



Identifying Factors, Barriers, and Solutions Related to Food Insecurity in Lackawanna County, Pennsylvania

Joanne Christaldi & Diana Cuy Castellanos

To cite this article: Joanne Christaldi & Diana Cuy Castellanos (2014) Identifying Factors, Barriers, and Solutions Related to Food Insecurity in Lackawanna County, Pennsylvania, Journal of Hunger & Environmental Nutrition, 9:2, 170-182, DOI: [10.1080/19320248.2014.898177](https://doi.org/10.1080/19320248.2014.898177)

To link to this article: <https://doi.org/10.1080/19320248.2014.898177>



Published online: 20 May 2014.



Submit your article to this journal [↗](#)



Article views: 179



View Crossmark data [↗](#)



Citing articles: 1 View citing articles [↗](#)

Identifying Factors, Barriers, and Solutions Related to Food Insecurity in Lackawanna County, Pennsylvania

JOANNE CHRISTALDI¹ and DIANA CUY CASTELLANOS²

¹West Chester University of Pennsylvania, West Chester, Pennsylvania, USA

²University of Dayton, Dayton, Ohio, USA

Due to the increasing food insecurity in Lackawanna County, Pennsylvania, a needs assessment was implemented to explore the contributing factors to food insecurity and discuss possible solutions. Ten focus groups were conducted with low-income county residents (N = 89). Coding, horizontalization, and clustering of meanings were used for data analysis. Three main themes emerged: (1) food accessibility amid local food assistance; (2) the economy has an enormous impact on food insecurity; and (3) food shopping follows similar patterns. These findings will inform the development of a comprehensive plan to become a hunger-free community and to serve as a model for other communities.

KEYWORDS *food security, hunger, qualitative, needs assessment*

INTRODUCTION

Food security refers to the ideal state or condition of households that have access at all times to enough food for their members to live an active, healthy life, including the availability of nutritious and safe foods and the ability to obtain foods in a socially acceptable way. Food security is measured on a continuum from high food security to very low food security. High food security, for example, indicates that a household has no issues or anxiety about consistent access to enough foods, whereas very low food

Address correspondence to Joanne Christaldi, West Chester University of Pennsylvania, 309 Sturzebecker Health Science Center, 855 South New Street, West Chester, PA 19383, USA.
E-mail: jchristaldi@wcupa.edu

security depicts a household having one or more of its members with multiple disrupted eating patterns and reduced food intake at time periods during the year because of a lack of money or other resources for food.¹ In the United States, between 2004 and 2012, household food insecurity rates increased from 11.9% to 14.5%, and very low food security rose from 3.9% to 5.7%.²

Food insecurity can have a tremendous impact on the physical and mental health status of the population. Households affected by food insecurity are more likely to participate in government assistance programs, including the Supplemental Nutrition Assistance Program (SNAP); the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC); and the National School Lunch Program. In 2012, 57% of food insecure households used one or more of these programs.³ Moreover, adults who are food insecure can experience increased rates of cardiovascular disease, diabetes, depression, and anxiety.³ And food insecurity can clearly have a negative impact on child development and education as well as contribute to behavioral and social problems.⁴ In fact, the negative impacts on a child experiencing food insecurity have the potential to begin in the womb and continue through adulthood.⁵ Finally, individuals in food insecure households most likely consume a less varied diet, which can negatively impact overall nutritional status.³

Each year, the United States Department of Agriculture (USDA) assesses household food security through a supplement to the Current Population Survey, which is distributed by the Census Bureau. This survey provides incidence data on both a national and state level.⁶ However, local community statistics are not known. Thus, communities looking to reduce food insecurity need to understand not only the extent of the problem but also the barriers that individuals face, as well as the experiences associated with the hardship of meeting food needs at the local level. Furthermore, it is the position of the Academy of Nutrition and Dietetics that nutrition programs and interventions, including significant education, be implemented in order to assist in eliminating food insecurity.⁷ This proactive position by the Academy is what prompted the development of a food security needs assessment in Lackawanna County, Pennsylvania. Part of the needs assessment was to conduct focus groups with county residents who receive food assistance; the participants were queried in order to gain a better and more personal understanding of the local food insecurity problem. It is particularly important to explore the factors related to food insecurity from the point of view of individuals who are directly affected because though much is known regarding the health implications of food insecurity, little is known about the specific thoughts, barriers, and shopping patterns of food insecure adults. The purpose of this article, then, is to examine factors directly related to food insecurity in adults who already receive food assistance.

