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Food insecurity and barriers to supplemental food provision in the Mississippi Delta: A qualitative analysis

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Abstract

The Mississippi Delta has one of the highest concentrations of food-insecure households in the United States. Supplemental food provision has emerged as one avenue to addressing food insecurity in the Delta. Supplemental food providers (SFPs) in this study are defined as organizations focused on providing food (fresh produce, shelf-stable groceries, hot meals, etc.) at no cost to their clients. This qualitative study seeks to understand the current barriers to SFP efficacy in the Delta through conducting a thematic analysis of 29 qualitative interviews with SFP personnel. Results demonstrate that SFPs are valued community organizations that provide social services beyond feeding, but have operational, external, and relational barriers to maximum efficacy. Operational barriers refer to anything that impedes food distribution, like understaffing and lack of equipment, while external barriers are events that place SFPs under strain, like the COVID-19 pandemic. Relational barriers refer to the various functional relationships needed to distribute food in the MS Delta, whether it be between SFPs and clients or SFPs and donors. The implications of these barriers for SFP efficacy at both a local and national level are discussed. Additionally, this paper explores the potential role of SFPs in improving health outcomes in rural areas such as the Mississippi Delta through initiatives like client choice and community health hubs.

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Conflict of Interests

The author has no relevant financial, personal, or professional interests that would result in an actual or potential conflict of interest for this work.

Keywords
food insecurity, rural, supplemental food provider, qualitative study, community food systems, food bank, food pantry

Introduction and Literature Review

The U.S. Department of Agriculture (USDA) estimated in 2023 that 13.5% of U.S. households experienced food insecurity at some point during the year (Rabbitt et al., 2024). Food insecurity disproportionately impacts African American, Hispanic, and American Indian/Alaska Native households, households with multiple children, and households located in the South (Rabbitt et al., 2024). One of the most food-insecure states in the country is Mississippi, a predominantly rural southern state where an estimated 16.2% of households are food insecure (Rabbitt et al., 2024). Food insecurity in Mississippi is primarily concentrated in the Mississippi Delta (MS Delta) region, which encompasses the 18 counties between the Mississippi and Yazoo Rivers (National Park Service, 2017; National Park Service, 2022).[1]

The MS Delta has always been a predominantly agricultural region, starting with plantations in the early 1700s, then post-Civil War sharecropping, and in the 21st century, mechanized and high-yield cash crop cultivation (National Park Service, 2017; National Park Service, 2022). Because of the extensive natural resources in the MS Delta, there is a long and palpable history of colonialism, slavery, and conflict intertwined with the landscape and people (National Park Service, 2017). The legacies of slavery, sharecropping, and Jim Crow continue to impact the residents of the Delta, especially African American children, who experience some of the worst poverty in the U.S. (Farrigan, 2018). In 2022, about 20.5% of Delta residents were food insecure; for the 18 counties in the MS Delta, the average poverty rate was 29.1%, compared to the U.S. average of 12.6% (Dewey et al., 2024; U.S. Census Bureau, 2024).

Since the late 1960s, U.S. food insecurity has been addressed through the combined efforts of federal programs like the Supplemental Nutrition Assistance Program (SNAP) and private supplemental food providers (Cotugna & Beebe, 2002). Supplemental food providers (SFPs) are organizations located across the U.S. focused on providing food (fresh produce, shelf-stable groceries, hot meals, etc.) at no cost to their clients. SFPs are diverse organizations that each have a unique approach to community feeding and vary in size, location, population served, secularity, and distribution frequency. Funding for SFP organizations draws from a mix of personal financing, foundations, state and federal grants, individual donors, and parish donations (Cotugna & Beebe, 2002). SFPs obtain food from community donations, the USDA Emergency Food Assistance Program (TEFAP), grocery store donations, direct purchases, crop gleaning, and food bank/food pantry networks (Cotugna & Beebe, 2002).

The SFP model was not originally designed to function as a food access hub, or as any household's main source of food (Schwartz & Caspi, 2023). The SFP model started as a food waste reduction method, developed to redistribute expiring groceries within the community (Cotugna & Beebe, 2002). An SFP would also supplement a household during particularly severe times of need (e.g., job loss, death, birth) (Cotugna & Beebe, 2002).

