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Experiences with Pandemic Food Access Among Clinic-Based Community Supported Agriculture Program Participants

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Abstract

Objectives The COVID-19 pandemic intensified food insecurity (FI) across the country, and families with children were disproportionately affected. This study explores experiences with FI and social resources during the pandemic among families participating in a free, clinic-based community supported agriculture (CSA) program.

Methods Free weekly boxes of organic produce from local farms were distributed to pediatric caregivers for 12 weeks at two pediatric outpatient centers associated with a children's hospital in a low-income, urban area. Demographics and a two-question FI screen were collected. Caregivers were purposively selected to participate in semi-structured interviews about experiences with FI and community or federal nutrition programs during the pandemic. Interviews were recorded and transcribed. Content analysis with constant comparison was used to code interviews inductively and identify emerging themes.

Results The 31 interviewees were predominantly female; more than half were Black, FI, and SNAP beneficiaries. Study participants were more likely to have repeat participation in the CSA program. Interviews elucidated four major themes of barriers to food access during the pandemic: (1) fluctuations in price, availability, and quality of food; (2) financial strain; (3) faster consumption with all family members home; (4) shopping challenges: infection fears, store closures, childcare. SNAP, WIC, and school meal programs were generally facilitators to food access. Increased SNAP allotments were particularly useful, and delays of mailed WIC benefits were challenging.

Conclusions for practice This qualitative study describes facilitators and barriers to food access among clinic-based CSA program participants during the pandemic. The findings highlight areas for further exploration and potential policy intervention.

Keywords Food insecurity · Pandemic · Foodassistance programs · Socialresources

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Significance

While the disproportionate impact of food insecurity on families with children during the COVID-19 pandemic has been well-documented, there is limited evidence elucidating specific barriers and facilitators to food access during this time of heightened need and reduced accessibility. This qualitative study explores the effects of pandemic-related factors on food access among families with children who participated in a clinic-based CSA program and highlights potential policy changes to improve family-level food access.

Introduction

The COVID-19 pandemic has exacerbated food insecurity in the United States through a myriad of individual and structural-level pathways. Wage reductions and long-term unemployment resulting from economic recession have disproportionately affected low-income individuals, increasing the risk of food insecurity for those who previously struggled and introducing food access challenges for millions of new families with children (Parker et al., 2020). A weakened supply chain has driven sharp increases in the price of food thereby reducing families' purchasing power, while school closures restricted access to the school lunch program for 29.6 million children who depended on it as a daily source of nutrition (Food Research & Action Center, 2021a, 2021b; Laborde et al., 2020).

The effects of COVID-19 on food insecurity are magnified in families with children. While the overall proportion of food insecure households in the U.S. remained stable between 2019 and 2020, it increased significantly among households with children from 13.6–14.8% (Coleman-Jensen et al., 2021). High-poverty cities like Philadelphia, which had a pre-pandemic childhood food insecurity rate of 22%, are particularly vulnerable (Feeding America, 2020). Childhood food insecurity is associated with a range of adverse health outcomes including increased rates of hospitalization, anxiety and aggression, and poorer overall health (Casey et al., 2006; Cook et al., 2006; Whitaker et al., 2006).

While increasing food insecurity among families with children during the pandemic has been well-documented, there is limited qualitative evidence elucidating specific barriers and facilitators to food access during this time of heightened need and reduced accessibility. In this study, we explore the effects of pandemic-related factors on food access among participants in a clinic-based CSA program, as well as caregivers' experiences with other food resources during the pandemic.

Methods

Study Setting & Participants

We offered a free community supported agriculture (CSA) program at two urban, academic pediatric outpatient care sites (primary care clinic and outpatient subspecialty care center) in West Philadelphia during the COVID-19 pandemic, with the goal of addressing urgent food needs among patients and families (St. Christopher's Foundation for Children, 2021). Pre-pandemic poverty levels in West Philadelphia exceeded those of the city overall (26%), with poverty rates over 45% in the neighborhoods surrounding our selected CSA sites (Pew Research Center, 2019). In 2020, these outpatient centers saw a combined 374,635 patients; 31% were Black or African American, 11% Hispanic or Latino, and 44% had Medicaid.

