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Where Households Get Food in a Typical Week: Findings From USDA's FoodAPS

Jessica E. Todd

Benjamin Scharadin





United States Department of Agriculture

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Where Households Get Food in a Typical Week: Findings From USDA's FoodAPS

Jessica E. Todd and Benjamin Scharadin

Abstract

Understanding where U.S. households acquire food, what they acquire, and what they pay is essential to identifying which food and nutrition policies might improve diet quality. USDA's National Household Food Acquisition and Purchase Survey (FoodAPS) provides a complete picture of where households acquire food, what they acquire, and how much they pay during a 7-day period in 2012. Nearly all households acquire food at least once during the week; 87 percent visited large grocery stores and supermarkets, and 85 percent visited restaurants and other eating places at least once. Households acquired food at no cost on 22 percent of occasions, and these events occurred mainly at food pantries/Meals on Wheels, schools, meals with family or friends, community events, and workplaces.

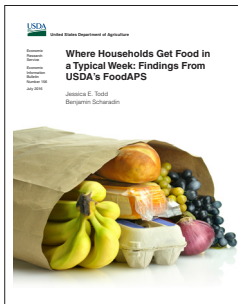
Keywords: FoodAPS, food acquisitions, free food, SNAP, food expenditure, food away from home, supermarkets, restaurants, school meals

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Where Households Get Food in a Typical Week: Findings From USDA's FoodAPS

Jessica E. Todd and Benjamin Scharadin

What Is the Issue?

Understanding where U.S. households acquire food, which foods they acquire, and how much they pay is essential to identifying which food and nutrition policies can best improve diet quality. While household and store scanner data from Nielsen and IRI cover grocery store purchases, national data on food from restaurants, schools, food banks/community resources, or family and friends are scarcer, especially those that would allow the comparison of Supplemental Nutrition Assistance Program (SNAP) participants to nonparticipants. The USDA's National Household Food Acquisition and Purchase Survey (FoodAPS) provides the first complete picture of U.S. household food acquisitions.

What Did the Study Find?

Nearly all households (99 percent) acquired food during the 7-day reporting period, with an average of 11 separate food acquisition events per week.

- Minimal differences between rural and urban households and between households in the four U.S. Census Regions were observed.
- Non-SNAP households with income above 185 percent of the Federal Poverty Guideline (poverty line) reported the most events (11.8), while SNAP households reported less (10.8) and non-SNAP households with income below 185 percent of the poverty line reported the least (9.1).

Acquisition venues were classified into nine categories: (1) large grocery stores and supermarkets; (2) small and specialty food stores; (3) all other food stores (convenience stores, dollar stores, and pharmacies); (4) own production (gardening, hunting, and fishing); (5) food banks and Meals on Wheels; (6) restaurants and other eating places; (7) schools, daycare, and day camps; (8) family, friends, parties, and places of worship; and (9) work.

- Eighty-seven percent of households acquired food from large grocery stores or supermarkets in a typical week; 85 percent also acquired food from restaurants and other eating places.
 - Acquisitions from restaurants and other eating places (5.4/week) were twice as frequent as those from large grocery stores and supermarkets (2.8/week).
 - Higher income non-SNAP households were more likely to visit large grocery stores (88 percent) than SNAP and lower income non-SNAP households (83 percent), and were also more likely to visit small or specialty food stores (20 percent versus 14-15 percent).
 - SNAP households and lower income non-SNAP households reported fewer acquisitions from restaurants and other eating places (4.2) than higher income non-SNAP households (5.9).
- FoodAPS captured acquisitions from sources not measured in other U.S. purchase surveys:
 - Six percent of households acquired food from their own or others' production by hunting, fishing, or gardening.
 - One percent of households acquired food from food pantries and Meals on Wheels.

ERS is a primary source of economic research and analysis from the U.S. Department of Agriculture, providing timely information on economic and policy issues related to agriculture, food, the environment, and rural America.

- 37 percent of households acquired food from family, friends, parties, or a place of worship.
- Non-SNAP households were more likely to report food from own or others' production and less likely to report acquisitions from food pantries and Meals on Wheels than SNAP households.

Per capita expenditures averaged \$78 per week, with no differences between rural and urban areas.

- Per capita weekly spending is greater in the West (\$83) than in the Midwest (\$73).
- SNAP households spent less per week (\$52) than non-SNAP households (\$59-\$88).

Households devoted 55 percent of all expenditures reported during the week at large grocery stores, 3 percent at small or specialty food stores, and 7 percent at other food stores. A third of all expenditures were at restaurants and other eating places, with the rest of food-away-from-home (FAFH) spending occurring at work and schools.

- Rural households spend less per capita and a lower share of all spending at restaurants and other eating places (\$21.91, 29 percent) than do urban households (\$27.30, 35 percent).
- SNAP households allocate a greater share of spending at large grocery stores and supermarkets than do higher income non-SNAP households (60 percent versus 54 percent) and a greater share at stores grouped in the "all other" category (13 percent) than non-SNAP households (6-9 percent).
- SNAP households devoted a smaller share of expenditures to restaurants and other eating places (25 percent) than higher income non-SNAP households (35 percent). This likely reflects the fact that SNAP subsidizes spending at food retailers and not at eating places and that higher income households are likely able to pay more for the convenience of prepared food.

The FoodAPS data, uniquely, capture food acquisitions at no cost (free) to the household. On average, 22 percent of all food acquisitions reported were free.

- Most events from hunting/fishing/gardening; other food assistance; and family, friends, and community places were free (95-99 percent).
- Half of all food acquisitions at schools were free, while 70 percent at work were free.
- Of all acquisitions at restaurants and other eating places, 15 percent were free—most likely because someone else paid for the meal, or a restaurant worker reported a complimentary meal as from a restaurant rather than work.
- Rural households reported more free events from own production and fewer free events from family and friends than households in urban areas.
- SNAP households reported the highest share (30 percent) of all events as free. Most school acquisitions (91 percent) were reported to be free, whereas lower income non-SNAP households reported 64 percent of school acquisitions as free, and higher income non-SNAP households reported 36 percent of events from school as free. This difference may be due to SNAP households' pre-qualification for free meals from the National School Lunch and School Breakfast Programs.
- SNAP households reported a larger share of events from restaurants and eating places as free (19 percent) as compared to higher income non-SNAP households. These differences may reflect the fact that low-income households are more likely to have household members that work at restaurants and eating places and to receive free meals from the place of employment.

How Was the Study Conducted?

FoodAPS is a nationally representative survey of households in the continental United States. Data on food acquisitions over a 1-week period were collected from April 2012 to January 2013 from 4,826 households (comprising a total of 14,317 individuals).

This report provides national estimates for the share of households that acquire food from each of nine place categories, the mean number of acquisition events and visits to each of the place categories, the mean per capita weekly expenditures, and the expenditure shares at nine place categories. In addition, it also provides the share of food acquisitions that were free and the frequency of free acquisitions. Values are also provided for rural and urban areas and for each of the four Census regions (Northeast, Midwest, South, and West), and for three groups based on SNAP participation and household income.

Where Households Get Food in a Typical Week: Findings From USDA's FoodAPS

Introduction

Understanding where U.S. households acquire food, how much they pay, and which foods they acquire is essential to identifying which food and nutrition policies can best improve diet quality. The National Food Household Acquisition and Purchase Survey (FoodAPS) provides the first complete picture of household food acquisitions. While proprietary data such as household and store scanner data from Nielsen and IRI provide details on food purchases at grocery stores, few nationally representative datasets cover food from restaurants, schools, food banks, community resources, or meals provided by family and friends, with an emphasis on participants in the Supplemental Nutrition Assistance Program (SNAP).¹

This report summarizes the information collected in FoodAPS about where U.S. households acquire food in an average week. Acquisition events (not food purchases necessarily) are grouped by the type of place from which food was acquired. Because food environments, and possibly household preferences and behavior, vary geographically, national means are reported, as well as means for urban and rural households and for households in the four census regions (Northeast, Midwest, South, and West). Also reported are comparisons between SNAP participant households and nonparticipant households in two income groups.

¹The National Food Stamp Program Survey collected detailed information about SNAP participants' and eligible nonparticipants' experience and knowledge of the SNAP program in 1996-97. Dietary knowledge and attitudes, food shopping and access to food stores, and 7 days of the household's food use were collected for a subsample.

FoodAPS: Filling in the Missing Gaps

Research on food expenditures and demand in the United States has relied on various data sources, but all of them have been lacking some portion of household food acquisitions. In 2005, the National Research Council's Panel on Enhancing the Data Infrastructure in Support of Food and Nutrition Programs, which was commissioned by USDA's Economic Research Service (ERS), documented that no single dataset tracked all consumer food acquisitions in the United States (National Research Council, 2005). The Bureau of Labor Statistics' *Consumer Expenditure Survey* (CES) collects information about household expenditures on food at home (FAH) and food away from home (FAFH), and various subcategories within FAH and FAFH through the Diary portion of its survey. Details on the items purchased, including expenditure per item, are collected for 2 consecutive weeks. However, the survey does not document the quantities of food acquired, where food was obtained, the method of payment, nutritional content, or whether food was obtained at no cost to the household.

Proprietary household scanner data (such as the *Nielsen Homescan* or *IRI* consumer panel data) cover FAH purchases—individual food items purchased over an extended period of time from all retail stores. Item-level information includes the nutrient content as it appears on the Nutrition Facts label and other printed health claims. However, household scanner data do not provide nutritional information on random-weight items like loose produce. In some cases, data include nonfood purchases, but not information on FAFH or food obtained at no cost to the household.