METHODS

Lackawanna County, Pennsylvania, includes both rural and urban communities and has a long-standing reputation of being home to hard-working, industrious, and responsible workers. However, as of July 2012, the county's unemployment rate stood at 9.7%, almost doubling in less than 2 years—and making food insecurity a growing problem within the community.⁸ Furthermore, specific data regarding the prevalence of food insecurity in the county had yet to be evaluated, which promoted the development of a food security needs assessment. This study was conducted through partnerships with Marywood University, the United Way of Lackawanna County, and several local nonprofit food assistance programs. Over 15 letters of support were received from food assistance/emergency programs, grocery stores, and transportation services.

In order to explore the county's food insecurity in a qualitative manner, the research team conducted multiple focus groups using three focus group guides developed and included in the USDA Community Food Security Assessment Toolkit.⁹ The Toolkit includes standardized measurement tools to assess aspects of community food security. The first guide, entitled "Food Security," includes questions related to household and community issues as well as strategies related to food insecurity. The second guide, entitled "Household Food Assistance," includes questions related to experiences using food assistance programs. The third guide, entitled "Food Shopping Patterns," includes questions related to the stores people shop at and other places where people may look for food.⁹

Participants

In order to recruit adults for the focus groups, the program posted informational flyers in the offices of various food assistance organizations. The researchers wanted to include in the focus groups only participants who were currently in need of food assistance and therefore did not post flyers randomly throughout Lackawanna County. Needs assessment data were collected that indicated the ZIP codes with the highest prevalence of food insecurity within the county; therefore, these neighborhoods were targeted during recruitment. Researchers also completed in-person recruitment at local food pantries.

A moderator trained in qualitative research methods conducted all of the focus groups. In addition, one to 2 research assistants attended each focus group to capture detailed notes of the sessions. The primary tools of data collection were recommended by the 3 semistructured focus group guides from the USDA Community Food Security Assessment Toolkit.⁹ The focus group guides led the majority of the conversation; however, the moderator

asked additional questions and probed for more detail depending on the main points of the conversations. All focus groups were audio recorded to capture as much data as possible and to allow the moderators to provide their full attention to the group. Each session varied in length and lasted approximately one to 2 hours. As an incentive to the county residents' participation, the project provided a \$50.00 grocery store gift card to each volunteer. The project was approved by the Marywood University Institutional Review Board, and all participants reviewed and signed consent forms prior to data collection.

Data Analysis

Following each focus group, the audio recordings were transcribed verbatim. Transcription of the focus group recordings and field notes were completed within 2 to 3 weeks after the focus group date in order for the data analysis to begin as soon as possible. Postreviews took place after all of the focus groups in order to document details about the settings, observations about the focus groups, and reflections on the quality of the data received.¹⁰

Data analysis included 5 steps. First, 3 independent coders coded the data. They used 2 types of coding: line-by-line and focused. After completing the line-by-line coding, the coders developed a code terminology bank, which was then used for the focused coding in order to ensure consistency. Researchers read the transcripts several times and labeled the information by topic or category to make sense of the data.¹⁰ Readers highlighted significant statements or perspectives, a technique known as *qualitative horizontalization*. This allowed for the clustering of meanings to emerge from the statements and led the way to thematic development. Second, the researchers grouped together significant statements into overarching themes. Third, the researchers wrote up descriptions of the experiences of food insecurity, food shopping patterns, and household food assistance. Fourth, the researchers wrote structural descriptions that included an explanation of how the experience of food insecurity had happened, including both the backstories and reasons leading to food insecurity. This analysis included a reflection on the setting and context of food insecurity, incorporating both an environmental and a behavioral perspective on the topic. Finally, the researchers provided a full description of food insecurity using both the textual and structural descriptions.¹⁰