Existing food access literature has identified a shift in the scope of many SFPs, moving from the role of supplemental food provider to a food access and/or community health hub (An et al., 2019; Levkoe & Wakefield, 2011; Schwartz & Caspi, 2023). While originally designed to provide short-term and emergency food access, in practice SFPs may serve clients for multiple years (Kaiser & Cafer, 2016; Long et al., 2022; Remley et al., 2019). While data is limited on specific long-term usage patterns, some studies suggest that older adults, people with chronic health conditions, and low-income individuals are more likely to be long-term SFP users (Kaiser & Cafer, 2016; Long et al., 2022). Because of the increasing role of SFPs in long-term food provision, they have been identified as key partners in improving community health outcomes by facilitating healthier eating

[1] Mississippi Delta Counties: Bolivar, Carroll, Coahoma, DeSoto, Grenada, Holmes, Humphreys, Issaquena, Leflore, Panola, Quitman, Sharkey, Sunflower, Tallahatchie, Tate, Tunica, Warren, Washington, and Yazoo.

choices, delivering nutrition education, and connecting clients to a larger web of health services (Byker Shanks, 2017; Long et al., 2019; Poulos et al., 2021; Remley et al., 2013).

Utilizing SFPs as community health hubs and food access hubs holds particular promise for rural communities and could potentially reduce rural healthcare access disparities by leveraging an integrated care/"under-one-roof" model (Hole et al., 2023). However, persistent poverty, grocery outlet closures, the COVID-19 pandemic, and inflation have resulted in growing need for and a growing number of SFPs (McIntyre et al., 2016). SFPs have been called a necessity for many communities in the MS Delta, as they act as vital food access hubs in counties that are losing grocery stores (Coblentz, 2022; Wright, 2018). While SFPs have been hailed by public media sources for positively impacting community food security in the Delta, the impact has not yet been quantitatively or qualitatively investigated. This study seeks to qualitatively explore barriers to SFP operation in the MS Delta.

Due to the narrow scope of this study, it is a limited addition to the literature on the specific topics of SFPs in the MS Delta and their role in addressing community food insecurity. However, on a national level this study contributes to existing literature on the evolution of SFPs, food access in rural areas, and barriers to expanding the role of SFPs in community health initiatives.

Methods

This study used a qualitative interview approach in order to facilitate an in-depth examination of SFP impact on food insecurity in the MS Delta. There is currently no guide for Mississippi that contains an accurate listing of SFPs for every county; following the COVID-19 pandemic, many providers were no longer operational or have merged their organizations. Therefore, in order to recruit participants, SFP lists from Mid-South Food Bank, Delta Health Alliance, and Mississippi Department of Human Services were cross-referenced to produce a final list. Each provider on the list was validated as an operational and active food distribution source by using website information, phone calls, texts, and social media. Purposive sampling from the list then generated a participant base.

The inclusion criteria for the study were that the SFP had to be currently active, with a point of contact, and to have regular distributions (at least once a month). Initially, over 100 organizations were contacted, both by email and phone. However, many were excluded as they were no longer active or had been temporary food distribution points during the pandemic that had transitioned out of feeding (e.g., libraries, children's sports programs). Of an estimated 50 active organizations that met the inclusion criteria, 35 responded to the researcher. No incentives were offered to participants. Interviews took place either over the phone or in person at the SFP location, usually a church or community building. In total, 29 qualitative interviews were conducted with SFP respondents in the MS Delta between June 2023 and August 2023.

The respondents who declined to participate in the research noted that they did not have enough time to give an interview, did not want to be involved with research, or had had negative past experiences with researchers and so declined to be interviewed. All participant feedback was recorded, and any potential respondents who had concerns about the researcher's presence in the community were invited to have an in-person meeting with the researcher to discuss the nature and purpose of the study. Each interview was conducted in a private space, or, in the case of phone interviews, the researcher was in a private space and strongly recommended that the participant be in a space in which they felt comfortable speaking freely. The interviews were recorded and transcribed verbatim. All recordings were deleted after transcription. During the interview transcription process, all identifiers were removed prior to transcript storage, and for quality assurance the participant validated any unclear areas. Interview transcripts were provided to any participant who requested to have a copy of their transcript.

The interview guide used was developed collaboratively between the primary researcher and researchers from the Community First Research Center for Wellbeing and Creative Achievement (CREW) at the University of Mississippi and the Office of Field Education and Practice at the Harvard T. H. Chan School of Public Health. After

an initial guide was made, it was piloted with key informants to ensure all questions were accessible and appropriate for the target audience. After piloting, two questions were edited for clarity and an open-ended closing question was added to capture any final remarks from the interviewee that were not elicitable by the main questions. The interview guide used a combination of open-ended, Likert scale, and yes/no questions, with probing questions added depending on the original answer. The main topics covered in the topic guide related to the SFP's organizational capacity (funding, leadership, staffing, equipment, space); community, state, and federal agency relationships; and technical capacity (grant implementation, financial management, longevity planning).

