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***Barriers That Constrain the Adequacy of Supplemental
Nutrition Assistance Program (SNAP) Allotments: In-depth
Interview Findings***

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Barriers That Constrain the Adequacy of Supplemental Nutrition Assistance Program (SNAP) Allotments: In-depth Interview Findings

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Executive Summary

In 2012, the Food and Nutrition Service (FNS) sponsored a study by the Institute of Medicine (IOM) to examine the feasibility of establishing an objective, evidence-based means of defining the adequacy of the Supplemental Nutrition Assistance Program (SNAP) benefit. The IOM and National Research Council committee report (2013) concluded that the adequacy of SNAP allotments can be objectively defined and recommended that FNS assess the individual, household, and the environmental factors that limit the adequacy of the SNAP allotment.

This study builds on the past research and the work of the IOM (IOM is now known as the Health and Medicine Division), to bear on the critical question of the adequacy of the SNAP benefit. It includes both in-depth interviews with 121 SNAP participants drawn from 12 States and a nationally representative survey of SNAP participants. This report presents the findings from the in-depth interviews with SNAP participants and ethnographies of participants' kitchens. SNAP participants were interviewed in the 12 States between July and September 2018. Participants were asked about their food purchasing and cooking habits, how often they eat out, the food they like to eat, their health, and their perception of their ability to eat a healthy diet. The study has five research objectives, centered around understanding what barriers SNAP participants face and how many participants face each barrier:

1. Determine the individual and household barriers faced by SNAP participants that prevent them from having access to a healthy diet throughout the month.
2. Determine the environmental barriers faced by SNAP participants that prevent them from having access to a healthy diet throughout the month.
3. Describe the interaction between individual, household, and environmental barriers.
4. Among the most frequently reported barriers, describe in more detail the nature of the barriers and what coping strategies are used by households to overcome the barriers.
5. Determine how, if at all, the individual, household, and environmental barriers can be accounted for in determining SNAP allotments.

Themes from the interviews were extracted to address the research objectives, with a focus on understanding how participants perceive barriers. Prior studies examined particular barriers in

isolation; this study qualitatively examines the range of barriers together in a sample of SNAP participants.

Study Design

This study includes both a survey and in-depth interviews; results from the survey are presented in a separate report. For in-depth interviews, sites in twelve States were selected to provide geographic diversity and a mixture of urban and rural locations. SNAP participants were recruited at each site, with the goal of conducting ten interviews per site. Participants were recruited from those who responded to the survey and from those who responded to a Craigslist ad. In total, 53 of the 121 completed interviews were conducted with a survey respondent and 68 were conducted with SNAP participants recruited through Craigslist.

Interviews were conducted in participants' homes and included a tour of the kitchen. The interview protocol covered five modules addressing nutritional knowledge, cooking skills, access to foods for a healthy diet, transportation, and coping strategies, as well as a kitchen ethnography. Interviews averaged about 40 minutes, not including the kitchen tour.

Findings

Barriers are divided into two types: individual/household barriers and environmental barriers. Individual/household barriers are those that can be influenced by individual or household actions. Building on previous literature, this study finds that SNAP households encounter five main individual/household barriers: lack of knowledge about healthy eating, lack of cooking skills, lack of kitchen equipment and facilities, lack of time for cooking, and lack of time to acquire foods for a healthy diet. None of the individual/household barriers were found in a large proportion of the sample, with lack of time for cooking found as the most common individual barrier at 15 percent of the sample (n= 18), followed by lack of knowledge about healthy eating (12% of the sample, n= 14, lack of kitchen equipment (11%, n= 13), time to acquire foods for a healthy diet (7%, n= 9), and lack of cooking skills (7%, n= 8). Rural participants were more likely than urban respondents to face a lack of knowledge (n= 6 of 20 for rural participants, compared with 8 of 101 for urban participants), while urban participants were more likely to face a lack of time (n= 17 of 101 for urban compared with 1 of 20 for rural). Spanish-speaking participants were more likely than

English-speaking participants to face a lack of knowledge (3 of 14 for Spanish-speaking, compared with 11 of 107 for English-speaking), lack of cooking skills (2 of 14 versus 6 of 107), and lack of kitchen equipment (3 of 14 versus 10 of 107), but less likely to face lack of time (1 of 14 versus 17 of 107).

Environmental barriers, defined as those outside an individual's direct control, were more common within the sample. Almost a third of the sample faced a lack of affordable foods that are part of a healthy diet, followed by almost a quarter facing a lack of transportation. Only four percent of the sample lacked access to foods that are part of a healthy diet. There were few differences in environmental barriers by urbanicity or language spoken.

Few participants reported experiencing more than one individual barrier; it was more common for participants to face multiple environmental barriers or a combination of individual and environmental barriers. Facing multiple barriers was associated with having low or very low food insecurity and with facing lack of access to healthy eating. The small sample sizes make it difficult to draw firm conclusions.

Participants used multiple coping strategies to try to mitigate individual and environmental barriers. The most frequently employed coping strategies included using charitable food assistance (about half the sample or 57 of the 121 interviewed), looking for sales (about one-third of the sample or 41 participants), and looking for bargains at grocery stores (20% of the sample or 26 participants). Participants also relied on reciprocal social support, providing meals for friends and family in need and receiving meals in turn.

1. Background and Understanding

1.1 Overview

The Supplemental Nutrition Program (SNAP) is the federal government's first line of defense in combating hunger and reducing food insecurity in the United States. Eligible, low-income households receive monthly SNAP benefits on an Electronic Benefit Transfer (EBT) card, which they can redeem for eligible foods with the dual purpose of alleviating food insecurity and improving nutrition (as well as supporting American agriculture). The program is administered at the Federal level by the U.S. Department of Agriculture's (USDA's) Food and Nutrition Service (FNS), but States operate the program by certifying eligible households and issuing benefits. SNAP benefits are available to all individuals and households who meet the eligibility requirements.

In recent years, there has been debate about the adequacy of SNAP allotments. Many researchers have studied barriers faced by low-income households that impede purchasing and consuming a healthy diet (e.g., Scammell et al. 2015; Ylitalo et al. 2016). In 2012, FNS sponsored a study by the Institute of Medicine (IOM) to examine the feasibility of establishing an objective, evidence-based means of defining SNAP benefit adequacy. The IOM committee report (IOM 2013) concluded that the adequacy of SNAP allotments can be objectively defined and recommended that FNS assess the individual, household, and the environmental factors that limit the adequacy of the SNAP allotment.

This study builds on the past research and the work of the IOM to address the critical question of the adequacy of SNAP benefit amounts. The study uses mixed-methods to examine the barriers to healthy eating faced by SNAP households. This report presents the findings from the qualitative study involving in-depth interviews with SNAP participants and ethnographies of participants' kitchens. A separate report presents the findings from a nationally representative survey of SNAP households (Gearing et al. 2019).

The SNAP Benefit

To be eligible for SNAP, households must meet the following criteria: (1) gross monthly (household) income must be at or below 130 percent of the poverty level; (2) net income must be equal to or less than the poverty level; and (3) household assets must be below the limits set based

on household composition. SNAP benefits levels are based on USDA's Thrifty Food Plan (TFP), a minimal cost food plan that reflects current nutrition standards and guidance, the nutrient content and cost of food, and consumption patterns of low-income households. The TFP value is the maximum allotment for a SNAP household of four people. The TFP is adjusted for households of different sizes (not composition) to reflect economies of scale in food purchasing. SNAP is designed to be a supplement to household food purchases from a household's own income. Most SNAP households have income and receive a benefit equal to the difference between the maximum allotment for their household size and 30 percent of their net income. Households with no net income, however, receive the maximum allotment.

Participating households receive monthly SNAP benefit allotments in the form of Electronic Benefit Transfer (EBT) cards, for purchase of food items to be prepared at home, including plants and seeds to produce food. SNAP benefits cannot be used to purchase beer, wine, liquor, cigarettes, tobacco, any nonfood items, vitamins and medicines, prepared foods fit for immediate consumption, and hot foods. SNAP benefits are redeemed at authorized food retailers nationwide, including supermarkets, grocery stores, convenience stores, farmers markets, and other specialty stores.

In FY 2018, about 40.3 million people living in 19 million households participated in SNAP, on average, per month.¹ In 2017, about 42 percent of SNAP participants lived in households with children, and more than 24 percent were in households with seniors.² During the same year, the average monthly per person benefit was \$125.25 and the per household benefit was \$251.55, costing the federal government about \$65 billion (of which 93% went directly into benefits).³ Census Bureau data from 2017 report the added value of SNAP benefits moved 3.4 million people, including 1.5 million children, from below the poverty line to above the poverty line. However, the greatest effect

¹ The Supplemental Nutrition Assistance Program (SNAP): Categorical Eligibility. <https://fas.org/sgp/crs/misc/R42054.pdf>

² Characteristics of Supplemental Nutrition Assistance Program Households: Fiscal Year 2017. <https://fns-prod.azureedge.net/sites/default/files/ops/Characteristics2017.pdf>

³ Supplemental Nutrition Assistance Participation and Costs. <https://fns-prod.azureedge.net/sites/default/files/resource-files/SNAPsummary-8.pdf>

occurred with the poorest households, for which SNAP benefits raised 15 percent of these households to above 50 percent of the poverty level.⁴

1.2 Research Objectives

The Assessment of the Barriers That Constrain the Adequacy of SNAP Allotments study is designed to meet five research objectives:

1. Determine the individual and household barriers faced by SNAP participants that prevent them from having access to a healthy diet throughout the month.
2. Determine the environmental barriers faced by SNAP participants that prevent them from having access to a healthy diet throughout the month.
3. Describe the interaction between individual, household, and environmental barriers.
4. Among the most frequently reported barriers, describe in more detail the nature of the barriers and what coping strategies are used by households to overcome the barriers.
5. Determine how, if at all, the individual, household, and environmental barriers can be accounted for in determining SNAP allotments.

This report primarily addressed objectives 1 through 4. The report on survey findings addresses objective 5. In-depth interviews provide context about how SNAP participants perceive barriers, both in terms of how many participants face a particular barrier and how that barrier manifests in participants' lives.

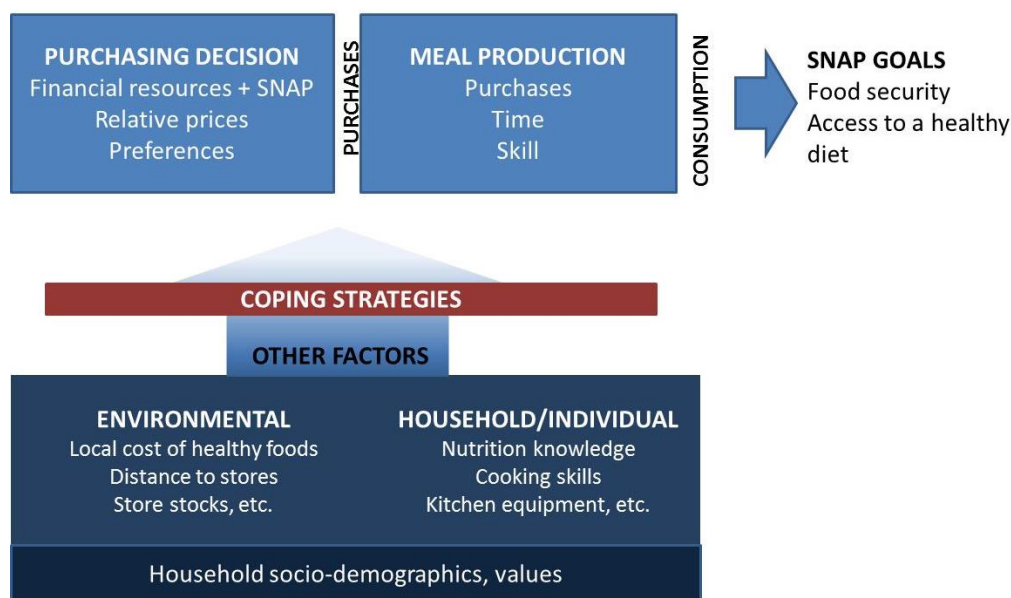
1.3 Conceptual Framework

SNAP benefits are intended to supplement household food expenditures with the goals of increasing food security and providing access to a healthy diet. Along with household demographics and values (about the importance of a healthy diet, for example), several environmental and household factors such as the cost of foods that are part of a healthy diet, distance to stores and availability of grocery stores stocking foods that are part of a healthy diet, knowledge of what foods constitute a healthy diet, cooking skills, and others influence whether the SNAP allotment is adequate to purchase and prepare foods that are part of a healthy diet. As shown in Figure 1-1, some

⁴ The Supplemental Poverty Measure: 2017. <https://www.census.gov/library/publications/2018/demo/p60-265.html>

of these factors can be barriers that impede a household's ability to purchase, prepare, and ultimately consume foods that are part of a healthy diet. As stated in the 2013 IOM report on the adequacy of the SNAP benefit, "Although SNAP allotments might be adequate in the absence of these factors, the evidence suggests that these factors can act as barriers to obtaining nutritious foods and preparing nutritious meals consistent with the assumptions of the Thrifty Food Plan (TFP)." The IOM report explains as well that some households develop coping strategies, such as using food pantries or food banks, that help mitigate the negative impact of barriers. For instance, a family could face a long distance to the store (an environmental barrier), making it difficult for them to shop frequently. That family might mitigate this barrier by buying more bulk foods, allowing them to be food secure despite less frequent access to food stores.

Figure 1-1. Conceptual model of household's purchasing and meal production process



1.4 Previous Literature

Individual/Household Factors

As Figure 1-1 shows, both environmental and individual/household factors can affect the household's purchasing and meal production processes. Individual/household factors are those within a person's direct control, and previous research shows several factors may affect the diets of SNAP participants (although they are not unique to SNAP participants) (Nicklaus et al. 2004; Wiig

and Smith 2009; Krolner et al. 2011; Mancino & Newman 2007; Smith, Ng, & Popkin 2013; Viradachalem et al. 2014). These factors include food preferences and a series of variables that reflect food production capabilities such as time available for cooking; knowledge about what foods are a part of a healthy diet, cooking skills, and availability of food preparation equipment at home.

Individuals' food choices are driven, in part, by taste preferences, which are established in childhood years. In a prospective study evaluating the effect of food choices at 2 and 3 years old on food preferences in adult years, Nicklaus et al. (2004) noted that preferences were stable from 2 to 3 years old until adulthood, with some changes occurring during adolescent years. Besides taste, cultural food preferences are also a major determinant of food purchase and consumption. In a study conducted by Wiig and Smith (2009), low-income single mothers spent more money on meat, especially low-quality, high-fat variety meat like stew meat, hot dogs, and ground beef and less on fruits and vegetables, because of their preference for meat, even if their food stamp allowance increased. Low-income Latino families of Bushwick in Brooklyn, New York, defined good parenting to include feeding (what researchers considered) unhealthy options and overfeeding their children (Kaufman and Karpati, 2007).

The household's ability to prepare meals affect SNAP participants' diet. Time available for cooking can be highly constrained in some SNAP households. Overall, 58 percent of SNAP households with working age non-disabled adults, and 62 percent of households with children have at least one household member who works (Keith-Jennings & Chaudhry 2018). Most working families (68%) that receive SNAP, work part-time, but about one-quarter work full-time. Furthermore, 65 percent of the working households are headed by a single parent and more than half of them have preschool-aged children. As such, the time available to prepare meals may be limited. Krolner et al. (2011) noted that shopping and preparing vegetables takes more time than acquiring pre-packaged snacks and meals. Mancino and Newman (2007) analyzed the 2003-2004 American Time Use Survey to examine the socioeconomic and demographic correlates of time spent in food preparation. Their findings indicate that women spend more time than men preparing food. Among women, those who do not work spend about 70 minutes per day cooking while women who work part-time spend about 53 to 56 minutes; women working full-time spend about 38 to 46 minutes preparing food. In addition, women with children also spend more time preparing food. These investigators also noted that working full time and being a single parent appeared to affect the food preparation time more than household income.

Smith, Ng, and Popkin (2013) also analyzed national survey data from multiple sources and reported similar findings; they noted shifts in home food consumption and food preparation time patterns between 1965-1966 and 2007-2008 with a plateauing in the time spent cooking since the 1990s. These investigators suggest that lack of cooking knowledge, confidence, and skills due to the decline in home economics classes may contribute to this time-use pattern. Socioeconomic characteristics may also be correlated to these patterns, as Viradachalem et al. (2014) find that the frequency of cooking dinner varies with household wealth and educational attainment, with lower household wealth and educational attainment associated with a higher likelihood of either always or never cooking dinner at home.

Environmental Factors

Environmental factors are external to the household and include issues such as the travel distance to stores, availability of public transportation, and stores' food selection and prices. These factors have been shown to negatively affect the ability of low-income households to access foods that are part of a healthy diet (Mabli 2014; Morland, Wing, & Diez Roux 2002; APCO Insight 2012; Monsivais & Drewnowski, 2007; Monsivais & Drewnowski, 2009; Drewnowski, 2010; Nord & Leibtag 2005). For example, Mabli (2014) reported that for at least one-half of SNAP households, the closest SNAP retailer was a convenience store, and the distance to a supermarket was about 0.6 miles for urban households and 4.0 miles for rural households. The study reports that most individuals in households receiving SNAP benefits traveled about 10 to 15 minutes from home to arrive at the store (by their own car or someone else's). However, participants in less than one percent of households purchased their groceries at convenience stores; the most frequently used store types were supermarkets or grocery stores, followed by discount stores such as Walmart, Target, or K-mart.

In a 2002 study by Morland, Wing, and Diez Roux (2002), each additional supermarket per census tract increased the consumption of fruits and vegetables by African-American residents by an average of 32 percent; the study examined areas in Maryland, North Carolina, Mississippi, and Minnesota. Similarly, in a low-income neighborhood of Detroit, there were no chain grocery stores, and fruit and vegetable consumption was lower among women who shopped at independent grocery stores than those who shopped at supermarkets and specialty stores. APCO Insight (2012), a global opinion research firm, surveyed low-income households about their satisfaction with shopping

options available to them; their findings indicate that about 40 percent of the households were not satisfied with their grocery store options (variety, quality, and stock) and about 30 percent expressed dissatisfaction with food prices, with about 26 percent reporting that they skipped healthy purchases because they could not afford these foods. They found that to be able to afford food, SNAP households clip coupons, compare product prices across stores, bargain shop, build reserves of non-perishable foods, and shop often to take advantage of sale prices.

Some literature also suggests that, when available, healthy food is more expensive. Drewnowski and colleagues, for instance, have found that foods comprised of refined grains, added sugars, and added fats are generally less expensive in low-income neighborhoods (Monsivais & Drewnowski, 2007; Monsivais & Drewnowski, 2009; Drewnowski, 2010). However, these findings are not universal and may depend on how prices for different foods are measured (Carlson & Frazao 2012). Rural households allocated a larger share of their budgets to food, but urban households spent almost \$400 more on food per year in 2011. Nord and Leibtag (2005) reported that on average, the cost of food is between 11 and 15 percent less for nonmetropolitan households than for households in metropolitan areas. Low-income households are less likely to live in suburban locations where food prices are typically lower. In addition, supermarkets in low-income neighborhoods may charge higher prices than those in nearby higher income neighborhoods (Nord & Leibtag 2005).

Finally, a small percentage of low-income households have limited cooking facilities. Data from the 2010 Census indicate that about 93 percent of low-income households have a microwave; 99 percent have a refrigerator, 98 percent have a stove and oven, and 23 percent have a separate freezer. In the American Housing Survey about 7 percent of the low-income households were classified as having “moderate physical problems” or infrastructure issues related to preparing food in their homes, which included the lack of a full kitchen and the use of unvented oil, kerosene, or gas heaters as a primary heating source.⁵

⁵ U.S. Census Bureau, American Housing Survey 2015.

1.5 Report Organization

Chapter 1 provides a brief summary of the literature on some of the individual, household and

Report Chapters

1. Background and Understanding
2. Methodology
3. Interview Participant Characteristics
4. Individual/Household Barriers to Healthy Eating
5. Environmental Barriers to Healthy Eating
6. Association Between Individual, Household and Environmental Barriers and Food Security and Access to a Healthy Diet
7. Coping Strategies

environmental barriers that may prevent participants from realizing the full benefits that SNAP can provide in terms of food security and accessing a healthy diet. Chapter 2 provides an overview of the study methodology. In Chapter 3, more information is provided on the sites selected and the 121 individuals interviewed. Chapter 4 discusses individual/household barriers, and

Chapter 5 addresses environmental barriers. The associations between barriers and food security and access to a healthy diet are discussed in Chapter 6. Chapter 7 discusses the coping strategies used by individuals facing these barriers.