The study used ATLAS.ti 6.0 qualitative software to organize and assist in the data analysis.¹¹ And to increase reliability and validity, the study employed the following strategies: using multiple coders to incorporate triangulation and intercoder agreement into the data analysis, interviewing until data saturation, gathering detailed field notes by audio recorder, and transcribing all conversations verbatim.¹²

RESULTS

A total of 10 focus groups took place, and they included a total of 89 county residents. The average age of the participants was 48 years old, and the majority of participants were white, single, and unemployed. In addition, the majority of participants indicated that they received SNAP benefits, patronized food pantries, or both. [Table 1](#) lists full participant characteristics. Following the analysis of the focus group data, 3 themes emerged relating to food insecurity in Lackawanna County. In addition, the study noted other solutions for reducing food insecurity as suggested by the county residents.

TABLE 1 Participant Characteristics^a

Characteristics	Mean	N
Age	48	89
	%	N
Gender	52.8	47
Female		
Male	47.2	42
Race/ethnicity	76.4	68
White, non-Hispanic		
Black, non-Hispanic	22.5	20
Hispanic/Latino	1.1	1
Marital status	50.6	45
Single, never married		
Divorced or separated	25.8	23
Married	14.6	13
Widowed	9.0	8
Education	44.9	40
High school graduate		
Not a high school graduate	33.7	30
Some college	18.0	16
College graduate	3.4	3
Employment	58.4	52
Unemployed		
Retired	20.2	18
Employed	16.9	15
Student	2.2	2
Food assistance	28.1	25
SNAP		
SNAP and food pantry	28.1	25
Food pantry only	27	24
SNAP and WIC	5.6	5
SNAP, WIC, and food pantry	4.5	4
SNAP, MOW, and food pantry	1.1	1
Food pantry and soup kitchen	1.1	1

^aSNAP, Supplemental Nutrition Assistance Program; WIC, Special Supplemental Nutrition Assistance for Women, Infants, and Children; MOW, Meals on Wheels.

Theme 1: Food accessibility is contributing to food insecurity even when local food assistance is available from food banks/pantries, SNAP, and WIC

Participants frequently mentioned that transportation was a major concern when it came to obtaining food, including the accessibility of transportation, the cost of transportation, and the ease of transportation. For example, most of the participants indicated that they did not own automobiles. In addition, they discussed the cost of local buses and taxis as well as the challenging logistics of using public transportation when needing to purchase a large grocery order and then in getting those groceries back to their homes. Furthermore, some local taxi companies have a policy that makes the passenger pay a nominal fee per grocery bag, which adds to the already high cost of using public transportation. One participant stated, "The cab starts at four something to five dollars so most of the people would rather get on the bus with bags. I would too. I've done it a thousand times; gotten right on the bus coming from Wal-Mart with my food bags because the cab was too much money." Participants also discussed how the use of public transportation can affect the safety of perishable food items; many noted the physical difficulty of trying to carry several grocery bags onto the bus. Another common observation was that the service hours of buses can influence the times when people can do their grocery shopping and can influence their ability to shop around for sales at multiple grocery stores. Some participants even indicated that they needed to take multiple buses in order to get to the grocery store.

Accessibility to and operating hours of food pantries was also discussed as a problem for many participants, particularly those who were working but still not earning enough money to fully support their household. Pantry distribution was an additional contributing factor in that many local pantries allow residents to pick up donations only once per month; only one local pantry will allow residents to pick up donations twice per month. In addition, local pantries were receiving fewer donations, and many of the individuals who used to be able to donate to the pantries were now pantry clients themselves. This has caused both smaller pantry allotments and fewer choices of food items now available for participants.

