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Qualitative Perceptions of an Anticipated Fresh Food Prescription Program

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Abstract

Objective: Food insecurity (FI) is a growing public health problem. Produce prescriptions are known to improve healthy eating and decrease FI; however, few studies have incorporated community voice prior to its implementation. In this study, we aimed to elicit perspectives of individuals at risk for FI and the potential impact of a fresh food prescription (FFRx) program.

Methods: We conducted this qualitative descriptive study through an academic medical center in collaboration with community partners. We conducted focus groups involving Latinx (N = 16) and African-American (N = 8) adults in community settings. Data were interpreted using an inductive thematic analysis.

Results: Three overarching themes emerged: (1) fresh food accessibility was limited by cost, household size, and transportation but enhanced by food pantries, budgeting, and education; (2) cooking behaviors were curbed by time constraints and unfamiliarity but propagated by passion, traditions, and communal practices; and (3) health and wellness deterrents included unhealthy diets driven by cultural and familial norms; however, weight loss and awareness of comorbidities

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Human Subjects Approval Statement

All procedures performed in studies involving human participants were in accordance with the ethical standards of the Wake Forest University Health Sciences Institutional Review Board (Exempt IRB: 58931) and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Verbal informed consent was obtained from each participant.

Conflict of Interest Disclosure Statement

The authors have no conflicts of interest to disclose.

were positive motivators. Participants shared their preference for local produce and cooking classes as components of a FFRx program while raising concerns about low participation due to the stigma of receiving aid.

Conclusions: Our findings illuminated interest in engaging in a FFRx program and learning ways to prepare healthy foods. A program distributing fresh produce and healthy lifestyle education could close gaps identified in African-American and Latinx communities at risk for FI.

Keywords

food insecurity; minority health; produce prescription; social determinants of health; medically underserved

Food insecurity (FI), the unpredictable availability of nutritionally balanced food to maintain an active and healthy lifestyle, is a growing public health problem. In 2008, 14.6% of United States (US) households were affected by FI. Healthy People 2020 called for a 58.9% reduction of FI to a target of 6%, however by 2019, 10.5% of US households still reported FI, only a 28% decrease.[1] With the publication of the Healthy People 2030 objectives, there has been a renewed goal of reaching a 6% rate of FI in US households.

FI has been correlated with poor overall health outcomes among adults related to insufficient high-nutrient food intake, financial strain with the expense of healthy food competing with out-of-pocket medical costs, and comorbid disease states due to malnutrition.[2,3] Over 67% of adults who are food insecure report inadequate daily fruit and vegetable intake compared to 53% of adults who live in food secure households.[4] FI has been linked to a worsened diabetes state, as well as cognitive and behavioral disorders due to a lower intake of fresh fruits and vegetables.[5–7] Alternatively, adequate fruit and vegetable intake promotes a longer life span and lowers the risk of disease-specific and all-cause mortality.[3,5,6]

FI disproportionately affects communities of color.[1] When stratified by race, 19.1% of African Americans and 15.6% of Hispanics report FI.[1] Additionally, FI rates are significantly higher in concentrated areas of poverty.[1]

Estimates indicate that the COVID-19 pandemic will increase the number of individuals with FI to over 50 million people over the next year, an increase of 13%.[8,9] Given the known adverse health outcomes associated with FI and the evolving deleterious impact of COVID-19 on food access, there is an urgent need to address FI through innovative clinical-community approaches if the Healthy People 2030 goal of 6% is to be reached. Healthcare institutions and medical societies have suggested strategies for addressing FI in clinical settings.[10–12] There are several creative clinical strategies that have the potential to improve the health outcomes of individuals with FI, including food vouchers, referrals to food support programs, and food delivery programs.[13,14] Studies have shown that produce prescription programs and mobile markets increase fruit and vegetable access and consumption and reduce FI.[15–17] According to the cross-sector alignment theory of change, community programs can help to meet the goals and needs of the people they serve over the long-term, as long as the changes made reflect the will of the community

in question.[18] Despite this, few studies have incorporated community voice prior to the implementation of these produce prescription programs. Inclusion of community voice in the development of a fresh food prescription program allows the researchers to integrate best practices of community-engaged work, as identified by the US Centers for Disease Control and Prevention's "Principles of Community Engagement."[19] Our study aimed to elicit perspectives of individuals at risk for FI and to gain insight on the potential impact of an anticipated produce prescription program.