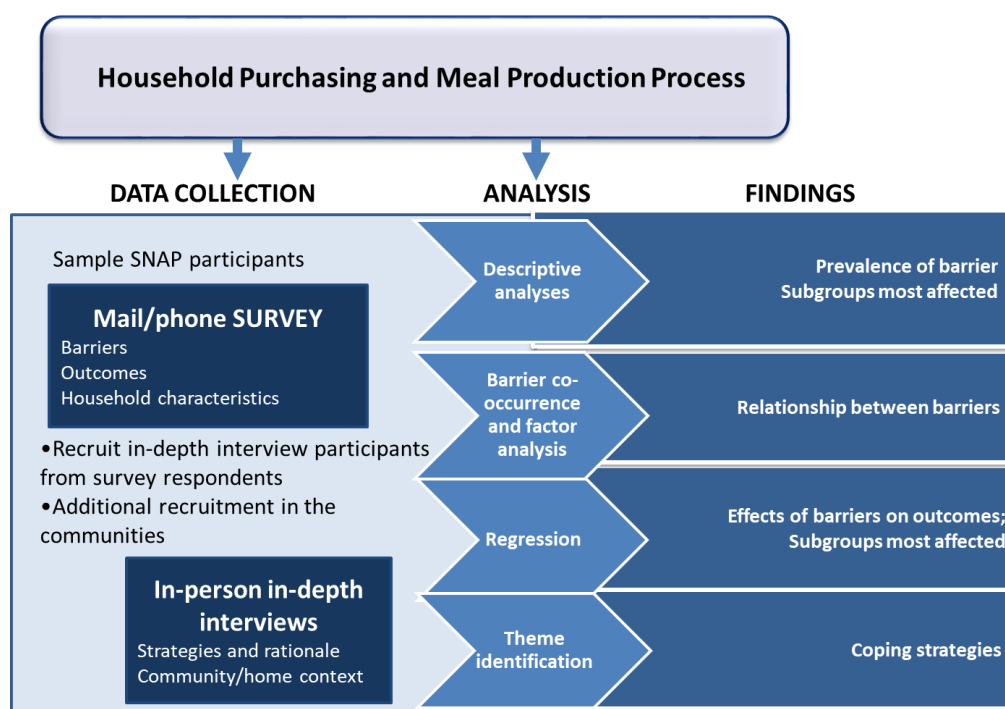
2. Methodology

The Assessment of the Barriers that Constrain the Adequacy of Supplemental Nutrition Assistance Program (SNAP) Allotments study includes both interviews and a survey. This chapter describes the study as a whole and then provides greater detail on the interview study design, data, and analytic methods.

2.1 Overview of the SNAP Barriers Study Design

Figure 2-1 provides an overview of the mixed methods study design implemented to address the five overarching research objectives of the study.

Figure 2-1. Study design



The survey addresses the objectives through the nationally representative survey of SNAP households, while the in-depth interviews address the objectives through interviewing 121 SNAP participants in 12 States. The in-depth interviews complement the survey findings by allowing SNAP

participants to describe, in their own words, what barriers to healthy eating they experience and how these manifest in their lives.

2.1.1 Survey Study

The details of the survey study, including the survey design, sampling plan, and data collection overview, are presented in a separate report. This section presents a broad overview of the survey study to provide context for the project as a whole.

The survey study was comprised of a nationally representative survey of SNAP households taken from across 26 States. The study team fielded the survey over three waves, with an initial mailout of paper surveys followed by phone follow-up. The survey was fielded between 5/21/2018 and 11/16/2018. Almost 13,600 surveys were distributed, 5,469 surveys were returned. The survey covered several topics, including household demographics, individual/household barriers, environmental barriers, and coping strategies. Further detail regarding the methodology used for the survey study can be found in the survey report.

2.1.2 In-Depth Interviews

In-depth interviews of SNAP participants allow for examining barriers and coping strategies in greater detail, providing a more complete picture of how SNAP participants perceive their own barriers to healthy eating. The study team conducted 121 interviews across 12 locations in 12 States.

2.2 Qualitative Data Collection Instruments and Approach

As discussed, the study team conducted 121 interviews across 12 locations, chosen for geographical diversity and diversity in urbanicity. Westat took numerous steps to ensure that all the data collection activities were standardized across the site visits. Interviewers were extensively trained to talk with participants about potentially sensitive subjects. Training covered how to make participants feel comfortable, how to safely conduct interviews in peoples' homes, and the interview protocol. Interviews covered nutritional knowledge, shopping and eating out habits, cooking skills, and coping strategies for overcoming barriers. The following sections provide more detail about each aspect of the qualitative data collection.

2.2.1 Site Selection

Past studies have recommended more in-depth research comparing the barriers faced by SNAP participants in different regions and the strategies they use to overcome these barriers. For example, there are distinct barrier profiles associated with urban and rural SNAP participation, with urban participants reporting higher food prices as well as a paucity of fresh fruits and vegetables in markets located in low-income urban areas (Nord and Leibtag 2005). On the other hand, rural participants are more likely to have difficulties accessing transportation. Sites for in-depth interviews were chosen based on geographic location (urban or rural), with two rural sites. Three sites with significant Spanish-speaking populations were also chosen to gain the perspective of Spanish-speaking SNAP participants. A total of 14 interviews were conducted with Spanish speakers. Table 2-1 presents the 12 sites at which interviews were scheduled and conducted.

Table 2-1. Site descriptions

Site	Urbanicity	Spanish-speaking Interviews?
Raleigh/Durham, NC	Urban	No
Miami, FL	Urban	Yes
St. Louis, MO	Urban	No
Sioux Falls, SD	Rural	No
Rockford, IL	Urban	No
Rockville, MD	Urban	No
New York City, NY	Urban	Yes
Reno, NV	Urban	No
Portland, OR	Urban	No
Bay City, MI	Rural	No
Houston, TX	Urban	Yes
Baton Rouge, LA	Urban	No

Onsite interviews were conducted between July 30 and October 19, 2018. For participants who had been survey respondents (described below), visits took place between 1 and 2 months after they had completed the survey. Site visits were generally scheduled for 4-5 days, with the exception of Rockville, MD. This site was local to the study team, so interviews were conducted on a rolling basis over the course of several weeks.

2.2.2 Participant Recruitment

Participant recruitment began after the interview sites were selected and the visits were scheduled. The study team aimed to complete 10 interviews in each location. First, a list of all survey

respondents in the selected sites was compiled. All survey respondents in the locations were contacted by phone and offered \$75 to participate in the interview at their home. The interviews were described to potential participants as attempts to better understand how they meet the needs of their household for nutritious food as SNAP participants. Respondents who wanted to participate but were not comfortable having an interviewer in their home were offered the option to have the interview at a secondary location, such as a library or coffee shop. For these participants (eight in total), the protocol was modified so that participants gave a description of their kitchens, rather than a tour. Respondents were notified that the interview would last for 60 minutes. Oral consent for the interview was obtained by phone, with written consent obtained at the interview.

Because of the small sample size of survey respondents in some locations, particularly rural locations, additional recruitment was conducted via advertisements in online sources. Potential participants responding to online advertisements were contacted by phone and screened to ensure that they were SNAP participants (by giving information about their EBT receipt; at the interview, Craigslist participants were asked to show their EBT card) and consented to participate in the interview. In total, 53 of the 121 interviews were conducted with survey respondents, and 68 were conducted with SNAP participants recruited from Craigslist.

In anticipation of no-show interviews, the study team also compiled a reserve sample of interviewees. Once ten interviews were scheduled in each site, interviewers contacted potentially interested respondents, usually from online advertisements, and asked if they wished to be placed on a stand-by list to be contacted if any openings became available. Four to six potential participants were in the reserve sample for each site.

2.2.3 Interview Protocol

The interview protocol is included in Appendix A. The protocol has five components:

1. Food choices, options, preferences, and values;
2. Perceptions of a healthy diet;
3. Social networks and food assistance;
4. Topographies of food access; and
5. Household observation.

Table 2-2 shows how the interview modules map to the study objectives

Table 2-2. Relationship between study objectives and interview modules

Objectives	Interview modules that will inform the objective
Objective 1: Individual/.household barriers	(1) Food choices, options, preferences, and values (5) Household observation
Objective 2: Environmental barriers	(4) Topographies of food access (a map of the household within the local neighborhood)
Objective 3: Relationship between barriers	(1) Food choices, options, preferences, and values
Objective 4: Coping strategies and characteristics associated with positive perception of access to healthy diet	(1) Food choices, options, preferences, and values (2) Perceptions of a healthy diet (3) Social networks and food assistance (4) Topographies of food access (a map of the household within the local neighborhood)

Interviews captured household participants' views about the barriers they face accessing a healthy diet and how and if they are able to overcome the barriers they perceive. All interviewers were trained on the protocol; details on interviewer training are included in Appendix B.

2.2.4 Participant Interviews

Over the course of 12 site visits, Westat and Insight staff (study team) conducted 121 in-person interviews; 10 each in Raleigh/Durham, St. Louis, Sioux Falls, Rockford, Rockville, Reno, Portland, Bay City, and Baton Rouge; 11 each in Miami and New York City; and 9 in Houston. The 11 interviews in Miami and New York City were the result of scheduling extra interviews in anticipation of a no-show who then rescheduled; the 9 in Houston were the result of one no-show and the decision not to schedule any interviews from the reserve list due to the extra interviews conducted in Miami and New York City. There were 4 no shows across all sites.

Of the 121 interviews, all but 8 were conducted in the participant's home. For these 8 participants, interviews were held in common areas of apartment complexes, restaurants, and the courtyard of an apartment complex, and instead of the kitchen ethnographies (described below), participants were asked about their kitchens—whether they felt they had enough space and storage, whether they had functioning equipment, and what they would change about their kitchens.

The standard interview began with the interviewers walking through the consent process and obtaining written consent for conducting the interview and audio-recording it. If the participant

agreed to the interview but not to being audio-recorded, the interviewers took detailed notes; two of the 121 interviewees declined to be audio-recorded. All participants consented to the interview. Interviewers first administered the 6-item Food Security Module from USDA ERS and then moved on to open-ended questions. At the end of the interview, interviewers asked participants to show them their kitchen/cooking facilities (if interview conducted in the home) or asked them to describe their kitchen/cooking facilities (if interview not conducted in the home; this is described above). The audio-recorder was turned off for in-person kitchen tours and detailed notes were taken. These observations and notes constituted a brief ethnography of the kitchen. Participants were then thanked for their time, given the incentive, and asked to sign or initial a form confirming receipt of the incentive. Interviews ranged widely in length from 23 minutes to an hour and 19 minutes. The average was approximately 40 minutes, not including the consent process and tour or description of kitchen facilities.

2.2.5 Considerations

It is important to acknowledge that, as with all qualitative research and findings, the degree to which findings can be generalized to the population (in this case, all SNAP participants) is limited. The intention of this work is to understand in detail the perceived barriers and coping strategies SNAP participants used in efforts to eat healthily. The recruiting strategy was designed to achieve diversity in respondents and responses (although with limited diversity in language spoken), but while diversity along several metrics was achieved (as detailed in Chapter 3), the sample cannot be considered statistically representative. Those willing to participate in a 1 hour interview in their home are likely to differ in observable and unobservable ways from those who are not willing to participate. Despite these limitations however, the qualitative findings reveal a range of barriers SNAP participants faced, as well as a wide variety of coping strategies employed.

2.3 Analytic Approach

2.3.1 Response Rate

The response rate from contact with those who responded to the survey varied significantly by location, from a low of 18 percent in South Dakota to a high of 28 percent in Oregon. Sample sizes of survey respondents also varied significantly by urbanicity with a small sample in rural locations

and larger samples in urban locations, but there were urban locations with low response rates from survey respondents as well. Due to invalid phone numbers, a high proportion of survey respondents in urban locations were unreachable. Only 53 of the 121 interviews were conducted with survey participants.

Completion rates once interviews were scheduled were high. There were very few no-shows across all site visits; only 4 (out of 121) scheduled participants did not show up for their interview.

2.3.2 Coding Scheme and Data Coding

All audio-recordings of interviews were transcribed for analysis. Spanish interviews were translated and then transcribed. After the interview, interviewers wrote a one- or two-page description of their observation of the household, including descriptions of the space, equipment, food availability, and any eating, cooking, or other food-related behaviors of household members observed. All handwritten notes from the interviews were also converted into digital formats for analysis.

Files were analyzed using NVivo, a qualitative analysis software program, following principles of iterative categorization (Neale 2016). After a third of the data were collected and transcribed, the interviewers met and brainstormed initial codes derived from the interview guide and interviews, as well as patterns they noticed and any counterintuitive material. From this meeting, an initial set of codes was generated. When all interviews were completed, the senior qualitative researcher on the study read through all the transcripts to orient herself to the totality of issues raised by SNAP participants; codes were added to the initial coding scheme. Team members then coded a small set ($n=5$) of transcripts using the coding scheme. Inter-coder reliability was compared using NVivo and the study team also met to discuss their coding experience; the coding scheme was refined based on these experiences. This second stage of coding was more interpretive and involved identifying patterns among the codes. The goal was to cluster the codes together according to how they may be similar analytically. At this level of analysis, codes are grouped together based on similarities and interrelationships among groups of codes. A final coding scheme was developed and is included as Appendix C; it was used to code all transcripts.

2.3.3 Food Security and Access to a Healthy Diet

Food security and access to a healthy diet are conceptualized as outcomes of the food purchasing and production process, and the study team examined how barriers related to these outcomes.

Food security was measured through the Six-Item Short Form Household Food Security Module developed by USDA's Economic Research Service. The module examines both access to enough food (as noted by whether respondents have had to skip meals) as well as access to foods that are part of a healthy diet (as noted by whether respondents report being able to afford balanced meals), over the past 12 months. The scale has been validated in numerous studies to identify food-insecure households with high specificity and sensitivity, and minimal bias.⁶ Participants were categorized as being food secure or having low food security, or very low food security.

Access to a healthy diet was a more subjective outcome. It was measured according to each participant's perception of their own access, in their answers to specific questions about whether they ate a healthy diet. Those who said they ate a healthy diet were automatically characterized as having access to a healthy diet. For those who said they do not eat a healthy diet, their reasons for not eating healthy were examined. Those who indicated that they could eat a healthy diet, if they wished to, were characterized as having access, while those who indicated that a barrier—cost of foods that are part of a healthy diet, time to prepare foods that are part of a healthy diet, transportation to stores stocking foods that are part of a healthy diet, etc.—kept them from eating a healthy diet was characterized as lacking access to a healthy diet.

2.3.4 Data Analyses

The following sections describe the data analyses and how they meet the study objectives.

2.3.4.1 Individual, Household, and Environmental Barriers

Individual, household, and environmental barriers were identified in the qualitative data through descriptive analysis of codes. The study team looked at the frequency of those barriers within the overall sample, and according to urban/rural status and Spanish versus English interviews. Patterns

⁶ Economic Research Service, USDA, "U.S. Household Food Security Survey Module: Six-Item Short Form," September 2012. <https://www.ers.usda.gov/media/8282/short2012.pdf>

in the barriers the interview participants faced may be discerned. For each barrier, the study team noted the number of participants facing the barrier as well as whether some types of participants (urban or rural, Spanish or English speaking) were more likely to face some barriers.

2.3.4.2 Associations Between Barriers and Food Security and Access to a Healthy Diet

The study team ascertained the associations between barriers and food security and access to a healthy diet. Examining the association between barriers and negative outcomes identifies the potential consequences of barriers.

2.3.4.3 Coping Strategies

Coping strategies are identified through theme analysis. Participants were probed about how they mitigate the barriers they face—how they gain access to a healthy diet if possible or mitigate food insecurity. The study team identified common themes, including utilization of social networks, budgeting strategies, cooking strategies, and use of community resources. These themes were then examined descriptively, looking at the frequency of use of different strategies across the sample and within subgroups, such as participants in urban and rural locations and participants in different family structures.

3. Participant Characteristics

This chapter provides an overview of participant demographics and household characteristics of the 121 study participants. Frequencies are given based on the number of participants who responded to each item; some participants refused to answer some questions, so frequencies in some categories do not total to the number of respondents interviewed.

3.1 Demographics

Demographic information for interview participants is shown in Table 3-1. The modal age category was 36 to 59 years, with the same number younger and old. About 70 percent of the participants were female. This is not surprising, as the primary shopper for the household was recruited for interviews, and women are more likely to be the primary shoppers for their households.

Approximately 67 percent of the sample were single and 14 percent were married. Most participants spoke English during the interview and lived in an urban area. However, there was racial and ethnic diversity in the sample; nearly half of the participants identified as White, almost one-third identified as African-American, and about one-fifth identified as Hispanic.

Table 3-1. Participant demographics

Characteristic	Count	%
Age		
18-35	34	28.0
36-59	53	44.0
60 and over	34	28.0
Sex		
Female	84	69.4
Male	37	30.6
Marital Status		
Single	81	66.9
Widowed/Divorced/Separated	23	19.0
Married	17	14.0
Language Spoken		
English	107	88.4
Spanish	14	11.6
Race/Ethnicity (self-identified)		
White/Caucasian	54	44.6
Black/African-American	35	28.9
Hispanic/Latino	22	18.2
Native American	3	2.5
Mixed	4	3.3
Other	3	2.5

Table 3-1. Participant demographics (continued)

Characteristic	Count	%
Urbanicity		
Urban	101	83.5
Rural	20	16.5

3.2 Household Characteristics and SNAP Benefit Receipt

Table 3-2 presents participant household size and monthly SNAP amount received. Because some respondents provided approximate SNAP amounts, the SNAP benefit amount is grouped into general categories. Household size was skewed toward those living alone, with almost half of the sample in single-person households.⁷ Twenty-nine households included at least one elderly person; 55 households included at least one child. The modal SNAP benefit was between \$50 and \$200, with about 10 percent receiving less than \$50, and about 10 percent reporting receiving more than \$500 a month.

Table 3-2. Participant household size and monthly SNAP allotment

Characteristic	Count	%
Household size		
1	55	45.5
2	15	12.4
3	16	13.2
4	14	11.6
5+	20	16.5
Monthly SNAP amount		
<\$50	13	10.7
\$50-\$200	62	51.2
\$201-\$500	31	25.6
\$501+	13	10.7

Note: Counts do not sum to 121 as some participants did not answer these questions.

Interviewers also probed on the length of time the participants had received SNAP and the circumstances that led them to apply for SNAP. Length of time on SNAP is presented in Table 3-3. Almost 85 percent of the sample had received SNAP for one year or longer, with almost 15 percent having received SNAP for more than 10 years. Several factors may have driven this skew. First, as discussed in the next section, many in the sample are disabled. Second, some individuals may

⁷ In FY17 53.4 percent of SNAP households contained only one person (Cronquist & Lauffer 2019).

conflate the length of time they have received SNAP with the last time they received SNAP; over 10 years may thus represent a period between spells of SNAP, rather than continuous benefit receipt.

Table 3-3. Participant years receiving SNAP benefits

Time (years)	Count	%
<1 year	16	15.5
1 to 4 years	32	31.0
5 to 10 years	40	38.8
10+ years	15	14.6

Participants were asked why they sought SNAP benefits. The most common reason was unemployment or underemployment, with 58 participants reporting that they sought benefits due to the loss of a job.

My husband had fewer hours and I'm not working, I'm a housewife because I don't have anyone to take care of my girls.

I lost my job when I got here...

I wasn't working anymore. I'm working a little bit now but not much and I need food.

Participants also cited health problems and disability (30 participants), and change in family circumstance (such as birth of a child or a separation or divorce; 20 participants) as reasons to seek out SNAP.

I got disability because of my illnesses, and then, at the same time, got divorced so I was on my own, and I applied for SNAP.

Then I'm raising my grandson. I've now adopted him. And ever since I've had him again...I started back getting food stamps because it was hard to make ends meet with just my income.

My husband and I separated and I didn't have a choice.

3.3 Income Sources

SNAP is intended to be a supplemental form of income used for food, but it is common for SNAP to be the only funds participants use for food-related spending. Table 3-4 shows the most common non-SNAP income that participants used for food, and the number of participants who mentioned each income source. The most common source of non-SNAP income used for food was Supplemental Security Income (SSI). In most States, participants in SSI are automatically eligible for

SNAP benefits. The next most common source of non-SNAP income used for food was income from the participants' regular employment, followed by money provided from family members or friends. Fourteen participants stated that SNAP was the only form of income used on regular food-related purchases.

Table 3-4. Sources of income used for food

Income source	Count	%
Disability assistance (SSI)	27	27.6
Regular work/employment	26	26.5
No additional sources used for food	14	14.3
Money from family or friend	12	12.2
Partner's employment	9	9.2
Ad hoc work	7	7.1
Child support	3	3.1

3.4 Health Problems Related to Diet and Special Dietary Needs

Many health conditions are either caused or exacerbated by poor diet. Participants were asked about diet-related health conditions that either they or other members of their household had. As shown in Table 3-5, the most common conditions reported were diabetes or prediabetes, followed by hypertension. Overweight or obesity, high cholesterol, and heart disease were also mentioned by multiple respondents.

Table 3-5. Frequency of reported health problems

Health Problems	Count	%
Participant health conditions		
Diabetes/Prediabetes	19	15.7
Hypertension	12	9.9
Overweight/Obesity	10	8.3
High Cholesterol	10	8.3
Heart Disease	4	3.3
Family health conditions		
Diabetes/Prediabetes	13	10.7
Hypertension	5	4.1
Overweight/Obesity	6	5.0
High Cholesterol	2	1.7
Heart Disease	2	1.7

Several participants with prediabetes, diabetes, or a family history of diabetes spoke about food choices being closely related to those conditions. For example, participants with prediabetes or a

family history of diabetes discussed their efforts to eat less, particularly snacking less, and reducing their intake of carbohydrates.

I might put strawberries and oranges together and bananas in the bowl and make a smoothie. I'm not going to do no can because that syrup and water is really sweet. It's too sweet. I had to change everything because my baby borderline diabetic, the little one.

We're both pre-diabetic so we have to watch the sugar, watch the carbs.

Some expressed frustration that they try to help their diabetic or pre-diabetic family members eat healthier to manage their diabetes or prevent diabetes, but they receive substantial pushback from those family members who are not willing to adjust their diets.

My dad has diabetes. He had diabetes and—well, the complications due to the illness caused him to be disabled. My dad is too young to be disabled since he isn't even 60 years old yet. So he started with problems with diabetes when he was very young, and he never followed doctor's orders. I've read so much about diabetes to try and help him with his problem. I tell him, "Dad, look, it's the diet, this and that," but it was so hard. It has been hard trying to get him to eat a healthy diet, and mostly because he never created habits and now at his age—I mean, he refuses to stop eating what he likes.