During the study period (July 7, 2020–October 1, 2020), free boxes of organic produce were distributed to caregivers of pediatric patients who visited the clinics; there were no preceding screening or eligibility criteria. At the time of initial participation, one adult caregiver from each household completed a brief, electronic registration survey including demographic information, a validated two-item food insecurity screen (Hunger Vital Sign™), and information about participation in the Supplemental Nutrition Assistance Program (SNAP) and the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) (Hager et al., 2010). Caregivers were additionally offered a text message providing food and other social resources, and the ability to opt-in for a semi-structured interview within 2 weeks of program participation. Survey responses were recorded directly into the Research Electronic Data Capture (REDCap) database software (Harris et al., 2009).

We purposively sampled caregivers for interviews on a rolling basis to achieve representation across demographic characteristics, federal nutrition program participation, food insecurity status, program site, and repeat program use. After re-confirming consent, semi-structured phone interviews lasting approximately 30 min were conducted by two research team members with training in qualitative interview techniques. To minimize language barriers to participation, translation services were available to assist with completion of both the registration survey and semi-structured interview. Caregivers received a $25 gift card for participating in the interview. All study procedures were reviewed and deemed exempt by the Children's Hospital of Philadelphia Committee for the Protection of Human Subjects.

Data Collection

A semi-structured interview guide was developed by members of the research team (DC, RB, GR, SV), informed by

the literature and consultation with local food insecurity experts (Cullen et al., 2020; Palakshappa et al., 2017; De Marchis et al., 2020). Interview questions explored caregivers' experiences with food access, and federal and community food assistance programs during the COVID-19 pandemic. An additional inquiry regarding the program's operation and impact will be reported separately(Brown et al., 2022). The interview guide was refined through an iterative process conducted after every five interviews to ensure that questions were acceptable to participants and elicited insight relevant to the research questions. At the conclusion of each interview, participants were again offered a text message providing food and other social resources. Interviews were digitally recorded, de-identified, and transcribed verbatim by a contracted transcription platform (NoNotes.com). Each transcript was reviewed by the team member who conducted the interview and edited to ensure consistency with the recording.

Analysis

Coding and analysis of the transcribed interviews were conducted using QSR NVivo 12 software (QSR International Pty Ltd., 2020). An initial codebook was developed based on dominant themes in the interview guide. The constant comparison method was employed to guide an integrated approach in which inductive coding was used to expand upon the initial start list of codes and iteratively refine the codebook (Boeije, 2002). A team of three researchers with qualitative research training (DC, RB, GR) coded the first three transcripts independently and then reconvened to update the codebook to reflect emerging themes. This team met weekly to assess interrater reliability and resolve coding disagreements through consensus. Of 31 transcripts, 12 were double coded to ensure interrater reliability over time.

Descriptive statistics were used to explore differences in program participation and household composition between all CSA participants and interview participants. We conducted Fisher's exact test, χ^2 test, and two sample t-tests to detect significant differences in demographic characteristics between the full sample and interview participants. All statistical analyses were performed using R version 4.1.1 (2021) and RStudio version 1.4 (2021) software packages (R Core Team, 2021; RStudio Team, 2020).

Results

Among 1472 total program participants, 1173 opted in for a phone interview. Of these, 65 were called a total of 106 times to obtain a sample size of 31 interviews between July and October 2020; 15 caregivers could not be reached, 4 phone numbers were not in service, and 15 declined to participate or could not be scheduled. The majority of interview participants were female (93%) and identified as Black or African American (54.8%), and non-Hispanic or Latino (77.4%). 58% reported food insecurity, and many received SNAP (51.6%) or WIC (35.5%). The 31 caregivers interviewed were proportionally representative of the 1472 total program participants based on demographic characteristics (Table 1). Ten (32.3%) of the interviewees had repeat CSA participation at the time of interview; rates of repeat CSA program participation were significantly higher among interviewed caregivers (51.6%) as compared to overall program participants (14.5%) by the end of the 12-week program pilot. Inter-rater reliability analysis of coded transcribed interviews produced an average kappa statistic of 0.84.