METHODS

Study Design

We used a qualitative descriptive design using focus groups to explore the unique experiences of Black and Hispanic individuals at risk for FI and to explore the potential impact that a fresh food prescription (FFRx) program could have on their day-to-day lives.[20] This design allowed for the generation of comprehensive descriptions of participants' perceptions on who, what, and where of phenomena.[21] Study facilitators sought to learn about a community in terms of its history, culture, economy, social conditions, and values, while providing a forum to share power and provide input in the planning phases of the FFRx program.[19]

Participants

The study was conducted at a major academic medical center in the southeastern US in collaboration with community partners. Participants were recruited from communities with high social vulnerability indexes and poverty rates between 24%−53%.[22] Low-incidence recruitment techniques were used to recruit participants in partnership with Help Our People Eat (HOPE) of Winston-Salem, a community-based hunger relief organization, at a low-income senior living center, and La Iglesia Cristiana Sin Fronteras, a Hispanic ministry. Recruitment was done through: (1) self-referral based on flyers posted in the community; or (2) self-referral after verbal invitation by community partners. Focus groups were conducted during the months of February-March 2020, one group at a low-income senior apartment complex, 2 groups at La Iglesia Cristiana Sin Fronteras, and one group at HOPE of Winston-Salem. The inclusion criteria for focus group participation were: (1) being 18 years of age or older; (2) self-identifying as Black or Hispanic; and (3) living in communities at risk for FI. We utilized purposive sampling as these underserved communities are disproportionately affected by FI.

Data Collection Instruments and Procedures

We developed a semi-structured focus group interview guide informed by literature, outside experts, and input from community-based organizations (Table 1).[23] The focus group interview guide was developed after reviewing the Wake For est Baptist Health Community Health Needs Assessment and survey responses of local community participants who received free produce from one of our partners, HOPE of Winston-Salem.[24] These survey data focused on recipients' preferences for produce and other food products. In addition, the guide triangulated conversations with community partners who work to provide healthy foods in local communities and who identified several barriers to healthy food access.

Specific feedback regarding produce boxes and cooking classes was influenced further by input from prior community leaders who directed food prescription programs in their respective locales. The interview guide prompted participants to describe their experiences with the following content areas – experiences with existing infrastructure of the local food system, specifically the access to affordable healthy food, grocery shopping preferences, cooking habits, and traditions of cooking. Furthermore, we assessed participants' interest in various aspects of a potential FFRx program, such as receiving weekly produce boxes and attending nutrition and cooking classes.

The focus group session began with introductions of the facilitators, participants, content to be discussed, and rules of the focus group exchange. During the norming stage, facilitators encouraged participants to talk about their own viewpoints around the concepts presented in the discussion guide. The focus group participants were encouraged to contribute to discussion and probed to help gain different perspectives related to the concepts discussed. Focus groups lasted an average of 45 minutes (7–60 minutes). Around 10–15 minutes prior to the end of the hour, the facilitators used concluding questions to help bring the focus group to a close. There was also a post-session debrief with observers of the focus groups to get immediate reactions about the content that was discussed and to get insight on any contradictory comments expressed during the session.[25,26] Lunch or snacks were provided during focus group sessions, but no compensation was provided to participants. Focus groups were audio-recorded and moderated by trained facilitators. The focus group facilitators received formal training through an Implementation Science certificate program (RZ) and through a Master of Public Health program (KM). Both facilitators have led at least 3 prior focus groups or community conversations. Focus group facilitators were careful to ensure that a small minority of participants did not dominate the discussion and instead, facilitated the discussion so that each participant's voice was equally represented. All focus groups with Hispanic participants were conducted with a certified Spanish-speaking facilitator.