Outside modifying diets for health conditions, most participants did not have special dietary needs or restrictions that affected their food choices. Nine participants reported a dairy allergy or lactose intolerance; four reported a peanut allergy; other allergies included shellfish, corn, and eggs. Overall, participants did not express substantial hardship related to accessing healthy food while adhering to their dietary restrictions.

3.5 Values and Attitudes Toward Diet

The observable characteristics of participants, such as household size, income sources, and health conditions, provide important context around understanding the challenges they face in eating a healthy diet. Values and attitudes toward diet are less observable, but also critical to understanding how they approach the challenge of eating healthy. They are a part of the household food purchasing and meal production model, besides individual/household or environmental factors but necessary for healthy eating. To the extent that participants do not prioritize eating healthily, individual, household, and environmental barriers faced, such as lack of cooking skills or lack of transportation may be beside the point. However, a plurality of participants (42 participants, or 35% of the sample) describe themselves as concerned or very concerned with eating healthily. For many

of these participants, the concern stemmed from the health burdens they saw in themselves and in their families; they feared future ill-health as a result of a poor diet.

Because I'm getting older. They call it genetics.

I think it just helps everybody be healthy and I think it keeps us from being sick a lot, a healthy fresh diet.

So naturally we know that our body needs nutrition. It needs these types of things to be healthy, to give us the energy that we need. So if we consume those things that aren't, then we drag, we have really low energy, our skin don't look the best, we just have trouble.

Parents were particularly concerned about eating healthily for their children; several parents mentioned wanting to keep their children healthy and set them on a lifelong path for success.

I worry in regards to child obesity, what can I tell you, diabetes, cholesterol and all of those things, but personally I worry more about the children than myself.

My kids—they're the ones that I worry about eating right or making sure everything is good.

This concern also emerged when parents discussed how they worked to get their children to eat healthily; common strategies included hiding vegetables in other foods.

And my sister, she taught me to take peas and green beans and put them in the spaghetti sauce and smashed them up so they don't even notice that they're eating the vegetables in the first place.

But a lot of, like I said, fruits or veggies if I make them a certain way they'll eat them, or if I make foods a certain way and not show that they're in there [laughter] they eat it.

Understanding what constitutes a healthy diet is discussed in the next chapter. However conceptualized, those in the sample do believe that eating healthily is important and should be valued.

4. Individual/Household Barriers to Healthy Eating

As described in the conceptual model, Figure 1-1, several factors may act as barriers to healthy eating at the individual and household level. These include a lack of nutrition literacy, a lack of cooking skills, and a lack of kitchen equipment or cooking facilities. A lack of time—either to acquire foods that are part of a healthy diet or to cook healthy meals—may also be seen as an individual or household-level barrier. In this chapter, findings from in-depth interviews and ethnographies on the presence of these and other barriers in SNAP households are presented.

Researchers have found that American households may face numerous barriers to healthy eating at different levels of prevalence and severity (Morton & Guthrie 1997; Persoski, Hennessy, & Nelson 2017; Wang, El-Nour, & Bennett 2008). Researchers have found some of these barriers, such as a lack of kitchen equipment and a lack of time, to be particularly severe among low-income households, while others, such as lack of nutritional knowledge, have been found to be more general problems across the income spectrum (Wang, El-Nour, & Bennett 2008; Morton & Guthrie 1997).

Nutrition Literacy

Nutrition literacy is a relatively recent concept coined to describe the ability to “access, interpret, and use nutrition information” (Velardo 2015). Several studies, including Kuczmarski et al. (2016), Vaitkeviciute, Ball, and Harris (2015), Wallace, Lo, and Devine (2016), and Miller and Cassady (2015), document associations between nutrition literacy and better diets across several populations, including socioeconomically diverse urban residents, adolescents, and the elderly. While these studies cannot establish causality, some experiments involving interventions have found that teaching greater nutrition literacy is associated with healthier dietary choices among participants (Wallace, Lo, and Devine 2016; Bowling et al. 2016). These results suggest that a lack of nutritional knowledge could act as a barrier for healthy eating.

Research further establishes differences in nutritional knowledge across populations. Morton and Guthrie (1997) find that compared with higher income participants, low-income participants were less likely to understand the relationship between diet and disease and less likely to refer to the nutrition panel when selecting foods. Similarly, Persoskie, Hennessy, and Nelson (2017) find a

strong association with understanding of nutrition labels and income, with low-income participants demonstrating less understanding of nutrition labels than higher-income participants. Dressler and Smith (2013) suggest this relationship may be mediated by weight status, as lower-weight participants in that study were more likely to display nutritional literacy than overweight or obese participants, holding income constant, although Song, Grutzmacher, and Kostenko (2014) find an overall low level of nutrition literacy among a similar income population. There is mixed evidence, then, that low-income populations may have a greater lack of nutritional knowledge than higher-income populations.

Lack of Cooking Skills

Lack of cooking skills may also present a barrier to healthy eating. Researchers have found that more frequent cooking is associated with improved dietary intake across populations, including among those receiving SNAP (Fertig et al. 2019; Wolfson and Bleich 2015; Taillie and Poti 2017). Although multiple factors may impede cooking, studies (mostly focused on European populations) have found an association between self-reported lack of cooking skills and less frequent cooking (Lavelle et al. 2016; van der Horst, Brunner, and Siegrist 2011). Whether lack of cooking skills is a particular barrier for low-income households is less clear. Winkler (2008), looking at a nationally representative sample of Australians, found that lower-income participants were less confident in their cooking skills than higher-income participants. A study of cooking skills interventions in the UK also found that lower-income participants had higher gains in cooking confidence from such intervention than higher-income participants (Garcia et al. 2016). However, a qualitative study of American adults across multiple socioeconomic groups found no difference in perceived cooking skills by income (Wolfson et al. 2016), and examinations of the 1993 Health and Lifestyles Survey did not identify lack of cooking skills as a significant barrier to healthy eating among low-income households (Caraher et al. 1998). In fact, Buck-McFadyen (2015) found high levels of cooking skills among low-income rural Canadian households, as these households used “scratch” cooking at home as a way to mitigate food insecurity.

Lack of Kitchen Equipment

Lack of kitchen equipment represents a clear barrier to healthy eating; without at least minimal cold storage and facilities, it quickly becomes impossible to prepare and have food at home. However, prior research suggests that the percentage of the U.S. population without access to some cooking facilities is relatively small. In 2015, about 2 percent of households under the federal poverty level lacked a full kitchen, according to the American Housing Survey.⁸ However, more households may perceive facility barriers to home cooking, such as pest infestation or lack of adequate storage (Wang, El-Nour, & Bennett 2008). Studies of low-income housing have found high rates of pest infestation, particularly in kitchens, that could reduce cooking rates (Wang, El-Nour, & Bennett 2008). Low-income populations are also more likely to live in facilities, such as homeless shelters or group homes, that lack kitchen facilities (Wiecha et al. 1993). Thus, although a lack of kitchen facilities may not be a barrier for most SNAP households, it may be a particularly severe barrier for those who do face it.

Lack of Time

Lack of time is more likely to be faced by a large proportion of SNAP participants. Examinations of time across the income spectrum have found that Americans increasingly feel “time poor,” and overall time spent cooking has decreased in the past decades (Smith, Ng, and Popkin 2013). Families in poverty also lack the ability to “buy time” by outsourcing tasks such as food shopping and food preparation (Cohen 1998). Those who eat out (including both dine-in at restaurants and carry-out) are more likely to make less healthful food choices, creating a direct barrier between lack of time and healthy eating (Jabs and Devine 2006).

This narrative is complicated by income. The lack of ability to outsource food preparation among the poor has been found in some studies to lead to more time spent cooking among low-income households (Adams and White 2015; Smith, Ng, and Popkin 2013). The net impact of lack of time on healthy eating is likely to depend on how lack of time impact what foods are purchased for cooking. “Ready-made” meals (such as frozen meals) are generally lower in nutrient content than

⁸ U.S. Census Bureau, American Housing Survey 2015.

meals cooked “from scratch,” and they may be appealing for those with limited time and money (Celnik, Gillespie, and Lean 2012).

Summary

For individual/household barriers to accessing a healthy diet, the interview findings generally accord with previous research while providing additional nuance about how barriers are defined and perceived by low-income families.

Within the sample, a majority have an understanding of healthy meals and healthy eating that broadly accords with current dietary recommendations; however, not all participants consistently apply this knowledge in ways that lead to efficient use of SNAP resources. A majority also are comfortable with cooking and cook at home more than they eat out. Only a very small group of participants, mostly located in highly urban areas, lack necessary kitchen equipment for preparing meals at home, but those who do face significant barriers to healthy eating. Finally, a larger share of interviewees, although still less than half of the sample, report a lack of time, preventing them from eating healthy, most commonly by reducing the amount of “scratch” cooking and increasing the use of ready-to-eat meals. Findings are discussed in detail below.

4.1 Lack of Knowledge About Healthy Eating

Interviewees’ knowledge about healthy eating was examined in multiple ways. First, interviewers asked participants what comes to mind when they consider the phrase “healthy diet” and “healthy eating habits.” The question was open-ended and participants could provide as much detail as they wished. This approach elicited participants’ broad beliefs about what it means to eat healthy. Next, interviewers asked participants to describe a healthy breakfast, healthy snacks, and a healthy dinner. This question shed light on how well participants translate broad advice about healthy eating into specific meals. Finally, participants were asked about their own view of their current diet—such as how healthy it is, what they would change about it, and what stands in the way of them making these changes.

Most interviewees displayed a basic knowledge of what constitutes healthy eating, with less than 10 percent of the sample naming any unhealthy items as part of a healthy diet. Interviewees did display

some nutritional gaps, mostly in not considering whole grains or low-fat dairy as important parts of healthy diets; this is consistent with prior research on American nutritional knowledge (Guthrie, Derby, & Levy 1999) . The majority did not perceive themselves as having any lack of knowledge about healthy eating. Despite understanding healthy eating on a high level, however, interviewees' knowledge emphasized protein in building healthy meals over fruits, vegetables, and starches.

4.1.1 Lack of Understanding of a Healthy Diet and Healthy Eating Habits

The USDA defines a healthy diet as “one that provides enough of each essential nutrient from nutrient-dense foods, contains a variety of foods from all of the basic food groups, and focuses on balancing calories consumed with calories expended to help you achieve and sustain a healthy weight. This eating pattern limits intake of solid fats, sugar, salt (sodium) and alcohol” (USDA 2018). More specifically, the 2015-2020 Dietary Guidelines for Americans recommend eating a variety of vegetables, fruits, grains (particularly whole grains), fat-free or low-fat dairy, a variety of proteins including seafood and lean meats, and oils (Millen et al. 2016). On a broad level, participants in this study assigned a meaning to healthy eating and healthy eating habits that accords with this definition.

A majority of the sample identified fruits and vegetables as an important part of a healthy diet. A large majority of the sample (101 participants, or 83% of the sample) identified either fruits and vegetables, vegetables alone, or greens or salad as a key component of a healthy diet. Of these three descriptions, “fruits and vegetables” was the most frequently mentioned (60 participants, or 50% of the sample). Other common dietary elements identified as healthy included lean meats and fish (31 participants, or 26% of the sample) and drinking water (9 participants; 8%). Elements to avoid noted by some participants included sugar (20 participants; 16%) and limiting carbohydrates (9 participants; 8%); and avoiding fried foods (18 participants; 15%) and processed foods (11 participants; 9%). Below are some examples of how interviewees answered the question, “What comes to mind when you hear the phrase ‘a healthy diet?’”

Healthy diet and healthy eating. I would say portions. Non-fatty foods. Very rarely greasy types of foods. Lots of fruits and vegetables.

Healthy diet. When I say that term I would think of fruit, vegetables, perhaps fish, salad. That's the only thing to come to mind.

It's water with everything. Water is something healthy for us.

Fresh fruits and fresh vegetables. No fried foods. No sugar.

Vegetables. Fruits. Not too much carbs.

I would say nonprocessed foods, mainly, because processed foods are full of sugars and salt.

There were no patterns in responses by urbanicity of participant, language of interview, or presence of children or elderly in the household.

Participants also identified healthy eating habits accurately at a high level. The most commonly identified healthy eating habits were eating three meals a day (23 participants, or 19%), controlling portion sizes (25 participants; 21%), and avoiding eating late at night (12 participants; 10%). Other suggestions included eating balanced meals (9 participants; 7%) and limiting calories (5 participants; 4%).

Well, a healthy diet regarding frequency, we always try to—I mean—eat three meals a day, the breakfast, lunch and dinner.

I mean smart proportion sizes. Not a lot of fried or heavy, fatty meals. Kind of balanced out, of starch, and of vegetables, and your meat.

So my habits are not to drink soda, and not to eat late at night.

And watch what you eat, and the calories, and stuff like that.

Again, there was no pattern in responses by urbanicity, language of interview, or presence of children or elderly in the household.

At a high level, then, participants in this study had an understanding of healthy eating. Where did gaps in this knowledge appear, and for whom? First, it is interesting to note what participants did not identify as associated with a healthy diet. No participant associated whole grains with a healthy diet. This is not to say that participants thought grains unhealthy, but rather that most do not think of whole grains as an important part of a healthy diet. Similarly, dairy was only mentioned by five participants, all of whom identified milk and none of whom identified low-fat milk. Again, this does not mean that participants view dairy or grains as unhealthy, but their view of a healthy diet tends to be more focused on fruits and vegetables and meat, with less attention to whole grains and dairy. This is supported by the fact that only one participant mentioned the food pyramid and one participant mentioned MyPlate, the USDA's healthy meal graphics, in considering a healthy diet.

There was a perception among several participants that fresh fruits and vegetables are nutritionally healthier than frozen or canned produce. Nineteen participants of the sixty who mentioned fruits and vegetables singled out fresh fruits and vegetables as the center of a healthy diet. Five participants said that a healthy diet should avoid canned foods. Thirteen participants went even further, saying that foods that are part of a healthy diet are organic and/or not genetically-modified (GMO).

*I would say fresh food and fresh vegetables. Fruits and vegetables that are alive.
Uncanned.*

[J]ust try to eat maybe organic non-GMO foods.

There is little evidence that fresh and/or organic produce is healthier than frozen or canned produce, and it is more expensive; SNAP participants could potentially be less efficient in their purchases if they believe that fresh is better than frozen or canned (Mulik and Haynes-Maslow 2017; Lee and Yun 2015).

There is also some evidence in the interviews, that participants follow some of the more recent diet trends. Seventeen participants (14%) identified eating multiple smaller meals as a healthy eating habit, while 12 participants (10%) identified adopting a high protein diet to be important. Both reflect more recent popular dietary trends, like the ketogenic diet, that have not received any scientific support as more or less healthy. The ages of participants espousing these views ranged from 28 to 65 and included both men and women and a diversity of races and locations. Rather, insofar as they do not match the diets envisioned by the Thrifty Food Plan, they may be more or less expensive than the SNAP allotment is designed for.

*It's been my experience that it's better to eat six small meals a day than three big ones.
It's not conducive to raising a kid who's going through the school system where they
depend on you feeding a kid three times a day. I know it's supposed to be better for your
metabolism.*

I'm actually a big fan of a high-protein, high-fat diet.

4.1.2 Lack of Understanding of Healthy Meals

Understanding the broad outlines of healthy eating is important to ultimately eating healthy, but applying that knowledge in meal planning is equally key. Participants in this study were asked to describe elements of a healthy breakfast, healthy snacks, and a healthy dinner.

The most commonly named parts of a healthy breakfast included eggs (54 participants, or 45% of the sample), fruit (46 participants; 38%), oatmeal (35 participants; 29%), toast (29 participants; 24%), bacon or sausage (21 participants; 17%), cereal (20 participants; 17%), and yogurt (8 participants; 7%). Broadly, when asked to name elements of a healthy breakfast, participants named carbohydrates and starches first, followed by proteins and fruit. Put another way, more than a third of the sample named fruit as an important part of a healthy breakfast, but more participants considered starch or protein first when naming healthy breakfast elements.

Some oatmeal and a banana, blueberries.

I like to make things like pancakes, eggs, and sausage, with a cup of orange juice and a couple of things of maybe watermelon or something.

For healthy snacks, participants most commonly identified fruit (57 participants; 47%), followed distantly by nuts (13 participants; 11%), and granola bars (12 participants; 10%).

Healthy snacks would probably be like apples and peanut butter.

Fruit again and some of the stuff they have out in the grocery store like the bars, the energy bars, or something.

Nearly half the sample identified fruit as a healthy snack, and a plurality identified fruit first (before a protein or starch) when asked to name a healthy snack.

Turning to dinner, the most commonly identified elements of a healthy dinner included chicken (33 participants, or 27% of the sample), salad (21 participants; 17%), fish (16 participants; 13%), and broccoli (11 participants; 9%).

Chicken. I said fish, because it's more of a dinner food. Red meat, only – I try not to eat it – maybe one day a week. Very little, very little honestly. They really like boiled broccoli, but nothing else boiled like that.

Like baked chicken, salad, that's about it.

Descriptions of healthy dinners were much more diverse than descriptions of healthy breakfasts and healthy snacks; participants gave a wide range of responses and fewer items emerged as generally agreed-upon “healthy dinner” components. However, a plurality (49 participants, or 40% of the sample) of participants did name a protein first when asked to describe a healthy dinner; 28 participants (23%) named a fruit or vegetable first, and 20 participants (17%) named a starch first.

There were some exceptions to identifying healthy items; 9 participants identified a fried item as part of a healthy meal, most commonly eggs or potatoes as a part of breakfast. Three of these participants were Spanish speakers. Four of these nine were from rural locations, again an overrepresentation of that group.

Some fried eggs, some refried beans.

Honey-Nut Cheerios, eggs over easy, pancakes, sausage, bacon, fried potatoes with onions and yellow peppers, and that's it.

So what I believe is healthy is something called mangú. It's mashed plantains with eggs. There's a fried cheese and salami that's really good, and onions.

It is important not to belabor these findings. Generally, the sample of identified foods can be a part of a healthy diet and almost all identified a fruit or vegetable as part of a healthy meal. The number who identified unhealthy meals is small, and none identified entirely unhealthy meals. Rather, it may be more productive to consider that the operationalization of healthy eating into healthy meals shows broadly how the sample thinks about meal planning. While fruits and vegetables were included by most participants in describing healthy breakfasts and dinners, most planned their meal around a starch (breakfast, where 44 participants named a starch first) or meat (dinner, where 49 named a meat first).

4.1.3 Misperception About the Health of their Current Diet and Impact of SNAP

Given these understandings of what a healthy diet is, and how the participants operationalize this understanding, how does the sample rate their own diet? Generally, they think their diet is all right—not ideal, but not unhealthy. Fifty-eight participants, about 48 percent of the sample, believe that

their diet is fairly healthy. Twenty-five (21%) identify their current diet as not healthy, and 20 (17%) identify their diet as healthy (17 would not characterize their diet).

Participants in rural areas were less likely to characterize their diets as unhealthy than participants in urban areas (10% (n= 2) for rural compared with 23% (n= 23) for urban). Spanish-speaking participants were more likely to characterize their diets as unhealthy compared with English-speaking participants (28% (n= 4) versus 20% (n= 21)).

It's healthy. I don't know if I could say maybe it would be healthier if we ate less.

Most of those who report that their diet is fairly healthy recognize that they could make improvements, and these suggested improvements correspond with healthier habits. Seven (6%) participants said they should eat more vegetables; two said they should eat more fruit. Four participants said they should eat fewer sweets and two said they should eat less junk food. Eleven participants (9%) said they should prepare more homemade meals, and six participants wanted more information about how to cook healthily.

I guess, eating more vegetables on a daily basis.

Well, it's just I probably eat too much ice cream, and sweets, and stuff.

I mean, I know how to cook very well from scratch - but I don't take the time - which would make it so much healthier.

Just yeah, the learning portion control, I guess, and learning to just eat a little bit healthier in the long run.

Eleven participants (9%) said receiving SNAP helped them improve their diets by focusing on cooking more food at home and having more control over their diet.

[W]hen I did get eligible for food stamps, I was able to buy the things that I liked. And I do like healthy stuff like salad and fruit. So I was able to buy that.

And they make you cook your own food, so. So you can always find stuff in the grocery store that's healthier. It's always healthier to have a home-cooked meal anyways.

All of these responses indicate participants are aware that they do not always eat a healthy diet, on a broad level. These results suggest some potential gaps in nutritional knowledge among some participants, including lack of knowledge about whole grains and low-fat dairy among all participants, and potential opportunities to educate participants about balancing meals and sources of protein.

4.2 Lack of Cooking Skills

While nutritional knowledge is not a barrier for most of the sample, it is possible that individuals could have nutritional knowledge but lack the skills to apply it. The barrier of cooking skills is approached in multiple ways. First, interviewers asked participants about their eating habits—how much did they eat out? How much did they cook? This establishes a baseline—those who do some cooking have at least some familiarity with it. Those who primarily eat out may or may not have skills; other impediments or preferences may lead them to eat out. Next, participants were asked in more detail about cooking skills, including who the primary cook of the household is, whether that person is a good cook, how the cook decides what food to prepare, and whether and how they seek out new recipes. This establishes perceived comfort with cooking as well as participants' desire to improve cooking skills.

In the sample, a plurality cooked at home every day or every other day and ate out rarely. Most felt comfortable with their cooking skills and knew how to look up new recipes or techniques. Those who were less likely to feel comfortable cooking were those living alone.

4.2.1 Cooking Patterns

A majority of the sample cooked frequently and ate out rarely; however, the choices made by those who ate out were frequently unhealthy.

4.2.1.1 Eating Out

For a majority of the sample, eating out was only an occasional treat and most meals were eaten at home. Sixty-five participants (54%) reported eating out less than once a week. By contrast, a Gallup poll of Americans across the income spectrum found that 61 percent ate out at least once a week in 2016 (Saad 2017). Most commonly, participants stated they could not afford to eat out more frequently than they already did. Twenty-four participants (20%) said that they could not afford to eat out very frequently.