The *National Health and Nutrition Examination Survey* (NHANES) collects detailed information about an individual's food consumption over one or two nonconsecutive 24-hour periods. Individuals report all food consumed during the day including quantity consumed, regardless of where it was obtained. Self-reported food sources in NHANES are rough aggregates (e.g., "foodstore" captures all food retailers) rather than more detailed store types (e.g., grocery store, supercenter, convenience store, etc.). NHANES collects basic household and individual demographic information, including whether anyone receives benefits from SNAP and other food assistance programs, but does not inquire about the use of benefits to obtain particular foods. Moreover, NHANES collects no information about the prices paid for food. In addition, the data are collected for only selected individuals within a household and not for all household members.

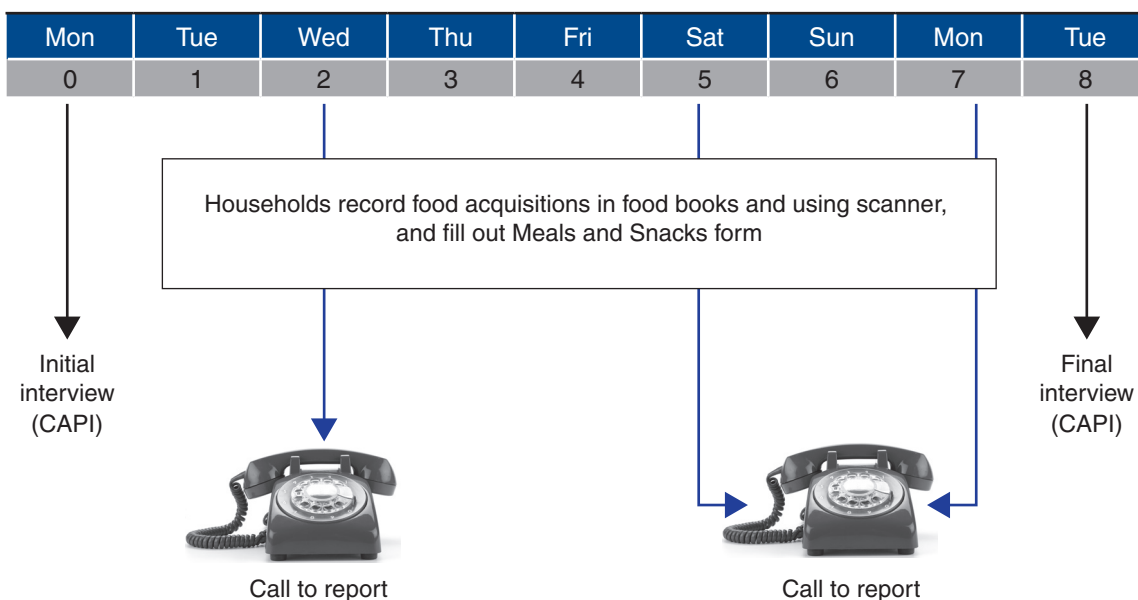
The lack of data on all household food acquisitions and factors related to food choices has limited our ability to study the relationships between food assistance programs, food acquisitions, and food security. FoodAPS fills this gap by collecting detailed information about all household food acquisitions for a nationally representative sample of U.S. households.

The survey was designed and conducted by Mathematica Policy Research (Mathematica). FoodAPS is a nationally representative survey of non-institutionalized households in the continental United States. By oversampling participants in SNAP and other low-income households, the survey is also designed to allow for analysis of SNAP participants and nonparticipant households in three income groups (income below the Federal poverty guideline (FPL) for household size, income equal to or greater than 100 percent but less than 185 percent of the FPL, and income greater than or equal to

185 percent of the FPL). The sample of households was selected through a multi-stage sample design using a SNAP-participant address list and a separate postal address list as a sampling frame.²

A total of 4,826 households completed the survey. The main food shopper or meal planner was selected to be the primary respondent (PR). The PR was asked to complete two in-person interviews, one before reporting any food acquisitions, and one after the food reporting week was completed (fig. 1). These interviews collected demographic and other information about the household related to food purchases, intake, diet, and health. Upon completing the Initial Interview, the PR was trained on how to record food acquisitions, starting the following day. Each household member age 11 and older was asked to track and report all food acquisitions during the 1-week period (7 days) in specially prepared booklets. The PR was also asked to call the telephone center three times during the week to report events. Most final interviews were conducted the day after the food reporting week was completed. The interviewer visited the home again for this interview and also collected all food books and the Meals and Snacks form.³

Figure 1
Data collection schedule



Notes: CAPI = Computer-Aided Personal Interviewing. Households could have their initial interview on any day of the week, and could begin the food reporting week on any day of the week.

²The use of a SNAP-participant address list to develop the sampling frame to more easily identify SNAP households was one of the innovations of the survey. A stratified sample of 50 Primary Sampling Units (PSUs), defined as counties or groups of contiguous counties, was selected using probability proportional to size (PPS) selection. Within each of the 50 sampled PSUs, 8 secondary sampling units (SSUs) comprised of a census block group or a group of contiguous block groups, were selected. Sampled addresses within these SSUs were then screened to determine if the household was eligible to participate.

³Survey instruments can be obtained from the FoodAPS webpage, <http://www.ers.usda.gov/data-products/foodaps-national-household-food-acquisition-and-purchase-survey.aspx>.

When households reported an acquisition (an event), they were asked to record summary information on the Primary Respondent's Daily List, including who got the food, the name of the place where the food was obtained, the total paid, and if the event was free. The Daily List form then directed them to fill out a second page to provide more details about the acquisition.⁴

Participants were asked to distinguish between “food and drinks brought into the home” (FAH) and “meals, snacks, and drinks you got outside the home” (FAFH) and to use corresponding pages: Blue for FAH and Red for FAFH. The Blue pages had spaces for the individual to write the name and location of the place where the food was acquired, as well as who got the food. The page also included spaces to indicate the day on which the event occurred, how much was paid, methods of payment, and whether or not any coupons or store loyalty cards were used. The specific items acquired could be reported by scanning the barcode on the item (the preferred method); scanning a barcode from the survey-specific Food Book (items commonly purchased by weight such as produce, bulk items, or deli offerings); or by writing the item description, size, and quantity on the Blue page. Households were also asked to tape the receipt to the Blue page.

The Red page had spaces for the individual to write the name of the place and the names of the people in the household that ate the meal. The page also included spaces to indicate which meal(s) the acquisition was for and for which day, the total paid, how much of the total was gratuity, methods of payment, whether and how many people not part of the household ate the meal, and space to list each item acquired, including a description, the size, quantity, and cost for each item. Households could also tape the receipt to the Red page.

At each telephone call during the food reporting week, the PR was asked to report each food acquisition event that had occurred since the beginning of the reporting week (at the first call), or since the last call (second and third calls). The interviewer attempted to match each reported place to a pre-populated list of foodstores and restaurants near the household's home. This list was constructed from a list of SNAP-authorized foodstores provided by FNS and from the InfoUSA database (for restaurants and other eating places). If the eating place did not appear in the pre-populated list, the interviewer asked about its name and address. With each subsequent call, the pre-populated list was expanded to include any places the household had reported in the previous call. Stores matched to the SNAP database are categorized into types based on FNS store classification, while restaurants and other eating places in InfoUSA are classified according to that database's criteria. Places that did not match to either of these databases were identified as best as possible using Google. After the survey, all places in the FAH and FAFH event files were assigned a place type code.

FoodAPS has many unique features. First, all foods that a household purchased or otherwise acquired and either consumed or brought into the household are recorded. In addition to grocery purchases, household members also report foods obtained from a home garden, a food pantry, from family and friends, and food from restaurants and other eating places. Second, FoodAPS uses a variety of instruments to collect information from all household members rather than a single respondent, providing a complete picture of household food acquisitions over 1 week.

⁴In theory, each unique transaction at a place on a given day should be reported as a separate event. However, sometimes respondents reported multiple transactions at a place on a given day in one event record, and some even reported multiple transactions across days as a single event. When possible, the contractor separated such multiple transactions in the data file, such as when multiple receipts were observed. But it was not always possible to know whether a report should be separated into different event records. Thus, each FoodAPS acquisition event represents a unique place-day transaction, as reported by the households.

FoodAPS data are linked to third-party proprietary data on the location of retail food outlets and restaurants, as well as sales and prices of food at various food stores. Survey weights allow for the sample to provide nationally representative estimates of food acquisitions, expenditures, and prices paid for food. The weights can also be used to obtain estimates for the survey's four target SNAP and income groups.

Clay and colleagues (2016) compared estimates of various demographic and socioeconomic characteristics collected in FoodAPS—including SNAP participation and food expenditures—to similar measures in other nationally representative surveys. FoodAPS and the Survey of Income and Program Participation (**SIPP**)—the national survey with the least underreporting of program participation (Meyer et al., 2009)—obtain similar estimates of SNAP participation.⁵ The Consumer Expenditure (**CE**) Survey estimates of total food and FAH spending were found to be about 5 and 9 percent lower, respectively, than the FoodAPS estimates. The **IRI** household panel estimates of FAH spending are 26 percent lower. In contrast, estimated total food and FAH spending in FoodAPS is lower than that in the **NHANES**, by 22 and 27 percent, respectively. The FoodAPS estimate of FAFH spending did not differ from that estimated by the CES or NHANES (IRI does not collect FAFH purchase information).