The primary researcher used ATLAS.ti version 23 to code the 29 interviews using an inductive descriptive coding approach, allowing the codes to be derived from the data without a preconceived codebook. Codes were then organized using thematic analysis, attempting to group coding patterns into larger themes (e.g., financial, food distribution) while keeping the original set of descriptive codes (e.g., inflation, building conditions). During this process, a hierarchical coding frame accurately organized the codes and discerned how they related to one another.

Code saturation for the qualitative analysis occurred at 20 interviews, at which point no new codes emerged, and all code categories had abundant quotations. This means that saturation for this research occurred at 29 interviews, and while the same conclusions would have been present with only 20 interviews, the additional nine added more nuance and depth to the qualitative analysis.

Descriptive Statistics

Data on Food Environment Index (FEI), food insecurity, and limited food access were all sourced from County Health Rankings, which models a county's food environment using aggregated data from sources like the USDA Food Environment Atlas, the U.S. Census Bureau Community Population Survey, and the Map the Meal Gap from Feeding America (County Health Rankings & Roadmaps, 2024). The Food Environment Index (FEI) is a scaled index created from data on limited food access and food insecurity in a county (County Health Rankings & Roadmaps, 2024). The FEI assigns a county a 0–10 score, a higher score representing a better food environment (County Health Rankings & Roadmaps, 2024). Food insecurity, per County Health Rankings, measures what percentage of a total county population did not have access to a reliable source of food in the last year (County Health Rankings & Roadmaps, 2024). Limited food access measures what percentage of the total county population is low-income[2] and does not live in close proximity to a grocery store (varying by rural/urban residence) (County Health Rankings & Roadmaps, 2024). Median household income and percentage of a county in poverty are sourced from the U.S. Census Bureau Small Area Income and Poverty Estimates Program (SAIPE). The percentage of the county in poverty is the total number of county residents of all ages experiencing poverty.

Participant Validation and Engagement

All results were shared with participants and the larger MS food systems community at the 2023 Mississippi Hunger Summit hosted by CREW, the Community Foundation of Northwest Mississippi, and Delta Directions Consortium. The researcher presented the findings and then held space for community comments and feedback. Several participants and food systems community members shared that they felt this research was accurate and representative of their experiences as supplemental food providers in the MS Delta.

Results

Table 1 contains descriptive statistics stratified by county and ranked highest to lowest by the percentage of total county residents experiencing food insecurity. Though many SFPs may serve multiple counties, all SFPs in the table are counted once under the county in which they are headquartered. Table 1 also reports the average food environment characteristics of the U.S., to contextualize the food environment in the MS Delta.

[2] Less than or equal to 200% of the federal poverty threshold for the family size

Generally, as the percentage of county residents experiencing food insecurity decreases the Food Environment Index (FEI) score increases. However, there are a few outliers, such as Quitman County. Quitman county has an FEI score of 0, reflecting the fact that the county does not currently have a grocery store and is served only by smaller corner stores. Yet, despite this low FEI score, Quitman County did not have the largest percentage of food-insecure residents (22%), and the median household income of Quitman County (US$40,255) is higher than a majority of counties in the Delta. Holmes County had the highest percentage of food insecure residents, 28%, and the lowest median household income, US$31,972. Issaquena County had the most residents in poverty, 42.3%, and also had the lowest number of SFPs, zero. However, because these estimates are from 2022, they do not reflect the damage caused by the EF4 tornado that struck Sharkey, Carroll, and Humphreys counties on March 24, 2023. The researcher met with various individuals involved in tornado relief efforts; based on their accounts, 2023 estimates will see Sharkey County, the epicenter of the tornado, with more residents in poverty and experiencing food insecurity.

Notably, when comparing counties in the MS Delta to the U.S. overall, only one county of 18 has estimates remotely close to the national averages. DeSoto County has a significantly higher median household income (US$79,967) and a lower number of residents in poverty who are food insecure or have limited food access. After baseline descriptive analysis, it is clear that each county in the MS Delta has a distinct food environment that is a

Table 1. Food Environment Characteristics of Counties in the Mississippi Delta

County	Food Environment Index (0–10)	Food Insecurity (%)	Limited Food Access (%)	Median Household Income* (US$)	Poverty* (%)	Supplemental Food Providers
Holmes	3.4	28	18	31,972	34.5	3
Humphreys	4.5	25	12	33,148	32.3	1
Issaquena	4.6	23	15	36,922	42.3	0
Yazoo	4.2	23	20	39,620	37.1	5
Coahoma	4.5	23	16	36,071	35.9	2
Tunica	5.3	23	8	37,694	27.9	1
Washington	4.4	23	18	39,690	27.3	6
Quitman	0	22	63	40,255	31.4	1
Sunflower	4.1	21	25	38,423	32.3	2
Bolivar	3.8	21	28	39,984	29.1	5
Leflore	4.7	20	21	35,520	34.4	4
Sharkey	6.5	19	5	36,375	35.1	2
Tallahatchie	4	18	31	39,009	31.1	2
Panola	6.2	18	11	40,595	24.5	1
Warren	6.4	17	9	52,117	19.6	5
Carroll	5.7	15	20	49,397	20.3	1
Tate	6.4	15	14	58,623	18.5	2
DeSoto	7.4	11	11	79,967	9.8	7
Sample Average	4.78	20.3	19.2	42,521	29.1	2.78
U.S. Average	7	12.8	6	74,755	12.6	-