I try not to eat out very often because, I mean, I don't have extra money with my situation, so not very often. ... Maybe twice a month.

Never. It's got to be a special occasion. Maybe one of my kids, my daughters, they treat me for Father's Day or my birthday. But we can't afford to be eating out. I don't eat out.

A small group—three participants—cited health as a reason they did not eat out, either because of a specific health problem (food allergy or sensitivity) or a more general belief that food prepared at home is healthier than food eaten out.

I very seldom eat out. I fix my food at home, because I don't know if the sodium—I have to watch my sodium intake.

For the 46 percent of the sample who did eat out at least once a week, reasons were varied. The most common reasons were due to work and children. Ten participants cited employment as a reason for eating out more frequently; either due to work schedules making it difficult to find time to cook or working in food service locations where food was provided. Nine participants cited children as a reason to eat out—satisfying children's desires for specific foods.

[S]ometimes on Fridays it's my husband and me, or sometimes if he left work late, for example, if he doesn't get home until 3:30, my daughters get home from school and we bring them, and all four of us go.

My children ask for [fast food] too much. We've been eating [fast food] for years.

Most commonly, satisfying children's desires involved eating fast food or pizza. Indeed, for both those who rarely eat out and those who eat out more frequently, fast food restaurants were the most common restaurant choice. Fifty-two participants (43%) reported eating at fast food restaurants; 42 of these participants (35% of the total sample) reported eating at fast food restaurants at least once a week. In addition to fast food being the children's choice, participants also chose fast food because of cost (specifically citing promotions like 2-for-1 deals) and convenience; fast food restaurants were close by for the majority of participants.

[Fast food] is my favorite...Chinese restaurants sometimes are a little bit more expensive, but I would love to sit down in a Chinese buffet sometimes...Stuff like that. Nothing that's all that extravagant. Just whatever's close. I don't have a car, so.

Yeah. Something I can afford. Something I can afford when I go out to eat. ... Well sometimes you know. Especially like [fast food], that 2 for 5.

Other common choices for eating out included sit-down restaurants (17 participants); take-out restaurants like pizza (11 participants); and buffets (7 participants).

4.2.1.2 Cooking at Home

Most participants cook at home most of the time; four participants even report cooking all meals at home. A plurality, 25 participants (21% of the sample), reported some home cooking every day or every other day. The primary factors dictating both how often participants cooked and what they cooked were what ingredients they had on hand or amount of money they had to buy ingredients (23 participants), children's preferences (11 participants), and time available for cooking (7 participants).

Or sometimes it is depending on what we have in the fridge, in the freezer, as far as the meat goes. So I would say we would make our meals depending on what meat we have in the freezer.

So normal dinners – I wish I had – I used to have a list of dinner options so the kids can kind of pick whatever they're in the mood for. But we'll do breakfast for dinner. So we'll do pancakes and eggs. My daughter really likes eggs and because she doesn't really like meat that's a good option for us for her.

Probably the quickness of it, something fast, something I can eat fast. Because I'm usually doing something or running somewhere trying to get something done and I'll eat something fast. But it just depends on what's going on at the time, if I got to work or something's going on.

Time available is covered in Section 4.4. Participants cook what they can based on what they have in the house. When food runs out at home, they are more likely to eat out or skip meals. Children's preferences lead to more eating out (as discussed above) and to preparation of a more limited menu based on what the children are likely to eat.

Those least likely to cook at home are those who live alone, and four participants explicitly cited the difficulty of cooking for one as the primary reason they did not cook more. Most of those who live alone still do some cooking and have some cooking skills, but prefer to eat out or eat prepared foods. Some who live alone have help cooking, with family visiting and bringing food or helping to cook; this was particularly common among elderly participants.

And I hate cooking meat for one. It seems kind of like a waste. You use more oil, you use—I don't know. I don't like making mashed potatoes for myself. It's a little more work [inaudible].

My provider come every day. She cooks. But I fix me some cereal to eat and—but I have instant oatmeal. Sometimes I fix it, fix me some of that. But other than that, I don't do no cooking.

4.2.2 Lack of Cooking Skills

Because frequency of cooking at home is an imprecise measure of cooking skills, this section turns more directly to the perceived cooking skills of participants. Only eight participants (7%) stated that they did not know how to cook. All were from urban areas, although with the small sample sizes it is difficult to draw too much from this. There were no differences by language of interview or presence of children or elderly in the household.

I used to make tacos, but it's too much meat, you know, to consume at one time. So I got tired of them, you know? I haven't made tacos in a long time. But that's about the only thing I can cook.

I've got TV dinners in there that I just made, I got yesterday. And then pot pies. That's all I can make. That's about it. And some pancake mix I just bought yesterday too.

By contrast, 28 participants (23%) described themselves as good cooks. Participants used a wide range of cooking techniques, including barbecuing, baking, and slow cooking, as well as a range of cuisines, including American, Italian, Chinese, Mexican, and others. Four participants had worked in cooking capacities in restaurants in the past, boasting of strong cooking credentials, while eight participants had learned to cook as children, from their parents.

Since I was little, helping my mom with my brother and my sister. Yes, because my mom was almost single, half single, because they would get together and then separate, with my dad. When we were little, she taught us in case she wasn't home, so we knew how to eat and feed ourselves.

The majority of cooks seemed to have picked up skills along the way, and those with children of their own were trying to pass skills along, with 18 participants saying that they involved their children in the cooking. Participants also looked for recipes in multiple sources, including traditional cookbooks and cooking shows. The internet, and particularly YouTube, were also a popular source of information on both recipes and techniques, with 26 participants turning to the internet for cooking help.

The other night I wanted to make beef and broccoli like they do in restaurants. And I looked on the internet and it showed me exactly what to put in beef and broccoli to make it a restaurant-style beef and broccoli. And it was really good.

Twenty-eight participants expressed interest in learning how to cook new dishes. Overall, then, the participants interviewed were comfortable with cooking and felt they had the skills, or at least resources, to cook a wide variety of meals.

4.3 Lack of Kitchen Equipment

Finally, lack of kitchen equipment was assessed through kitchen ethnographies. Interviewers asked participants to give them a tour of their kitchens, asking them about their appliances (what they had, whether everything worked), the space they had for cooking and storage, and anything they wished they had to facilitate cooking. Interviewers also noted the condition of the kitchen, evidence of pests or dirt, and any other relevant information.

Given participants expressed comfort with cooking and the frequency with which they reported cooking, it is not surprising that most participants have full kitchens. One hundred and six of the 119 kitchens that interviewers observed or had described to them (89% of the sample) had a functional kitchen, including a working stove, oven, and refrigerator. Most also had microwaves, coffee makers, and toaster ovens. Interviewers also observed blenders, dishwashers, water filtration systems, deep fryers, grills, and many other small appliances. Participants also showed interviewers pots, pans, utensils, spices, and other accoutrements of cooking.

Participant Profile: Jane
Jane is a 49 year old white woman, living in the suburbs. She lives in a shared home. She has experienced spells of homelessness in the past. Jane currently works a part-time job and receives SNAP. Jane faces multiple individual barriers including lack of cooking skills and lack of kitchen equipment. Talking about her reluctance to cook, she said “It’s a kitchen, like a community kitchen, so I don’t really like going out there. I have a microwave in my room, so—I guess that might be a reason too because I don’t really like going out in the kitchen because it’s not my private kitchen.”

Of course, simply having a kitchen with working equipment does not mean that the kitchen is conducive to cooking. Many participants had very small kitchens with limited storage space, counter space, or just room to move around in. Twenty-one kitchens were of galley or studio dimensions, which could discourage cooking, particularly for those with limited cooking skills. Small kitchens were particularly common in highly urban areas such as New York City, where space is at a premium. Five kitchens had evidence of pests or significant trash, also making cooking inhospitable. However, none of the five participants mentioned pests or mess affecting their use of the kitchen.

Finally, 13 participants lacked a functional kitchen altogether. This includes participants whose kitchens lacked a working refrigerator, stove, and/or oven, and participants who lived in spaces without any kitchen, such as those living in transitional living homes. These participants were clustered in Reno—four of the participants in the sample lived in that city. It is unclear why Reno has so many living facilities without kitchens. Other homes without kitchens were spread across sites

and included both rural and urban locations; Spanish-speaking participants were no more likely to live without a functional kitchen than English-speaking participants. Perhaps surprisingly, single-person households were no more likely to live without a functional kitchen than multi-individual households, although households with those aged 60 and over present were less likely to lack a kitchen than households without elderly.

4.4 Lack of Time

Lack of time as a barrier to healthy eating arose in multiple contexts in the interview. Interviewers did not ask participants directly whether they felt that lack of time was a barrier; rather, lack of time emerged as a theme in answers to several questions. Most notably, lack of time arose when discussing times and situations where participants' diets were less healthy, and in the choice of where to acquire food.

Generally, lack of time was felt as a barrier most for those who were employed and those with children. Complex schedules could make it difficult to find the time to cook or to acquire groceries. These are addressed below.

4.4.1 Lack of Time for Cooking

Many participants stated that lack of time to cook led to them eating less healthily. Nineteen participants (16% of the sample) spoke of having little time to cook; most of them were employed or in school and had complex schedules. Families with children were also more likely to cite lack of time to cook (12 of the participants who cited lack of time to cook had children), often as they coordinated school and activity schedules.

I would say probably at the end of a semester. Not the calendar year but semesters for school because I have a lot of projects that are going on for school that need to be done, as well as my children have projects at school that have to get done. My middle daughter's in a ton of honors classes. So the end of the semester brings on projects and things of that nature that have to be done. So during those times, it's pretty much just I eat whatever it is I can grab in between projects and getting things done as best I can.

Two participants further expressed the wish that they had more time both to cook and to plan meals; only three participants said they planned out meals for the week.

Because I don't eat it. And it just sometimes get repetitious doing it so much until you just get off of it and you'll go back to it and just say, "Okay, I just pull this out. Eat this quick. Get something quick to eat and keep going." Instead of sitting down and really planning it out.

Even when participants did find the time to cook, lack of time restricted the types of meals they chose to make; seven participants said they chose their meals based on how quick they were to prepare, recognizing that often this led to less healthy choices. In describing their cooking habits, 10 participants mentioned preparing frozen foods, and this often coincided with not having the time to cook.

I don't have to cook a meal. Just throw a pizza in there or something. That's the kind of fast food in there that I cook, quick food that they can just cook for their self instead of making—you keep making all them meals, you're gonna run out.

4.4.2 Lack of Time to Acquire Food

Lack of time also affected participants' ability to acquire food, in ways that could result in less healthy eating. Two participants mentioned wishing they could shop at farmer's markets but not having time to shop when the market was open. In urban areas, participants were more likely to talk about shopping at neighborhood stores with limited selection for the convenience; four of the eleven New York City participants talked about shopping locally for convenience. Distance to stores is discussed as an environmental barrier in Chapter 5, but it is important to understand that distance to stores and lack of time can intersect.

For participants who used food pantries (discussed in Chapter 7), limited pantry hours could significantly affect how often participants visited. For those participants, not being able to go to the food pantry often meant skipping meals. Again, those most affected by a lack of time were those who were employed and those with children.

I work in the day. I'm never able to get—I'm never, ever able to get to a church or a food pantry, because I work during the hours.

Finally, lack of time could affect how grocery runs were planned. As discussed in Chapter 5, 22 participants shopped for groceries only once a month. Reasons for this varied, with most citing the timing of receiving SNAP benefits, but for some, a lack of time to grocery shop was cited. For these

five participants, the combination of distance to grocery stores and schedules made it difficult to shop more often, resulting in buying fewer fresh foods and more convenience items with long shelf lives, such as heat-and-serve noodles.

5. Environmental Barriers

Environmental barriers are those that are more institutional, reflecting attributes of the community, rather than the result of individual knowledge and skills. Prior research has identified multiple environmental barriers to healthy eating, including a lack of availability of nutritious foods, a lack of transportation to acquire healthy food items, and the lack of affordable foods that are part of a healthy diet. In this chapter, these barriers are explored among the sample of SNAP participants.

Availability of Foods that are Part of a Healthy Diet

Previous research suggests that living in areas with better access to supermarkets and limited access to convenience stores contributes to healthier diets. Lower-income and minority households, as well as rural households, are less likely to have such access (Larson and colleagues 2009). However, initiatives to increase access to supermarkets have had mixed findings, with some initial evaluations finding no effect of the introduction of a supermarket on resident fruit or vegetable intake or body mass index (BMI) (Cummins, Flint, and Matthews 2014). Some research suggests that supermarkets on their own may not be a good measure of the accessibility of foods that are part of a healthy diet. For example, the presence of superstores, while providing access to fresh foods, is associated with the purchase of more shelf-stable, high-calorie items (Gustafson 2017).

Studies that examine urban and rural patterns of consumer behavior further suggest that factors other than just proximity to supermarkets and convenience stores affect grocery shopping behaviors and diets. The presence of SNAP retailers, which varies by neighborhood, also appears to influence access and shopping habits. Allard and Ruggles (2016) found that urban households are located closer to SNAP retailers and concentrations of SNAP retailers than suburban or rural households. Shannon (2014) found that mid-size grocers and corner stores accounted for 46 percent of the total SNAP redemptions in high-poverty, dense-urban core neighborhoods in the Twin Cities metro area despite the presence of supermarkets. Shannon suggested that shoppers might utilize small and mid-size grocers such as ethnic markets, discount grocers such as Aldi, and food cooperatives to access discounted produce or ethnic and other specialty products unavailable at mainstream grocers.

Transportation

Research shows that transportation, too, is a barrier for some individuals. Specifically, public transit or the lack thereof is an environmental barrier for low-income populations. Prior research has found that car ownership facilitates grocery shopping at preferred venues (Tach and Amorim 2015). Those without cars must rely on rides from their social networks or public transit to reach supermarkets in many areas (LeDoux and Vojnovic 2013). Low-income households are less likely to own cars and are more likely to have difficulties conducting their shopping (Hillier et al. 2011). Similarly, rural households are also less likely to be able to rely on rides from social networks and thus may have more difficulty with grocery shopping if they do not own their own vehicles (Smith and Morton 2009).

Lack of access to a personal vehicle or limited public transportation options influence not only where people shop, but also how often they shop and what they buy. In a qualitative study with low-income residents of three urban neighborhoods in Philadelphia, participants reported buying in bulk quantities when limited to once-a-month grocery shopping trips due to transportation barriers (Tach and Amorim 2015). For participants who utilized food delivery services to navigate around transportation barriers, minimum purchases and required fees further limited how often they shopped and what they could buy.

Affordability of Foods that are Part of a Healthy Diets

Research also suggests that cost, particularly of foods that are part of a healthy diet, is a significant barrier for low-income households. In 2016, a series of studies from a competitive grants program commissioned by the Economic Research Service (ERS) and the Food and Nutrition Service (FNS) used FoodAPS National Household Food Acquisition and Purchase Survey data to determine the effect of local food environment and food prices on food security. Overall, data indicate that local prices have a greater impact on food security than proximity to food retailers. One study found that while food insecurity is not related to the absence of supermarkets in high-poverty neighborhoods, the presence of high-cost supermarkets is linked to food insecurity with 13 percent of food insecure households living in high-poverty areas with higher than average supermarket prices (Downing and Laraia 2016). These findings echo the idea that healthy food choices tends to be more expensive and unhealthy food choices less expensive in low-income neighborhoods but not in suburban locations.

This may stem from supermarkets in low-income neighborhoods charging higher prices than those in nearby higher income neighborhoods (Monsivais and Drewnowski, 2007; Monsivais and Drewnowski, 2009; Drewnowski, 2010).

To be sure, SNAP participants often contend with more than one type of barrier to healthy eating. Accessibility to full-service grocery stores and affordability of products both influence unhealthy food purchases (Lin, Ver Ploeg, Kasteridis, and Yen 2014). The chapter details the multiple and overlapping environmental barriers that participants commonly faced, including limited access to retailers offering high-quality healthy options, lack of transportation, and high prices.

Summary

As with the findings for individual/household barriers, the findings for environmental barriers generally accord with previous research. No new substantive environmental barriers were discovered. Within the sample, a majority have access to foods that are part of a healthy diet; most shop at multiple grocery stores and report that they are satisfied with the choices available to them. A significantly larger group, almost a quarter of the sample, lacks access to a personal vehicle for grocery shopping, and those who lack this transportation report that it reduces their ability to shop as frequently as they like or shop where they would like. Finally, lack of affordable nutritious foods is the most common barrier reported among the sample, with one-third of the sample directly citing cost of foods that are part of a healthy diet as a barrier to eating healthy.

5.1 Lack of Availability of Foods that are Part of a Healthy Diet

Grocery store access was not perceived as a barrier by most participants, except those without a car (n= 29). Among study participants, a plurality (47 participants, or 39%) shopped at two grocery stores regularly; 30 participants (25%) shopped at three stores, and 19 participants (16%) shopped at four stores.

So I do shop at a lot of different places.

Okay, I shop at mostly [store] because of the pricing on their food. But then also there's other places that I go. I might go to [store] and pick something up. Or, even [store] because, I mean, there's certain places I do go because they have those certain items.

However, there were differences by respondent location. Those in rural areas were more likely to shop at 1 or 2 stores (15 participants, or 75% of rural participants) compared with urban participants (45 participants, or 44% of urban participants), and less likely to shop at 3 or 4 stores. There were no differences by language spoken.

Other differences by location also emerged regarding the frequency of shopping. Over the sample as a whole, a majority (65 participants or 54% of the sample) shopped either once a week or once every other week. But urban participants were significantly more likely to shop once a week than were rural participants (33% (n= 33) versus 15% (n= 3), respectively). Rural participants were significantly more likely than urban participants to shop only once a month (30% (n= 6) versus 16% (n= 16), respectively). This suggests that rural participants may have less access (as measured by frequency of shopping) to foods that are part of a healthy diet than do urban participants.

Participant Profile: Steve
Steve is a 38 year old, single white male, living in an urban area. He moved to the area recently and has been on SNAP for three months after losing his job. He faces two environmental barriers: lack of access to foods that are part of a healthy diet and affordability of foods for a healthy diet. Speaking about grocery shopping, he spoke about where he shops: "It tastes like dust, but it's food."

That said, rural participants interviewed did not perceive that they lacked access to grocery stores. None expressed a wish for more stores in their area. Rural participants were no more likely to say that they chose their grocery stores based on location than were urban participants (20% for rural participants (n= 4) versus 19% for urban participants (n= 19)). They were no more likely than urban participants to have to travel more than 30 minutes to reach their grocery stores. This could mean that the study did not reach the most rural residents (likely), or that grocery stores have spread into more rural locations (possible).

Participants generally felt they had access to grocery stores and that the stores they frequented had healthy offerings. In fact, only five participants stated that they would prefer to shop at a store with greater variety or more foods that are part of a healthy diet, indicating only a small group had a perception that they lacked access.

If I could shop at a place like [store] and get actual meat that's not almost expired, that would be nice.

5.2 Lack of Transportation

Lack of transportation was a more common barrier for participants. Although a plurality (57 participants, or 47%) had their own vehicle, and 35 had at least occasional access to a car, through friends and family, 29 participants, or almost a quarter of the sample, relied on the bus (14 participants), train (1 participant), bicycle (1 participant), or walking (13 participants) to complete their shopping. For these participants, lack of transportation was perceived as a barrier. Many cited the difficulty of managing heavy bags without a car, particularly if reliant on a bus.

[I]t's cumbersome on the buses to bring back a lot of groceries. I try to do—like I said, I don't really like shopping, so I want to try and get it out of the way at one time as opposed to having to go back and forth, back and forth every week. So there have been times when I've been overloaded.

And we have to carry the groceries, so we really can't get that much.

[I]t's a total disaster to try to carry that much stuff home on a bus with groceries.

Others spoke about how lacking a car limited what types of food they could purchase.

[T]o get the really fresh stuff, you have to travel out a little bit, and I don't have a car.

But if you buy anything fresh, you have to eat it immediately, and it's just really tricky not having the car I think.

Those who had access to a car but did not own one themselves also frequently faced some barrier, albeit not as severe as those without access to a car at all. Usually, those who relied on rides could not choose what stores to shop at or how frequently they did their grocery shopping. They expressed a desire to change their shopping habits if they had their own car.

It would change how often I shopped. I would shop more.

If I had access to a vehicle, I would buy food much more frequently and buy much less each time I went, I think. So I don't have to worry about it because it's such a pain going to the store and I don't want to — it's a major factor.

Definitely would change where and when I shop. Obviously the time of day would change for me. I would probably do more of my shopping in the morning. Everybody likes to go shopping after work. Obviously [friend] gets off work we go shopping we get caught up with everybody else. I would change the time of day I shopped and maybe even the frequency I shopped. I might start going to the grocery store twice a day or twice a week.

There were no differences in access to transportation by rural or urban location. Spanish speakers were more likely to lack transportation than English speakers, but it was difficult to separate

language from location, and a high proportion of Spanish-speakers were from New York City, which itself had a high percentage of those who lacked access to a car.

5.3 Lack of Affordable Foods that are Part of a Healthy Diet

The cost of foods that are part of a healthy diet was the most commonly perceived barrier to healthy eating across the sample. One-third of the sample directly identified the cost of foods that are part of a healthy diet as a barrier to them eating healthily. Cost also affected almost every decision related to choosing and acquiring and preparing meals. It affected how participants thought about their favorite foods, how they planned out what to eat, how they acquired food, and how they assessed their SNAP allotment. Even when they faced other barriers, cost was the barrier they thought of most frequently and most consistently as impeding healthy eating.