FoodAPS Sample Characteristics

This report uses the FoodAPS interview data, along with information about each food acquisition event. Specifically, the primary respondent's and household's characteristics are obtained from the interview data. Information on the types of places visited, the number of food acquisition occasions, and expenditures during the week and at each location is obtained from the event data.⁵

The primary respondent (PR) is, on average, 50 years old (table 1a). PRs in rural tracts are about 5 years older than those in urban tracts.⁶ On average, about a third of the PRs are male, with a larger share that are male in the Midwest (34 percent), the South (33 percent), and the West (33 percent) than in the Northeast (27 percent). Overall, 70 percent of PRs report being non-Hispanic White (White), 13 percent report being non-Hispanic Black (Black), 13 percent report being Hispanic of any race, and 7 percent report being of some other race or ethnicity.⁷ Racial/ethnic composition varies greatly across rural and urban areas. In urban areas, 60 percent of PRs report being White while 88 percent report being White in rural areas. Rural PRs are also less likely to be Black (6 versus 16 percent), Hispanic (5 versus 17 percent), or of another race or ethnicity (3 versus 9 percent) than those in urban areas. Each of the four regions has a different racial and ethnic composition. The South has a smaller share of PRs that are non-Hispanic White and of another race or ethnicity and a larger share that are Hispanic. The West has a smaller share of PRs that identify as non-Hispanic White and a larger share identifying as being Hispanic or another race or ethnicity.

Just over a third (34 percent) of PRs report having a high school (including a GED) or less education, another third report having some college education (but not a 4-year degree), and 32 percent report having a bachelor's degree or more education. The share with a high school degree or less education is higher in rural than in urban areas (40 percent versus 31 percent) and the share with a bachelor's degree or more education is lower in rural areas (28 percent versus 35 percent). Marriage rates (44 percent overall) are highest in rural areas (50 percent versus 41 percent in urban areas). Overall, 55 percent of PRs are employed and 20 percent of PRs are retired. PRs in urban areas are more likely to be employed than those in rural areas (57 versus 50 percent) and are less likely to be retired (16 versus 26 percent).

Thirty-four percent of the weighted sample resides in a rural census tract; 31 percent reside in the Midwest, 36 percent in the South, 18 percent in the West, and 15 percent in the Northeast. The mean household size is 2.42 people, and urban households are larger (2.46) than rural ones (2.35). The differences across urban and rural areas in the number of individuals in various age ranges is consistent with the fact that rural PRs are older and more likely to be retired than those in urban areas.

On average, 16 percent of households are food insecure, and the rate is higher in urban areas than in rural areas (18 versus 13 percent) and in the South (18 percent) and West (19 percent) as compared to the Northeast (12 percent) and the Midwest (14 percent). Overall, 14 percent of reporting households are SNAP participants, but the share is lower in rural (11 percent) than in urban areas (15 percent).⁸

⁵Stata 12 was used for all data analyses. All means are weighted, and standard errors account for the complex sampling design of the survey (true for all tables). Standard errors are calculating using Jackknife Repeated Replication.

⁶Urban or rural status is defined by whether the population-weighted centroid of the census tract of the household's residence is urban or not.

⁷These shares do not sum to 100 percent due to rounding.

⁸We use the measure of SNAP participation that updates a household's self-reported participation with the match to administrative records (SNAPNOWHH in the FoodAPS data).

This is surprising given that prior studies have found SNAP participation rates (the share of households that are eligible for SNAP that actually participate) to be higher in rural areas than in urban areas (Eslami and Cunnyngham, 2014). Not surprisingly, a larger share of households in the South (16 percent) than in the Northeast (11 percent) participates in SNAP. Nearly 9 out of 10 households own or lease a vehicle, and ownership rates are higher in rural areas (93 percent) as compared to urban areas (87 percent).

Table 1a

Characteristics of the primary respondent and household

	Full sample	Urban tracts	Rural tracts	North-east	Midwest	South	West
Primary Respondent	<i>Mean or share (standard error)</i>						
Age (yrs)	49.78 (0.34)	48.11 (0.45)	53.03 (0.61)	50.62 (1.23)	49.93 (1.04)	49.36 (0.75)	49.64 (0.80)
Male	0.32 (0.01)	0.33 (0.01)	0.31 (0.02)	0.27 (0.01)	0.34 (0.02)	*** 0.33 (0.02)	0.33 (0.01)
Non-Hispanic White	0.70 (0.00)	0.60 (0.02)	0.88 (0.02)	0.72 (0.08)	0.82 (0.02)	0.65 (0.04)	a 0.55 (0.04)
Non-Hispanic Black	0.13 (0.00)	0.16 (0.01)	0.06 (0.01)	0.12 (0.05)	0.12 (0.02)	0.16 (0.02)	0.08 (0.04)
Hispanic	0.13 (0.00)	0.17 (0.01)	0.05 (0.01)	0.11 (0.06)	0.03 (0.01)	0.16 (0.04)	a 0.23 (0.05)
Other race/ethnicity	0.07 (0.00)	0.09 (0.00)	0.03 (0.01)	0.07 (0.02)	0.05 (0.01)	0.04 (0.01)	0.15 (0.02)
High school or less education	0.34 (0.01)	0.31 (0.01)	0.40 (0.03)	0.30 (0.02)	0.37 (0.03)	0.36 (0.02)	0.31 (0.04)
Some college	0.33 (0.02)	0.34 (0.02)	0.32 (0.02)	0.30 (0.05)	0.33 (0.03)	0.33 (0.02)	0.38 (0.04)
Bachelor degree or higher	0.32 (0.02)	0.35 (0.02)	0.28 (0.03)	0.41 (0.06)	0.30 (0.03)	0.31 (0.04)	0.31 (0.04)
Married	0.44 (0.01)	0.41 (0.01)	0.50 (0.02)	0.48 (0.05)	0.45 (0.02)	0.41 (0.02)	0.47 (0.04)
Employed	0.55 (0.01)	0.57 (0.01)	0.50 (0.02)	0.58 (0.03)	0.56 (0.02)	0.54 (0.02)	0.53 (0.03)
Retired	0.20 (0.01)	0.16 (0.01)	0.26 (0.02)	0.21 (0.02)	0.20 (0.02)	0.20 (0.02)	0.16 (0.03)
Household characteristics							
Household size	2.42 (0.01)	2.46 (0.03)	2.35 (0.05)	2.50 (0.12)	2.36 (0.05)	2.32 (0.05)	2.67 (0.14)
# under 5 yrs	0.16 (0.01)	0.18 (0.01)	0.12 (0.01)	0.15 (0.02)	0.15 (0.02)	0.16 (0.02)	0.17 (0.02)

Continued—

Table 1a

Characteristics of the primary respondent and household—continued

	Full sample	Urban tracts	Rural tracts	North-east	Midwest	South	West	
Household characteristics		<i>Mean or share (standard error)</i>						
# age 5-17 yrs	0.44 (0.01)	0.43 (0.01)	0.45 (0.03)	0.45 (0.05)	0.45 (0.03)	0.39 (0.03)	0.48 (0.06)	
# age 60+ yrs	0.48 (0.01)	0.42 (0.01)	0.60 (0.02)	0.54 (0.04)	0.46 (0.03)	0.48 (0.03)	0.46 (0.04)	
# age 18-59 yrs	1.34 (0.01)	1.42 (0.02)	1.19 (0.03)	1.35 (0.09)	1.30 (0.03)	1.28 (0.03)	1.53 (0.10)	a,b
Income, % of poverty guideline	381.75 (11.61)	392.95 (14.31)	359.80 (17.58)	432.66 (56.35)	335.69 (11.88)	377.98 (31.29)	426.39 (28.79)	a
Food insecure (30-day, adult)	0.16 (0.01)	0.18 (0.01)	0.13 (0.01)	0.12 (0.03)	0.14 (0.01)	0.18 (0.01)	0.19 (0.03)	a a
SNAP participant	0.14 (0.00)	0.15 (0.01)	0.11 (0.01)	0.11 (0.02)	0.13 (0.01)	0.16 (0.01)	0.12 (0.02)	
Owens or leases vehicle	0.89 (0.01)	0.87 (0.01)	0.93 (0.01)	0.87 (0.05)	0.89 (0.02)	0.89 (0.01)	0.90 (0.02)	
Location characteristics								
In rural census tract	0.34 (0.03)	- na -	- na -	0.25 (0.07)	0.41 (0.08)	0.41 (0.04)	0.14 (0.03)	a,b
Midwest	0.31 (0.03)	0.28 (0.03)	0.38 (0.07)	- na -	- na -	- na -	- na -	
South	0.36 (0.04)	0.32 (0.04)	0.43 (0.06)	- na -	- na -	- na -	- na -	
West	0.18 (0.02)	0.23 (0.03)	0.07 (0.02)	- na -	- na -	- na -	- na -	
Observations	4,826	3,515	1,311	816	1,170	1,784	1,056	
(for age)	4,819	3,508	1,311	812	1,169	1,783	1,055	

Notes: Standard errors (estimated in parentheses via jackknife repeated replication); weighted means reported.

bold = different from comparison group (Urban tracts or Northeast Region) with $p < 0.10$. a=different from Midwest with $p < 0.10$, b=different from South with $p < 0.10$. na = Not applicable.

Source: USDA, Economic Research Service estimates using FoodAPS data.

We see the most differences in PR and household characteristics when we compare current SNAP households to two non-SNAP income groups: households with income less than 185 percent of the Federal Poverty Guideline and those with income at or above 185 percent of the poverty line (table 1b). The average household size for the full sample is between two and three members. For reference, the 2012 poverty guideline for a household with 2 members was \$15,130, and for a household with three members it was \$19,090.