Data Analysis

Focus group audio files were transcribed verbatim and verified by a second transcriber for textual data analysis.[27] Spanish transcripts were translated into English by certified hospital translators prior to analysis. Use of a translator with institution-approved certification was important to reduce any inherent biases. Digital transcripts were reviewed and organized using a text-based analysis software program, Atlas.ti Version 8.4. We then developed a codebook along with the institution's qualitative analysis team by reading the transcript line-by-line and searching for content representative of key concepts using open coding (process of generating categories to summarize the data). When possible, *in vivo* coding also was utilized (using the participant's own words verbatim to summarize the text without the researcher's interpretation). Two qualitative methodology research experts independently coded the transcripts. A definition was developed, and exemplars were identified for each code, category, and subcategory. For example, when open coding the meta-theme of "cooking behaviors," a participant reported: "I can't cook; I don't know how to cook." The analysis team agreed that the participants were conveying the key sub-theme of "lack of knowledge" as a major deterrent to consistent cooking behaviors. At the end of the

individual coding process, these researchers met to discuss and resolve coding discrepancies. Once coding was complete, data were synthesized within each code and across participants. We derived themes by their prevalence and salience within the data.

RESULTS

Participants' Demographic Data

We conducted 4 focus groups with a total of 24 participants ($N_1 = 2$, $N_2 = 6$, $N_3 = 9$, $N_4 = 7$). There were 21 individuals who identified as female and 3 individuals who identified as male. Among all focus groups, there were 16 individuals who identified as Hispanic and 8 individuals who identified as Black. Table 2 summarizes participant characteristics.

Overarching Qualitative Themes Describing Participant Perspectives

We organized findings of this study into 3 major themes associated with healthy eating: (1) fresh food accessibility, (2) cooking behaviors, and (3) maintenance of health and wellness. Participants also shared specific feedback including benefits, concerns, and suggestions regarding a potential FFRx program and the inclusion of community resources such as produce boxes and cooking classes. These themes capture how participants at high risk for FI experience and interact with the existing local food infrastructure and highlight barriers and facilitators of healthy eating in their day-to-day life. Table 3 provides a comprehensive list of representative quotes that reflect each theme.

Fresh food accessibility.—Participants described grocery shopping habits and barriers to accessing healthy foods including cost, large household size, and transportation. They provided examples of practices used to compensate for access barriers, including the utilization of food pantries, budgeting strategies, and increased education surrounding nutrient-dense foods.

Barriers to fresh food accessibility.—The most frequently cited barrier of healthy food purchases was the trade-off between cost and quality of fresh products. Most participants reported that food was affordable for them, although they acknowledged that high-quality, nutrient-dense food products such as fresh fruits and vegetables, meat, and seafood, are expensive:

> I think people would like fresh green beans. But, you buy canned green beans or frozen because they're less expensive.

Less cardiac-healthy, carbohydrate-rich food items such as tortillas and sausages were considered more affordable. A Hispanic participant pointed out:

> I think that the people that say that they have enough money is because of the quality of the food, because tortillas [are] very cheap, but if we want to eat healthy, it is hard to have enough money.

Despite cost being a barrier to accessing fresh food, one participant stated:

> For me quality is important. It doesn't matter if the product will cost me.

Hispanic participants highlighted the challenges associated with the weekly provision of high-quality food for large households. One participant explained:

> I eat organic, I eat healthy. It's hard for a family. In my household, there are only 2 of us. My husband and me. Imagine the people with 4 kids, 5, 6.

Several Black participants emphasized transportation as a major barrier to accessing fresh food products. One participant reported:

> The grocery stores are so spread out, there's nothing right here if someone didn't have transportation or couldn't get to the farmer's market.

Facilitators of fresh food accessibility.—To mitigate some of these barriers to food accessibility and affordability, participants reported relying on food pantries for nutrient-dense products such as fresh fruits, vegetables, meat, and seafood, that are otherwise expensive. Hispanic participants shared the following budgeting strategies: (1) establishing a budget and/or grocery list; (2) using grocery fliers to capitalize on sale items; and (3) visiting multiple stores to compare prices. One participant shared:

> Generally, I go where I see sales. My house receives magazines from Food Lion and Lowe's, and sometimes, I receive 2-for-1 this and 2-for-1 that in other places. I save a lot this way, with the discounts.