* Data sourced from the U.S. Census Bureau Small Area Income and Poverty Estimates (SAIPE) Program. All other data were sourced from County Health Rankings. All estimates are from 2022.

unique amalgamation of socioeconomic and cultural features.

Barriers to SFP efficacy that were gleaned from the 29 interviews can be classified in three categories: operational, external, and relational. Operational barriers can be characterized as the foundational components of food acquisition and distribution, such as having a space to operate in, staff, and equipment. External barriers involve an SFP's organizational capacity to respond to external events like COVID-19 and inflation, while also continuing to serve their regular clientele pool. Relational barriers are the various relationships needed to successfully distribute food in the MS Delta, and range from relationships between SFPs and clients to those between SFPs and federal agencies. Funding is a common thread that runs among all barriers, as each barrier simultaneously is influenced by and influences funding availability.

Barrier I: Operational

Food Storage

For SFPs in the MS Delta, their facilities dictate a large portion of their spending and the type and amount of food they can distribute:

> We thought we were able to get enough money to buy refrigerator, but we didn't get it and so can't store and hold more than one day's worth of food. (ID #7)

An estimated 70% of SFP personnel interviewed had cold storage capacity, either purchased through grant funding or at the personal expense of SFP staff and/or leadership. The SFPs interviewed without cold storage expressed extreme guilt at not being able to provide a full range of food products to their communities and were all actively raising money to buy the means for cold storage.

Food Transportation

Food transportation infrastructure was a major source of both frustration and elation for SFPs, dividing the interview pool into those who have the capacity to move large amounts of food and those who do not. SFPs that had pallet jacks, trailers, trucks, and able-bodied volunteers described how vital these components are to food distribution and how much time and labor it takes to move heavy boxes or pallets of food by hand:

> Before upgrading to warehouses that have pallet jacks, it used to take hours to unload a truck. … At one point everything that came to us was coming in cases of 24 cans, we had to touch those cans and physically pick them up 14 times, now we actually touch them two or three times. Leave it on a pallet, set it where we want it, then pack them into boxes, and use a pallet jack to take it to the door. (ID #13)

Concerns were also raised about food infrastructure gaps and how some larger SFPs would like to partner with smaller communities and SFPs, but the latter lack the space, volunteer capacity, and equipment to move food efficiently:

> The agency we partner with to distribute food has to have a transportation plan in place, we can't have a 70-pound old lady moving a bunch of 40-pound boxes. They need to have the supplies and space to move all the food we are providing. (ID #18)

Building Conditions

The weather in Mississippi, which can range from heavy rains to humid with high temperatures, makes activity in non-climate-controlled buildings physically uncomfortable and potentially harmful to health due to the potential for mold growth, heatstroke, and asthma (Mississippi State Department of Health, 2024). Not only are building repairs expensive, but many SFPs reported that they often have to make the impossible choice between purchasing food and fixing their facilities. A participant describes their frustrations with operating out of an older building that has a single-switch electrical system, which forces them to choose between leaving the power to the building on (so they can run the fridge and air conditioning) or turning the power off to save money:

> In the summer, the condensation in the building is so bad because the building is old. … There's no air circulation. Because we have to

> pay utilities and insurance for the building, when we leave, we need to turn the power off or else everything is running, air and electric. We can't keep a fridge because the power cuts out … but we just can't afford to keep the building running all the time. (ID #7)

Without a reliable and safe physical space, many SFPs are limited to mobile distribution, food distribution once a month, or to needing to partner with other SFPs to distribute food.

Rurality

A challenge associated with rurality that weighed on several SFPs is the demographic shifts in the MS Delta and the loss of young people from the area:

> From a farming standpoint, the Delta is the breadbasket of the state. We also have one of the highest unemployment rates in the state. There's a lot of poverty. It's getting grayer and grayer, the children of the wealthier families that go to college, unless they have something that draws them back into the town, like law, or business, or things that support the agricultural world, they leave. The people that stay and volunteer are old and getting older. (ID #6)

With a growing older population and fewer younger people staying in rural towns in the state, many of these organizations face massive volunteer losses. The majority of SFPs interviewed estimated that their average volunteer age is over 65. This volunteer shortage is also reflected in the aforementioned food transportation barrier, as moving and distributing food is a strenuous process, especially during the summer months.