The PRs in non-SNAP households are older on average and are more likely to be male, more likely to be non-Hispanic White, and less likely to be non-Hispanic Black or Hispanic. In addition, PRs in the higher income non-SNAP households are more likely to be non-Hispanic White and less likely to be non-Hispanic Black or Hispanic compared to the lower income non-SNAP PRs. Non-SNAP PRs also have more education than the PRs in SNAP households and are more likely to be married,

Table 1b

Characteristics of the primary respondent and household by SNAP and income groups

	SNAP households	NonSNAP, income <185% PL	NonSNAP, income ≥ 185% PL	
Primary respondent	<i>Mean or share (standard error)</i>			
Age (yrs)	45.91 (1.00)	52.93 (1.11)	49.75 (0.39)	a
Male	0.27 (0.02)	0.34 (0.03)	0.33 (0.01)	
Non-Hispanic White	0.46 (0.02)	0.61 (0.03)	0.77 (0.01)	a
Non-Hispanic Black	0.28 (0.03)	0.17 (0.02)	0.09 (0.01)	a
Hispanic	0.24 (0.02)	0.18 (0.02)	0.09 (0.00)	a
Other Race/ethnicity	0.05 (0.01)	0.06 (0.01)	0.07 (0.00)	
High school or less education	0.62 (0.01)	0.51 (0.02)	0.25 (0.02)	a
Some college	0.30 (0.01)	0.34 (0.02)	0.34 (0.02)	
Bachelor degree or more education	0.08 (0.01)	0.15 (0.01)	0.42 (0.02)	a
Married	0.22 (0.02)	0.30 (0.02)	0.52 (0.02)	a
Employed	0.30 (0.02)	0.33 (0.03)	0.66 (0.01)	a
Retired	0.10 (0.02)	0.33 (0.03)	0.18 (0.01)	a
Household characteristics				
Household size	2.90 (0.06)	2.17 (0.06)	2.39 (0.02)	a
# under 5 yrs	0.33 (0.02)	0.14 (0.01)	0.13 (0.01)	
# 5-17	0.70 (0.03)	0.40 (0.03)	0.39 (0.02)	
# 60+	0.33 (0.02)	0.55 (0.03)	0.49 (0.01)	
# age 18-59	1.55 (0.04)	1.07 (0.05)	1.37 (0.02)	a
Income, % of poverty guideline	128.16 (6.11)	122.73 (1.78)	498.03 (16.14)	a

Continued—

Table 1b

Characteristics of the primary respondent and household by SNAP and income groups—continued

	SNAP households	NonSNAP, income <185% PL	NonSNAP, income ≥ 185% PL	
Household characteristics	<i>Mean or share (standard error)</i>			
Food insecure (30-day, adult)	0.45 (0.02)	0.29 (0.02)	0.07 (0.01)	a
SNAP participant	- na -	- na -	- na -	
Owns or leases vehicle	0.67 (0.02)	0.79 (0.02)	0.96 (0.01)	a
Location characteristics				
In rural census tract	0.28 (0.03)	0.33 (0.05)	0.35 (0.03)	
Midwest	0.31 (0.03)	0.31 (0.03)	0.32 (0.04)	
South	0.41 (0.04)	0.41 (0.04)	0.33 (0.04)	a
West	0.16 (0.04)	0.17 (0.03)	0.18 (0.03)	
Observations (for age)	1,581 1,581	1,197 1,193	2,048 2,045	

Notes: Standard errors (estimated in parentheses via jackknife repeated replication); weighted means reported. PL = Poverty Guideline. **bold** = different from SNAP households with $p < 0.10$. a = different from nonSNAP income < 185% PL with $p < 0.10$.

Source: ERS estimates using FoodAPS data.

and retired. PRs in the higher income non-SNAP households have more education and are more likely to be married than those in the lower income non-SNAP group. The PRs in the higher income non-SNAP group are twice as likely to be employed (66 percent) compared to PRs in SNAP households (30 percent) or non-SNAP households with income below 185 percent of the PL (33 percent).

SNAP households are larger (2.9 people on average) than non-SNAP income households in both income groups, but the higher income non-SNAP households (2.39 people) are larger than the lower income non-SNAP households (2.17 people). Non-SNAP households have fewer children and working-age adults, but more adults age 60 and older, than SNAP households. Average income is not significantly different in SNAP households (128 percent PL) compared to the lower income non-SNAP households (123 percent PL), but as expected is higher in the non-SNAP higher income group (498 percent of the PL) than both groups.

Food insecurity is highest in SNAP households (45 percent); the lower income non-SNAP group also has higher food insecurity (29 percent) than the higher income non-SNAP group (7 percent). Vehicle ownership follows a similar pattern, being lowest among SNAP households (67 percent), higher among non-SNAP households with income below 185 percent of the PL (79 percent), and highest among the higher income non-SNAP group (96 percent). There are also some differences in geographic locations across the groups.

Where Do Households Acquire Food in an Average Week?

In the FoodAPS data, food is reported as being acquired from 1 of 70 place types, grouped here into 9 main categories, 5 FAH and 4 FAFH: (1) large grocery stores and supermarkets; (2) small and specialty FAH stores (such as seafood or meat specialty stores and bakeries); (3) all other FAH stores (convenience stores, pharmacies, dollar stores); (4) own production (gardening, hunting, and fishing); (5) food banks and Meals on Wheels⁹; (6) restaurants and other eating places; (7) schools, daycare, and day camps; (8) family, friends, parties, and places of worship; and (9) work. (See appendix table A1 for which places types were grouped into each category.)

Overall, 99 percent of households acquired food at least 1 time during the week, with a mean of 11.2 events per week per household among those acquiring any food (table 2a). A slightly smaller share of households (87 percent) reported acquiring food from large grocery stores/supermarkets and from restaurants/other eating places (85 percent); however, the mean number of acquisition occasions at large stores (2.8) is about half that at restaurants and other eating places (5.4). This is consistent with the nature of these trips. Visiting a large grocery is more likely to involve acquiring food for a number of days or longer, whereas trips to restaurants are more likely to revolve around just one meal. Although a similar share of rural households report obtaining food from large grocery stores, the mean number of events (2.6/week) is lower than among urban households (2.9/week), and Western households report more grocery visits per week (3.3) than those in the Northeast (2.6), Midwest (2.6), and the South (2.9). The difference in the number of visits to grocery stores in the South as compared to the Midwest was also statistically significant. Rural households are less likely to report an acquisition from a restaurant or other eating place than urban households (80 versus 87 percent), but the number of visits per week was similar among those that acquired food from eating places.

Eighteen percent of households acquire food from small and specialty food stores, with a mean of 1.4 events per week among those with at least 1 event, while 42 percent report at least 1 acquisition in the “all other FAH” category (2.2 events/week among those with an event). Households in the Northeast are more likely to report an event at a small or specialty FAH store (28 percent) compared to the other three regions (19, 12, and 19 percent in the Midwest, South, and West, respectively), and the difference between the South and West is also statistically significant. The mean number of events at small or specialty FAH stores does not differ. Rural households are more likely to acquire food at an “all other FAH” store (47 versus 39 percent) than urban households; Western households are less likely to acquire food from this store type (35 percent) than those in the Northeast (47 percent), Midwest (45 percent), and the South (41 percent). This may be due to less proximity and/or availability of these store types (which includes convenience stores) for households in the West.

Six percent of households report acquiring food by their own or another’s own production—hunting, fishing, or gardening—with a mean of 1.9 occurrences per week among those doing so. Ten percent of rural households acquired food in this way (2.2/week), versus 4 percent (1.6/week) of urban households. Midwestern households are also more likely to report food from their own production than those in the South (8 percent versus 5 percent). The higher share of rural households that obtain food by their own or others’ production observed in FoodAPS is consistent with findings from a small study of Iowa households in 2003 (Morton et al., 2008).

⁹Although Meals on Wheels delivers prepared meals and food banks/pantries provide food that can be prepared at home, we group these two food sources together as they both provide households with free or greatly subsidized food that is separate from Federal nutrition assistance programs.

Table 2a

Event summary, overall and for urban and rural households

	Full sample		Urban tracts		Rural tracts	
	Share with any event	# events (if any)	Share with any event	# events (if any)	Share with any event	# events (if any)
All places	0.99 (0.00)	11.21 (0.20)	0.98 (0.00)	11.31 (0.17)	0.99 (0.00)	11.03 (0.47)
Food at home						
1) Large grocery stores	0.87 (0.01)	2.81 (0.04)	0.87 (0.01)	2.90 (0.06)	0.87 (0.01)	2.64 (0.08)
2) Small and specialty stores	0.18 (0.01)	1.44 (0.06)	0.16 (0.01)	1.45 (0.07)	0.22 (0.03)	1.44 (0.09)
3) All other FAH stores	0.42 (0.01)	2.22 (0.06)	0.39 (0.01)	2.15 (0.06)	0.47 (0.02)	2.35 (0.11)
4) Own production	0.06 (0.01)	1.93 (0.12)	0.04 (0.01)	1.62 (0.10)	0.10 (0.02)	2.17 (0.20)
5) Food banks and Meals on Wheels	0.01 (0.00)	1.71 (0.19)	0.01 (0.00)	1.86 (0.24)	0.02 (0.01)	1.48 (0.27)
Food away from home						
6) Restaurants and other eating places	0.85 (0.01)	5.44 (0.09)	0.87 (0.01)	5.48 (0.11)	0.80 (0.02)	5.36 (0.21)
7) Schools	0.14 (0.01)	6.29 (0.27)	0.15 (0.01)	6.21 (0.29)	0.14 (0.02)	6.46 (0.62)
8) Family, friends, etc.	0.37 (0.01)	2.68 (0.09)	0.33 (0.02)	2.78 (0.12)	0.43 (0.02)	2.54 (0.15)
9) Work	0.22 (0.01)	3.52 (0.15)	0.24 (0.01)	3.48 (0.14)	0.19 (0.02)	3.62 (0.43)
Observations	4,826	see notes	3,515	see notes	1,311	see notes

Notes: Standard errors (estimated in parentheses via jackknife repeated replication); weighted means reported. **Bold** = different from Urban tracts with $p < 0.10$. Sample sizes vary for '# events (if any)' and are available upon request.

Source: USDA, Economic Research Service estimates using FoodAPS data.

