also identified a lack of understanding of how components of the program operate among the vendors. This is an important finding, as lack of vendors' understanding of program details, including the match amount or which products can be purchased using benefits, may discourage customers from using the program. Vendors play an important role in educating customers; therefore, training for vendors and improving educational resources would help increase knowledge among vendors and customers alike. Recommendations included communicating more regularly about program updates, creating resources for vendors and consumers, and connecting with senior centers and WIC clinics that have regular contact with consumers to promote and educate about the program. In addition, vendors should take advantage of existing opportunities through MDFMA or markets they participate in, such as annual kick-off market meetings, to learn about the MMM program. These strategies could increase the number of MMM participants and better inform both customers and vendors about program logistics, reducing the potential for negative interactions resulting from misunderstandings.

Lastly, our study found a unique and important challenge highlighted by vendors. Some vendors described negative experiences with and views toward participating customers. While there were only a few vendors who spoke critically of customers, educational efforts such as racial equity or cultural sensitivity classes may be important to dismantle biases and explain the importance of programs such as MMM and federal nutrition assistance benefits as a whole. The social stigma expressed should be further explored to understand how this may affect the culture of FMs and customer experience.

This study has several limitations. First, it included interviews only with vendors who were participating in the MMM program and had high sales (as determined by the MDFMA), and therefore the perspectives of vendors who do not participate or had varying levels of sales are missing. Future research should include perspectives of those who

decline or are unable to participate and have varying levels of sales in order to gain a more complete picture of the vendor experience at markets with matching programs. Second, while this study provides insight into facilitators and barriers that may be useful for other programs across the country to learn from, it is important to note that programs differ nationwide due to contextual factors. Some findings may not be applicable in other FMs, and the specific context will need to be considered when applying these findings. Third, we only sampled vendors from four markets, all of which are located in suburban and urban areas in one state, and therefore represent a limited perspective on program implementation. Perspectives from vendors selling at rural FMs should be included in future research. Fourth, quantitative methods were not included to verify and evaluate impact on vendor sales. Quantitative measures in future research may also help identify how vendor sales affect perceptions. For example, does a vendor with high sales perceive the program differently from vendors who have fewer sales? Future research should consider both qualitative and quantitative data to further understand program perceptions and benefits of participation for vendors at multiple scales. Lastly, we conducted this study during the season before the electronic benefits issuance system for WIC ("eWIC") was implemented in Maryland, which may affect MMM implementation. In particular, the potential effects of eWIC are varied and could affect vendors' willingness to participate in the program; for example, it may enable markets to streamline the token disbursement process and reduce administrative burden for vendors, but also could result in increased vendor fees for processing equipment.

Conclusion

As FM incentive programs continue to expand, it is essential to understand the perceptions of vendors, as they are key stakeholders in making the program work. This process evaluation study provides evidence that the program benefits not only consumers but also participating vendors, providing a win-win program that is easy to implement. This study adds novel findings to the literature, including vendors' lack of knowledge on

program details and the small number of vendors who expressed negative beliefs and attitudes toward customers. The results from this study can

be used to strengthen MMM programming and vendor training as well as insight into programs in other localities.