Interviews revealed four major themes of barriers to adequate food during the pandemic: (1) fluctuations in the price, availability, and quality of food; (2) financial strain; (3) faster consumption with all family members home; and (4) shopping challenges: fear of the virus, store closures, and lack of childcare (Table 2). Caregivers reported mixed perceptions of federal nutrition programs, describing SNAP and WIC as overall facilitators of food access while identifying several barriers to participation related to programmatic shifts during the pandemic (Table 3).

Barriers to Food Access

Fluctuations in the Price, Availability, and Quality of Food

While most caregivers reported persistent challenges with food access, many emphasized heightened difficulty in the early months of the pandemic due to purchasing limits, long wait times to enter stores, and severe shortages of staple items including milk, eggs, and bread. Some caregivers also noted that social unrest in Philadelphia in the summer of 2020 further restricted food access: "…when COVID-19 first hit like back in March and April, it was difficult because there wasn't no food in the stores. And then when food was coming back on the shelf, then we were met with the social unrest in the cities where it was a lot of looting in the neighborhood markets and they were closed, so that made it difficult." [8].

Most caregivers identified the volatility of the cost and availability of food as new barriers to food access that emerged during the pandemic. Fluctuating prices intensified budgeting challenges for caregivers, requiring them to either limit their purchasing of staple foods or buy items beyond their budget due to extremely low stock in stores. One caregiver described her partner's recent shopping trip: "He… came home and it was like a $23 piece of meat, like a roast. And I was like, 'Are you crazy spending this much money on one piece of meat?' He was like, 'That's all they had. I had no choice.'" [26] Some caregivers also reported

Table 1 Participant demographics

	Total participants: 1472 N (%)	Agreed to interview: 1173 N (%)	P-value	Contacted for interview: 65 N (%)	Interview participants: 31 N (%)	P-value
Age (years)						
18 or under	32 (2.2)	25 (2.1)	0.91	4 (6.2)	2 (6.5)	0.87
19–30	280 (19.0)	236 (20.1)		11 (16.9)	4 (12.9)	
31–40	613 (41.7)	490 (41.8)		31 (47.7)	14 (45.2)	
41–50	353 (24.0)	265 (22.6)		10 (15.4)	4 (12.9)	
51 or over	189 (12.8)	154 (13.1)		9 (13.8)	7 (22.6)	
Gender						
Female	1228 (83.4)	1003 (85.5)	0.37	54 (83.1)	29 (93.0)	0.21
Male	235 (16.0)	165 (14.1)		11 (16.9)	2 (7.0)	
Non-binary	3 (0.2)	2 (0.2)		0 (0.0)	0 (0.0)	
Ethnicity						
Not Hispanic or Latino	1113 (75.6)	899 (76.6)	**< 0.01**	51 (78.5)	24 (77.4)	0.34
Hispanic or Latino	158 (10.7)	129 (11.0)		5 (7.7)	3 (9.7)	
Unknown/not reported	201 (13.6)	33 (2.8)		3 (4.6)	4 (12.9)	
Race						
Black or African American	699 (47.5)	608 (51.8)	0.44	40 (61.5)	17 (54.8)	0.95
White	433 (29.5)	320 (27.3)		11 (16.9)	7 (22.6)	
Asian	92 (6.2)	57 (4.9)		4 (6.2)	2 (6.5)	
American Indian/Alaska Native	28 (1.9)	23 (2.0)		2 (3.1)	1 (3.2)	
More than one race	52(3.5)	43 (3.7)		3 (4.6)	2 (6.5)	
Native Hawaiian or Other Pacific Islander	4 (0.3)	3 (0.3)		0 (0.0)	0 (0.0)	
Other/not listed	73 (5.0)	55 (4.7)		1 (1.5)	0 (0.0)	
Household size						
Adults (mean, SD)	2.2 (0.9)	2.2 (0.9)	0.39	2.3 (0.9)	2.3 (0.9)	0.41
Children (mean, SD)	2.2 (1.2)	2.1 (1.3)	0.76	2.4 (1.2)	2.5 (1.4)	0.90
Food insecure						
Yes	711 (48.3)	526 (44.8)	0.08	37 (56.9)	18 (58.0)	0.98
SNAP benefits recipient						
Yes	552 (37.5)	478 (40.9)	0.20	30 (46.2)	16 (51.6)	0.78
WIC benefits recipient						
Yes	348 (23.6)	301 (25.7)	0.25	18 (27.7)	11 (35.5)	0.59

the need to travel to multiple stores to find food that was both affordable and high quality, particularly meat and produce.