Only 1 percent of households reported acquiring food from assistance sources such as food banks/pantries and Meals on Wheels, averaging 1.7 occasions per week. Midwestern households were twice as likely to report food from these sources as those in the Northeast (2 versus 1 percent). Fourteen percent of all households report acquiring food from a school or daycare, with an average of 6.3 occurrences per week (table 2a). Southern households reported more events per week from schools (6.6) than households in the Northeast (5.8) and West (5.7).

Just over a third (37 percent) of households report obtaining food from family, friends, a party, or a place of worship, with a mean of 2.7 acquisitions per week among those households. Rural households were more likely than urban households to report such acquisitions (43 versus 33 percent). Midwestern households were more likely to report such events (41 percent) than those in the

Table 2b

Event summary by regions

	Northeast		Midwest		South		West	
	Share with any event	# visits (if visited)	Share with any event	# events (if any)	Share with any event	# events (if any)	Share with any event	# events (if any)
All places	0.99 (0.01)	11.27 (0.33)	0.99 (0.00)	11.07 (0.40)	0.98 (0.01)	11.13 (0.49)	0.99 (0.01)	11.58 (0.35)
Food at home								
1) Large grocery stores	0.87 (0.03)	2.61 (0.12)	0.85 (0.01)	2.56 (0.07)	0.88 a (0.01)	2.86 a (0.09)	0.88 (0.02)	3.33 a,b (0.14)
2) Small and specialty stores	0.28 (0.03)	1.61 (0.19)	0.19 (0.03)	1.45 (0.10)	0.12 (0.02)	1.33 (0.03)	0.19 b (0.02)	1.37 (0.07)
3) All other FAH stores	0.47 (0.04)	2.15 (0.15)	0.45 (0.02)	2.22 (0.13)	0.41 (0.03)	2.37 (0.09)	0.35 a (0.02)	1.96 (0.13)
4) Own production	0.05 (0.02)	1.85 (0.43)	0.08 (0.01)	2.17 (0.13)	0.05 a (0.01)	1.70 (0.28)	0.06 (0.01)	1.77 (0.24)
5) Food banks and Meals on Wheels	0.01 (0.00)	2.52 (0.73)	0.02 (0.01)	1.47 (0.24)	0.01 (0.00)	1.69 (0.40)	0.02 (0.01)	2.04 (0.53)
Food away from home								
6) Restaurants and other eating places	0.85 (0.02)	5.42 (0.25)	0.85 (0.02)	5.22 (0.14)	0.83 (0.02)	5.61 (0.19)	0.88 b (0.01)	5.52 (0.18)
7) Schools	0.16 (0.04)	5.77 (0.36)	0.13 (0.01)	6.58 (0.87)	0.15 (0.01)	6.58 (0.25)	0.15 (0.02)	5.68 b (0.40)
8) Family, friends, etc.	0.36 (0.02)	2.77 (0.21)	0.41 (0.02)	2.76 (0.14)	0.33 a (0.03)	2.60 (0.19)	0.37 a (0.02)	2.60 (0.22)
9) Work	0.23 (0.02)	3.72 (0.19)	0.23 (0.02)	3.66 (0.37)	0.20 (0.02)	3.24 (0.21)	0.22 (0.02)	3.60 (0.32)
Observations	816	see notes	1,170	see notes	1,784	see notes	1,056	see notes

Notes: Standard errors (estimated in parentheses via jackknife repeated replication); weighted means reported. **Bold** = different from Northeast Region with $p < 0.10$; a = different from Midwest with $P < 0.10$; b = different from South with $p < 0.10$. Sample sizes vary for "# events (if any)" and are available upon request.

Source: USDA, Economic Research Service estimates using FoodAPS data.

Northeast (36 percent), South (33 percent), and West (37 percent) (table 2b). Previous literature has found that exchanging food between family and friends is common in rural Midwestern areas, but is not necessarily associated with lower food insecurity (Morton et al., 2005; Garasky et al., 2006).

Over a fifth (22 percent) of all households report acquiring food from work during the week, with 3.5 events per week among those that did.¹⁰ A smaller share of rural households (19 percent) than urban households (24 percent) acquired food from work.

¹⁰Acquisitions from "work" are those that were reported obtained from work and can include foods from a common coffee pot area in an office, parties at work, or restaurant workers obtaining meals from their place of work. When an individual reported obtaining food while working, but provided the place name (such as a food truck or specific restaurant), the event was classified as being from a restaurant or other eating place.

Table 2c

Event summary by SNAP and income groups

	SNAP households		Non-SNAP, income <185% PL		Non-SNAP, income ≥185% PL		
	share with any event	# events (if visited)	share with any event	# events (if any)	share with any event	# events (if any)	
All places	0.96 (0.01)	10.75 (0.28)	0.98 (0.01)	9.06 (0.34)	0.99 a (0.00)	11.84 a (0.28)	
Food at home							
1) Large grocery stores	0.83 (0.02)	2.91 (0.07)	0.83 (0.02)	2.70 (0.09)	0.88 a (0.01)	2.82 (0.06)	
2) Small and specialty stores	0.14 (0.01)	1.65 (0.10)	0.15 (0.02)	1.61 (0.14)	0.20 a (0.02)	1.38 (0.06)	
3) All other FAH stores	0.51 (0.02)	2.49 (0.11)	0.39 (0.02)	2.12 (0.10)	0.41 (0.01)	2.18 (0.08)	
4) Own production	0.04 (0.01)	1.84 (0.36)	0.07 (0.01)	1.88 (0.22)	0.06 (0.01)	1.96 (0.16)	
5) Food banks and Meals on Wheels	0.05 (0.01)	1.50 (0.28)	0.03 (0.01)	2.04 (0.36)	0.00 a (0.00)	1.70 (0.27)	
Food away from home							
6) Restaurants and other eating places	0.72 (0.02)	4.18 (0.12)	0.78 (0.02)	4.23 (0.21)	0.89 a (0.01)	5.91 a (0.14)	
7) Schools	0.20 (0.01)	8.01 (0.43)	0.12 (0.01)	6.64 (0.39)	0.14 (0.01)	5.72 a (0.32)	
8) Family, friends, etc.	0.38 (0.02)	3.07 (0.18)	0.33 (0.02)	2.62 (0.23)	0.37 (0.02)	2.62 (0.11)	
9) Work	0.13 (0.01)	3.34 (0.27)	0.13 (0.02)	3.29 (0.39)	0.26 a (0.01)	3.57 (0.19)	
Observations	1,581	see notes	1,197	see notes	2,048	see notes	

Notes: Standard errors (estimated in parentheses via jackknife repeated replication); weighted means reported. PL = poverty line.

Bold = different from SNAP households with $p < 0.10$;

a = different from non-SNAP, income <185% PL with $P < 0.10$. Sample sizes vary for '# events (if any)' and are available upon request.

Source: USDA, Economic Research Service estimates using FoodAPS data.

As expected, there are more differences in acquisition patterns when we compare SNAP households to those in the two non-SNAP income groups. Households in the higher income non-SNAP group are most likely to acquire food at least once during the week – with 99 percent of the households reporting at least one event, while only 96 percent of SNAP households and 98 percent of non-SNAP lower income households report at least one food acquisition event. Among those that report at least one event, the higher income non-SNAP households also report more events – 11.8 in the week compared to 10.8 among SNAP households and 9.1 in lower income non-SNAP households (table 2c).

The types of food outlets that households obtain food from also differ across the SNAP income groups. The higher income households are more likely to visit a large grocery store than the other two groups (88 percent versus 83 percent), as well as small or specialty retail food stores (20 percent

versus 14-15 percent). SNAP households are more likely to report an acquisition from a store in the 'all other FAH' category (51 percent)—which includes convenience stores, gas stations, and pharmacies—than lower income non-SNAP (39 percent) and higher income non-SNAP households (41 percent). In addition, among those that visit these types of stores, SNAP households report more events (2.5 per week) than both groups of non-SNAP households (2.1 to 2.2 per week). This may reflect differences in proximity to these stores or differences in the need for fill-in shopping trips.

Non-SNAP households are more likely to report obtaining food from own production (6-7 percent) than SNAP households (4 percent). Both groups of non-SNAP households are less likely than SNAP households to obtain food from food banks, pantries, or Meals on Wheels. This is consistent with the fact that both groups of non-SNAP households report lower food insecurity than SNAP households. The lower income non-SNAP households are less likely to get food from family and friends than SNAP households (33 percent versus 38 percent).

Visits to restaurants and other eating places are less likely among SNAP households (72 percent) than among lower income non-SNAP (78 percent) and higher income households (89 percent). Among those that acquire food from restaurants and eating places, higher income households report more events (5.9 per week) than SNAP and lower income non-SNAP households (4.18 and 4.23, respectively). A larger share of SNAP households obtain food from schools (20 percent) than do non-SNAP households (12-14 percent), and those that get food from school do so more often in SNAP households (8 times per week) than in lower income non-SNAP households (6.6 per week) and the higher income households have the least frequent school events (5.7 per week). Consistent with greater employment among PRs, higher income households are twice as likely to report getting food from work (26 percent) than the other two groups (13 percent).

What Share of Households Visit Their Primary Store During the Week?

Ver Ploeg and colleagues (2015) summarized information (such as store type and distance from the home) about households' primary (the store where the household does most of its food shopping) and alternate food store. The household's reported primary food store was, on average, farther than the nearest SNAP-authorized supermarket or supercenter. Ver Ploeg and colleagues hypothesized that price, selection, or other store features were more important than proximity when choosing a primary store to buy groceries.

Households obtain food from a variety of sources in an average week (table 2a). We expect the self-identified primary store to be visited regularly by households, but the frequency of visits will depend on how often the household conducts its main grocery shopping. Although FoodAPS did not ask households how often they conduct their main grocery shopping, examining whether the household visited their main (or alternate store) during the food reporting week may provide insight into how often they conduct major grocery shopping.