Barrier II: External

Inflation

Many SFPs identified inflation as a significant challenge to food provision, especially after COVID-19. SFPs that usually could procure food for free or at heavily discounted prices noted that in 2023 they were paying almost retail food prices:

> Used to be we paid 12 cents a pound for food, now we pay 44 cents a pound. It's almost retail price at this point. Our food costs have gone up dramatically. We spend up to [US]$2,000 a month more than we used to on food costs. Inflation is taking people's money out of their pocketbooks; it's eating us from both ends. (ID #6)

Inflation, combined with an increasing number of clients post-COVID, has placed financial limitations on many SFPs and reduced the number of clients they can serve.

School Feeding Gaps

School feeding was a major topic of conversation in interviews. Nearly every SFP interviewed had some sort of program specific to school-age children (K-12), while continuing to serve adult clients. The first school feeding gap SFPs responded to was combatting weekend hunger:

> Kids weren't eating during the weekends and so we started doing weekend meal packs for Saturday and Sunday. (ID #25)

Several SFPs noted that the food they send home with children on the weekends is enough to feed the child and any family members who may be in need and missing meals in order to cover their child's weekend meals. The second school feeding gap that SFPs responded to was coverage during the summer months. While many schools or summer programs offer some feeding during the day, several SFPs noted that evening meals are often not provided:

> We fill the gap when the school is [not] feeding. Right now, we are focusing on dinner because most programs do breakfast and lunch. (ID #5)

While school-age children are a high-priority vulnerable population for many SFPs, feeding them places additional strain on the organization. Purchasing and distributing enough food to meet the daily needs of sometimes an many as a hundred children while also arranging weekly or monthly

food distributions for adult community members is an extensive and expensive process.

COVID-19

The pandemic posed financial challenges but also created opportunities for deepened community connections for Delta SFPs. Having to purchase PPE, disposable plates, and single-use packaging created additional costs and made food distribution more complex, especially during the early stages of the pandemic when information on the transmission of the virus was limited:

> Now, we have to spend more money on COVID protocol stuff for food service, where each plate is a dime a piece. We go through about 300 a day, 30 dollars a day for Styrofoam. (ID #6)

SFPs that were able to successfully navigate the early stages of the pandemic emerged as pillars of strength for their communities, and quickly became a crucial lifeline due to widespread lockdowns, food shortages, and job layoffs:

> During the pandemic, our organization was well known by the whole community, we never closed. … Pre-pandemic we fed around 150 people, and during the pandemic it increased to 2,000 plates a month. (ID #15)

For many SFPs, COVID-19 demonstrated to their community that they could rely on the SFP in times of hardship; post-COVID, many SFPs are serving about double or triple the number of clients that they were serving pre-COVID.

Barrier III: Relational

Federal Programs

Some SFPs consider federal funding to be a way to elevate their organizational capacity and increase the number of clients they can serve:

> We had to get an ID number with the federal government which … makes us eligible for more funding. … We have never gotten involved in that end of things before, but now we have that number, we have more options. (ID #6)

Other SFPs are wary of or outright refuse to seek federal funding because they fear being constrained as to how they provide food. Several SFPs stated that federal funding requires organizations to keep records of the people to whom they hand out food, which may turn more community members away than draw them in:

> We don't have the capacity to get into people's personal business. If they need food, we give it to them. Why would we get into their business or turn them away because of where we are getting money? (ID #27)

Many SFPs noted that many of their community members do not have a photo ID or have complicated housing situations, so investing in relationship building carries more weight for their organization than officially documenting their clientele pool. For some clients, SFPs noted that remaining anonymous (to the extent they can) allows them to retain their dignity and sense of self while still getting the services they need.