Financial Strain

Many caregivers reported financial strain resulting from pandemic-related job loss or pay cuts, causing them to alter their shopping patterns to maximize a constrained budget and make purchasing decisions informed by affordability rather than diet quality or preference. One caregiver summarized: "To be honest, with the income I have, I don't really have a choice in what I pick. I pretty much go and I try to buy the value packs and everything, like I said just to try to make it last a month." [25].

Faster Consumption

Several caregivers reported difficulty maintaining an adequate supply of food for school-aged children spending more time at home due to school closures. One caregiver described these concurrent stressors: "So it's been a little bit hard not just saying, 'Oh, I'll go get this from the store' because you can't, because you want to make sure that all your bills are paid and then worry about food… And then having everybody home, we eat more. So it's like the amount of food increased, but your income decreased." [2].

Table 2 Barriers to food access

Barriers to food access	Representative quotation
Fluctuations in the Price, Availability, and Quality of Food	Like I said, not so much now because I feel like things are pretty much more stocked up at the markets now. But at the beginning, yes, there was a lot of things that were hard to get. And like I said, they limited the number that you can get. Like if I wanted to get a pack of chicken, I'm going to get one pack that's supposed to feed a whole family of four with that. [15] I was like, "Oh my god, we're not going to be able to get formula. They're looting all the stores and we're not going to be able to get diapers." And I was like a nervous wreck that we weren't going to be able to have anything because of first, the pandemic, so everything was [already] out of stock and everything was low. [26] It's better now, but when COVID-19 first hit like back in March and April, it was difficult because there wasn't no food in the stores. And then when food was coming back on the shelf, then we were met with the social unrest in the cities where it was a lot of looting in the neighborhood markets and they were closed, so that made it difficult. [8] Oh, they went up. In certain days, it went up. You can see that. When I go get strawberries, they used to sell like two for $3. Now it was like, two for $6. I'm like, "Wow, that's a big jump." Like you notice it. [13]
Financial Strain	To be honest with the income I have, I don't really have a choice in what I pick. I pretty much go and I try to buy the value packs and everything, like I said just to try to make it last a month. [25] Yeah, I've been out of work since March because I work at the school and school was closed on March 12. So, I've been out of work since then so in that aspect, yes, it's been difficult. [5]
Faster consumption	The parents can't go out because the kids can't stay home by themselves. So, if the families are home eight hours a day, when they're normally in school or at work, they're going to be eating more. For one because they'll run out of food more because they're hungry. [16] Yes. It's going faster because the kids; I'm saying kids, well my child, just like for all families the kids are at home now… But they're eating so you got to feed them. As a parent, you have to do what you have to do. [22]
Shopping Challenges	Considering all those, now I would go out only when groceries when they're absolutely needed. I tend to plan more and then whenever I go out I make sure that I have almost everything for at least 1–2 weeks so that I don't have to make frequent trips. The more planning come on the way I do grocery shopping on my end. [12]

Shopping Challenges

The tension between feeding their family and minimizing COVID-19 exposure risk caused many caregivers to delay grocery shopping trips. As one caregiver described: "Now I would go out only when groceries are absolutely needed. I tend to plan more and then whenever I go out, I make sure that I have almost everything for at least one to 2 weeks so that I don't have to make frequent trips." [12] This issue is compounded by faster household consumption of food, and difficulties securing childcare or shopping with children due to fear of viral transmission. Some caregivers expressed hesitancy to purchase fruits and vegetables, citing produces' lack of packaging: "I feel like everybody touch it and… it's not 100% safe." [7] Several caregivers also noted purchasing more shelf-stable rather than fresh foods during the pandemic, as these items are often less expensive and sustain their families for longer periods of time.