Furthermore, participants shared that the appeal of investing money into healthy food items increases when individuals and families are equipped with the tools and knowledge to cook food items appropriately. One participant said:

> Instead of making something fried, you can cook it in the oven, or boil it, and it will be much healthier, and you spend the same amount of money.

Cooking behaviors.—When asked to describe their cooking habits, participants highlighted barriers including time constraints, inconvenience, unfamiliarity, and change in family size. However, individuals' love for cooking, family traditions, and the social nature of cooking were reported as important facilitators of sustainable cooking habits.

Barriers to cooking.—Participants in 3 of 4 focus groups identified time constraints and convenience as major barriers to both cooking and eating nutritionally balanced meals. Individuals reported competing work schedules that force them into a routine of preparing quick, calorie-dense, unhealthy meals, or eating out at restaurants. One participant shared:

> When we are working, we don't have time to go home and cook and all that.

Black participants shared that members of their community select pre-packaged and canned foods out of convenience, knowing that these items are less healthy than fresh alternatives. Many individuals expressed that they, or others in their community, do not know how to prepare food in a healthy manner, or how to cook at all. A Hispanic participant remarked:

> There's people that have never used the oven to cook; everything [is] fried.

Another Black participant said:

> I ran a food distribution center for about 7 years, and one of the things we saw happen was that the younger mothers just did not know how to cook the food, and they weren't necessarily interested in learning.

Participants also found it challenging to cook for homes that had recently experienced a change in household size (eg, death, children who have moved out) or when living apart from friends and family. Participants shared that they did not know how to prepare individual or smaller portions of food:

> My house is an empty nest. My kids already left, and my husband generally works…it is very difficult. It's hard when you have to go to the table by yourself. You have to sit by yourself or prepare something by yourself.

Facilitators of cooking.—Many Hispanic participants shared that their love for cooking influenced their decision to cook nearly all their meals at home and inspired them to seek out new recipes online. One participant noted:

> I cook at home every day and eat my own food. I don't eat food from other places.

Participants also discussed the influence of their upbringing and personal family traditions on their decision to cook. A Hispanic participant shared:

> My dad was Italian, so my mom made pasta… every type of pasta. She made it all, the dough, the filling. And, because we watched how she made it, my sisters and I learned. And yes, I like to cook. It's hereditary.

A Black participant said:

> I think a lot of it is modeling…my friend's daughter cooks because she grew up in a house where meals were cooked all the time.

Both Black and Hispanic participants spoke about the importance of eating meals together as a family:

> I used to like eating at the table with my kids a lot. Eating as a family, all of us cooperated. For me, personally, that was very important.

Maintenance of health and wellness.—When asked about factors that influence maintenance of healthy eating choices and general wellness, some participants reported barriers such as unhealthy dietary patterns inherited from family, slow-to-change cultural norms, and misinformation regarding food and nutrition. Others reported that they became conscious of health and wellness by informing themselves about the effect of healthy eating practices on comorbid conditions, seeking evidence-based knowledge about sustainable diets, and using support networks to promote positive behavior change such as weight loss.

Barriers to maintaining health and wellness.—Hispanic participants described less healthy food choices and eating habits, such as large portion sizes, as a way to stay connected to their culture and heritage. One participant stated:

> For our [Hispanic] community, it takes a lot to eat healthy, not just because of budget, but because of tradition. Lots of people have cholesterol or diabetes, and it

> takes a lot for them to change their eating habits, to abandon the tortilla or to not eat fried foods.

Another participant shared how culture provides comfort, stating:

> We hold onto our culture, our memories. And, that also makes the food emotionally nutritious… emotionally, it nourishes me, and it connects me to my history and my people, and it gives me comfort, even though it is not healthy.

Black participants also linked their family traditions to unhealthy eating behaviors. Some Black participants reminisced on eating foods such as macaroni and cheese, fried chicken, sweet tea, and everything cooked in pork fat. One participant stated:

> We didn't grow up being forced to drink water, we drank sweet drinks. And, I think that's something that's common to our people. We like sweet drinks, sweet tea in the South.