Community Relationships

Many SFPs stated that they were not just food providers, but also a lighthouse for community members struggling to weather a storm of personal, financial, and social issues:

> We aren't just food. We get calls like "hey, this kid needs some shoes," "this family got burned out," "we need money to bury a family member." They always call me with things. (ID #7)

In many cases, SFPs either directly provided financial assistance to community members in need or acted as an intermediary to help their clientele get other forms of aid (e.g., housing, medical, addiction and recovery services). Because of the transient nature of their clientele pool, their intentional lack of records, and word-of-mouth needs assessment, many SFPs are not able to develop quantitative metrics of success. Instead, SFPs often measure their success through positive community reviews

or the amount of food distributed/meals served:

> The word is getting out we are doing a good job. Very seldom do we have any complaints. Main complaint is that they have to wait in line. (ID #14)

For others, external feedback was more limited, and they noted challenges with getting their clientele to engage with their SFP organization beyond receiving food:

> I know we are making a difference, but as far as getting confirmation, we get that from 50% of the people we serve. (ID #16)

Discussion

The guiding research question for this study was to determine and understand barriers to SFP operation in the MS Delta. Qualitative analysis of participant interviews found that in the Delta SFPs are valued complex community organizations that serve purposes beyond their organizational description. SFPs not only fill gaps in feeding but also meet other community needs such as emergency funds, resource referrals, health services, and childcare. Counties with high poverty rates were most likely to report SFPs filling those gaps in community needs. Importantly, SFPs located in counties that had high poverty rates and which were the only, or one of few, SFPs in the area also consistently reported financial strain and hardship.

Poverty, food insecurity, and food access are also prevalent issues in rural communities across the U.S. In 2023, 15.4% of households in U.S. rural areas experienced food insecurity, as compared to the national average of 13.5% (Rabbitt et al., 2024). For some rural low-income communities navigating grocery store closures and rising food costs, and needing to travel significant distances to food retailers, an SFP may be the last location near them where they can reliably access food (Bowen et al., 2022; Carroll & Schichtl, 2022; Sánchez et al., 2024; Stluka et al., 2018). Current research indicates that SFPs serving low-resource communities (low-income and/or rural) have the potential to improve client health outcomes by adopting a client choice model of service combined with nutrition education (An et al., 2019; Carroll & Schichtl, 2022; Remley et al., 2019; Stluka et al., 2018). A model of food distribution, client choice means allowing SFP clients to choose their own food rather than receiving pre-packaged food boxes (Carroll & Schichtl, 2022). Preliminary findings from interventions that provided clients with choice but that also incorporated information about nutrition and chronic disease management indicated that there were increases in client healthy food intake and in health literacy (An et al., 2019). Client choice has also been shown to reduce food waste and contribute to a culturally competent food service environment (Sánchez et al., 2024; Stluka et al., 2018). Client choice is particularly important for SFPs serving rural communities, where options may already be limited, as it allows clients to retain dietary agency by selecting foods that align with their cultural and dietary needs (Carroll & Schichtl, 2022; Sánchez et al., 2024; Stluka et al., 2018).

Nevertheless, while there are abundant opportunities to utilize SFPs to improve rural community health outcomes, there are salient operational, external, and relational barriers, as identified in this work and by others, to implementing these solutions. Only two SFPs interviewed for this study could offer client choice feeding. Implementing client choice and additional community health services requires training SFP staff and volunteers, which for many organizations in the MS Delta and the U.S. in general adds a burden to already understaffed organizations (Brady et al., 2023; Sánchez et al., 2024). Client choice also requires a safe and functional distribution space and consistent funding to purchase food, which many SFPs in the Delta do not have. Client choice was an aspiration for many interview participants. However, it was noted as not worth dedicating funding or time to it, in light of other pressing issues, like distribution space, funding, and finding volunteers.

Additionally, building out an SFP to act as a community health hub or referral center necessitates having community health resources in the first place, which may prove especially difficult for rural communities. In 2023, about 65% of U.S. rural areas had a shortage of primary care physicians (Health Resources & Services Administration, 2024). Many SFPs interviewed expressed the desire

to better coordinate with health services to offer preventative health screenings to clients, but could not find healthcare partners.

Finally, implementing client choice or an "under-one-roof" service model requires consistent funding. Securing enough funding for these SFP initiatives necessitates that the organization have the capacity to manage multiple funding streams and acquire funding to implement sustainable programming (An et al., 2019; Brady et al., 2023; Sánchez et al., 2024). While some SFPs may have this capacity, there is also the issue of record-keeping and collecting data on clients, which many SFPs in the MS Delta decline to do. Without metrics that can demonstrate SFP impact and justify support, receiving grant or federal funding is nearly impossible. But in pursuing funding opportunities that require data collection, some SFPs may risk their client relationships and community trust. For many Delta SFPs, there seems to be an internal dilemma between expanding services and branching out to more considerable funding opportunities, or continuing to faithfully serve their community members and be a catch-all community safety net.