The cost of foods that are part of a healthy diet, like lack of time (Section 4.4), arose through discussion of multiple topics in the interview. Cost was a major driver of the choice of grocery stores. A majority, 73 participants (60% of the sample) stated that they chose which stores to shop at based on price.

[store is] the cheapest in bulk. [Store] sometimes they just have sales and then you can't beat them. And then [other store], you can buy bulk meat products and it's really good meat.

Well, they were inexpensive, and they had the gas points.

For the sales. The sales.

Because it's cheaper.

It really is all about price.

This is not to say that other factors did not matter as well; 23 participants mentioned choosing stores based on location and 25 based on selection (with some participants mentioning multiple reasons); but the most important factor was uniformly seen as cost.

Cost also affected what they chose to cook and how often they chose to cook rather than eat out, covered in Section 4.2. As mentioned in Section 4.2, individuals stated that they could not afford to eat out, and that food in restaurants was more expensive than food at home.

Can't afford that.

I can't afford to go sit down and eat out. It's expensive.

Finally, cost affected how they viewed their SNAP benefits. Participants felt that their SNAP benefits were not enough, because the price of food was high.

*When you need to buy meat it's really expensive. The stamps sometimes just go
Sometimes I need to adjust, depending on how much meat I buy, I need to adjust what I
buy and everything. This month I buy meat and a little fruit and vegetables, all that.
Next month I buy the condiments and other things I need.*

*The only thing I—it's the food keeps going up, it gets more expensive, and the food
stamps keep getting lower.*

*Everything, I just—prices have gone up. Yeah. I don't use fancy—we don't use fancy
foods.*

Forty participants directly cited the cost of foods that are part of a healthy diet as an impediment to their eating a healthier diet. Most commonly (n= 18), they cited the price of fresh fruits and vegetables.

*It's basically how expensive food is and healthy food. I just went to the store. It's way
expensive. To get some grapes or some tomatoes or something, it's way more pricy than to
get a six pack of ramen noodles.*

*And the fresh vegetables cost more than canned vegetables. To eat really healthy it cost
more.*

*The food is expensive nowadays. And I mean, I would like to spend more on the frozen
vegetables, but it's just sometimes out of sight.*

But prices of lean meats were also cited.

*Depending the week of the month if the food stamps just came sometimes we may get more
leaner meats, like ground beef, than the fattier ones because the fattier ones are cheaper.
That's towards the end of the month when it's running out.*

*In other words, for me healthy means vegetables, fruits and proteins. I really like fish, but
sometimes I think about it because salmon is very expensive [laughter]. Yes, that is
something for every 15 days, or once a month, at least, at least.*

*Well, like, eating without fat, eating vegetables, fish; things that yes, are expensive,
because vegetables are really expensive, and fish is really expensive. Everything that's
healthy is expensive, that's for the rich...No, because I can't buy the things that are
healthy.*

More broadly, processed foods—both those purchased at stores for home consumption and those eaten out—were seen as cheaper than healthier options.

Just kind of life circumstances and it makes no sense to me that it is terribly cheap to eat like crap. Eating at [fast food] every day is going to cost me \$5 today and I would eat every day \$5 a day but if I tried to go to [store] or some place that had good food and buy good food for a day, even just for myself, for \$5, not going to happen. It's going to be triple that or quadruple that or 10 times that depending on where you go.

Oh, just not processed. Not processed, not frozen. And I don't really think carbs are very healthy myself, like breads and pastas, I don't find necessary really. That's mostly what you can afford, is the cheapest, for some stupid reason in stores, you know?

This perception was the same whether participants lived in urban or rural areas, had children or elderly in the household, or spoke Spanish or English.

Cost as a barrier was the most universal barrier in the sample. It pervaded how participants spoke about food and healthy eating generally. When asked about their favorite foods, two participants stated that they could not afford to have favorite foods—they focused only on what was cheap.

Well, the truth is I don't really remember because we've stopped eating how we used to eat now for a little while. I can't actually say a favorite food.

Another six participants framed their favorites around their costs, essentially equating favorite as cheap.

What I cook is my foods. It's cheaper. There's a lot of meals you can cook with chicken. And chicken is the least expensive meat.

Ultimately, cost was the most commonly perceived barrier to healthy eating among participants. The next chapter examines associations between barriers and how barriers relate to food security and access to a healthy diet.

6. Association Between Individual, Household, and Environmental Barriers and Outcomes

Having detailed the barriers faced by interviewees, this chapter summarizes the prevalence of barriers within the sample and how barriers are associated with the outcomes of food security and access to a healthy diet. It is important to reiterate that the study sample is not representative and therefore the relationships revealed may not be nationally representative. However, examining the relative prevalences and associations between barriers may still illuminate and contextualize the struggles faced by those on SNAP. The previous chapters discussed how individuals, in their own words, perceived their ability to eat a healthy diet, and the associated barriers they encounter. In this chapter, the study team examines how these barriers come together in these individuals' lives.

6.1 Relative Frequencies of Barriers

First, it is helpful to identify the number of interviewees who face each barrier. Defining an interviewee as facing a barrier, however, is not always straightforward, particularly through qualitative data. The measures in the study are generally subjective and reflect individuals' perceptions of the factors that impact their ability to eat healthily. For some topics, the study team can only make a subjective determination of whether an individual circumstance constitutes a barrier for an interviewee. Definitions of what qualifies as facing a barrier are given along with prevalences below.

6.1.1 Prevalence of Individual/Household Barriers

The literature in the field identifies four possible individual/household barriers to healthy eating: lack of knowledge of healthy eating, lack of cooking skills, lack of kitchen equipment, and lack of time for both acquiring food and preparing meals. The open-ended interview questions and probes confirmed that these are the main individual barriers SNAP participants face and did not reveal any additional individual barriers.

The study team analyzed the interview responses to determine the prevalence of each of the five main individual-level barriers. The team identified individuals who lack knowledge of healthy eating

as those who, when asked to name healthy meals or elements of a healthy diet, identified notably foods that are not part of a healthy diet such as fried foods (9 participants). Also included are those who, when asked how they would like to change their diet, said they would like to learn more about eating healthy (5 participants). The team identified participants who lack cooking skills are those who said they did not know how to cook or were not comfortable cooking (8 participants). The team identified participants who lack kitchen equipment as those who did not have the basic elements of a full kitchen, including a stove, refrigerator, oven, or storage space (13 participants). Lack of time is identified two ways—those who stated that they did not eat healthily because they lacked time to cook comprised one group (18 participants), while those who stated that they lacked time to acquire food comprised another group (9 participants). These prevalence counts and percentages are presented in Table 6-1.

Table 6-1. Prevalence of individual/household barriers in the sample

Barrier: Lack of	Count^a	%	% Rural (n)	% Urban (n)	% Spanish- speaking (n)	% English- speaking (n)
Knowledge about Healthy Eating	14	12	30 (6)	8 (8)	21 (3)	10 (11)
Cooking Skills	8	7	0 (0)	8 (8)	14 (2)	6 (6)
Kitchen Equipment	13	11	10 (2)	11 (11)	21 (3)	9 (10)
Time to Cook	18	15	5 (1)	17 (17)	7 (1)	16 (17)
Time to Acquire Food	9	7	0 (0)	9 (9)	0 (0)	8 (9)

^a Total number interviewed = 121

Overall, no individual/household barrier is faced by a majority of the sample. Time to cook is the most commonly faced barrier across interviewees, with 18 participants saying they would eat more healthily if they had more time to cook.

6.1.2 Prevalence of Environmental Barriers

The conceptual model includes three environmental barriers—lack of availability of foods that are part of a healthy diet, lack of transportation, and lack of affordable foods that are part of a healthy diet. As in the case of individual barriers, the interviews confirmed these three barriers were issues for SNAP participants and did not reveal any additional barriers of substance. The study team identified participants who lacked availability of foods that are part of a healthy diet as those who stated that they would prefer to shop at another store than one they have access to (5 participants).

The team defined those who lack transportation as individuals who reported not having access to a vehicle to do their shopping, including those who use the bus, subway, train, walk, or bicycle (29 participants). Finally, the study team identified those who lack access to affordable foods to include those who stated they could not afford to eat a healthy diet (40 participants). These prevalence results are presented in Table 6-2.

Table 6-2. Prevalence of environmental barriers in the sample

Barrier: Lack of	Count^a	%	% Rural (n)	% Urban (n)	% Spanish- speaking (n)	% English- speaking (n)
Availability of Foods that are Part of a Healthy Diet	5	4.1	5 (1)	4 (4)	7 (1)	4 (4)
Transportation	29	24.0	25 (5)	24 (24)	29 (4)	23 (25)
Affordable Foods that are Part of a Healthy Diet	40	33.1	35 (7)	33 (33)	29 (4)	34 (36)

^aTotal number interviewed = 121

Again, no barrier was face by a majority of the sample, but lack of transportation and lack of affordable foods that are part of a healthy diet were more common than any individual barrier. One-third of the sample perceived a lack of affordable foods that are part of a healthy diet, and almost one-quarter had a lack of transportation to acquire foods that are part of a healthy diet. Divides by urban/rural and by language of interviewees were also less stark than for the individual barriers. Spanish-speaking participants were slightly more likely than English-speaking participants to face a lack of availability of foods that are part of a healthy diet and slightly more likely to face a lack of transportation, but differences were small. There were no meaningful differences in prevalence of environmental barriers in the sample by urban/rural.

6.2 Relationship Between Barriers and Outcomes

The existence of barriers may put SNAP participants at risk for food insecurity and makes it harder for them to access and eat a healthy diet. However, the existence of barriers does not necessarily preclude being food secure and achieving these nutrition objectives. This section examines the relationship between individual and environmental barriers and outcomes, specifically food insecurity and access to a healthy diet. As with analysis of the relationship between barriers, examining which barriers are associated with less food security and less access to a healthy diet help suggest areas of greater need for intervention. Populations who face more barriers and less food

security and/or less access to a healthy diet may need a greater intervention. Qualitative analysis helps highlight how barriers are perceived by those at greatest risk for hunger.

6.2.1 Food Security

As discussed in Chapter 2, food security is measured via the ERS 6-Item Food Security Module. Participants were categorized as either food secure, having low food security, or very low food security. Those receiving SNAP have been documented to be at higher risk of low and very low food security, most likely because those on SNAP have low incomes and lower income is positively associated with food insecurity (Anderson et al. 2014). Receipt of SNAP has also been shown to reduce food insecurity, compared with low-income households not receiving SNAP (Bitler 2016). Among interviewees in this study, 48 had very low food security (40% of the sample; total number is 119 as two participants declined to answer food security questions); 37 participants (31%) had low food security; and 34 participants (29%) were food secure. Participants in rural areas were more likely to have low or very low food security, while Spanish-speaking participants were more likely than English-speaking participants to have very low food security (and less likely to have low food security). These results are presented in Table 6-3.

Table 6-3. Food security status of participants

Food security status	Count ^a	%	% Rural (n)	% Urban (n)	% Spanish speaking (n)	% English speaking (n)
Food secure	34	29	15 (3)	31 (31)	28 (4)	28 (30)
Low food security	37	31	40 (8)	29 (29)	21 (3)	32 (34)
Very low food security	48	40	45 (9)	39 (39)	50 (7)	38 (41)

^a Total number = 119

Next, the prevalence of each barrier is crossed with food security. Food security and individual barriers is presented in Table 6-4.

Table 6-4. Food security status and individual barriers

Food security status	Barrier: Lack of				
	Knowledge about healthy eating	Cooking skills	Kitchen equipment	Time to cook	Time to acquire food
Food secure	4	1	4	2	0
Low food security	7	3	1	7	3
Very low food security	3	4	8	7	6

Food security status	Barrier: Lack of				
	Knowledge about healthy eating	Cooking skills	Kitchen equipment	Time to cook	Time to acquire food
Total	14	8	13	16	9

Note: Totals are taken from 119 participants who answered food security module. Participants may face more than one barrier.

As can be seen, those who face a particular individual barrier are more likely to have low or very low food security. The same can be seen with food security status and environmental barriers, presented in Table 6-5.

Table 6-5. Food security status and environmental barriers

Food security status	Barrier: Lack of		
	Availability of foods that are part of a healthy diet (count)	Transportation (count)	Affordability of foods that are part of a healthy diet (count)
Food secure	0	8	10
Low food security	2	10	11
Very low food security	3	10	18
Total	5	28	39

Note: Totals are taken from 119 participants who answered food security module. Participants may face more than one barrier.

Next, those without any barriers were compared with those facing one or more barriers, as shown in Table 6-6. The sample sizes were quite small and uneven; 38 faced no barriers, and 81 faced one or more barriers. Although not statistically robust, the patterns revealed in Table 6-6 are informative nevertheless. Those who did not face any barriers to healthy eating seemed to be less likely to have low or very low food security, and more likely to be food secure. Again, it is important not to draw too much from these qualitative findings alone, but these results suggest that those who face multiple barriers also appear to be those facing greater food insecurity. This association is further investigated using the survey data from the study that is documented in the survey report.

Table 6-6. Food security status by whether participant faced barrier to healthy eating

Food security status	No barriers		One or more barriers	
	Count ^a	%	Count ^b	%
Food Secure	15	39	19	23
Low food security	10	26	27	33
Very low food security	13	34	35	43

^aTotal number without barriers = 38

^bTotal number with barriers = 81

6.2.2 Access to a Healthy Diet

Barriers that complicate shopping and cooking, if severe enough, could ultimately deny SNAP participants access to a healthy diet. The goal is for SNAP participants, despite constraints, to be able to find and eat a healthy diet. Access to a healthy diet is not the same as consumption of a healthy diet. SNAP and associated programs can only guide individuals toward healthy choices and help reduce barriers, but ultimately the participant chooses what to consume.

Access to a healthy diet is measured by the participants' perceptions of their food purchases and the constraints on it. In Chapter 4, the study team reported that 20 participants characterized their diet as “healthy,” and another 58 participants characterized their diet as “pretty healthy.” For these 78 participants, access to a healthy diet was revealed through their behavior and belief that they are eating a healthy diet. That is, if the participant states they are eating a healthy diet, then they must have access to a healthy diet. Even though most of these individuals also report facing barriers, they are able to overcome them, likely through the use of coping strategies (detailed in the next chapter).⁹

Twenty-five participants characterized their current diet as unhealthy. Of these, four identified their poor diet as the result of their own choices; they choose not to eat healthily.

Now, should I eat more balanced meals? More healthy meals? Yes, I should, but I don't.

Well, because I tend to overindulge on my sweets, and overindulge on my meats.

We don't eat very healthy because we, more like, eat what we like.

We're not healthy eaters. I try to eat healthy, but I eat what I want.

These four are also characterized as having access to a healthy diet, even if they choose not to consume it.

The 21 remaining participants did not have access to a healthy diet. These individuals perceived that they lack access to a healthy diet, do not eat a healthy diet, and attribute this to some factor outside their own choice. The sample sizes are quite small (21 participants with a lack of access and 82 who do have access), making it difficult to infer much from the findings. Looking at percentages of those with and without access and the prevalence of barriers, the findings suggest that those with a lack of

⁹ Seventeen participants did not characterize their diet. They were omitted from this analysis.

access are more likely to face individual barriers (Table 6-7). However, while those with a lack of access are more likely to face an affordability barrier, they do not seem to be more likely to face an availability or a transportation barrier (Table 6-8). Again, the sample sizes preclude drawing strong conclusions.

Table 6-7. Access to a healthy diet and individual barriers

Access to a healthy diet	Barrier: Lack of				
	Knowledge about healthy eating (%)	Cooking skills (%)	Kitchen equipment (%)	Time to cook (%)	Time to acquire food (%)
Access	11	4	7	10	5
Limited access	14	5	14	33	19

Table 6-8. Access to a healthy diet and environmental barriers

Access to a healthy diet	Barrier: Lack of		
	Availability of foods that are part of a healthy diet (%)	Transportation (%)	Affordability of foods that are part of a healthy diet (%)
Access	5	21	29
Limited access	5	14	48

Turning to number of barriers faced, the results accord with those seen in Section 6.3.1. Those who perceived that they lack access to a healthy diet were more likely to face one or more barriers than those who had access. Table 6-9 presents these results.

Table 6-9. Perceived access to a healthy diet by whether participant faced barrier to healthy eating

	No barriers		One or more barriers	
	Count ^a	%	Count ^b	%
Access	32	39	50	61
Limited access	5	24	16	76

^a Total number with access = 82

^b Total number with lack of access = 21

As with food security status, the pattern suggests that those who face one or more barriers may have the lowest access to a healthy diet. In the next chapter, the coping strategies that participants use to try to address the barriers they face, successful or not, are presented.

7. Coping Strategies

This section explores how SNAP participants mitigate food insecurity and attempt to overcome individual and environmental barriers to acquire, store, and prepare healthy meals. Participants used multiple strategies to overcome barriers, including relying on others in their social network for help with meals, obtaining free food from community food pantries and other providers, and finding creative ways to make their limited budgets stretch, both at the store and in the kitchen.

While the focus of this chapter is on common strategies implemented by participants, it also calls attention to the circumstances of participants who do not have access to particular types of coping mechanisms and possible reasons why participants may not utilize available resources.

Findings from this study largely confirm conclusions yielded from the small but growing field of research on coping strategies among the food insecure. Researchers have identified both proactive strategies—those used to avoid food insecurity—and reactive strategies—those used to cope with food insecurity once present (Edin et al. 2013). In particular, three strategies have commonly emerged—stretching the food budget (proactive strategy), using food pantries (reactive strategy), and using social supports (reactive strategy) (Edin et al. 2013; Darko et al. 2013; Vericker and Mills 2012). The next sections summarize the research on each of these approaches and then discuss interview findings on coping strategies. The study team also details some less-common coping strategies, which provide information and context on the many and creative ways that participants try to eat a healthy diet despite constraints.

Stretching the Food Budget

Stretching the food budget is one of several coping strategies identified as “proactive” by Edin et al. (2013) in a qualitative study of food secure and food insecure SNAP participants. There are several methods of stretching the food budget, including looking for sales, shopping multiple stores to maximize bargains, and planning meals around sales (Edin et al. 2013). Alkon et al. (2013), in their study of low-income residents in Oakland and Chicago, found that residents often traveled outside of their neighborhoods to shop at supermarkets perceived as having better prices, shopped at chain

and discount stores, and used significant pre-planning to buy specific products at different stores according to sales; Wiig and Smith (2009) and Darko, Eggett, and Richards (2013) found similar results in other areas. SNAP participants look for bargains in multiple ways; Chang, Kim, and Chatterjee (2016) discovered that SNAP participants are more likely to use loyalty programs or other store savings.

Other ways of stretching the food budget include changing what foods are purchased and stored. Edin et al. (2013) reported SNAP participants buying food in bulk and storing it for future need, as well as using so-called “filler” foods like beans and rice to pad out meals when other foods are unavailable. These strategies enable those facing food insecurity to maximize small food budgets and avoid hunger.

Charitable Food Assistance

Several studies have found that low-income families mitigate food insecurity by using charitable food assistance (Darko et al. 2013). Using food pantries and food banks is primarily a reactive strategy for managing food insecurity, but it can also be a proactive strategy as households plan to use pantries in anticipation of food budget shortfalls. Sharpe and coauthors (2018) surveyed African American households in South Carolina and found that food insecure households were more likely to seek food assistance from churches or social services, food pantries, social networks, soup kitchens or shelters, and community, school, or church gardens than food secure households. In a report commissioned by Feeding America, a hunger-relief organization supporting a network of food banks across the nation, a team of researchers found that 63 percent of households include charitable food assistance when planning their monthly household budgets (Weinfield et al. 2014). However, many households who face food insecurity do not use charitable assistance, for several reasons. Fong, Wright, and Wimer (2016), in their study of low-income “non-users” of food pantries in San Francisco, found that participants felt that pantries were reserved for needier clientele. As such, participants who could qualify for food assistance avoided seeking further information about food pantries and ultimately did not use them as a coping strategy.

Social Support

Finally, another important coping strategy identified in the literature was use of social support. As with charitable food assistance, social support can be both reactive, as households seek out support when facing food insecurity, or proactive, as social support is used to avoid food insecurity, but most researchers have approached social support as a primarily reactive strategy (Martin, Rogers, Cook, & Joseph 2004; Dean & Sharkey 2011; Vericker & Mills 2012). Researchers have found that households with greater social support—measured in various ways including number of ties in a community—are more adept at mitigating food insecurity (Martin, Rogers, Cook, & Joseph 2004; Dean & Sharkey 2011). Measuring social capital as households’ perceived sense of social trust and community reciprocity, Martin, Rogers, Cook, and Joseph (2004) found that reciprocity among neighbors contributes to food security. Similarly, in a survey administered to low-income households, Dean and Sharkey (2011) found that participants with low social capital were more likely to experience food insecurity. When examining the likelihood of food insecurity among children in low-income households, Vericker and Mills (2012) also found an increased risk of food insecurity for children whose parents have little social support.

Taken together, these studies indicate that low-income households engage in various strategies to make their food budgets stretch throughout the month. Determining causality between coping strategies and food insecurity or nutrition intake is more complex, however. Due to a non-representative sample for this qualitative report, causation should not be inferred between the type of barriers encountered and coping strategies used, nor type of coping strategies and food security status. Rather, the narratives in this chapter provide information on how participants respond to the challenges they face.

7.1 Stretching the Food Budget

In nearly every interview conducted for this study, participants shared one or more techniques used to make limited food budgets stretch throughout the benefit month. The most common of these techniques was looking for sales, planning meals, and maximizing the products purchased.

7.1.1 Looking for Sales

About one-third of the sample described perusing sale information prior to shopping for food. Twenty-two participants shared that they browsed store circulars and newspaper advertisements, and eleven participants described looking at store websites or using other online sites to view circulars, check for deals, or compare prices. In addition to browsing store circulars, eight participants shared that phone “apps” facilitated their planning and money-saving efforts. English-speaking participants were no more or less likely than Spanish-speaking respondents to report looking for sales; similarly, both urban and rural participants reported looking for sales at comparable rates.