Participants also raised concerns about misinformation leading to unsustainable eating habits due to the inundation of social media with fad diets that are often unsupported by scientific evidence. Certain modifications that participants tried "didn't stick," or they didn't know what to eat:

> I'm one that doesn't really know what to eat because I was told, "Don't eat pasta. You can eat pasta. Don't eat potatoes. You can eat potatoes."

Facilitators of maintaining health and wellness.—Participants in all 4 focus groups referred to health and wellness, specifically the management of chronic conditions such as obesity, diabetes, blood pressure, and cholesterol, as major motivators to eat healthy and promote healthy aging. One participant said:

> With age and changes in our health, me and my husband – I'm 52, he's 63 – we noticed that the healthier we eat, the better we will be.

Participants also described goal-oriented health plans and sustainable, simple diet regimens as driving factors for positive behavior change. One individual shared:

> I'm going toward a surgery – I gotta lose 25 more pounds, so right now I got to eat healthy, but otherwise, I didn't even think about it.

Feedback on FFRx interventions.—Participants shared feedback about components of a potential FFRx program including the availability and distribution of produce boxes and the implementation of community cooking classes. Participants shed light on the potential benefits of these community resources while sharing concerns and offering suggestions for improvement from previously used programs.

Produce boxes.—Participants responded favorably to the notion of receiving weekly produce boxes. Individuals from 3 focus groups described an appreciation for local, farm-fresh produce. One individual said:

> If it's locally grown or organic, then we know what we're getting as opposed to things that are coming in from California or Florida. I'd much rather have locally-grown food.

Among participants' concerns were lack of transportation to pick up boxes, mobility restriction due to underlying health conditions, childcare responsibilities that force individuals to be home-bound, and stigma surrounding acceptance of community aid. One participant asked:

> Will there be any tracking associated with it? Because there is some stigmatization around everything federal, of getting help from them.

Participants' suggestions included options to pick up boxes for their neighbors or a delivery program that takes boxes to individuals' homes.

Cooking classes.—The possibility of cooking and nutrition class was well received among participants. They reported specific learning goals and suggestions that would lead to optimal participation in classes. One participant mentioned that sampling a new food, such as brussel sprouts, in a class and then being taught how to cook it, would make her more inclined to purchase it in the future. Participants shared lessons learned from previously established cooking classes such as Kohl's Cooks Mobile Kitchen and the Junior League of Winston-Salem. Community members supported classes that would: (1) offer a meal, (2) offer free kitchen utensils, (3) engage children and teenagers, and (4) offer courses amenable to work schedules. Participants also highlighted the need for strong motivational training and behavior change support, as programs have failed to recruit and engage community members in the past. One participant reminisced about declining enrollment of one program in particular:

> Kohl's has come here twice a year for the last 3 years. Last year, we barely got 6 or 8 people.

Lastly, participants shed light on YouTube as an effective platform for fast, easily accessible, readily available educational information such as cooking videos, cooking techniques, and novel recipes to encourage healthy eating lifestyles.

DISCUSSION

Studies show that produce prescription programs increase fresh produce access and consumption and reduce FI.[16–18] To provide a culturally appropriate approach to addressing FI in high-risk communities, a greater understanding of diverse individuals' experiences and needs is required prior to implementation of programming. This study evaluated perspectives of individuals at risk for FI in a community-engaged manner and assessed the potential impact of a produce prescription program on the social determinants of health affecting them. Across all focus groups, participants repeatedly described the immense impact of familial and cultural background on decisions surrounding food. Additionally, participants described a need for increased community nutrition literacy through culturally appropriate education on food preparation and nutrition, and the implementation of this education in a format and on a schedule that meets community availability.