A final accessibility problem that participants discussed was the lack of a large grocery store in the downtown area of the county. Having a large grocery store downtown would help to reduce the accessibility problem for those who live in that area and usually rely on public transportation for their grocery shopping. Another factor related to this issue was that 3 of the top 5 ZIP codes found to have the highest prevalence of food insecurity are located in or around the downtown. Thus, those who live in these areas may have to purchase more foods at local convenience stores, which in turn increases the prices they are paying for foods and decreases the availability

of healthy foods. One participant highlighted this barrier, stating, "There's no supermarkets in the area. You can go to a convenience store, but you're paying twice as much as what you're paying at the grocery store."

Theme 2: The economy has had an enormous impact on the prevalence of food insecurity

High unemployment and decreased wages were concerns of many participants. Given these growing problems within the county, participants stated that food assistance alone was not enough to sustain a family. For example, many indicated a lack of sufficient money for food every month, running out of food and SNAP benefits before the end of the month, and a rise in their participation at food pantries.

Participants discussed in detail their hardships and frustrations with unemployment and the lack of available opportunities to work. This problem was expressed by one participant who discussed how losing his job has increased how often he is experiencing food insecurity: "Well, now that I lost my job in January, pretty often actually, I'm on food stamps but my kids eat that up in like a week and a few days." Another participant agreed with him and stated, "I'm a single parent raising four kids on my own. I lost my job, it's tough."

Limited income was also discussed as it relates to the cost of public transportation and increased fuel prices. These increased expenses can influence a person's ability to both grocery shop and get to food pantries. Furthermore, individuals who live on fixed incomes or those who struggle to make ends meet cannot afford these cost increases, and their food budgets often suffer.

Participants also mentioned times of the year when economic factors are the most unfavorable. Most agreed that the worst time is during the winter or around the holiday season. These individuals already struggle to feed their families each month, so the struggle intensifies with additional winter burdens of increased heating costs or holiday burdens of trying to save money for Christmas presents and for a holiday meal for family.

Additional economic factors that participants discussed included the higher cost of healthy foods at grocery stores and the higher cost of foods when having to shop at convenience stores. And many mentioned how additional household expenses can impact their food budget, leading to their having to decide to pay for utilities or medications or food. Finally, participants noted differences in assistance. For example, SNAP benefits may be decreased when other forms of public assistance are increased. "As soon as you make more money, they take more stamps off of you," observed one participant. "Prices go up and benefits go down," agreed another focus group member.

Theme 3: Food shopping follows similar patterns, and stores were well received

Most participants had similar food shopping habits and followed similar food shopping patterns: shopping at large grocery stores for the majority of their shopping trips; buying foods once or twice a month, usually at the beginning of the month when SNAP benefits were provided; and using dollar or convenience stores to fill in for needed items throughout the month. In addition, participants discussed trying to purchase foods at the least expensive grocery store but also indicated that they would like to be able to shop more often at different stores in order to purchase foods during special sales. As one participant stated,

Yeah I'm like these guys the bigger stores. The cheaper like [grocery store] is where you spend less money, everything is like on discounted you know? But also for me I would prefer to go where the sales are like [another grocery store] but another deal is transportation. Some of us don't have transportation you know?

Participants were also queried on food availability at grocery stores and the cleanliness, friendliness, and satisfaction of local grocery stores. Most participants expressed satisfaction with the stores they shop at and saw no issue with the stores lacking specific food items, with the stores' cleanliness, or with the employees' attitude. When asked whether finances and transportation were not an issue, most participants were in agreement that they would be able to purchase all of the food items they needed and wanted.