Because sometimes they'll have 10 for 10 and I'll get the phone and look through it and see who have the sale. And then I can find myself buying a lot for my SNAP benefit. I go where I can save.

Soon as you walk in the store, there's a paper that let you know what's on sale. And you'll see the sign two [inaudible] buy one, get one free. Things like that.

I have apps on my phone for the different grocery stores. And there is a couple ones that help with—you upload your receipt that you spend for groceries and then it helps you see where there are better prices.

Participants also described clipping coupons as a way to make their food dollars stretch at the store. Specifically, 44 participants mentioned using coupons as one of their strategies (36.6% of the sample). While most clipped coupons from newspapers, several participants received coupons from other people in their social networks.

[The newspaper] comes twice a week and there I can usually find coupons and then sometimes my neighbors pick them up, my children go by and ask for them from the neighbors and they give it to them.

I clean houses. So this lady, she has a lot of newspapers, so I always get them from her, coupons from her newspapers and stuff. I sign up online to get coupons, and I do Walgreen's, they have the little booklets. So if I'm in a store and I want something really bad, and it's expensive, I'll look it up on my phone right there and see if it's a coupon. I know they hate me at the checkout line, but it's money.

While only four participants discussed using a store loyalty card to reap savings, two of these described using their card in conjunction with coupons. The participants praised the ability to clip “digital coupons” to their cards to minimize the hassle of clipping paper copies:

Well, I actually got a card discount at all of them so all of them send me discounts in the mail, their emails and stuff, and I just put that on my card. Yeah, I can — sometimes they’ll let me clip coupons onto my card and by the time I get there I just switch my card and it takes the deals off.

Those who chose not to use coupons cited the idea that coupons would not provide enough savings to justify the effort, particularly for single-person households.

I used to do the coupons, but it’s like it’s not saving you nothing. You got to buy probably two for a dollar off, or—it don’t make no sense when it’s just me at the house.

I don’t have a huge family, so extreme couponing would actually be a practice in futility for me. If I were to get 19,000 boxes of macaroni and cheese, there’s no way I’d eat it all.

7.1.2 Planning

Eight participants specified that they planned extensive grocery lists prior to shopping trips. Lists were constructed from looking at sales and determining which products to acquire at each store or taking an inventory of needs and structuring a list based on spending allowance.

We make grocery lists, and we limit ourself to how many we’re going to spend in a store. We know we’re only going to spend \$90 or \$50 this time. We do a lot of budgeting.

When we do our once a week grocery trip, we have a sheet where we pretty much say what’s going to be made every day. And that helps us to stay on budget and on track with what’s being made during the week.

Six participants described written lists as unnecessary because they tend to purchase the same items every month. Although they occasionally break tradition for sales, these participants have routine purchases that allow them to anticipate how much they will spend during each shopping trip; essentially, they plan once and then continue to implement the same plan weekly.

Budgeting SNAP allotments to use throughout the benefit month emerged as a theme across the price-comparing, menu-planning, and list-making narratives. When asked how to make their allotments and other income for food stretch throughout the month, many participants explained that they would budget for more than one shopping trip rather than spend the entire amount in one

visit. For at least seventeen participants, budgeting played an important role in planning for the month and determining where to shop and what to buy.

I have to do a budget. Yes, I usually divide it up by weeks because I usually shop weekly. Vegetables, fruit, so I, more or less, say that's 200 plus. I figure, more or less, between \$60 or \$70 a week. And then whatever extra I need—because there are things that I don't always buy, as I told you.

7.1.3 Maximizing Purchases

Finally, participants exercised various strategies while at the store to make their budgets stretch, including looking out for sales and specials and buying in bulk to achieve savings. Twenty-six participants (just over 20% of the sample) described looking for bargains while at the store. Some participants cited picking up circulars on display at the front of the store (9 participants), while others (17 participants) monitored signs and stickers on the store shelves or looked for discount bins or markdowns (9 participants).

You know when they have the two-for-one, or sales, big sale sign, you know. Yeah. Or a coupon they'll give you at the checkout for next time.

I was shopping, and I was looking at dates on cottage cheese or something. And a guy goes, "Oh, oh, we probably got some later dates over here." And I went, "Oh, no, I want the older dates. I want the mark-downs."

In addition to markdowns, many participants also looked for bulk items to save money. Twenty participants believed buying in bulk contributed to significant cost savings. Buying in bulk often involved receiving deals for purchasing larger quantities of non-perishable items or “filler” foods:

Well, a lot of times you might have to—like at [store], you got to do five for five, and you get \$1 off on each one. So if it was 3.99, you can get them for 2.99 apiece. So that's what I do. And a lot of times when I go, I might be caught up on this or that from other bulk purchases, so I won't have to buy that on the next run.

Over 10 percent of the sample described purchasing items that they could use as “filler foods” to bolster the size of meals. Families and individuals exercised this technique to feed more household members or to guarantee leftovers for future meals. Spanish and English-speaking participants reported using filler foods at similar rates, as did urban and rural participants.

I try to cook with a lot of cheaper base stuff. So eggs are pretty cheap and beans are pretty cheap. So just filler stuff like that.

We have conversation about how to add beans to a meal to fill it in some. We were talking about rice or things that could still be good and healthy additives to your food, but help stretch food more, which I think then carries over into the budget process if we're able to get more out of what we're eating at any given meal.

Although not always associated with a special, participants also described stockpiling non-perishable items to have on hand in case their food budget was depleted by the end of the month.

But honestly just like pasta, rice and beans, nonperishables that are really cheap that if it gets to that point we have a bunch of food that we can eat. It's not the best food but making sure we have those nonperishables is important.

In addition to non-perishable items, participants also described buying meats in larger quantities or at wholesale to freeze and thaw as necessary, similar to what was reported by Edin et al. (2013):

For me, it's about planning ahead and knowing that it gets short at the end. So in the beginning of that month, I'm looking for deals on meat specifically, and I will spend my money very carefully on stocking up on chicken breasts, ground beef, maybe some pork or something. And then I just put it in the freezer and just take it out as I need it so that way, I can hopefully stretch it out to the end of the month.

While geographic location of respondent and household composition did not appear to directly influence utilization of this coping technique, participants remarked that storage space available and transportation affect whether they can capitalize on large-quantity buying. When asked what strategies others might use to make their budgets stretch, one respondent explained that a lack of transportation precludes her from buying in bulk:

That would be buying stuff in bulk and separating it, like meat and stuff and putting it back. But like I said, that's not real practical—and separating it and freezing it separately. Right. Yeah. Same way with vegetables, stuff like that. But it's just not real practical considering transportation, right.

Lack of storage space for nonperishables or freezer space for meats were other reasons cited by participants who felt they could not use this strategy:

I mean, yeah, it'd be great if I could buy things in bulk and save them forever but my freezer's about that big. It works most of the time.

And I told you that my refrigerator went out and I lost a lot of food there. And then when they replaced, temporary, it was one of those half refrigerators—and I said to myself, "I can't do this," because I go grocery shopping once a month, and that freezer is this big. And I couldn't do it.

7.2 Charitable Food Assistance

Beyond careful budgeting and stretching meals, nearly half the sample (57 participants; 47%) reported utilizing food pantries to supplement their SNAP benefits. Of the fifty-seven participants who discussed using food pantries as a coping strategy to mitigate food insecurity, 46 utilized food pantries on a regular basis while 11 other participants described visiting food pantries occasionally.

Factors shaping frequency of attendance among consistent food pantry consumers included restrictions on usage and whether participants had access to more than one food pantry. Number of visits per benefit month varied from as often as needed to every three months among participants who used food pantries on a consistent basis, with food pantry distribution rules largely influencing visit frequency. Many participants described food pantries restricting consumers to one visit per month. To navigate around limitations on usage, many participants described planning their monthly visit to coincide with the end of the benefit month—a time they anticipated being short on food.

You can go once a month and they really do have – it's like a [store name] and [store name] donated stuff.

Go to multiple food banks. Some of them are extremely nice, and they give you so much if they can. And then I have a few that aren't so nice. Go about once a month...that's all they let you here.

We always know our food stamps last about three weeks and that last week we go to the food bank if we need to. That's what it's there for.

Fewer restrictions on use and various options accessible to participants (including more days and longer hours in which the food pantry was open, more centrally-located pantries, and pantries that allowed more frequent visits) seemed to encourage participation for participants. Several participants in areas with more pantries and fewer restrictions on pantries described weekly visits to church-affiliated programs, including both pantries and soup kitchens.

We do participate on occasions to this nonprofit organization that could also be seen as a food bank called [program name]. They are open every day, and if you just go there and pick out things that you may necessarily need that they have in stock at the time. So that is probably one of our go-to sources if things get kind of low.

I utilize all the ones that I know, the food pantries. I have [name] right up the street. I have two churches that's in walking distance. There's [name] and there's [name]. I really do not feel that anybody that lives in [city] will ever go hungry because it's plenty of food being given away.

Finally, for those with transportation barriers, food pantry programs that allow proxies to pick up food packages or that deliver food packages to local residents may also encourage participation. Two participants described family members or friends bringing them boxes of food from the local food bank. While relying on others to secure food from a food pantry may not be possible in more restrictive programs that require user cards and other forms of identification, for these participants, it offered a convenient way to utilize food assistance programs. Food package deliveries, like those cited by two participants, may also help reach more consumers.

Nearly one-quarter of the sample described actively avoiding food pantries. The same factors shaping frequency and reasons to utilize food pantries among consistent consumers also led some participants to avoid food pantries altogether. Four participants cited restrictions on the frequency of visits or who could use the pantry. Thirteen participants cited accessibility; as with shopping at grocery stores, those without transportation found it more difficult to access and use food pantries. Ten participants cited the perceived quality of the food available as a reason not to use the pantry.

Sometimes at the Food Bank the food is spoiled. I went and they gave me a watermelon and I said: “How great”, and when I opened it, it was fermented. I don’t know if they heat the food or what happened, but when it’s fresh food, it spoils that way.

Yeah, because most of it is expired. I’m not gonna eat or feed my kids expired food. Some of it was opened. They taped it. I’m like I’m not doing that. Then some of the meat they gave you looked really suspicious. It was like they opened it and repackaged it in some kind of plastic, so you don’t even know what it is.

These participants suspected that the food pantry received outdated products cast aside by grocery stores. They also suggested staff negligence in monitoring the quality of products available for consumption. Other participants chose to forego food pantry assistance because they felt that food pantries stocked unappealing or unhealthy food items that failed to meet their needs.

And I don’t really care to go there because it’s all processed, canned food and stuff.

Finally, the last reason given for not using food pantries was that the participants were not needy enough—that others in the community needed it more. Nine participants believed that their attendance would indirectly take resources away from others in greater need of food assistance. Ten additional participants shared that they do not need emergency food assistance, partly because they have other income and resources to utilize. Several participants stated that they would only consider using food pantries as a last resort.

I mean, I guess, like I said before, my pride. I don't like—normally when I run out of food or I'm getting close to running out of food I end up being able to find a way to get some food whereas a lot of people who go to the food pantry don't have anything, you know what I mean? They don't have anybody. And I would hate to be the one to take away from somebody who may possibly truly need it a little bit more than I do and I can find some type of way.

This respondent prioritized their social network as a coping strategy before seeking assistance from a food pantry. They recognized that others might not be fortunate to have the same levels of social support.

7.3 Social Support

To understand how social networks might relate to food security, participants engaged in an exercise to estimate the amount and frequency of providing assistance to others and receiving help from others. Interviewers asked participants to conceptualize “help” as providing and receiving meals, groceries, or money for food.

Eighty participants (66% of the sample) provided nearly 120 examples of help given to others, ranging from regularly providing food for family members (both household and non-household) to sharing occasional dishes with friends at potluck events. Of those who reported helping others, 27 participants (22% of the sample) shared that helping others complicates already tenuous circumstances.

Puts a strain on me. I just cut myself from it. I limit myself but keep sharing with them because they're worse than me. It does put a strain on my budget for that month because I know at the end of the month that I'm going to have to dish out cash for food for myself.

Just over half of the sample (66 participants; 54.5%) described receiving some form of help from family or friends, though the type and frequency of help varied by type of relationship. Urban participants were more likely than rural participants to receive help (57% (n= 58) versus 40% (n= 8)), while English-speaking participants were more likely to receive help than Spanish-speaking participants (57% (n= 61) versus 29% (n= 4)).

Although slightly more participants described giving help than receiving help, the remainder of this section focuses on the types and experiences of help received by participants using social support as a coping strategy and the reasons some participants might hesitate or refuse to ask for help.

7.3.1 Help from Family and Friends

Participants more frequently discussed help received from family members and unmarried partners (49 participants) than from friends, neighbors, or caregivers (13 participants). Of those who described help received from family, thirteen (13) participants shared that family members or partners provided help with meals, groceries, or money for food on a regular basis—ranging from daily to weekly assistance. Consistent assistance usually took the form of cooked meals and/or groceries.

Well, I don't ask for no grocery money. But if they come, they go to the store. They'll bring something I like, like juice and stuff. They'll bring it to me and stuff like that.

Family. Like they'll do dinners, and I'll go over there to help with that and people letting me borrow money lately for food, family.

Like I say, her mother always cooked but it was more when we were hurting. She never told her but she was always bringing food. Of course if she had, her mother would have helped us out.

Despite expressions of generosity by the participants' families, many participants indicated that they would rather try other available strategies than to rely on others.

Well, my last resort is maybe my mother who lives four hours away. And I don't like to ask her. I'm 50 years old. I really don't want to have to ask her or depend what she [inaudible] as a last resort.

Twenty participants received assistance from friends, roommates, or neighbors. While there were no clear differences in social network utilization across interviews by urbanicity, all participants who identified receiving help from friends classified their marital status as single, unmarried, divorced, or widowed. Just three participants described weekly or more frequent assistance; most assistance occurred on a monthly or sporadic basis. Notably, participants described assistance from friends in the forms of home-cooked meals, treating at restaurants or fast food meals, and occasional help with transportation to the grocery store or buying a requested item while the friend was at the store.

Sometimes when my neighbor cooks, the one right here, she passes over a plate of food, you know, like as a Latino thing, or a neighborly thing.

Oh, wait, my neighbor. She'll cook sometimes. Yeah. Right next door.

Yeah. I'd have to say [roommate] helps out a lot on that. Because I have transportation issues, so definitely she's a big help with that.

No participants described asking friends for money directly, and several participants added that they often reciprocated buying meals or groceries when they could. To further minimize feelings of burden, participants described receiving unwanted items from friends and neighbors that would go to waste otherwise.

There are people in the building that I interact with that provide me with food that they don't want. For instance, there's a friend who—there's another tenant in the building who's diabetic, and he doesn't eat fruit. I don't quite understand that, but he gives away all of his fruit, which I love.

7.3.2. Difficulty Asking for Help

Despite strategies to mitigate feelings of burden, nearly one-quarter of the sample answered that they found it difficult to ask for help. The few participants who expressed that it was not difficult to ask for help highlighted supportive familial bonds or reciprocal relationships. Others used language such as “I swallowed my pride” and rationalized that they had to do anything possible to eat and provide for their families. One respondent noted succinctly, “*A closed mouth won't get fed.*”

The majority of participants expressed that difficulty asking for help stemmed from pride or stigma. Experiencing financial crises through unemployment or rising costs of living troubled participants and having to seek help triggered embarrassment.

I used to be in the financial industry, and obviously, made tons of money...so it was horrible...I mean, when you make that kind of money for that many years, which was like 20 years, you just don't think it's ever going to go away...It was very difficult for me to actually seek help because I had never seeked help before, ever, in my whole life.

Yeah kind of. I feel like people expect—obviously, food is something that you need—you know what I mean? A normal need, so everybody figures you should just have the money for food. But especially with the rent...it's only getting worse. We pay so much for even this little place that we're in that it gets really hard, and then you feel kind of embarrassed to really ask people.

Others worried about asking for help because they feared it would be an imposition, especially on those who might be living in equally challenging circumstances. For this reason, one respondent explained that turning to their social network was a last resort to pursue only after utilizing other types of food assistance:

The churches, it's pretty easy to do; but if we were to ask anyone else, it would probably be a little difficult because they're pretty much working in the same situation we are, going week-by-week or month-by-month trying to manage their food.

7.4 Less Common Coping Strategies

The strategies discussed above represent the most common methods detailed by participants to try to eat a healthy diet despite barriers and constraints. Many participants also described other strategies, which may not be as common but show the wide range of strategies employed.

Five participants described supplementing meals with produce harvested from their gardens (or a family member's garden) – a strategy that might be more amenable to residents of suburban and rural locations with available land to use for gardening. One participant cultivated a lush garden on her partner's balcony, but reminisced about the days when she had more space at her house and access to a local community garden:

I used to have a garden. We had a house. We used to have a garden and stuff and grew extra stuff. Yeah. I have some kale that's going to be coming up now. I just planted. The seed's going to come up. Yeah. I used to do a community garden. Yes. It's a lot of—if I could, I'll dig some rows and have some stuff growing here, but it's this people's renter. But yeah, it's easy to really—but long as you have the money. And the library give away free seeds.

Another participant explained that in addition to gardening, he also saved money by baking bread from scratch:

Well, gardening and growing as much as we can. And kind of I guess in our opinion, I guess even like baking bread, it's cheaper to get that bread and it's healthier than if we would try to buy as—well, especially if we try to buy the equivalent bread that would be like \$5 a loaf. But even the cheapest bread is still more expensive than when you bake your own. And then a lot of fermented things and made products like salsa, we're pretty much were making salsa instead of buying a salsa usually because it's usually cheaper.

Five participants tried to manage their food budget by prioritization at check-out. They would shop for what they needed, then place what they considered their most important items first on the conveyor belt at check-out. Once they reached their spending limit, they would cease adding other items:

I just buy mainly what I need. I have a tendency of getting to the front of the line and if I don't-- I feel like I don't need it I start putting the most important things in the front and then the least ones in the back. So I leave what I really don't need. I think about it a lot.

If I get my meats, everything else will fall in place. Like on the register, I put all my meats up front first so I don't have enough—I put that on first. I'll get this later. I can get this.

Finally, one participant talked about getting creative with what food she had:

Another way I save is to look in my refrigerator before I go and then I put the new things I buy toward the back, and what is getting old I put up front, because sometimes you forget you have something there. My mother always told me that, “money escapes in the fridge,” she taught me.

Again, these are not common strategies, but they provide context for how participants find ways of eating a healthy diet.

7.5 Multiple Barriers and Coping Strategies

The individual/household and environmental barriers participants faced along with social support, and the available resources, influenced the utilization of coping strategies. Participants struggling with multiple individual and environmental barriers may find certain coping strategies out of reach (Chang et al. 2016). As discussed in the previous chapters, time pressures and lack of transportation create obstacles to shopping more frequently. As such, participants may limit their shopping trips and spend most or all of their allotment during that one trip. One Spanish-speaking mother of three with very low food insecurity shared that driving violations and registration problems rendered her partner’s personal car undriveable, so she no longer makes a list nor budgets for multiple shopping trips:

No. I used to make a list but even the list sometimes—I couldn’t buy what was on the list because, realistically, when I go to the store, the prices are what they are. I have to accept what’s happening. So no. Now I just go with the mentality that it’s going to last me all month. It’s always this mentality, “What can I buy today, that even if I don’t have food tomorrow, I’m will have this food?” That’s how I have to look at it. And it’s always rice and beans. Ramen soup. Lots of ramen soup.

Because she must limit her trips, this respondent relies largely on non-perishable foods that will last throughout the month. She explains that her diet also suffers because of this:

Talking about healthy foods that I use at home, they often can’t really be bought with stamps, especially if there’s really no money. You can buy them with stamps, but I have to think about things that aren’t so expensive.

Just as multiple environmental barriers affect coping strategies, so do individual barriers. One urban respondent with very low food security lives in a household that has a community kitchen. Besides occasional sharing with a roommate or friends who come over to visit, she does not have a regular social network on which to rely, though she says it is more common for her to be helped than to

help others. She buys prepared foods that will last a few days when her SNAP benefits run out because she avoids using the shared kitchen and the only available appliance in her apartment is her microwave. Because she lacks kitchen storage space, she avoids buying large quantities of groceries. Moreover, she is unsure why she has not visited a local soup kitchen and she does not mention using food pantries because storage is likely an issue. When asked how she makes her budget stretch, she answers:

I don't. I just roll with it every day, so if I run out of money, I'll just—actually, I've panhandled before. Asked people for money. So just like I said, I try not to worry about it. It's hard for me to keep concentrated on one thing, so it's kind of extra—I try to keep a routine, but it's really—it's hard to do. So I just kind of eat when I can eat, and then don't when I don't. Or I guess I maybe go ask somebody.

Because participants often employed more than one financial management strategy, e.g., checking out the store circular beforehand and perusing the manager's special bin at the store, there were no clear associations between one particular type of strategy and food insecurity or differences in prevalence across region or by urban/rural residence.