Nutrition literacy is a subset of health literacy that focuses on the ability to access, interpret, and use nutrition information. At its core is a complex interaction between an individual's knowledge, their learned behaviors and attitudes, and their cultural and social context. It is well established that nutritional knowledge does not automatically translate to dietary change, although education combined with social support are foundations on which lasting change can be built.[28] To effect maximum change, individuals must be empowered with knowledge (eg, awareness of nutrient-dense foods and its impact on improving chronic health conditions) and equipped with the resources and skills to generate behavioral change (eg, community programs such as fresh produce boxes and cooking classes to promote meal preparation and healthy eating). In alignment with this nutritional literacy literature, participants proposed evidence-based and customizable education on sustainable dietary habits, weight loss regimens, and behavior change support through modeling, as necessary components of a FFRx program. These suggestions can serve as the bedrock for an emerging FFRx program.

Previous community-academic partnership-based food prescription studies have described a framework employing: (1) written physician prescriptions (eg, "I recommend the following nutrition for my patient"); (2) coupons to subsidize healthy food purchases at local farmers markets or grocery stores; (3) awareness campaigns for community resources; and (4) patient education handouts with nutritional tips, guidelines, and shopping tools.[13,29] We propose a FFRx program that incorporates distribution of produce boxes, organization of community cooking classes, and the use of culturally appropriate healthy lifestyle education in order to address fresh food accessibility barriers, promote sustainable cooking behaviors, and increase awareness of the impact of fresh fruits and vegetables on healthy aging and management of comorbid conditions.

A modeling framework supports community engagement methods, with community members serving as partners in the emergence of a FFRx initiative, from its development, to its implementation, dissemination, and evaluation These community engagement strategies are integral to affecting long-term change in both food-related health behaviors and in developing strategies for equitable, community-wide access to healthy and affordable foods.[19] Data from this study underscore important community and infrastructure level needs that must be addressed to increase and sustain food security in Forsyth County, NC, particularly in underserved neighborhoods. This work, along with other studies conducted in this county and surrounding areas, provides a strong case for advocating for formal FI screening across clinical settings and improved healthy foods infrastructure.[21,27] Several limitations of this study must be acknowledged. First, focus group participants were not formally screened for FI and many participants did not report severely high levels of FI. Future studies should employ formal FI screening measures to identify individuals who are food insecure prior to data collection. Second, although focus group locations were selected based on existing community partnerships, target communities for program implementation, and diversity of residents, external validity may be limited due to a small sample size and high female-to-male ratio of participants. This study was conducted at the beginning of the COVID-19 pandemic. A more aggressive recruitment strategy could not be pursued to address the decreased size and diversity of our sample due to state regulations that required the immediate and indefinite closure of all public facilities, and our institution's

prohibition of in-person research. This study's external validity could be further improved with a larger sample size, collection of comprehensive demographic data for all focus groups, and comparison of the perspectives of individuals who are food insecure with those who are food secure. However, there were recurrent themes that were present among all focus groups suggesting that informational redundancy had been achieved. The information gathered proved useful as it was reflective of themes noted in the Wake Forest Baptist Health's Community Health Needs Assessment, which was shared with Creative Carolina Works and the Piedmont Triad Regional Food Council to help support their 12-county food system assessment, which was also impacted by the COVID-19 pandemic.[24,30] These focus group sessions also guided the implementation of a FFRx program in Winston-Salem, which began in March 2020. This food delivery program immediately addressed the needs of communities affected by food insecurity. Outcomes from this program's first year of operations are promising and forthcoming.

IMPLICATIONS FOR HEALTH BEHAVIOR OR POLICY

This work has the potential to transform traditional approaches to address FI in collaboration with communities.

- Policymakers and practitioners should solicit community engagement prior to program implementation to ensure that programming fits the unique context of each community, avoiding a "one size fits all" approach to addressing FI.
- Findings from this study have the potential to influence implementation of other FFRx interventions and inform larger studies to test the effectiveness of these interventions.
- Participants of FFRx programs may prefer and benefit from access to locally sourced produce. Strategic partnerships with local organizations may help to ensure equitable access to these fruits and vegetables.
- Research through larger qualitative and quantitative studies may aid in the continued identification of the impact of FI on morbidity and mortality, economic stressors, short and long-term health outcomes, and quality of life.

FFRx programs can fuel the above-identified transformations and be the key to propelling further reduction in FI among US households to achieve the Healthy People 2030 objective of 6% rate of FI among US households.