Food Insecurity Solutions

Participants provided many solutions for helping to resolve the food insecurity problem. Those most often mentioned included increased SNAP allotment, increased donations to pantries, increased allotment of food donations at pantries, and increased grocery store emergency food vouchers. Additional suggestions included using SNAP benefits at farmers' markets and receiving a SNAP allotment twice per month. Participants also discussed starting community gardens and starting nutrition education services at local food assistance centers. And given the local transportation issues, participants felt that a grocery store/farmers' market shuttle or delivery program would be beneficial. One participant stated,

So say there are 15 other people that I have to take out drop them off in front of the store or [department store name] or whatever. See you in an hour or two hours. Have that shuttle going every hour. This way I know I have transportation to my point B after my point A destination because I know he is gonna come down and pick me up in another hour.

Finally, participants discussed how their families used to receive government commodity foods as a means for increasing household foods and how they would like to see a similar program reinstated. One participant said, "I know myself growing up they had the federal cheeses, the federal breads. There was six of us in our family and it keeps us going for a long time. Now I don't know what ever happened to the federal funding?"

Participants were also queried about methods that they use to make purchased foods last longer. They discussed not only purchasing cheaper foods, stretching foods to last, purchasing bulk items, using coupons, and checking for store sales but also skipping meals because of a lack of food. One participant stated, "We started to eat canned tuna fish and stuff like that to make it stretch." Another person agreed and added that the family ate a lot of fast and quick meals, such as bread and butter, peanut butter and jelly, and pancake mix and at all mealtimes to make the food last. Yet another participant brought up bulk meat purchases: "I always buy the family pack and then cut them down for the month."

DISCUSSION

Identifying factors relating to food insecurity from the perspective of those people living in that environment can provide valuable information for local communities, organizations, and policy makers wanting to effectively address this increasing problem. Though there are programs on the governmental level addressing this issue, such as WIC, SNAP, and National School Breakfast and Lunch, since 1995 the United States has continued to experience an increase in the prevalence rates of household food insecurity.² Participants in this study, for instance, were receiving federal and local food assistance, but they indicated that they continued to struggle to provide enough food for their families. One way, then, to begin to manage local food insecurity would be to initiate community engagement. Community engagement has shown promise in terms of addressing health issues by bringing different community persons to the table to address local issues.¹³

The participants' experiences revealed in this study identified several issues that may need to be targeted to effectively decrease food insecurity. [Table 2](#) includes the themes that emerged from the data, the factors that contributed to these themes, and methods for addressing address these issues. Many of these issues may be addressed through engaging different community organizations, local policy makers, and diverse community members.

Food access through transportation was a main theme in the present study. The study showed that cost and availability of transportation can increase access to different foods, particularly to healthy foods. One solution would be through working with the local public transportation service; another way would be through developing a system through local

TABLE 2 Themes, Related Factors, and Methods to Address Food Insecurity^a

Themes	Related factors	Methods to address issues
Accessibility	Cost	Community-led carpool system to grocery stores/farmer's markets
	Logistics (eg, schedules, operating times, perishable items, multiple bags)	Buses specifically for grocery shopping
	Food desert	Altered bus schedule to accommodate more residents
	Food pantries	Building a large grocery store downtown
	Hours	Urban community gardening
	Distribution of foods	Choice pantries
	Size of allotments	Extended pantry hours
	Reduced donations	Community engagement
	Retail grocers	Develop food donation lists for food pantries
	Lack of large grocery downtown	
Economy	Increased cost at convenience stores	
	Decreased availability of healthy foods at convenience stores	
	Increased unemployment	Economic development
	Decreased wages	Creation of jobs
	High cost of public transportation	Allowing SNAP, WIC, senior vouchers to be used at farmer's markets
	High cost of healthy foods	Nutrition education on low-cost healthy foods
	Other household expenses	Budget education
Food shopping patterns	Relationship between different assistance programs	
	Regular shopping at convenience stores	Community-led carpool system to grocery stores/farmers' markets
	Transportation limits shopping patterns	Buses specifically for grocery shopping
	Inability to shop around	Altered bus schedule to accommodate more residents
		Building a large grocery store downtown
		Fresh foods in convenience stores
		Mobile food truck