Limitations

The limitations of this study primarily lie in the quality of the information available about SFPs in the MS Delta, a lack of complete SFP representation in the interviews, and the potential for SFPs to misrepresent their community contributions due to social desirability bias. Despite the researcher's best efforts to obtain accurate estimates of the number of SFPs in each county and thus build a pool of study participants, the numbers may be inaccurate due to SFPs perhaps lacking documented online presence, operating only within a church setting and being closed to non-church members, distributing food irregularly, or being housed within another institution (e.g., medical facility). The interviewer was unable to interview SFPs from all 18 counties in the Delta, primarily due to the aforementioned information gaps, lack of SFP interest in participation, and SFP schedule constraints. It is also possible that an SFP's interpretation of its community impact may deviate from community perception of the SFP's impact. Without qualitative or quantitative data on SFP clientele and their experiences receiving food from SFPs, it is difficult to fully depict the complete community impact of SFPs in the MS Delta.

Conclusion

Food insecurity remains a salient issue for households in the MS Delta and across the nation, exacerbated by the COVID-19 pandemic, inflation, natural disasters, and grocery store closures. SFPs are valued complex community organizations in the MS Delta that transcend feeding; they provide emergency funds, resource referrals, and childcare. Overall, this study highlights opportunities to build on SFP's food provision efforts within rural areas such as the MS Delta. However, for these efforts to be successful significant barriers that hinder SFP efficacy and expansion must be addressed. Given these operational, external, and relational barriers, additional research is needed on how to best resource and support SFPs in continually evolving food systems. In the long term, we also must consider what the future of food systems looks like for rural communities, and how current reliance on SFPs can potentially be leveraged to foster food security, health literacy, and sustainable food access across the rural U.S.

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References

An, R., Wang, J., Liu, J., Shen, J., Loehmer, E., & McCaffrey, J. (2019). A systematic review of food pantry-based interventions in the USA. *Public Health Nutrition*, *22*(9), 1704–1716. https://doi.org/10.1017/S1368980019000144

Bowen, S., Elliott, S., & Hardison-Moody, A. (2022). Rural food insecurity: A longitudinal analysis of low-income rural households with children in the South. *RSF: The Russell Sage Foundation Journal of the Social Sciences*, *8*(3), 50–77. https://doi.org/10.7758/RSF.2022.8.3.02

Brady, P. J., Kunkel, K., Baltaci, A., Gold, A., & Laska, M. N. (2023). Experiences of food pantry stakeholders and emergency food providers in rural Minnesota communities. *Journal of Nutrition Education and Behavior*, *55*(10), 710–720. https://doi.org/10.1016/j.jneb.2023.07.009

Byker Shanks, C. (2017). Promoting food pantry environments that encourage nutritious eating behaviors. *Journal of the Academy of Nutrition and Dietetics*, *117*(4), 523–525. https://doi.org/10.1016/j.jand.2016.12.020

Carroll, K. A., & Schichtl, R. (2022). Perceived barriers to client-choice conversion among Arkansas food pantries. *Journal of Agriculture, Food Systems, and Community Development*, *11*(4), 153–164. https://doi.org/10.5304/jafscd.2022.114.012

Coblentz, B. A. (2022, March 8). *Food pantries help fill gap when stores close*. Mississippi State University Extension Service. https://extension.msstate.edu/news/feature-story/2022/food-pantries-help-fill-gap-when-stores-close

Cotugna, N., & Beebe, P. D. (2002). Food banking in the 21st Century: Much more than a canned handout. *Journal of the American Dietetic Association*, *102*(10), 1386–1388. https://doi.org/10.1016/s0002-8223(02)90303-2

County Health Rankings & Roadmaps. (2024). *Food Environment Index*. https://www.countyhealthrankings.org/health-data/community-conditions/health-infrastructure/health-promotion-and-harm-reduction/food-environment-index?year=2025

Dewey, A., Harris, V., Hake, M., & Engelhard, E. (2024). *Map the Meal Gap 2024: A report on county and congressional district food insecurity and county food cost in the United States in 2022*. Feeding America. https://www.feedingamerica.org/sites/default/files/2024-05/MMG%202024%20Executive%20Summary%20%281%29.pdf

Farrigan, T. (2018, July 2). Child poverty heavily concentrated in rural Mississippi, even more so than before the Great Recession. *Amber Waves*. U.S. Department of Agriculture, Economic Research Service. https://www.ers.usda.gov/amber-waves/2018/july/child-poverty-heavily-concentrated-in-rural-mississippi-even-more-so-than-before-the-great-recession

Health Resources & Services Administration. (2024). *Find shortage areas* [Health Professional Shortage Area (HPSA) data]. U.S. Department of Health & Human Services. https://data.hrsa.gov/tools/shortage-area

Hole, M. K., Letchuman, S., Chang, A., & Berry, L. L. (2023). Community health partners in unexpected places. *Mayo Clinic Proceedings*, *98*(12), 1833–1841. https://doi.org/10.1016/j.mayocp.2023.07.031