References

- ATLAS.ti Scientific Software Development. (2011). ATLAS.ti (version 6.0) [Software]. Berlin: ATLAS.ti Scientific Software Development.
- Brown, C., & Miller, S. (2008). The impacts of local markets: A review of research on farmers markets and community supported agriculture (CSA). *American Journal of Agricultural Economics*, 90(5), 1298–1302. <https://doi.org/10.1111/j.1467-8276.2008.01220.x>
- Centers for Disease Control and Prevention. (2011). *The CDC guide to strategies to increase the consumption of fruits and vegetables*. Atlanta: U.S. Department of Health and Human Services. Retrieved from http://www.cdc.gov/obesity/downloads/fandv_2011_web_tag508.pdf
- Grol, R., & Wensing, M. (2004). What drives change? Barriers to and incentives for achieving evidence-based practice. *Medical Journal of Australia*, 180(Suppl. 6), S57–S60. <https://doi.org/10.5694/j.1326-5377.2004.tb05948.x>
- Headrick, G., Hecht, A. A., Misiaszek, C., Brosius, S., Crone, A., & Surkan, P. J. (2019). *Customers' views on the implementation of a farmers market incentive program: Success and opportunities for improvement*. Manuscript submitted for publication.
- Hecht, A. A., Misiaszek, C., Headrick, G., Brosius, S., Crone, A., & Surkan, P. J. (2019). Manager perspectives on implementation of a farmers' market incentive program in Maryland. *Journal of Nutrition Education and Behavior*, 51(8), 926–935. <https://doi.org/10.1016/j.jneb.2019.04.001>
- Hughes, D. W., Brown, C., Miller, S., & McConnell, T. (2008). Evaluating the economic impact of farmers' markets using an opportunity cost framework. *Journal of Agricultural and Applied Economics*, 40(1), 253–265. <https://doi.org/10.1017/S1074070800028091>
- Hunt, A. R. (2007). Consumer interactions and influences on farmers' market vendors. *Renewable Agriculture and Food Systems*, 22(1), 54–66. <https://doi.org/10.1017/S1742170507001597>
- Jilcott Pitts, S. B., Gustafson, A., Wu, Q., Mayo, M. L., Ward, R. K., McGuirt, J. T., ... Ammerman, A. S. (2014). Farmers' market use is associated with fruit and vegetable consumption in diverse southern rural communities. *Nutrition Journal*, 13, Article 1. <https://doi.org/10.1186/1475-2891-13-1>
- King, M., Dixit-Joshi, S., MacAllum, K., Steketee, M., & Leard, S. (2014, March). Farmers market incentive provider study. Washington, D.C.: Food and Nutrition Service, United States Department of Agriculture. Retrieved from <https://www.fns.usda.gov/sites/default/files/FarmersMarketIncentiveProvider.pdf>
- Lehnerd, M. E., Scheck, J. M., Griffin, T. S., Goldberg, J. P., & Cash, S. B. (2018). Farmers' perspectives on adoption and impacts of nutrition incentive and farm to school programs. *Journal of Agriculture, Food Systems, and Community Development*, 8(1), 147–165. <https://doi.org/10.5304/jafscd.2018.081.012>
- Mann, J., Miller, S., O'Hara, J., Goddeeris, L., Pirog, R., & Trumbull, E. (2018). Healthy food incentive impacts on direct-to-consumer sales: A Michigan example. *Journal of Agriculture, Food Systems, and Community Development*, 8(1), 97–112. <https://doi.org/10.5304/jafscd.2018.081.006>
- Maryland Farmers Market Association. (2017). *Maryland Market Money 2017 annual report*. Millersville: Maryland Farmers Market Association. Retrieved from http://www.marylandfma.org/wp-content/uploads/2018/03/MMM_AnnualReport_2017_v2.pdf
- Oberholtzer, L., Dimitri, C., & Schumacher, G. (2012). Linking farmers, healthy foods, and underserved consumers: Exploring the impact of nutrition incentive programs on farmers and farmers' markets. *Journal of Agriculture, Food Systems, and Community Development*, 2(4), 63–77. <https://doi.org/10.5304/jafscd.2012.024.002>
- Olsho, L. E. W., Payne, G. H., Walker, D. K., Baronberg, S., Jernigan, J., & Abrami, A. (2015). Impacts of a farmers' market incentive programme on fruit and vegetable access, purchase and consumption. *Public Health Nutrition*, 18(Suppl. 15), 2712–2721. <https://doi.org/10.1017/S1368980015001056>
- Payne, G. H., Wethington, H., Olsho, L., Jernigan, J., Farris, R., & Walker, D. K. (2013). Implementing a farmers' market incentive program: Perspectives on the New York City Health Bucks Program. *Preventing Chronic Disease*, 10(1), Article 120285. <https://doi.org/10.5888/pcd10.120285>

- Pellegrino, S., Bost, A., McGonigle, M., Rosen, L., Peterson-Kosecki, A., Colon-Ramos, U., & Robien, K. (2018). Fruit and vegetable intake among participants in a District of Columbia farmers' market incentive programme. *Public Health Nutrition*, 21(3), 601–606. <https://doi.org/10.1017/S1368980017003020>
- Savoie Roskos, M. R., Wengreen, H., Gast, J., LeBlanc, H., & Durward, C. (2017). Understanding the experiences of low-income individuals receiving farmers' market incentives in the United States: A qualitative study. *Health Promotion Practice*, 18(6), 869–878. <https://doi.org/10.1177/1524839917715438>
- U.S. Department of Agriculture Agriculture Marketing Service. (2017). *National count of farmers market directory listings* [Graph]. Retrieved from <https://www.ams.usda.gov/sites/default/files/media/NationalCountofFMDirectory17.JPG>
- U.S. Department of Agriculture Economic Research Service. (2017). *Comparison of SNAP authorized farmers and markets FY2012 and FY2017*. Retrieved from <https://fns-prod.azureedge.net/sites/default/files/snap/SNAP-Farmers-Markets-Redemptions.pdf>
- Woodruff, R. C., Arriola, K. J., Powell-Threets, K., Nuri, K. R., Hunter, C., & Kegler, M. C. (2018). Urban farmers markets as a strategy to increase access to and consumption of fresh vegetables among SNAP and non-SNAP participants: Results from an evaluation. *Journal of Agriculture, Food Systems, and Community Development*, 8(2), 93–105. <https://doi.org/10.5304/jafscd.2018.082.013>
- Young, C. R., Aquilante, J. L., Solomon, S., Colby, L., Kawinzi, M. A., Uy, N., & Mallya, G. (2013). Improving fruit and vegetable consumption among low-income customers at farmers markets: Philly Food Bucks, Philadelphia, Pennsylvania, 2011. *Preventing Chronic Disease*, 10, Article 120356. <https://doi.org/10.5888/pcd10.120356>