References

- Adams, J., & White, M. (2015). Prevalence and socio-demographic correlates of time spent cooking by adults in the 2005 UK time use survey. Cross-sectional analysis. *Appetite*, 92, 185-191.
- Alkon, A. H., Block, D., Moore, K., Gillis, C., DeNuccio, N., & Chavez, N. (2013). Foodways of the urban poor. *Geoforum*, 48, 126-135. <https://doi.org/10.1016/j.geoforum.2013.04.021>
- Allard, S., & Ruggles, P. (2017). *The spatial context of food shopping: Understanding how local food retailer access and pricing affect household behavior*. University of Kentucky Center for Poverty Research Discussion Paper Series, DP2017-06. Retrieved from <http://www.ukcpr.org/research/discussion-papers>
- APCO Insight. (2012). *It's dinnertime: A report on low-income families' efforts to plan, shop for and cook healthy meals* (Report for Share our Strength's Cooking Matters No Kid Hungry funded by ConAgra Foods Foundation). Retrieved from <http://cookingmatters.org/sites/default/files/pdf/ITSDINNERTIME-report.pdf>
- Bowling, A. B., Moretti, M., Ringelheim, K., Tran, A., & Davison, K. (2016). Healthy foods, healthy families: Combining incentives and exposure interventions at urban farmers' markets to improve nutrition among recipients of US federal food assistance. *Health Promotion Perspectives*, 6(1), 10.
- Buck-McFadyen, E. V. (2015). Rural food insecurity: When cooking skills, homegrown food, and perseverance aren't enough to feed a family. *Canadian Journal of Public Health*, 106(3), e140-e146.
- Caraher, M., Dixon, P., Lang, T., & Carr-Hill, R. (1998). Access to healthy foods: part I. Barriers to accessing healthy foods: differentials by gender, social class, income and mode of transport. *Health Education Journal*, 57(3), 191-201.
- Carlson, A., & Frazão, E. (2012). Are healthy foods really more expensive? It depends on how you measure the price. It Depends on How You Measure the Price (May 1, 2012). USDA-ERS Economic Information Bulletin, (96).
- Chang, Y., & Kim, J., & Chatterjee, S. (2016). The effect of food price on food insecurity and diet quality: Exploring potential moderating roles of SNAP and consumer competency. University of Kentucky Center for Poverty Research Discussion Paper Series, DP2016-06. Retrieved from <http://www.ukcpr.org/research/discussion-papers>
- Celnik, D., Gillespie, L., & Lean, M. E. J. (2012). Time-scarcity, ready-meals, ill-health and the obesity epidemic. *Trends in Food Science & Technology*, 27(1), 4-11.
- Cohen, P. N. (1998). Replacing housework in the service economy: Gender, class, and race-ethnicity in service spending. *Gender & Society*, 12(2), 219-231.

- Cronquist, K., & Lauffer, S. (2019). Characteristics of supplemental nutrition assistance program households: Fiscal year 2017 (No. 9ceac00f7e0f49ef85d3cc7ebfd2496b). Mathematica Policy Research.
- Cummins, S., Flint, E., & Matthews, S. A. (2014). New neighborhood grocery store increased awareness of food access but did not alter dietary habits or obesity. *Health Affairs (Project Hope)*, 33(2), 283-291. <https://doi.org/10.1377/hlthaff.2013.0512>
- Darko, J., Eggett, D. L., & Richards, R. (2013). Shopping behaviors of low-income families during a 1-month period of time. *Journal of Nutrition Education and Behavior*, 45(1), 20-29. <https://doi.org/10.1016/j.jneb.2012.05.016>
- Dean, W. R., & Sharkey, J. R. (2011). Food insecurity, social capital and perceived personal disparity in a predominantly rural region of Texas: An individual-level analysis. *Social Science & Medicine*, 72(9), 1454-1462. <https://doi.org/10.1016/j.socscimed.2011.03.015>
- Downing, J., & Laraia, B. (2016). *Supermarket proximity and price: Food insecurity and obesity in the United States*. University of Kentucky Center for Poverty Research Discussion Paper Series, DP2016-05. Retrieved from <http://www.ukcpr.org/research/discussion-papers>
- Dressler, H., & Smith, C. (2013). Food choice, eating behavior, and food liking differs between lean/normal and overweight/obese, low-income women. *Appetite*, 65, 145-152.
- Drewnowski, A. (2010). The Nutrient Rich Foods Index helps to identify healthy, affordable foods. *American Journal of Clinical Nutrition* 91(4): 1095S-1101S. <https://doi.org/10.3945/ajcn.2010.28450D>
- Edin, K., Boyd, M., Mabli, J., Ohls, J., Worthington, J., Greene, S., ...Sridharan, S. (2013). *SNAP food security in-depth interview study* (Contract No. GS-10F-0050L). Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service, Office of Research and Analysis.
- Fertig, A. R., Loth, K. A., Trofholz, A. C., Tate, A. D., Miner, M., Neumark-Sztainer, D., & Berge, J. M. (2019). Compared to Pre-prepared Meals, Fully and Partly Home-Cooked Meals in Diverse Families with Young Children Are More Likely to Include Nutritious Ingredients. *Journal of the Academy of Nutrition and Dietetics*.
- Fong, K., Wright, R., & Wimer, C. (2016). The cost of free assistance: Why low-income individuals do not access food pantries. *The Journal of Sociology & Social Welfare*, 43(1), 71-93. Retrieved from <https://scholarworks.wmich.edu/jssw/vol43/iss1/6>
- Garcia, A. L., Reardon, R., McDonald, M., & Vargas-Garcia, E. J. (2016). Community interventions to improve cooking skills and their effects on confidence and eating behaviour. *Current nutrition reports*, 5(4), 315-322.
- Guthrie, J. F., Derby B. M, & Levy, A. S. (1999). What People Know and Do Not Know About Nutrition. USDA/ERS. https://www.ers.usda.gov/webdocs/publications/42215/5842_aib750m_1_.pdf?v=0

- Gustafson A. (2017). Shopping pattern and food purchase differences among Supplemental Nutrition Assistance Program (SNAP) households and non-Supplemental Nutrition Assistance Program households in the United States. *Preventive Medicine Reports*, 7, 152-157. <https://doi.org/10.1016/j.pmedr.2017.06.005>
- Hillier, A., Cannuscio, C. C., Karpyn, A., McLaughlin, J., Chilton, M., & Glanz, K. (2011). How far do low-income parents travel to shop for food? Empirical evidence from two urban neighborhoods. *Urban Geography*, 32(5), 712-729. Retrieved from <https://pdfs.semanticscholar.org/3334/43b547530c88db0cfac7db4bda16a372dafa.pdf>
- IOM (Institute of Medicine) and NRC (National Research Council). (2013). *Supplemental Nutrition Assistance Program: Examining the evidence to define benefit adequacy*. J.A. Caswell & A. L. Yaktine (Eds.). Washington, DC: The National Academies Press.
- Jabs, J., & Devine, C. M. (2006). Time scarcity and food choices: an overview. *Appetite*, 47(2), 196-204.
- Kaufman, L., & Karpati, A. (2007). Understanding the sociocultural roots of childhood obesity: Food practices among Latino families of Bushwick, Brooklyn. *Social Science & Medicine*, 64(11), 2177-2188. <https://doi.org/10.1016/j.socscimed.2007.02.019>
- Keith-Jennings, B., & Chaudhry, R. (2018). Most working-age SNAP participants work, but often in unstable jobs. Center on Budget and Policy Priorities, 15.
- Krølner, R., Rasmussen, M., Brug, J., Klepp, K. I., Wind, M., & Due, P. (2011). Determinants of fruit and vegetable consumption among children and adolescents: a review of the literature. Part II: qualitative studies. *The International Journal of Behavioral Nutrition and Physical Activity* 8(112). <https://doi.org/10.1186%2F1479-5868-8-112>
- Kuczmarski, M. F., Beydoun, M. A., Cotugna, N., Daniels, L., Mason, M. A., Zonderman, A. B., & Evans, M. K. (2016). Literacy contributes to greater higher diet quality in a socioeconomically diverse urban prospective cohort. *Topics in Clinical Nutrition*, 31(1), 47-58.
- Larson, N. I., Story, M. T., & Nelson, M. C. (2009). Neighborhood environments: Disparities in access to healthy foods in the U.S. *American Journal of Preventive Medicine*, 36(1), 74-81.e10. <https://doi.org/10.1016/j.amepre.2008.09.025>
- Lavelle, F., McGowan, L., Spence, M., Caraher, M., Raats, M. M., Hollywood, L., ... & Dean, M. (2016). Barriers and facilitators to cooking from 'scratch' using basic or raw ingredients: A qualitative interview study. *Appetite*, 107, 383-391.
- LeDoux, T. F., & Vojnovic, I. (2013). Going outside the neighborhood: The shopping patterns and adaptations of disadvantaged consumers living in the lower eastside neighborhoods of Detroit, Michigan. *Health & Place*, 19, 1-14. <https://doi.org/10.1016/j.healthplace.2012.09.010>
- Lin, B., Ver Ploeg, M., Kasteridis, P., & Yen, S. T. (2014). The roles of food prices and food access in determining food purchases of low-income households. *Journal of Policy Modeling*, 36(5), 938-952. <https://doi.org/10.1016/j.jpolmod.2014.07.002>

- Mabli, J. (2014). *SNAP Participation, Food Security, and Geographic Access to Food* (Contract No. GS-10F-0050L). Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service.
- Mancino, L., & Newman, C. (2007). *Who has time to cook? How family resources influence food preparation* (Economic Research Report Number 40). Washington, DC: U.S. Department of Agriculture, Economic Research Service. Retrieved from https://www.ers.usda.gov/webdocs/publications/45797/11722_err40_1.pdf?v=0
- Martin, K. S., Rogers, B. L., Cook, J. T., & Joseph, H. M. (2004). Social capital is associated with decreased risk of hunger. *Social Science & Medicine*, 58(12), 2645-2654. <https://doi.org/10.1016/j.socscimed.2003.09.026>
- Millen, B. E., Abrams, S., Adams-Campbell, L., Anderson, C. A., Brenna, J. T., Campbell, W. W., ... & Perez-Escamilla, R. (2016). The 2015 dietary guidelines advisory committee scientific report: development and major conclusions. *Advances in nutrition*, 7(3), 438-444.
- Miller, L. M. S., & Cassady, D. L. (2015). The effects of nutrition knowledge on food label use. A review of the literature. *Appetite*, 92, 207-216.
- Monsivais, P., & Drewnowski, A. (2007). The rising cost of low-energy-density foods. *Journal of the American Dietetic Association*, 107(12), 2071-2076. <https://doi.org/10.1016/j.jada.2007.09.009>
- Monsivais, P., & Drewnowski, A. (2009). Lower-energy-density diets are associated with higher monetary costs per kilocalorie and are consumed by women of higher socioeconomic status. *Journal of the American Dietetic Association*, 109(5), 814-822. <https://doi.org/10.1016/j.jada.2009.02.002>
- Morland, K., Wing, S., & Diez Roux, A. (2002). The contextual effect of the local food environment on residents' diets: The Atherosclerosis Risk in Communities Study. *American Journal of Public Health*, 92(11), 1761-1767. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1447325/>
- Morton, J. F., & Guthrie, J. F. (1997). Diet-related knowledge, attitudes, and practices of low-income individuals with children in the household. *Family Economics and Nutrition Review*, 10(1), 2-16.
- Neale, J. (2016). Iterative categorization (IC): a systematic technique for analysing qualitative data. *Addiction*, 111: 1096-1106. doi: [10.1111/add.13314](https://doi.org/10.1111/add.13314).
- Nicklaus, S., Boggio, V., Chabanet, C., & Issanchou, S. (2004). A prospective study of food preferences in childhood. *Food Quality and Preference*, 15(7-8), 805-818. <https://doi.org/10.1016/j.foodqual.2004.02.010>
- Nord M., & Leibtag E. (2005). Is the “Cost of enough food” lower in rural areas? *The Review of Regional Studies*, 35(3), 291-310. Retrieved from <http://journal.srsa.org/ojs/index.php/RRS/article/view/102/53>
- Persoskie, A., Hennessy, E., & Nelson, W. L. (2017). Peer Reviewed: US Consumers' Understanding of Nutrition Labels in 2013: The Importance of Health Literacy. *Preventing chronic disease*, 14.

- Rector, R., & Sheffield, R. (2011). *Understanding poverty in the United States: Surprising facts about America's Poor* (No. 2607). Washington, DC: The Heritage Foundation. Retrieved from <https://www.heritage.org/poverty-and-inequality/report/understanding-poverty-the-united-states-surprising-facts-about>
- Scammell, M. K., Torres, S., Wayman, J., Greenwood, N., Thomas, G., Kozlowski, L., & Bowen, D. (2015). Balancing act: approaches to healthy eating and physical activity among Boston public housing residents. *Journal of prevention & intervention in the community*, 43(2), 109-122.
- Shannon, J. (2014). What does SNAP benefit usage tell us about food access in low-income neighborhoods? *Social Science & Medicine*, 89-99. <https://doi.org/10.1016/j.socscimed.2014.02.021>
- Sharpe, P. A., Liese, A. D., Bell, B. A., Wilcox, S., Hutto, B. E., & Stucker, J. (2018). Household food security and use of community food sources and food assistance programs among food shoppers in neighborhoods of low income and low food access. *Journal of Hunger & Environmental Nutrition*, 13(4), 482-496. <https://doi.org/10.1080/19320248.2017.1364188>
- Smith, C., & Morton, L. W. (2009). Rural food deserts: Low-income perspectives on food access in Minnesota and Iowa. *Journal of Nutrition Education and Behavior*, 41(3), 176-187. <https://doi.org/10.1016/j.jneb.2008.06.008>
- Smith, L. P., Ng, S. W., & Popkin, B. M. (2013). Trends in US home food preparation and consumption: analysis of national nutrition surveys and time use studies from 1965-1966 to 2007-2008. *Nutrition Journal*, 12(45). <https://doi.org/10.1186%2F1475-2891-12-45>
- Song, H. J., Grutzmacher, S. K., & Kostenko, J. (2014). Personal weight status classification and health literacy among Supplemental Nutrition Assistance Program (SNAP) participants. *Journal of community health*, 39(3), 446-453.
- Tach, L., & Amorim, M. (2015). Constrained, convenient, and symbolic consumption: Neighborhood food environments and economic coping strategies among the urban poor. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 92(5), 815-834. <https://doi.org/10.1007/s11524-015-9984-x>
- Taillie, L. S., & Poti, J. M. (2017). Associations of cooking with dietary intake and obesity among Supplemental Nutrition Assistance Program participants. *American journal of preventive medicine*, 52(2), S151-S160.
- Vaitkeviciute, R., Ball, L. E., & Harris, N. (2015). The relationship between food literacy and dietary intake in adolescents: a systematic review. *Public health nutrition*, 18(4), 649-658.
- Van der Horst, K., Brunner, T. A., & Siegrist, M. (2011). Ready-meal consumption: associations with weight status and cooking skills. *Public health nutrition*, 14(2), 239-245.
- Velardo, S. (2015). The nuances of health literacy, nutrition literacy, and food literacy. *Journal of nutrition education and behavior*, 47(4), 385-389.

- Vericker, Tracy, Sujata Dixit-Joshi, Jeffrey Taylor, et al (forthcoming). *The Evaluation of Food Insecurity Nutrition Incentives (FINI) Interim Report*. Prepared by Westat, Inc. for the U.S. Department of Agriculture, Food and Nutrition Service, May 2019. Project Officer: Eric Sean Williams.
- Vericker, T., & Mills, G. (2012, October). *Childhood food insecurity: The mitigating role of SNAP* [Brief]. Retrieved from the Urban Institute's Web site: <https://www.urban.org/sites/default/files/publication/25936/412681-Childhood-Food-Insecurity-The-Mitigating-Role-of-SNAP.PDF>
- Virudachalam, S., Long, J., Harhay, M., Polsky, D., & Feudtner, C. (2014). Prevalence and patterns of cooking dinner at home in the USA: National Health and Nutrition Examination Survey (NHANES) 2007–2008. *Public Health Nutrition*, 17(5), 1022-1030. <https://doi.org/10.1017/S1368980013002589>
- Wallace, R., Lo, J., & Devine, A. (2016). Tailored nutrition education in the elderly can lead to sustained dietary behaviour change. *The journal of nutrition, health & aging*, 20(1), 8-15.
- Wang, C., El-Nour, M. M. A., & Bennett, G. W. (2008). Survey of pest infestation, asthma, and allergy in low-income housing. *Journal of community health*, 33(1), 31-39.
- Weinfield, N. S., Mills, G., Borger, C., Gearing, M., Macaluso, T., Montaquila, J., & Zedlewski, S. (2014). *Hunger in America 2014: National report prepared for Feeding America*. Retrieved from the Feeding America Web site: <http://help.feedingamerica.org/HungerInAmerica/hunger-in-america-2014-full-report.pdf>
- Weinstein, O., Cordeiro, L. S., Ronnenberg, A., Sartori, A., Anderson, A. L. W., & Nelson-Peterman, J. (2018). What works when it comes to having enough: A qualitative analysis of SNAP-participants' food acquisition strategies. *Journal of Hunger & Environmental Nutrition*. Abstract retrieved from <https://www.tandfonline.com/doi/full/10.1080/19320248.2018.1545621>
- Wiecha, J. L., Dywer, J. T., Jacques, P. F., & Rand, W. M. (1993). Nutritional and economic advantages for homeless families in shelters providing kitchen facilities and food. *Journal of the American Dietetic Association*, 93(7), 777-783.
- Wiig, K., & Smith, C. (2009). The art of grocery shopping on a food stamp budget: Factors influencing the food choices of low-income women as they try to make ends meet. *Public Health Nutrition*, 12(10), 1726-1734. <https://doi.org/10.1017/S1368980008004102>
- Winkler, E. A. (2008). Food accessibility, affordability, cooking skills and socioeconomic differences in fruit and vegetable purchasing in Brisbane, Australia (Doctoral dissertation, Queensland University of Technology).
- Wolfson, J. A., & Bleich, S. N. (2015). Is cooking at home associated with better diet quality or weight-loss intention?. *Public Health Nutrition*, 18(8), 1397-1406.
- Wolfson, J. A., Bleich, S. N., Smith, K. C., & Frattaroli, S. (2016). What does cooking mean to you?: perceptions of cooking and factors related to cooking behavior. *Appetite*, 97, 146-154.

Ylitalo, K. R., Meyer, M. R. U., Stone, K., Doyle, E. I., & Curtis, R. (2016). Using the Community Assessment for Public Health Emergency Response (CASPER) to assess barriers to healthy eating and active living in a low-income community. *Evaluation and program planning*, 59, 41-46.

Appendix A

Interview Protocol

Appendix A

Interview Protocol

Before beginning interview: ask Craigslist respondents to show EBT card.

6 item food security module

These next questions are about the food eaten in your household in the last 12 months, since [current month] of last year and whether you were able to afford the food you need.

I am going to read you several statements that people have made about their food situation. For these statements, please tell me whether the statement was *often* true, *sometimes* true, or *never* true for (you/your household) in the last 12 months—that is—since [current month].

The first statement is “the food that I/we bought just didn’t last, and I/we didn’t have money to get more.” Was that often, sometimes, or never true for (you/your household) in the last 12 months?

- ☐ Often true
- ☐ Sometimes true
- ☐ Never true
- ☐ DK or refused

“(I/we) couldn’t afford to eat balanced meals.” Was that often, sometimes, or never true for (you/your household) in the last 12 months?

- ☐ Often true
- ☐ Sometimes true
- ☐ Never true
- ☐ DK or refused

In the last 12 months, since last [current month], did (you/you or other adults in your household) ever cut the size of your meals or skip meals because there wasn’t enough money for food?

- ☐ Yes
- ☐ No (Skip next question)
- ☐ DK (Skip next question)

[If YES above, ask]: How often did this happen—almost every month, some months but not every month, or in only 1 or 2 months?

- ☐ Almost every month
- ☐ Some months but not every month
- ☐ Only 1 or 2 months
- ☐ DK

In the last 12 months, did you ever eat less than you felt you should because there wasn't enough money for food?

- ☐ Yes
- ☐ No
- ☐ DK

In the last 12 months, were you every hungry but didn't eat because there wasn't enough money for food?

- ☐ Yes
- ☐ No
- ☐ DK

General Questions to Establish Context

I. SNAP Participation Background

- I-A. I would like to start off by having you tell us a little bit about your participation in SNAP.
1. How long have you participated in SNAP?
 2. Is this the first time you have received SNAP benefits?
 3. [If NO, ask participant to focus on their most recent experience for the following question.]
 4. I'm interested in hearing about your [most recent] experience with SNAP. Please tell me your story about how you came to be enrolled in the SNAP program.
[PROBE:] What was going on that led you to seek benefits? What has been your experience with the program so far? What do you like the most? What do you like the least?
- I-B. Including yourself, who else is covered by your benefits? [Make a list of persons enumerated.]
1. Are there other people for whom you are regularly responsible for providing food who are not covered under your benefits?
 2. [If YES:] Why are these persons not covered under your benefits?

In-Depth Interview Protocol Module 1: Social Networks and Food Assistance

II. Feeding Others

We are interested in learning how people like you manage to eat healthily in difficult times. For the next set of questions, we're going to use a diagram to list the people who you help—and who help you—by providing meals, groceries, or money for food **[SHOW DIAGRAM]**.

You are the circle in the middle. First, think of the people you feed. As you think of the people who you help with food, we're going to put them into three groups, one for each of three rings surrounding the circle. You should order the groups in the order of how much assistance you provide with groceries, meals, or money for food. The smallest ring represents the people living with you—whether or not you receive benefits for them. People in the next ring do not live in your household, but are people you regularly feed or to whom you provide money for groceries. You will work out from there for people to whom you still help, but less regularly.

There is no need to include everyone you know. Just list those people to whom you provide the most assistance with meals and food-related expenses and tell me their relationship to you, such as friend or sister. Circles can be empty, full, or anywhere in between. **[Note: Cap number of**

people per ring at 8. Use the following 3 questions to fill out the diagram. Use a **BLUE PEN.**]

Let's start with the people who live in your household. To whom do you provide meals regularly?

[If yes, enter initials in inner most circle, starting at the top and moving clockwise. Get relationship of each to respondent.]

II-A. Are there people who you assist with meals and food regularly who do not actually live in your household?