SNAP and WIC Facilitators and Barriers

Caregivers who participated in a federal nutrition program generally reported satisfaction with their benefits during the COVID-19 pandemic. Most of the 16 interviewed caregivers who were receiving SNAP benefits during the pandemic described that the program alleviated at least some food-related financial strain. SNAP remained easy to use, and pandemic emergency allotments that brought all families up to maximum benefits were noted to be particularly beneficial: "…they gave the family the maximum amount, which like, that was a blessing. I think that's why we've been able to thrive so well during the pandemic is because of the food stamps." [14] However, caregivers who already received maximum benefits pre-pandemic reported that their benefits were insufficient to cover the cost of food for their family. As one caregiver explained: "It's just not enough. So, I go to churches and all the places to get the food that I need." [21].

Several caregivers also expressed frustration related to the SNAP application process and eligibility criteria: "It's like a job, you have to work for it… It's just a hassle. You would think they're giving you a million dollars." [26] Many caregivers reported that SNAP benefits would help improve their food security, but they have not applied because they do not believe that they qualify for assistance or were denied benefits in the past.

Questions about caregivers' experiences with WIC during the pandemic elicited mixed responses. Of the 11 WIC recipients in the study, most caregivers described relief at the decreased need for in-person visits with office closures. Many described mixed experiences with Pennsylvania's transition of WIC benefits from paper checks to a manually reloadable Electronic Benefit Transfer card (WIC EBT) in early 2020. Most caregivers emphasized that eliminating the need to visit the WIC office to receive benefits is useful

Table 3 Experiences with federal nutrition programs

Experiences with federal nutrition programs		Representative quotations
SNAP	Difficulty with enrollment procedures and feelings and experiences related to insufficient benefits for those already receiving the maximum allotment	It's just not enough. So, I go to churches and all the places to get the food that I need. [21] It's been very hard for me trying to make do with what I get, the amount of income I get and the amount of food stamps I get, it is very hard. Sometimes you don't always want to go to the unhealthy choices because you don't get enough food stamps or whatever. [3] The city, anything with city and I guess government, I guess like– I don't know. It's like a job, you have to work for it. They want you to fill out all these papers, you have to go online, you have to get approved, and then you have to wait for somebody to call you. It's just a hassle. You would think they're giving you a million dollars. [26]
	Improvements for those receiving increases to maximum benefit allotments and temporary emergency nutrition benefits for school age children (Pandemic EBT)	… being inside a pandemic happened, they gave the family the maximum amount, which like that was a blessing. I think that's why we've been able to thrive so well during the pandemic is because of the food stamps. [14]
WIC	Difficulty with program participation given office closures, and delays in benefit due to need for benefit re-loading by mail	But it's hard to get WIC because you the WIC office is closed. So, therefore you got to mail in your card. And when you mail in your card it takes about 2–3 weeks to get back. So, that's a long time within that 3 weeks of buying, until they reload the card and send a message. So it's very hard to get WIC, WIC has been very hard. I don't know why they are doing it that way. It's been, like a little too difficult for me to wait for something to come back in the mail. [3]
	Improved program accessibility with eliminated need for in-person office visits and electronic benefits	I think it's easier because sometimes the papers you lose, throw it everywhere and sometimes you look all over your house, where did I put the paper, the checks and stuff like that, but with the WIC card, you just have it inside your wallet and it's like a debit card. The only thing is that you can't take out no cash but you use it as a debit card with the chip and everything. [23] And all your information that you need and then they'll do whatever they do really quickly and put it back out to you and reload your card because now they're being reloaded. The benefits are loaded up onto a card now, before it used to be like a paper. So now it's on a card and it's a lot easier. [28]

during the pandemic when travel and childcare are particularly challenging. Several caregivers favored the transition to WIC EBT: "I think it's easier because sometimes, the papers you lose… But with the WIC card, you just have it inside your wallet and it's like a debit card." [23] However, as Pennsylvania WIC EBT requires manual in-person card reloading, office closures necessitated mailing cards in order to receive funds, delaying the receipt of benefits: "…when you mail in your card it takes about 2–3 weeks to get back. So, that's a long time within that 3 weeks of buying, until they reload the card and send a message. So it's very hard to get WIC…" [3].