We match the household's primary and alternate store to each of the stores visited during the food reporting week using the unique place ID. Not all primary and alternate stores reported during the initial interview were geocoded.¹¹ Both the primary and alternate foodstores were geocoded for nearly 70 percent of the households; for an additional 27 percent, either the primary or the secondary store was geocoded (table 3). The remaining 3 percent of the households did not have a primary or alternate store geocoded. Among those with one geocoded primary or alternate store, 58 percent visited that store during the food-reporting week.

Of households with both the primary and alternate store geocoded, 25 percent did not visit either store, 51 percent visited one of the stores, and the remaining 24 percent visited both stores during the week (fig. 2). Among households with the primary (alternate) store geocoded, 61 (40) percent visited the store during the week.

Table 3

Number of primary and/or alternate stores geocoded, and share that visited any during week

Number of stores geocoded	Share	Number	Share visited any
0	0.03	136	--na--
1	0.27	1,275	0.58 (0.02)
2	0.70	3,415	0.76 (0.02)

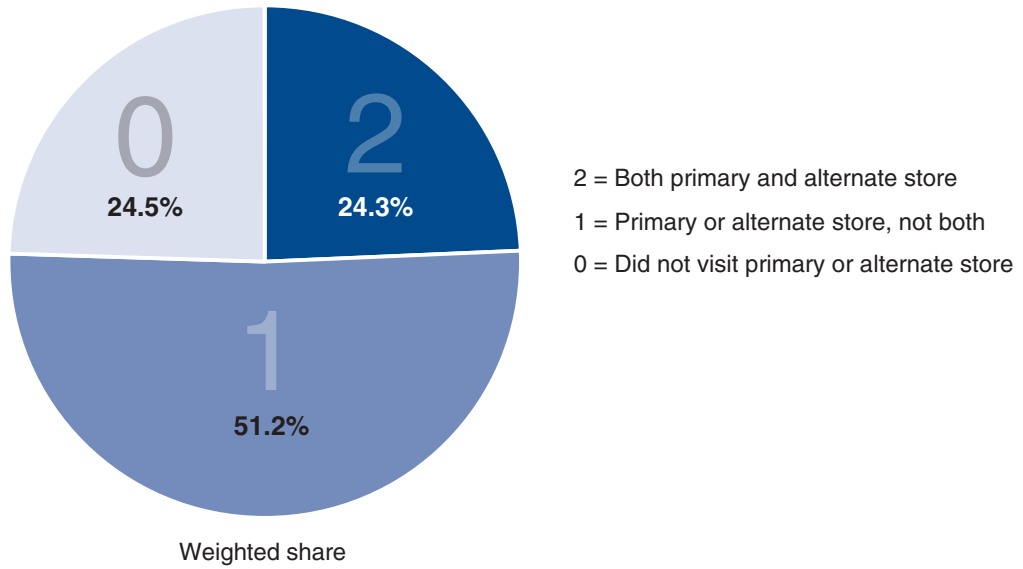
Notes: Standard errors (estimated in parentheses via jackknife repeated replication); weighted means reported. na = Not applicable.

Source: USDA, Economic Research Service estimates using FoodAPS data.

¹¹This was because the store was not one of the stores listed in the pre-populated list of stores near the household and the household did not provide sufficient information with which to geolocate their store(s).

Figure 2

Number of primary and/or alternate stores visited during week, households with both geolocated



Notes: Weighted percentages reported.

Source: USDA, Economic Research Service estimates using FoodAPS data.

Expenditures and Free Food Acquisitions by Place Type

The frequency of food acquisitions at each type of place does not indicate how much households are spending there. On average, households spent \$78.41 per capita across all place categories during the week, with 55 percent at large grocery stores, 3 percent at small and specialty food stores, and 7 percent at other food stores (table 4a).¹² One-third of weekly food expenditures were at restaurants and other eating places, with the rest of FAFH spending occurring at work and schools. Most acquisitions (95-99 percent) from own production, other food assistance, and family, friends, and community places were free.¹³ Not all food assistance was free because some food pantries ask for small donations, or offer the food at much-discounted prices, and Meals on Wheels charges fees on a sliding scale.

Half of food acquisition events at schools—likely USDA free school meals¹⁴—were free while 70 percent at work were free. Fifteen percent of acquisitions at restaurants and other eating places were free. Such free acquisitions likely occur when someone else pays for the meal or when the individual is a restaurant employee and reports the source of the free food as restaurant/eating place rather than work.¹⁵

Per capita weekly expenditures were similar across rural and urban households (\$77 to \$79), as were the expenditure shares across most of the place categories (table 4b). Most expenditures occurred at large grocery stores (55 percent for urban and 56 percent for rural). However, rural households spent a greater share at stores falling in the "other FAH" category (9 percent compared to 6 percent in urban areas), which includes convenience stores, dollar stores, and pharmacies. Rural households spent less at restaurants and other eating places (\$21.91, 29 percent) than did urban households (\$27.30, 35 percent), which may be due to nearby availability of restaurants in rural areas (table 4c).

The number of free-food acquisition events (conditional upon having an event that is free) is similar across urban and rural areas for most place types. However, rural households report more free acquisitions via own production than do households in urban areas. Overall, the share of events that were free in each category is similar as well (table 4b). The main difference between urban and rural areas is in the share of school food events that were free: 55 percent for urban households and 41 percent for rural.

Across the four regions, mean per capita weekly expenditures range from \$73 (Midwest) to \$83 (West), with only these two values significantly different from each other statistically. The allocation

¹²Spending estimates in this report are based on the total paid at the event, which includes taxes, spending on nonfood items when they are obtained in the same event, and any tip paid when applicable. Thus, we do not use the term "food spending" and instead characterize spending as spending at these outlets when obtaining food.

¹³Food acquired from family and friends could be either informal support or social meals. Differentiating these would be helpful for understanding the intricacies of how low-income households meet their food needs. We are unsure if the data would allow for such family and friend events to be separated this way.

¹⁴In this report, the schools category also includes daycares and summer camps. Some of these meals may be "free" because they are included in the cost of tuition. However, the majority of events reported in this category are from schools. The data do not allow us to clearly identify whether a free acquisition at a school was a free meal from the National School Lunch Program or the School Breakfast Program. However, we expect that most free food at schools is provided by these programs.

¹⁵Interestingly, a small percentage of events at FAH stores were free: 1 percent at large grocery stores, 5 percent at small/specialty stores, and 3 percent at all other stores. This may occur when someone else purchases the items for the household but the respondent keeps the receipt and returns it along with other survey materials.

Table 4a

Expenditures and prevalence of free-food events overall and by outlet type, all households

	Per capita exp/wk	Exp share	Share of HH with free event	# free events (if any)	% events free
All places	78.41 (2.13)	n/a	0.63 (0.01)	4.76 (0.18)	0.22 (0.01)
Food at home					
1) Large grocery stores	44.77 (1.23)	0.55 (0.01)	0.02 (0.00)	1.31 (0.08)	0.01 (0.00)
2) Small and specialty stores	2.12 (0.31)	0.03 (0.00)	0.01 (0.00)	1.66 (0.46)	0.05 (0.01)
3) All other FAH stores	5.05 (0.45)	0.07 (0.01)	0.02 (0.00)	1.24 (0.06)	0.03 (0.00)
4) Own production	0.00 (0.00)	0.00 (0.00)	0.06 (0.01)	1.94 (0.13)	0.99 (0.01)
5) Food banks and Meals on Wheels	0.00 (0.00)	0.00 (0.00)	0.01 (0.00)	1.68 (0.18)	0.95 (0.03)
Food away from home					
6) Restaurants and other eating places	25.48 (0.92)	0.33 (0.01)	0.32 (0.01)	2.37 (0.12)	0.15 (0.01)
7) Schools	0.25 (0.03)	0.01 (0.00)	0.08 (0.00)	6.34 (0.31)	0.50 (0.03)
8) Family, friends, etc.	0.34 (0.09)	0.00 (0.00)	0.36 (0.01)	2.66 (0.09)	0.95 (0.01)
9) Work	0.40 (0.08)	0.01 (0.00)	0.17 (0.01)	3.19 (0.24)	0.70 (0.03)
Observations	4,826	4,665	4,826	4,826	4,739

Notes: Standard errors (estimated in parentheses via jackknife repeated replication); weighted means reported. Sample sizes vary for "# free events (if any)" and "% events free" and are available upon request. n/a = not applicable. Exp = Expenditure.

Source: USDA, Economic Research Service estimates using FoodAPS data.

of expenditures across types is similar across regions, with the largest share at large grocery stores (53-58 percent), followed by restaurants and other eating places (31-34 percent), and all other FAH stores (6-10 percent). Spending differences across regions appear mainly at large grocery stores, small/specialty stores, schools, and work. Western households spend the most (\$49.41, 58 percent) at large grocery stores, while Northeastern households spend the least (\$41.32, 53 percent). Households in the Midwest report a larger share of events overall as being free (24 percent) than do households in the Northeast and South (21 percent). Western households also report that 24 percent of all events are free, and the share of free events from other FAH stores (4 percent), and work (79 percent) are greater than the shares among Northeastern and Midwestern households. Western households have the greatest share of events from schools that are free—79 percent versus 40 percent in the Northeast, 49 percent in the Midwest, and 50 percent in the South. This could be due to greater eligibility or take-up of free school meals, or differences in the share of children that attend schools that participate in USDA school meal programs.