^aSNAP, Supplemental Nutrition Assistance Program; WIC, Special Supplemental Nutrition Assistance for Women, Infants, and Children.

collaboration to transport people without cars to supermarkets and farmers' markets. Currently, there is limited research identifying effective transportation interventions to address food insecurity. However, engaging different community and public entities may help local communities to develop transportation services that are appropriate and effective for the target population. Creating a community carpool system to grocery stores, having a bus route that goes directly to multiple grocery stores, or adjusting the current bus

schedule to have transportation that runs later in the day are just a few ideas that may assist the working poor, those with differing schedules, and those who prefer more of a choice in grocery stores. Such systems would most likely work well for this community, given that participants in this study indicated that they follow similar food shopping patterns and given that several of the ZIP codes with highest prevalence for food insecurity are in close proximity to each other.

The second crucial issue in need of attention is that of access to affordable food. The effects of food access on dietary quality are well documented, as is the disparity between low-income and higher-income neighborhoods in the United States.¹⁴ Furthermore, the issue of food access was clearly identified by participants in the present study. Different communities have implemented interventions that attempt to close this disparity gap and increase availability to fresh foods at a reasonable cost. One community in North Carolina, for example, worked with convenience store owners to begin offering a variety of fresh produce in order to increase the amount and access to fresh foods throughout the community.¹⁵ It is important that these stores also have the ability to accept SNAP and/or WIC benefits. Moreover, research has shown that if healthy food is available to low-income populations, the consumption of these foods will increase.¹⁶ Widiner et al implemented a mobile food delivery system to offer healthy foods in low-income urban areas.¹⁷ Other interventions to increase healthy food availability and accessibility include creating urban gardening programs and setting up farmers' markets in low-income areas, particularly farmers' markets that accept SNAP benefits and WIC or senior vouchers. In addition, improving the quality of food in existing food pantries and adding choice pantries may be other ways to address healthy food accessibility.

Third, food cost and economic hardships need to be addressed to help develop sustainable solutions and improve food insecurity. Not surprisingly, research shows that there is an increase in food security with improvements to household income and employment,¹⁸ and participants in the present study indicated that this was a factor in terms of the quality and quantity of foods purchased. A focus on economic development at the community level is an integral part of finding sustainable solutions for decreasing food insecurity.

Participants discussed several solutions for reducing food insecurity within the community. Though many of the ideas and suggestions would provide more food and assistance to the participants, many of the solutions are not sustainable in helping to increase food autonomy, such as increasing governmental food benefits and donations, particularly considering the current political situation. It is imperative that communities focus their efforts on developing sustainable ways to eliminate food insecurity and to educate their communities more widely on these methods because it does not appear that communities are even aware of their existence. The Academy of Nutrition and Dietetics suggests the following community-based systemic

actions: increasing job and economic security, offering nutrition education, increasing the number of farmers' markets and community gardens, and creating farm-to-school initiatives and food recovery programs.⁷ Incorporating some or all of these long-term interventions can help communities achieve food security. One area for future research would be to go beyond food accessibility and explore the social and behavioral determinants that influence food insecurity, particularly single-parent households, cooking skills and equipment, and self-reliance.

CONCLUSION

In order to develop and implement sustainable solutions for reducing food insecurity, the problem must be more fully understood because food insecurity is such a complex issue that involves multiple factors. However, looking through the lenses of those currently living and struggling with food insecurity enables policy makers and others in a position to address food insecurity to identify associated factors that may not otherwise be identified. In the future, continuing to have individuals who are food insecure included in any community discussions addressing this issue is important. Furthermore, it appears that past solutions for eliminating food insecurity are not sustainable and that individuals living in food insecure households do not seem to be aware of sustainable ideas. Thus, we need education about sustainable solutions as well as the buy-in of these individuals in order for solutions to work. Their place at the discussion table and at the food table is essential.