Additional Facilitators to Food Access

Most caregivers did not participate in food programs other than SNAP and WIC, explaining that while additional support would be useful, they were unaware of other resources. Among those who participated in an additional program, the school lunch program was the most frequently mentioned. Several caregivers participated in other community-based food programs, but generally in a single-use capacity when they encountered a program by chance. Some caregivers described use of community institution announcements and online searchable resources to identify food programs: "churches will be announcing when they're giving out boxes and things of that nature. So I've been just keeping my ear to the ground, and on the COVID website, they gave you a listing of what days different churches and sites are handing out food boxes." [2] Social networks were also cited as facilitators to food access by many caregivers. One caregiver explained that when she needed food for her family during the pandemic: "I had to ask friends or family if they got extra funding. If they can get me a couple things for the kids or for the household." [3].

Discussion

This qualitative study describes facilitators and barriers to food access among caregivers participating in a clinic-based free produce program offered at two pediatric care clinics in low-income, urban areas during the COVID-19 pandemic. By amplifying the perspectives of caregivers with high levels of reported need, this study provides depth to the existing body of quantitative assessments of pandemic-related food insecurity. Caregivers identified several barriers to food access that emerged during the COVID-19 pandemic, including fluctuations in the price, availability, and quality of food; increased financial strain; faster consumption with all family members home; and shopping challenges. Federal nutrition programs were identified overall as facilitators to food access during the pandemic, although some administrative adjustments were perceived as a challenge.

Caregivers participating in federal nutrition programs emphasized the programs' critical role during the pandemic, as has been seen during other periods of economic recession, underscoring the importance of continued investment in these safety net programs (Hanson & Oliveira, 2012). Specifically, caregivers highlighted the impact of SNAP pandemic waivers and policy flexibilities on their ability to provide enough food for their families. For example, SNAP emergency allotments, which brought all families to maximum benefits, were frequently cited as a facilitator to food access. Given exacerbated disparities in food insecurity that emerged during the pandemic, the extension of emergency allotments may help close widening gaps in food access for the most socioeconomically disadvantaged participants throughout the long-term economic recovery from the pandemic (Coleman-Jensen et al., 2021). Furthermore, continuation of Pandemic EBT, which allows families to receive EBT cards equivalent to the value of their children's school-based meals during any out-of-school period, could help families meet the increased demand for food when all family members are home.

Reported operational frustrations with WIC suggest opportunities to better serve families through the program's shift from paper checks to an electronic benefits card that is reloaded by mail. Recent literature analyzing the pre-pandemic transition to WIC EBT nationally demonstrated that simplification of benefit redemption improved WIC participation (Vasan et al., 2021). Further streamlining benefit redemption through remote card reloading would likely alleviate a significant barrier for families who depend on the program. Similarly, enhanced flexibility of the WIC Farmers Market Nutrition Program (FMNP) could help ease barriers to produce access, and address previously documented challenges with FMNP redemption such as accessibility of approved markets and perceived produce quality (Caines, 2004; Conrey et al., 2003; Seidel et al., 2018). Such changes could include converting vouchers issued toward the purchase of produce to electronic benefits, and enabling use in a wider range of settings (i.e. online farmers markets and CSA programs).

Caregivers described lack of awareness regarding community food programming despite expressed interest in and need for these services, suggesting a possible need for improved communication about community food programs. However, prior literature demonstrates low utilization of community resources even after referral, with cited reasons ranging from negative past experiences, saving resources for "someone else who could use it more," and competing life stressors (Cullen et al., 2020; Gilbert et al., 2014). It is possible that families' needs may be better met by expanding existing programs such as SNAP, WIC, and Pandemic EBT.