[If yes, enter initials in middle circle, starting at the top and moving clockwise. Get relationship of each to respondent.]

II-B. Are there people whom you haven't already mentioned but who still really depend on your help to get food?

[If yes, enter initials in outer most circle, starting at the top and moving clockwise. Get relationship of each to respondent.]

II-C. Do most of the people that you've talked about know each other fairly well? Which ones? **[CONNECT PEOPLE IN DIAGRAM WHO KNOW EACH OTHER USING LINES]**

II-D. Details about the social support network
Thinking about the people you just mentioned, do you:

1. Typically provide them with meals?
2. How about groceries?
3. What about snacks?
4. Do you sometimes give them money for food?

[Note: Get specific examples but we don't need specifics for every network member. Probe for frequency and/or amount of support.]

II-E. Do you find it hard to help out the people you provide assistance to? [If yes] What makes it difficult?

III. Being Fed

III-A. You've said a lot about the ways you help others. I'd like to now give you a chance to talk about the ways others help you with groceries, meals, or money for food.

[Note: Cap number of people per ring at 8. Use the following 3 questions to fill out the diagram. Use a **RED PEN.]**

- III-B. Let's start with the people who help you the most with groceries, meals, or money for food. Is there any one person or people that you feel are so important that it's hard to imagine feeding your family without them?

[If yes, enter initials in appropriate circle, starting at the top and moving clockwise. Get relationship of each to respondent. If the person mentioned is a household member, put in inner most circle.]

- III-C. Are there people who you feel don't help you out with food quite as much as those you just mentioned, but who still help you out a lot?

[If yes, enter initials in middle circle, starting at the top and moving clockwise. Get relationship of each to respondent.]

- III-D. Are there people whom you haven't already mentioned but who you think are important enough to be included here?

[If yes, enter initials in outer most circle, starting at the top and moving clockwise. Get relationship of each to respondent.]

[IF FATHER OR MOTHER OF CHILD (REN) IS NOT MENTIONED]

What about your child (ren)'s father/mother – does he/she help out at all?

- III-E. Do most of the people that you've talked about know each other fairly well? Which ones? **[CONNECT PEOPLE IN DIAGRAM WHO KNOW EACH OTHER USING LINES]**

- III-F. Details about the Social Support Network

Tell me a little about the ways that the people you have mentioned help you

1. By providing meals;
2. By helping with groceries; and
3. By giving money for food.

[Note: Get specific examples but we don't need specifics for every network member. Probe for frequency and/or amount of support.]

- III-G. Do you find it hard to ask people in your network for help with food when you need it? [IF "YES"] What makes it hard? *(probe for norms of helping, self-sufficiency, burden, reciprocity)*

- III-H. Overall, what do you think is more common—for others to rely on you for help with food, or for you to rely on others for such help?

In-Depth Interview Protocol Module 2: Perceptions of a Healthy Diet

IV. Healthy Diets

- IV-A. What are some of your favorite foods? How often do you eat [name of favorite food]?
- IV-B. What about your household members' favorite foods? What does your family like? How often do they get to eat [name of favorite food]?
- IV-C. Are there sometimes disagreements in your house about food or eating? [If yes]: What are the disagreements about? How are they resolved?
- IV-D. Some people are part of a religious or cultural tradition—or were raised in a tradition—that involves eating different styles of food. Do you participate in a cultural tradition like this? [If yes]: What foods do you like to prepare and/or eat?
1. How easy or difficult is it for you to find, purchase, prepare and eat the foods you like? Please tell me more about that.
 2. Which of these foods do you think are healthy? Why?
 3. Which foods may be not so healthy? Why?
- IV-E. Now I'd like to ask you a few questions about healthy eating.
1. What comes to mind when you hear "healthy diet?"
- [Probes:]** What are some foods that you think are part of a healthy diet? *If respondent has difficulty describing healthy diet, ask about particular meals, for example:*
- Let's talk about breakfast. What do you think a healthy breakfast includes?
 - How about snacks. Can you think of any snacks that might be part of a healthy diet?
 - What about dinner? What kinds of foods would you say are part of a healthy dinner?
- IV-F. Nutritionists will also talk about healthy eating habits, such as how much or how often a person eats—how big are the portions of foods, how foods should be combined to make a balanced meal, what times of day are best to have a meal, etc. What do you think are healthy eating habits?

V. Your Current Diet

V-A. How does your current diet compare to what you described as a healthy diet?

[Probe:] In general, do you feel like your diet is pretty healthy, or not that healthy?

[If “not that healthy,” probe for reasons:] There are a lot of reasons people might not have a healthy diet. What are some reasons you think your diet isn’t very healthy?

[If “pretty healthy,” probe:] How easy is it for you to eat a healthy diet?

V-B. How concerned are you about eating a healthy diet?

V-C. Is there anything you wish you could change about your diet? If so, what would you change?

1. What are some of the things that stand in the way of making that change?
2. What would make it easier to change that aspect of your diet?

V-D. Are there certain times [of day, of year, of your life] when your eating habits tend to be less healthy? What are some of the reasons you eat a less healthy diet at those times? What kinds of things might help you to stick to a healthy diet at those times?

V-E. Think back to when you didn’t receive SNAP. Was your ability to eat healthily the same, better, or worse? Tell me about that.

1. Do you think SNAP makes it easier or more difficult to eat healthily? Why?
2. [If participant says they ate better without SNAP]: What was going on in your life that you were able to eat better?

V-F. What other kinds of changes in your life have led to changes in how well you can eat? For example, birth of a child, employment, household member leaving or returning, etc. How did these life changes influence your eating habits?

V-G. Do you have any health problems that you think may be related to diet? Tell me about that.

V-H. Do any of your household members have health problems related to what they eat? Who? Tell me about that.

V-I. Most families have some unhealthy eating habits. What about your family—has it been easy or difficult to get your family to eat healthy?

V-J. What about your [name household member in SNAP allotment]’s diet? Is it healthy? Why or why not?

V-K. [If interviewee is a parent with children in the household]: Some parents tell us that they want to feed their kids healthier foods, but their kids refuse what’s given them. How about for your children? Tell me about that.

In-Depth Interview Protocol Module 3: Topographies of Food Access

VI. The Next Questions are About Where You Purchase and Get Food

VI-A. Where do you usually shop for food?

1. How often do you shop for food?
2. Does shopping [insert frequency mentioned by respondent—every week, every other week, etc.] meet your family’s needs?
3. [If NO]: What prevents you from shopping more frequently?
4. Why do you usually go to [place]?
5. Would you prefer to shop elsewhere? [If yes]: Why?
6. Do any other members of your household shop for food? [If yes]: How often?

VI-B. How often do you eat out? Where do you usually go when you eat out?

[Probe:] Do you eat out every day, several times a week, once a week, every other week, or once a month? Do you find yourself eating at more fast food, take-out, or sit-down restaurants?

1. (If applicable) I noticed that there are a lot of fast food restaurants in your area? Do you ever eat from them?

VI-C. Is there anywhere you get food that you don’t have to pay for it? Where?

[Probe:] For example, do family members or friends ever give you food? Your church? Do you ever go to food pantries?

1. How often does this happen?
2. What makes this a good option?

VI-D. I am interested in how you get to the places where you shop for *[if respondent also mentions getting food from family/friends/food pantries, add: and pick up]* food. I am going to draw a very simple map showing the distance between each place and your home.

1. About how far is [store/restaurant/person/food bank] from your home?
2. How do you get to there? [Probe: Do you take the shortest route there, or do you take a longer route to avoid traffic or certain areas?]
3. How long does it take you to get there?
4. [If taking public transit, ask:] How much is the roundtrip cost?
5. [If taking public transit, biking, or walking ask:] How easy or difficult is it to carry all your groceries? Why?
6. Repeat for each [store/restaurant/organization/person]

[Moderator note: Draw each store/person, noting the distance, mode of transportation, and travel time. If distances are unknown and respondent takes the “shortest route,” map the route and provide the approximate distance following the interview.]

- VI-E. Do you ever have others do grocery shopping for you or to drive you to the store? If so, how often do they take you (or do your) grocery shopping?
1. Is s/he generally available to take you shopping?
 2. Do they take you to all the grocery stores you would like to go to? If not, what stores would you like to shop at but can't? What are the reasons s/he can't take you to those stores?
 3. Would you change where and when you shop if you had your own transportation? **Please explain.**
- VI-F. You mentioned a few places where you go to shop for food. Are there any food stores or markets nearby that you don't shop at? What are the reasons you don't shop at these places?
- VI-G. Are there other places where you could get food but choose not to? Can you tell me why you choose not to go there?

In-Depth Interview Protocol Module 4: Food Choices, Options, Preferences and Values

VII. The Next Questions are About What You Eat and What You Like to Eat—Your Food Preferences and Eating Habits

- VII-A. Diets, allergies, food restrictions
1. Do you, or anyone in your family, have any special dietary needs, food restrictions, or food allergies? What are they?
[Probe:] diabetic diets, low-salt diets, low-fat diets, low-carb diets, vegetarianism, liquid weight-loss diets etc.
 2. How do these needs/restrictions/allergies affect what you buy and eat?

VIII. Food Preparation

- VIII-A. Does anyone in your household cook? Who cooks?
- VIII-B. What kinds of foods does [name of household member] make?
1. How often does he/she cook?
 2. How does he/she decide what to make?
 3. Is he/she a good cook? What makes you think he/she is/is not a good cook?
- VIII-C. Is there anyone else in the household who could cook, but doesn't? Why doesn't s/he?
- VIII-D. What recipes or kinds of meals would you like to try but you don't know how to prepare?

IX. Food Budget

- IX-A. Right now, how much do you get from SNAP each month? How about over the last year?
- IX-B. What other sources contribute to the money you have for groceries?
- [PROBE:]** Income from work of self or partner or other family member, earned income credit, money received for child support—formally or informally—loans or gifts of cash
- IX-C. Do you feel that the money and benefits you have available to spend on groceries for you and your family are sufficient? Why or why not?
- [PROBE:]** How many weeks does your SNAP benefit typically last?
- IX-D. Do you look for bargains on groceries or on restaurant foods?
- [If YES]:**
1. How do you know a bargain on groceries when you see one?
 2. How do you know a bargain on restaurant food when you see it?
- IX-E. In general, how do you make your food budget—including your SNAP allotment—stretch over the month? How well do these strategies work?
- IX-F. What kinds of things have you heard about other people doing to make their food last?

X. Time of Year and Food Availability

- X-A. Some times of the year are easier on the food budget than others. For you, what are the toughest times to get by food-wise? Explain.
- [PROBE:]** Is it harder in the summer when children aren't getting school lunch? Or is it easier during the summer because the children spend the vacation elsewhere? Is it easier when fresh produce is cheaper seasonally?
1. How do you manage during these difficult times of year?
 2. Tell me about the last time that happened. How did you cope?
- [IF RESPONDENT IS HAVING TROUBLE, PROBE:]** Sometimes people skip meals, eat at a family member's house, use food pantries or soup kitchens. What about for you?

In-Depth Interview Protocol Module 5: Participant Demographics, Household Tour and Observation

XI. Participant Demographics

- A. Gender:
- B. Age:
- C. Marital status:
- D. Self-identified ethnic identity: “What is your race or ethnicity?”

XII. Tour

Now, I would like to ask you to give me a tour of your kitchen and the spaces in your home where you eat. We’re interested in understanding how the appliances, groceries, and space you have available may influence the kinds of food you prepare and what and when you eat.

1. Would you be willing to take me through a tour of your kitchen, including appliances, groceries you keep on hand, and your eating spaces?
[If yes]: Great! Let’s start over here.

XIII. Household Observation

This module is ethnographic and loosely structured. Therefore, the exact questions and comments that will be made by the interviewers cannot be completely anticipated in advance. The purpose of the household observation component of the In-Depth Interview Protocol is to understand:

- (A) How the eating and dining spaces of the SNAP participants’ households constrain food choices related to healthy eating and permit for creative solutions, and
- (B) How SNAP participants make use of their household spaces for cooking, dining, and entertaining.

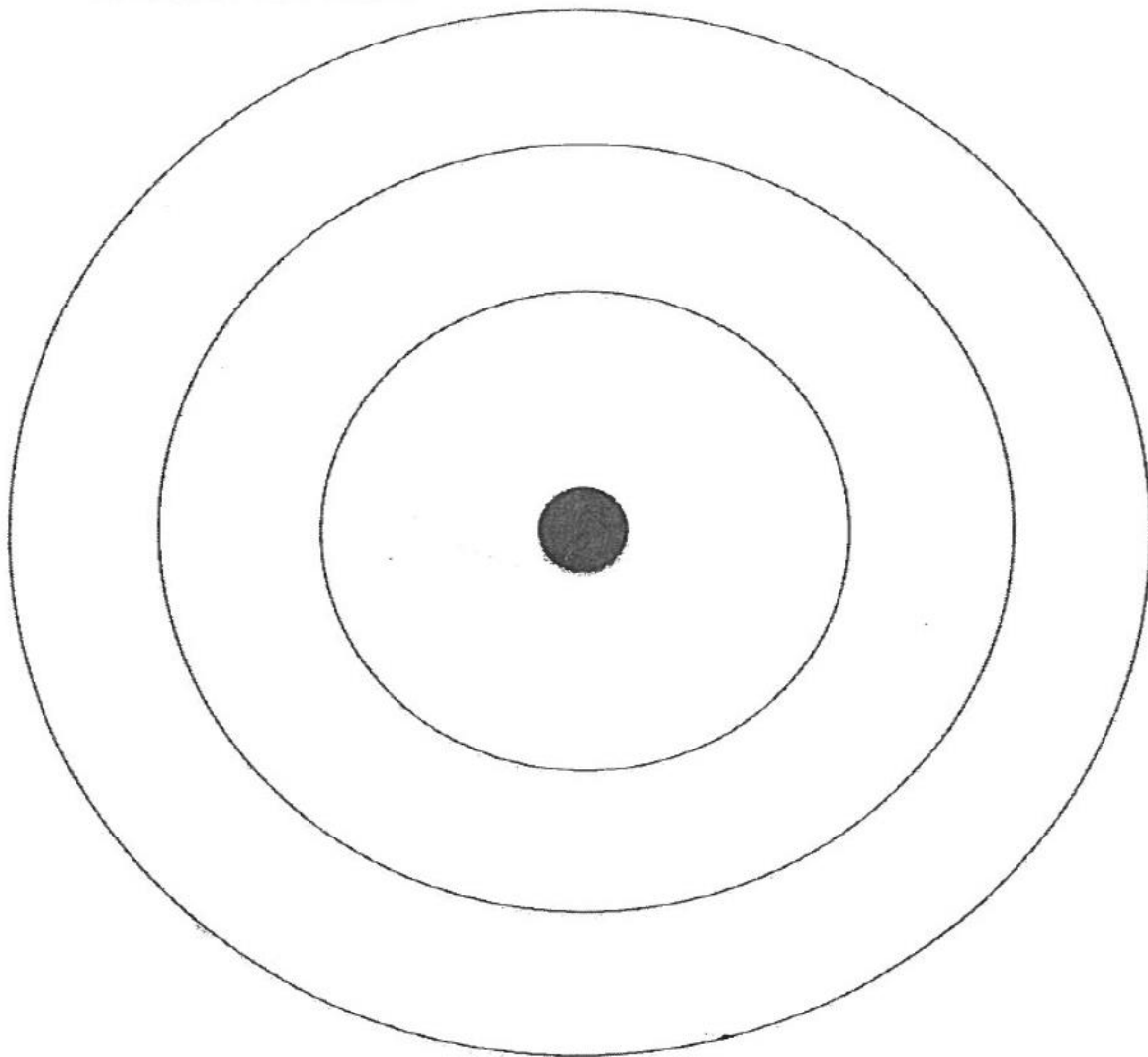
Interviewers should note:

- (1) Eating space: including table and chairs
 - a. Are there a table and chairs?
 - b. How many chairs are there in the kitchen or other eating spaces relative to the number of individuals in the household?
 - c. [If there are fewer chairs than household members]: Do household members eat together? At the same time each day? How and where do household members eat if they eat together? Do any household members, or groups of household members, prepare their own meals?

- (2) Cooking appliance including stove, refrigerator, counter space, cabinet space
 - a. Working?
 - b. Adequate space and size?
 - c. Outdoor cooking?
 - d. Alternate sources of power or gas?
 - e. Deep freezer?
 - f. Food safely stored?
- (3) Small appliances present including microwave, toaster, toaster oven, coffee maker, blender, juicer, etc.?
 - a. By whom and how often are the small appliances used [ask about each appliance]?
 - b. For what dishes/preparations/foods are the appliances used?
- (4) Does the household have a deep freezer? How does the household use the deep freezer? What does it contain?
- (5) Are there people in the house eating during the interview? Where are they eating? What are they eating? Did the SNAP participant mention them when he/she described the persons for whom he/she is responsible for feeding? [If no:] Why not?

In-Depth Interview Protocol Diagrams
Module 1. Social Networks and Food Assistance

SOCIAL NETWORK DIAGRAM



Appendix B

Interviewer Training

Appendix B

Interviewer Training

The site visit teams were made up of four Westat staff and five staff members from a subcontractor, Insight Policy Research. Teams of two—comprised one senior qualitative researcher and one junior researcher—conducted the visits. The senior qualitative researchers had a range of experience including in-depth interviews, ethnographic studies, focus groups, and observational work. Their subject matter expertise included SNAP programs, nutrition, and behavioral and public health.

All site visit staff received training on the research procedures and data collection protocols. A 5-hour training was held at Westat on July 26, 2018. The first part of the training covered data collection protocols, including participant recruitment and participant tracking, safety and security guidelines, preparing for site visits, data confidentiality procedures, and preparing post-visit reports. The second part of the training reviewed the interview instrument, including a question-by-question review and mock interviews conducted by site visit staff. These mock interviews were then reviewed and feedback provided to ensure standardization across site visits.

Appendix C

Coding Scheme

Appendix C

Coding Scheme

1. **SNAP BACKGROUND** (parent—do not code); note double-codes for amount of SNAP and income sources

1.1 Length of time on SNAP: Approximate amount of time on SNAP

1.2 Why sought benefits: I-A; code reasons why sought out SNAP/came to be enrolled; code here for reasons separate from grandchild nodes

1.2.1 Best thing about SNAP may double-code this with other discussion of SNAP later in protocol

1.2.2 Worst thing about SNAP may double-code this with other discussion of SNAP later in protocol

1.3 Who covered by benefits: I-B

2. **FEEDING OTHERS AND BEING FED** (parent—do not code); note double-codes for where shop or get free food; transportation

2.1 People feed & how feed: II-A through II-D; double-code

2.2 People who help feed & how: II-A through III-F

2.3 Whether difficult to help others: II-E

2.4 Whether difficult to ask for help: III-G

2.5 More common to feed or be fed: III-H

3. **HEALTHY DIETS** (parent—do not code)

3.1 Favorite foods and how often get them: IV-A; IV-B; code for both respondent and family

3.2 Challenges and disagreements around food and eating: IV-C; V-I; V-K; other

3.3 Religious or cultural tradition: IV-D; code only if did belong to a religious or cultural tradition that involves special diet; include whether easy or difficult to accommodate and whether food is healthy and why

3.4 Healthy diet: IV-E; IV-F

3.4.1 Healthy diet and healthy eating habits: Code general discussion of what constitutes a healthy diet and healthy eating habits

3.4.2 Healthy meals: Code examples of specific healthy meals (breakfast, snacks, dinner)

4. **CURRENT DIET** (parent—do not code)

4.1 View of current diet: V-A, V-B, V-C, V-J; individual and household; how current diet compares to what consider a healthy diet; if not healthy, why not; how easy to eat healthy; whether concerned with eating healthy; what would change about diet, what stands in the way of making the change, what would make it easier to change, how healthy household diet is

- 4.2 Times when eat less healthy:** V-D and V-F; code for times of life and changes in life that have changed ability to eat healthy; include what would make it easier to during less healthy times
- 4.3 Time of year:** X-A; include times of year when it is easier to get food; harder to get food; and how cope when harder
- 4.4 How SNAP changes diet:** V-E
- 4.5 Health problems related to diet:** V-G and V-H; code for both respondent and household
- 4.6 Special dietary needs:** VII-A; code only if respondent says they have special dietary needs include impact of special needs

5. SHOPPING FOR FOOD (parent—do not code)

- 5.1 Where shop for food:** VI-A—where shop, how often, and how choose stores; whether would prefer to shop elsewhere
- 5.2 Where eat out:** VI-B; where eat out, how often, and why
- 5.3 Free food provided:** VI-C; include frequency of getting free food
- 5.4 Transportation to get food:** VI-D and VI-E; how get to stores and restaurants; how long it takes to get there; cost of public transit if applicable; difficulties in carrying groceries by public transit if applicable
- 5.5 Food stores don't shop at and why:** VI-F
- 5.6 Food pantries don't use and why:** VI-G

6. FOOD PREPARATION (parent—do not code)

- 6.1 Who cooks:** VIII-A—VIII-D; include what they cook, how often they cook, how they decide what to make, whether a good cook, whether anyone else could cook; recipes would like to try

7. FOOD BUDGET (parent—do not code)

- 7.1 SNAP amount:** IX-A
- 7.2 Other income sources:** IX-B
- 7.3 Whether SNAP enough:** IX-C; include number of weeks SNAP lasts
- 7.4 Bargains and stretching:** IX-D, IX-E, and IX-F; whether looks for bargains; how look for bargains; how stretch food budget; strategies they've heard others use

8. MISCELLANEOUS parent; do not code

- 8.1 Good quotes:** Double code—for particularly good quotes
- 8.2 Changes to SNAP:** What changes respondent would recommend for SNAP
- 8.3 Unknown:** Other things that do not fit into existing codes