Table 4b

Expenditures and prevalence of free-food events overall and by outlet type, rural and urban households

	Urban tracts				Rural tracts			
	Per capita exp/wk	Exp share	# free events (if any)	% events free	Per capita exp/wk	Exp share	# free events (if any)	% events free
All places	79.10 (2.47)	n/a	4.82 (0.20)	0.22 (0.01)	77.05 (3.31)	n/a	4.64 (0.32)	0.23 (0.01)
Food at home								
1) Large grocery stores	44.47 (1.61)	0.55 (0.01)	1.31 (0.09)	0.01 (0.00)	45.35 (1.82)	0.56 (0.01)	1.32 (0.17)	0.01 (0.00)
2) Small and specialty stores	1.75 (0.21)	0.02 (0.00)	1.31 (0.31)	0.04 (0.01)	2.86 (0.82)	0.04 (0.01)	1.92 (0.76)	0.07 (0.03)
3) All other FAH stores	4.56 (0.49)	0.06 (0.00)	1.21 (0.08)	0.03 (0.01)	6.01 (0.84)	0.09 (0.01)	1.28 (0.15)	0.02 (0.01)
4) Own production	0.00 (0.00)	0.00 (0.00)	1.62 (0.10)	0.99 (0.01)	0.01 (0.00)	0.00 (0.00)	2.19 (0.21)	0.98 (0.01)
5) Food banks and Meals on Wheels	0.00 (0.00)	0.00 (0.00)	1.78 (0.22)	0.97 (0.02)	0.00 (0.00)	0.00 (0.00)	1.52 (0.27)	0.93 (0.06)
Food away from home								
6) Restaurants and other eating places	27.30 (1.18)	0.35 (0.01)	2.35 (0.12)	0.16 (0.01)	21.91 (1.75)	0.29 (0.01)	2.41 (0.30)	0.13 (0.01)
7) Schools	0.22 (0.03)	0.01 (0.00)	6.46 (0.38)	0.55 (0.03)	0.31 (0.06)	0.01 (0.00)	6.02 (0.56)	0.41 (0.04)
8) Family, friends, etc.	0.35 (0.12)	0.00 (0.00)	2.75 (0.12)	0.95 (0.01)	0.33 (0.12)	0.00 (0.00)	2.51 (0.14)	0.96 (0.01)
9) Work	0.46 (0.11)	0.01 (0.00)	3.07 (0.16)	0.71 (0.02)	0.27 (0.10)	0.00 (0.00)	3.49 (0.78)	0.66 (0.06)
Observations	3,515	3,402	3,515	3,452	1,311	1,263	1,311	1,287

Notes: Standard errors (estimated in parentheses via jackknife repeated replication). **Bold** = different from Urban tracts with $p < 0.10$. n/a = not applicable. Exp = Expenditure.

Source: USDA, Economic Research Service estimates using FoodAPS data.

Table 4c

Expenditures and prevalence of free-food events overall and by outlet type, by Census regions

	Northeast				Midwest			
	Per capita exp/wk	Exp share	# free events (if any)	% events free	Per capita exp/wk	Exp share	# free events (if any)	% events free
All places	82.08 (4.36)	n/a	4.60 (0.18)	0.21 (0.01)	72.47 (4.12)	n/a	4.76 (0.32)	0.24 (0.01)
Food at home								
1) Large grocery stores	41.32 (1.89)	0.53 (0.01)	1.11 (0.13)	0.01 (0.00)	41.68 (2.92)	0.54 (0.02)	1.39 (0.14)	0.01 (0.00)
2) Small and specialty stores	2.77 (0.43)	0.04 (0.01)	1.04 (0.05)	0.02 (0.01)	2.78 (0.84)	0.04 (0.01)	2.43 (1.31)	0.05 (0.02)
3) All other FAH stores	7.85 (2.25)	0.10 (0.02)	1.42 (0.30)	0.02 (0.00)	4.50 (0.45)	0.08 (0.01)	1.22 (0.12)	0.02 (0.00)
4) Own production	0.00 (0.00)	0.00 (0.00)	1.85 (0.43)	1.00 (0.00)	0.00 (0.00)	0.00 (0.00)	2.19 (0.14)	0.99 (0.01)
5) Food banks and Meals on Wheels	0.01 (0.01)	0.00 (0.00)	1.85 (0.41)	0.89 (0.10)	0.00 (0.00)	0.00 (0.00)	1.50 (0.23)	0.94 (0.05)
Food away from home								
6) Restaurants and other eating places	28.91 (2.79)	0.31 (0.02)	2.32 (0.11)	0.15 (0.02)	22.48 (1.28)	0.32 (0.02)	2.41 (0.30)	0.15 (0.01)
7) Schools	0.29 (0.12)	0.01 (0.01)	6.13 (0.76)	0.40 (0.08)	0.24 (0.05)	0.01 (0.00)	5.67 (0.76)	0.49 (0.04)
8) Family, friends, etc.	0.20 (0.11)	0.00 (0.00)	2.78 (0.22)	0.95 (0.03)	0.42 (0.12)	0.01 (0.00)	2.72 (0.14)	0.94 (0.01)
9) Work	0.72 (0.09)	0.01 (0.00)	3.07 (0.44)	0.61 (0.09)	0.37 (0.13)	0.01 (0.00)	3.33 (0.67)	0.64 (0.05)
Observations	816	794	see notes		1,170	1,136	see notes	

Continued—

Table 4c

Expenditures and prevalence of free-food events overall and by outlet type, by Census regions—continued

	South				West			
	Per capita exp/wk	Exp share	# free events (if any)	% events free	Per capita exp/wk	Exp share	# free events (if any)	% events free
All places	79.84 (3.83)	n/a	4.76 (0.34)	0.21 (0.02) a	82.85 (3.26) a	n/a	4.90 (0.52)	0.24 (0.01)
Food at home								
1) Large grocery stores	46.66 (2.18)	0.56 (0.01)	1.31 (0.14)	0.01 (0.00)	49.41 a (2.97)	0.58 (0.02)	1.36 (0.19)	0.01 (0.00)
2) Small and specialty stores	1.18 a (0.31)	0.02 a (0.00)	1.36 (0.33)	0.10 (0.04)	2.28 b (0.32)	0.03 (0.00)	1.31 (0.33)	0.02 (0.01)
3) All other FAH stores	4.78 (0.65)	0.07 (0.01)	1.19 (0.12)	0.03 (0.01)	4.13 (0.76)	0.06 (0.01)	1.24 (0.09)	0.04 a (0.01)
4) Own production	0.00 (0.00)	0.00 (0.00)	1.73 (0.30)	0.97 (0.02)	0.00 (0.00)	0.00 (0.00)	1.77 (0.24)	1.00 (0.00)
5) Food banks and Meals on Wheels	0.00 (0.00)	0.00 (0.00)	1.70 (0.40)	0.99 (0.01)	0.00 (0.00)	0.00 (0.00)	2.03 (0.54)	0.96 (0.04)
Food away from home								
6) Restaurants and other eating places	26.24 (2.47)	0.34 (0.01)	2.39 (0.14)	0.14 (0.01)	26.25 a (1.69)	0.32 (0.01)	2.31 (0.25)	0.17 (0.02)
7) Schools	0.27 (0.05)	0.01 (0.00)	7.06 (0.52)	0.50 (0.04)	0.18 (0.06)	0.00 a (0.00)	6.11 (0.54)	0.63 a,b (0.04)
8) Family, friends, etc.	0.28 (0.18)	0.00 (0.00)	2.57 (0.18)	0.96 (0.01)	0.46 (0.21)	0.00 (0.00)	2.59 (0.22)	0.96 (0.01)
9) Work	0.41 (0.17)	0.01 (0.00)	2.95 (0.26)	0.74 (0.03)	0.14 a (0.03)	0.00 a,b (0.00)	3.46 (0.30)	0.79 a (0.04)
Observations	1,784	1,709	see notes		1,056	1,026	see notes	

Notes: Standard errors (estimated in parentheses via jackknife repeated replication). **Bold** = different from Northeast Region with $p < 0.10$; a = different from Midwest with $p < 0.10$. b = different from South with $p < 0.10$. n/a = Not applicable. Exp = Expenditure.

Source: USDA, Economic Research Service estimates using FoodAPS data.

Table 4d

Expenditures and free events by income and SNAP household groups

	SNAP			NonSNAP <185%			NonSNAP ≥185%					
	Per capita exp/wk	Exp share	# free events (if any)	% events free	Per capita exp/wk	Exp share	# free events (if any)	% events free	Per capita exp/wk	Exp share	# free events (if any)	% events free
All places	52.18 (2.42)	n/a	5.94 (0.24)	0.30 (0.01)	59.43 (3.11)	n/a	4.49 (0.33)	0.22 (0.01)	88.45 a (2.33)	n/a	4.58 (0.25)	0.21 (0.01)
Food at home												
1) Large grocery stores	33.34 (1.74)	0.60 (0.02)	1.20 (0.10)	0.02 (0.00)	36.04 (2.49)	0.58 (0.02)	1.24 (0.09)	0.01 (0.00)	49.26 a (1.57)	0.54 (0.01)	1.40 (0.13)	0.01 (0.00)
2) Small and specialty stores	1.19 (0.21)	0.02 (0.00)	1.05 (0.06)	0.03 (0.02)	1.89 (0.82)	0.03 (0.01)	1.16 (0.16)	0.05 (0.02)	2.37 (0.27)	0.03 (0.00)	1.82 (0.58)	0.05 (0.01)
3) All other FAH stores	6.80 (1.13)	0.13 (0.01)	1.28 (0.11)	0.04 (0.01)	4.24 (0.67)	0.09 (0.01)	1.34 (0.19)	0.03 (0.01)	4.91 (0.48)	0.06 a (0.00)	1.20 (0.08)	0.02 (0.01)
4) Own production	0.00 (0.00)	0.00 (0.00)	1.84 (0.36)	1.00 (0.00)	0.01 (0.01)	0.00 (0.00)	1.91 (0.20)	0.97 (0.03)	0.00 (0.00)	0.00 (0.00)	1.97 (0.16)	0.99 (0.01)
5) Food banks and Meals on Wheels	0.00 (0.00)	0.00 (0.00)	1.50 (0.28)	1.00 (0.00)	0.02 (0.01)	0.00 (0.00)	1.98 (0.36)	0.85 (0.08)	0.00 a (0.00)	0.00 a (0.00)	1.70 (0.27)	1.00 (0.00)
Food away from home												
6) Restaurants and other eating places	10.53 (0.92)	0.25 (0.01)	2.32 (0.16)	0.19 (0.01)	16.34 (1.45)	0.29 (0.02)	2.33 (0.27)	0.16 (0.02)	30.77 a (1.31)	0.35 a (0.01)	2.38 (0.14)	0.14 (0.01)
7) Schools	0.07 (0.02)	0.00 (0.00)	7.80 (0.45)	0.91 (0.01)	0.09 (0.02)	0.00 (0.00)	6.57 (0.54)	0.64 (0.05)	0.32 a (0.04)	0.01 a (0.00)	5.38 a (0.45)	0.36 (0.03)
8) Family, friends, etc.	0.15 (0.08)	0.00 (0.00)	3.09 (0.19)	0.97 (0.01)	0.67 (0.43)	0.01 (0.00)	2.53 (0.23)	0.96 (0.01)	0.30 (0.07)	0.00 (0.00)	2.60 (0.11)	0.95 (0.01)
9) Work	0.09 (0.02)	0.00 (0.00)	3.37 (0.33)	0.70 (0.05)	0.12 (0.05)	0.00 (0.00)	3.19 (0.45)	0.73 (0.05)	0.53 a (0.11)	0.01 (0.00)	3.17 (0.29)	0.69 (0.03)
Observations	1,581	1,485	see notes	see notes	1,197	1,159	see notes	see notes	2,048	2,021	see notes	see notes