FUNDING

This project has been funded at least in part with Federal funds from the U.S. Department of Agriculture. The contents of this publication do not necessarily reflect the view or policies of the U.S. Department of Agriculture, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.

REFERENCES

1. United States Department of Agriculture, Economic Research Service. Definitions of food security. Available at: <http://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/definitions-of-food-security.aspx#UkG0pT-E76N>. Accessed September 10, 2013.
2. United States Department of Agriculture, Economic Research Service. *Food Security in the US: Key Statistics and Graphics*. Available at: <http://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/key-statistics-graphics.aspx#UkG1JD-E76M>. Accessed September 10, 2013.

3. Coleman-Jensen A, Nord M, Singh A. *Household Food Security in the United States in 2012*. Washington, DC: United States Department of Agriculture, Economic Research Service; 2013. Available at: <http://www.ers.usda.gov/publications/err-economic-research-report/err155.aspx>. Accessed September 10, 2013.
4. Feeding America. *Hunger in America: Child Development*. Available at: <http://feedingamerica.org/hunger-in-america/impact-of-hunger/child-development.aspx>. Accessed September 2, 2013.
5. Feeding America. *Hunger in America: Physical and Mental Health*. Available at: http://feedingamerica.org/hunger-in-america/impact-of-hunger/physical-and-mental-health.aspx#_edn7. Accessed September 2, 2013.
6. United States Department of Agriculture, Economic Research Service. Food security in the US: measurement. Available at: <http://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/measurement.aspx#.UkG4rD-E76M>. Accessed September 10, 2013.
7. The American Dietetic Association. Position paper of the American Dietetic Association: food insecurity in the United States. *J Am Diet Assoc*. 2010;110:1368–1377.
8. United States Department of Labor, Bureau of Labor Statistics. Unemployment rates by county in Pennsylvania, July 2013. Available at: <http://www.bls.gov/ro3/palaus.htm>. Accessed September 2, 2013.
9. Cohen B. Community Food Security Assessment Toolkit. Available at: <http://www.ers.usda.gov/publications/efan-electronic-publications-from-the-food-assistance-nutrition-research-program/efan02013.aspx#.UkG9Oj-E76M>. Accessed September 30, 2011.
10. Patton MQ. *Qualitative Research and Evaluation Methods*. 3rd ed. Thousand Oaks, CA: Sage; 2002.
11. *ATLAS.ti* [computer program]. Version 6.0. Berlin, Germany: ATLAS.ti GmbH; 2009.
12. Creswell JW. *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. 3rd ed. Thousand Oaks, CA: Sage; 2012.
13. Shalowitz MU, Isacco A, Barquin N, et al. Community-based participatory research: a review of the literature with strategies for community engagement. *J Dev Behav Pediatr*. 2009;30:350–361.
14. Seligman HK, Laraia BA, Kushel MB. Food insecurity is associated with chronic disease among low-income NHANES participants. *J Nutr*. 2010;140:304–310.
15. Pitts SB, Bringolf KR, Lloyd CL, McGuirt JT, Lawton KK, Morgan J. Formative evaluation for a healthy corner store initiative in Pitt County, North Carolina: engaging stakeholders for a healthy corner store initiative, part 2. *Prev Chronic Dis*. 2013;10:E120.
16. Martin KS, Havens E, Boyle KE, et al. If you stock it, will they buy it? Healthy food availability and customer purchasing behaviour within corner stores in Hartford, CT, USA. *Public Health Nutr*. 2012;15:1973–1978.
17. Widener MJ, Metcalf SS, Bar-Yam Y. Developing a mobile produce distribution system for low-income urban residents in food deserts. *J Urban Health*. 2012;89:733–745.
18. Loopstra R, Tarasuk V. Severity of household food insecurity is sensitive to change in household income and employment status among low-income families. *J Nutr*. 2013;143:1316–1323.