Kaiser, M. L., & Cafer, A. M. (2016). Exploring long-term food pantry use: Differences between persistent and prolonged typologies of use. *Journal of Hunger & Environmental Nutrition*, *12*(1), 46–63. https://doi.org/10.1080/19320248.2016.1157554

Levkoe, C., & Wakefield, S. (2011). The community food centre: Creating space for a just, sustainable, and healthy food system. *Journal of Agriculture, Food Systems, and Community Development*, *2*(1), 249–268. https://doi.org/10.5304/jafscd.2011.021.012

Long, C. R., Narcisse, M. R., Rowland, B., Faitak, B., Bailey, M. M., Gittelsohn, J., Caspi, C. E., Niemeier, J., English, E. S., & McElfish, P. A. (2022). Food pantry usage patterns are associated with client sociodemographics and health. *Journal of Hunger & Environmental Nutrition*, *17*(3), 408–424. https://doi.org/10.1080/19320248.2021.2001404

Long, C. R., Rowland, B., Steelman, S. C., & McElfish, P. A. (2019). Outcomes of disease prevention and management interventions in food pantries and food banks: A scoping review. *BMJ Open*, *9*(8), Article e029236. https://doi.org/10.1136/bmjopen-2019-029236

McIntyre, L., Tougas, D., Rondeau, K., & Mah, C. L. (2016). "In"-sights about food banks from a critical interpretive synthesis of the academic literature. *Agriculture and Human Values, 33*(4), 843–859. https://doi.org/10.1007/s10460-015-9674-z

Mississippi State Department of Health. (2024). *Mold: Questions and answers*. https://msdh.ms.gov/page/43,0,230,331.html

Mississippi State University Extension Service. (2022). *DeSoto County economic profile*. https://extension.msstate.edu/content/desoto-county-economic-profile

National Park Service. (2017). *History and culture of the Mississippi Delta region*. https://www.nps.gov/locations/lowermsdeltaregion/history-and-culture-of-the-mississippi-delta-region.htm

National Park Service. (2022). *Natural resources in the Delta*. https://www.nps.gov/locations/lowermsdeltaregion/natresources.htm

Poulos, N. S., Nehme, E. K., O'Neil, M. M., & Mandell, D. J. (2021). Implementing food bank and healthcare partnerships: A pilot study of perspectives from charitable food systems in Texas. *BMC Public Health*, *21*(1), Article 2025. https://doi.org/10.1186/s12889-021-12031-w

Rabbitt, M. P., Reed-Jones, M., Hales, L. J., & Burke, M. P. (2024). *Household food security in the United States in 2023* (Report No. ERR-337). U.S. Department of Agriculture, Economic Research Service. https://doi.org/10.32747/2024.8583175.ers

Remley, D., Franzen-Castle, L., McCormack, L., & Eicher-Miller, H. A. (2019). Chronic health condition influences on client perceptions of limited or non-choice food pantries in low-income, rural communities. *American Journal of Health Behavior*, *43*(1), 105– 118. https://doi.org/10.5993/AJHB.43.1.9

Remley, D., Kaiser, M., & Osso, T. (2013). A case study of promoting nutrition and long-term food security through choice pantry development. *Journal of Hunger & Environmental Nutrition*, *8*(3), 324–336. https://doi.org/10.1080/19320248.2013.819475

Sánchez, K. D., Díaz Rios, L. K., & Payán, D. D. (2024). Nutrition environment gaps and distribution challenges in rural food pantries during the COVID-19 pandemic: A mixed-methods study. *Journal of the Academy of Nutrition and Dietetics*, *124*(6), 713–724, e4. https://doi.org/10.1016/j.jand.2023.12.004

Schwartz, M. B., & Caspi, C. E. (2023). The charitable food system as a change agent. *Frontiers in Public Health*, *11*, Article 1156501. https://doi.org/10.3389/fpubh.2023.1156501

Stluka, S., Moore, L., Eicher-Miller, H. A., Franzen-Castle, L., Henne, B., Mehrle, D., Remley, D., & McCormack, L. (2018). Voices for food: Methodologies for implementing a multi-state community-based intervention in rural, high poverty communities. *BMC Public Health*, 18, Article 1055. https://doi.org/10.1186/s12889-018-5957-9

U.S. Census Bureau. (2024). *Small Area Income and Poverty Estimates (SAIPE) program*. https://www.census.gov/programs-surveys/saipe.html

Wright, A. (2018, January 8th). Clarksdale grocery store closing: What does it mean for Delta community? *Mississippi Today*. https://mississippitoday.org/2018/01/08/long-time-clarksdale-grocery-store-closing-what-does-it-mean-for-delta-community/