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Table 1

Semi-structured Focus Group Interview Guide

Food-related Habits	
Grocery Shopping	Where do you or others in your family currently buy or shop for the food that you eat?
Barriers to Affordability	Are you able to afford the types of food you like to eat? If not, what are the barriers to you being able to afford these types of food?
Cooked Meals	What are some meals that you cook or are cooked for you regularly (at least once a month) at home?
Barriers to Cooking	If you do not cook at home, what are some reasons that you do not cook? Do you have cooking supplies and utensils to cook at home?
Cooking Interests	What are some meals that you would like to learn how to cook a little healthier or new meals that you would like to learn to cook?
Fond Memories of Cooking	What are some of your favorite memories related to cooking? What makes it enjoyable for you?
Barriers to Eating Healthy	What are some reasons why eating healthy food is hard to do in this community?
Perspective on Components of a Fresh Food Prescription Program	
Perspective on Produce Boxes	What are your thoughts about receiving weekly boxes filled with fresh fruits and vegetables?
	Do you have any preferred fruits or vegetables that you would like to be included in these boxes (circle top 5 produce preferred)? (Captured during focus group by people circling produce items and tallied afterwards).
Preference for Content of Produce Boxes	
Perspective on Nutrition/Cooking Classes	How do you feel about weekly classes to help you learn about nutrition or cooking? Would weekly attendance be feasible with your schedule? What time would work best for your schedule?
	What are some topics/classes that you feel would be helpful related to nutrition, cooking, diabetes, or weight management?

Table 2

Characteristics of Individuals Participating in Focus Groups

Group	Location	Language	N	Participants' Self-reported Race/Ethnicity	Female Sex	Mean Age Range
1	Low-income complex	English	2	Black	2	Unavailable
2	Help Our People Eat of Winston-Salem	English	6	Black	6	50 (47–71)
3	La Iglesia Sin Fronteras	Spanish	9	Hispanic	8	48 (38–60)
4	La Iglesia Sin Fronteras	Spanish	7	Hispanic	5	56 (46–65)

Table 3

Summary of Main Qualitative Themes Describing Participant Perspectives on Food Accessibility, Cooking Behaviors, Health and Wellness, and Community Resources

Theme	Subtheme	Features	Representative Quote
Fresh Food Accessibility	***Barriers***	Cost vs. Quality	"For me, quality is important. It doesn't matter if the product will cost me…"
			"I think people would like fresh green beans. But, you buy canned green beans or frozen because they're less expensive."
		Household Size	"If the family is large, I think that there will be problems with doing the shopping."
		Transportation	"We've got folks who would pay $10 for somebody to take them to the grocery store. Okay, now you're already living off of a limited income and you're paying $10 to have someone take you to the store."
	Facilitators	Food Pantry	"It isn't enough if you *want* to eat healthy most of the time, ok. If you want to eat well in a good and healthy way, it's hard because the prices sometimes [are] outrageous…So you have to combine and go to other places and yes, often times you have to turn to food banks."
		Budgeting Strategies	"I choose everything and only buy what I need so that I don't waste anything, and I don't have to waste a lot of money on things that aren't good for me."
		Becoming Informed	"You waste money if you fry something that's high quality that ultimately isn't good for you instead of boiling it or cooking it in the oven."
Cooking Behaviors	***Barriers***	Time	"When you work, you don't have time to cook fresh."
			"What I see, it is not my case, but I see it with other people, is time. There's a lack of time so people make a tortilla with cheese and beans or peppers with a coke."
		Convenience	"…when we're working, at lunchtime we ask, 'What should we eat?' We have to go eat somewhere and we end up eating a lot of junk food."
			"I like beef brisket that comes in a package. Or I'll do potato salad. I tend to do the pre-cooked packaged foods. Even with my vegetables, I like the vegetables in the steamer bags."
		Lack of Knowledge	"I can't cook; I don't know how to cook."
		Changes in Household Size	"I find that unfortunately it's wasteful because I don't know how to cook that one portion. And so, when I cook it, I wind up with leftovers."
Maintenance of Health and Wellness	***Facilitators***	Passion for Cooking	"I like to cook."
		Family Traditions	"I come from a family where my grandma…she taught us a lot. And [being part of] a Lebanese family, I like to go to the recipes."
		Cooking: A Social Practice	"I remember full meals and I remember us sitting down to the table to eat when we had dinner. Everybody. That was kind of like what we did as a people. And I don't think we do that as much anymore."
	Barriers	Unhealthy Diet Propagated by Upbringing	[Referring to diverse, nutrient-dense food items] 'It's not something we grew up eating, as a people. I'm thinking, we grew up eating collards and certain other vegetables, and I think that's pretty much what we tend to buy."
		Cultural Norms: Slow-to-Change	"For our [Hispanic] community, it takes a lot to eat healthy, not just because of budget, but because of tradition. Lots of people have cholesterol or diabetes, and it takes a lot for them to change their eating habits, to abandon the tortilla or to not eat fried foods."