Notes: Standard errors (estimated in parentheses via jackknife repeated replication); weighted means reported. **bold** = different from SNAP with p<0.10. a = different from nonSNAP <185% with p<0.10. Sample sizes vary for '# free events (if any)' and '% events free' and are available upon request.

n/a indicates that a statistical test was not able to be conducted. n/a/ - Not applicable.

Source: ERS estimates using FoodAPS data.

Free Food Acquisitions by Household Income

Free-food acquisitions are likely to vary more across household income group than across geographic area. We compare mean per capita weekly expenditures, expenditure shares, and the prevalence of free-food events overall and by place type for households in the three mutually exclusive SNAP and income groups.

Looking at per capita weekly expenditures at all store types, both non-SNAP groups are greater than SNAP households (table 4d). While SNAP households spend, on average, \$52 per capita per week at all place categories, non-SNAP households with income less than 185 percent of the poverty threshold spend \$59 per person per week, and those with income at or above 185 percent of the poverty threshold spend \$88 per person per week. The share of weekly expenditures at large grocery stores is higher in SNAP households than the higher income group (60 percent versus 54 percent), while the share spent at stores in the all other FAH category is highest in SNAP households (13 percent), lower in non-SNAP low-income households (9 percent), and lowest among higher income households (6 percent). This is consistent with the finding that SNAP households are more likely to visit these stores during the week. The share of spending allocated to restaurants and other eating places is greatest among the higher income non-SNAP households (35 percent versus 25 percent among SNAP households and 29 percent among lower income non-SNAP households). Higher income households are likely able to pay more for convenience and prepared food.

Both non-SNAP groups had fewer free-food events and a lower share of all events that were free (about 4.5 and 21-22 percent) as compared to the 5.9 and 30 percent among SNAP households (table 4d). This seems to be mostly driven by free events at schools, where 91 percent of school food events are free in SNAP households. Non-SNAP households with income below 185 percent of the PL report 64 percent of school events to be free, while those in the highest income group reports 36 percent as free. School-age children in SNAP households are automatically qualified to receive free school meals. Households with income above 130 percent of the Federal poverty guidelines are eligible for reduced-price meals, not free meals, unless the school offers free meals to all students.¹⁶ Some children in higher income households may also be certified to receive free school meals because they are part of a SNAP unit that is a subset of the household whose income meets the eligibility criteria even though the household as a whole does not.

Non-SNAP households in both income groups report the fewer free-food events from family and friends (2.5-2.6 per week), compared to the 3.1 reported by SNAP households.

SNAP households reported a larger share of events from restaurants and eating places as free (19 percent) than did non-SNAP households with income above 185 percent of the Federal poverty line.

¹⁶Schools with larger shares of free or reduced-price meal-eligible students may offer free meals to all students through special provisions of USDA's National School Lunch Program and School Breakfast Program, and in some cases, with support of local and/or State funding (Ralston et al., 2008; Ralston and Newman, 2015; Hewins and Burke, 2014).

FoodAPS Provides New Insights and Suggests Future Research

This report demonstrates that households acquire food from a wide variety of places, even over the course of 7 days. Most households (87 percent) visit a large grocery store in a typical week, and 85 percent acquire food from restaurants and other eating places at least once. Just over half (55 percent) of all spending at food stores and restaurants/other eating places is done at large grocery stores and a third occurs at restaurants. With a few exceptions, acquisition patterns do not vary across rural and urban areas or across census regions. Own production (hunting, fishing, gardening) and meals with family/friends or at community centers are more common in rural areas and the Midwest. Households are more likely to visit small and specialty stores in the Northeast as compared to the rest of the country. Visits to stores in the “all other FAH” category (convenience stores, drug stores, dollar stores, etc.) are more common in rural areas and less common in the West, while visits to restaurants and other eating places are more common in urban areas.

SNAP and non-SNAP households display different acquisition patterns, visiting different types of stores/food outlets and with different frequencies during the week. These differences are likely due to many factors, including household characteristics such as income, household size and composition, employment and education, and access to other assistance programs such as USDA school meals.

The allocation of spending across food store types among SNAP households is similar to how SNAP benefits in fiscal year 2009 were redeemed, with the greatest shares at large grocery stores and “other FAH” stores (Castner and Henke, 2011). Lower income non-SNAP households spent more per capita at restaurants and eating places and at schools than did SNAP households. This is consistent with the fact that SNAP encourages spending on food at home versus away from home and that SNAP participants are directly certified to receive free school meals.

A unique feature of the FoodAPS survey is that, when possible, a household’s main and alternate food store is identified and geocoded, along with each foodstore and other place visited during the week. Even households that usually walk or take public transportation to do their grocery shopping do not use the nearest store to do their main grocery shopping (Ver Ploeg et al., 2015). Over three-quarters of FoodAPS households visited their self-reported main or alternate store at least once during an average week. Despite the large number of food sources used during a week, households do visit their main stores rather frequently, even if these stores are not the closest to home.

Another unique feature of FoodAPS is its collection of information about free food acquisitions. Not surprisingly, most of these are from own production, other assistance (food pantries), schools, family and friends, and work. However, respondents did report free food occasions at retail foodstores and restaurants. On the flip side, expenditures sometimes occur at places that would usually be considered to provide free food, as when food pantries collect donations or charge greatly discounted prices for the food offered. A larger share of food acquisitions reported by SNAP households was free as compared to all non-SNAP households, likely due to more free school meals.

The differences in acquisition patterns documented in this report may relate to differences in access to various stores, time availability, food and other preferences, or other household characteristics. Finding out which factors influence diet quality will help policymakers design interventions that are more likely to improve health outcomes. Future research will investigate these issues using FoodAPS data.

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Categorization of FoodAPS event place types into groups for analysis

1) Large grocery stores and supermarkets	6) Restaurants and other eating places	7) Schools
111 Grocery Store, Large	201 Bakery (incl Bagel, Donut, Cookie Shops)	303 Camp, afterschool program
117 Military Commissary	202 Buffet Restaurant	326 Preschool
121 Super store	203 Burger Restaurant (incl Hot Dog)	327 School
122 Supermarket	204 Café & Bakery-Café	
123 Club Stores	205 Chicken Restaurant	8) Family, friends, parties, etc.
124 Wholesale	206 Coffee Shop (incl Tea House)	310 Family
	207 Dairy Desserts (Ice cream, Frozen yogurt)	313 Friend
2) Small and specialty food stores	208 Drinking Place (Bar, Pub, Tavern, Nightclub)	324 Party, cookout
101 Bakery Specialty	209 Misc specialty (Candy, Cheese, Juice, Pretzel, Popcorn)	325 Place of Worship
104 Delivery Route	210 Pizza Restaurant	
105 Direct Marketing Farmer	211 Restaurant, American	9) Work
107 Farmers Market	212 Restaurant, Asian	328 Work
109 Fruits/Veg Specialty	213 Restaurant, European	
112 Grocery Store, Medium	214 Restaurant, Mexican/Tex-Mex/Latin American	
113 Grocery Store, Small	215 Restaurant, Seafood	
114 Grocery Store, not further specified	216 Restaurant, Steak House	
116 Meat/Poultry Specialty	217 Restaurant, not further specified	
118 Non-profit Food Buying Co-op	218 Sandwich Shop (incl Deli & Salad Shops)	
120 Seafood Specialty	219 Travel place (airport, hotel, truck stop)	
	220 Vending machine, Food Truck	
3) All other FAH stores	301 Athletic club, gym	
102 Combination Grocery/Other	302 Bowling alley	
103 Convenience Store	304 Casino	
106 Dollar store	306 College	
110 Gas station/market	307 Country club	
115 Liquor store, winery	309 Fair, concert, amusement park	
119 Pharmacy	312 Fraternal Organization	
	317 Hospital	
4) Own production	318 Institution	
311 Fishing / hunting	320 Movie theater	
314 Garden, Home	321 Municipal offices	
315 Garden, Other	322 Nonfood Retailer	
	323 Park, community center	
5) Food banks and Meals on Wheels	401 Multiple places	
108 Food bank/pantry	402 Unknown	
319 Meals on Wheels		

Source: USDA, Economic Research Service classification.