Electronic, geographically searchable food program locators, noted as particularly useful during the pandemic by some caregivers, may hold promise for broad dissemination through wide-reaching channels such as text-messaging and social media (Lindau et al., 2019). Additionally, financial and logistical barriers to food access reported by caregivers including job loss and lack of childcare evidence the need for food programming that targets these challenges during a pandemic, or similarly stressful conditions. This may include free or cost-subsidized programs, as well as a delivery component to reach families that cannot easily leave their homes to purchase food.

Strengths and Limitations

As all participants were drawn from caregivers who self-selected into a clinic-based free produce program in West Philadelphia, findings may not be generalizable to all populations. However, our sample size and purposive sampling strategy to ensure representation across demographic characteristics, food insecurity status, and federal nutrition program participation provide robust data regarding family-level experiences with food access during the pandemic in a low-income, urban area. Our findings may be particularly applicable to other metropolitan areas, which account for 85% of households experiencing food insecurity nationally (Coleman-Jensen et al., 2021).

CSA program participants, in general, had higher rates of reported FI and participation in food assistance programs as compared to the general population. Our findings reflect the perspectives of those with highest levels of need who chose to participate in a clinic-based CSA. Interview participants were more likely to return to the program than the full sample, despite representative sampling of both repeat participants as well as one-time participants at the time of contact for interview. Interviews may have increased participation by encouraging participants to reflect on how the program benefited them; alternatively, people who chose to participate in interviews may have had higher levels of need, or more affinity towards the program, contributing to continued participation.

Many food access challenges described by study participants, while reflective of local constructs, align with national findings (Mead et al., 2020; Food Research & Action Center, 2021a, 2021b). Apart from some variation in local policy context, we would also expect low-income, urban caregivers across the country to report similar experiences with SNAP during the pandemic as this program is directed primarily by federal policy. Generalizability of WIC experiences may be limited to urban participants in states with in-person benefit reloading, given the association between state-level implementation of WIC EBT and program participation (Vasan et al., 2021). Families experiencing difficulty with produce access may have been more likely to participate in our program, leading to increased report of challenges with federal and local food assistance programs. Additional potential limitations include selection bias as caregivers who opted-out of the follow-up interview may differ from our sample. Although translation services were available to assist enrollment and interview procedures, it is notable that all completed interviews were conducted in English. Given the rapidly evolving nature of the COVID-19 pandemic, participants' responses may have differed depending on when they were reached during the interview period.

Conclusion

This qualitative exploration underscores the some of the challenges facing low-income, food insecure, urban families who chose to utilize a clinic-based CSA program during the COVID-19 pandemic. The facilitators and barriers to food access identified here suggest potential targets for policy and programmatic intervention to meet such families' needs. Further study is needed to determine the effectiveness of policy change in improving participation in food assistance programming and household food security. The next stages in evaluating this clinic-based CSA program will explore acceptability and impact on participants' experiences with produce and household food access.

Author Contributions Ms.RB, Ms. GR, and Dr. DC conceptualized and designed this study and participatedin all stages of data collection, evaluation, manuscript drafting, and review.Ms. FP and Ms. CF contributed to data collection and reviewed and revised themanuscript. Dr. SV contributed to study design and data evaluation andreviewed and revised the manuscript. All authors approved the final manuscriptas submitted and agree to be accountable for all aspects of the work.

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Data Availability The data that support the findings of this study are available from the corresponding author, Danielle Cullen, upon reasonable request.

Code Availability Not applicable.

Declarations

Conflict of interest The authors declare that they have no conflicts of interest.

Ethical Approval All study procedures were reviewed and deemed exempt by the Children's Hospital of Philadelphia Committee for the Protection of Human Subjects.

Consent to Participate Informed consent was obtained verbally from all subjects involved in the study.Consent statement:

We would like to ask you some questions about your experience with the Farm to Families produce program at CHOP, as well as about your experience getting food during the COVID-19 pandemic, as part of a research study to improve our programs. These questions should not take more than 30 minutes. After the interview, as a thank you for your time, we will provide a $25 gift card. Would it be ok if we ask you these questions?
Our conversation will be audio-recorded for review later, but we will make every effort to ensure that your identity remains private. Answering these questions is your choice, and you can choose to stop the interview at any time. Participating in this interview will be understood as consent to participate in the research study.

Consent for Publication Not applicable.

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