Theme	Subtheme	Features	Representative Quote
		Misinformation	"It's really difficult to change the way one feeds themselves. I come from a difficult process because my husband has had 3 strokes. When this happened to him, he had high blood pressure, he had high cholesterol, and everything just came together. The joke is, after all this, they gave me a lot of information, books where they gave me lots of recipes so that I can learn to cook healthy and to cook better for him. And when this happened, I started to try to be healthier for him. I made the change for all of us. The truth is that it's been really hard because we weren't able to make the change. I did, but it didn't stick."
	Facilitators	Comorbidities	"I have changed my diet. In my house, we used to eat lots of Dominican food because my husband is from there, but when one changes with time, and the years go on, sometimes health conditions come along and all that stuff, that forces you."
		Sustainable Diet	"My husband has lost 15 pounds. We have moved from rice, for example, to wheat tortilla with a little grilled chicken. I only choose 2 days of the week or one day to make a meal with rice or beans. But for the rest of the week, the breakfast is oatmeal, a turkey sandwich at night with tea or something like that. I have varied our diet, and it is better; we feel better."
		Weight Loss: Positive Behavior Change	"Weight management. People get really motivated when they are eating healthy and losing weight."
Feedback on Components of the FFRx Program	***Produce Boxes***	Positive Response	"I would love it if somebody would give it to me. I'd find a way to do something with it. You know to cook it and freeze it or something, so when convenient, I could take it out and it's already ready."
			"I'd be interested in receiving a box…because it's healthy, it's something that would help me. I wouldn't have any embarrassment or shame in getting one."
		Accessibility Concerns	"Some people may not be able to pick up boxes due to lack of transportation, mobility problems, or childcare responsibilities."
		Suggestions	"Have options for community members to pick up boxes for neighbors."
			"Deliver boxes to individual homes."
Feedback on Components of the FFRx Program (*cont*)	***Cooking Classes***	Positive Response	"I have a teenager and a preteen, 13 and 18. So, I'm used to cooking things that are really salty or fried…But I've noticed that when we go to eat somewhere else, they want salad…So, it's me who is perhaps unknowledgeable about how to cook, so I'd like to learn how to cook things that are healthy but appealing to teenagers."
		Scheduling Concerns	"Thinking about the families that have kids and everything, 2 days of the week or a Friday."
			"You need to do different schedules a week. One like late in the night [at] 7PM, and one like at 2PM or in the morning, because some ladies have free time in the morning because the kids are in the school, and you got other groups who work and come back late."
		Suggestions	"Label reading would be important—if they learn how to read labels and maybe even shop at a grocery store."
			"I attended an event that was done by the Junior League, and it was a cooking class, and they gave a steamer to everybody that completed it, and that was really good because the steamer teaches you how to prepare vegetables differently. We're so used to cooking and we cook stuff, normally, cook all of the nutrients out of the food."
			[Reflecting on Kohl's Kitchen Program] "It's nice how the kids learn how to do every single thing."
			"I would also suggest, if possible, you set up a monitor with YouTube on it, because it's taken me a while to really accept the fact that everything is on YouTube. So, something like that, turning other people onto the concept that if you don't know how to cook it, just go on YouTube."