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# Supplemental Nutrition Assistance Program Participation and Local Program Outreach and Eligibility Services

James Mabli

Program outreach activities are integral components of social welfare programs, but the relationship between availability of outreach services and households' program participation has not been examined due to lack of data on outreach efforts. This study uses a unique, nationally representative, matched household-agency data set of more than 21,000 households from 2009 to examine relationships between household participation in the Supplemental Nutrition Assistance Program (SNAP) and outreach and eligibility services offered by local agencies. When agencies provide applications to clients of emergency food pantries and submit their applications to SNAP administrative offices, the probability of household participation in SNAP increases 5–6 percentage points.

**Key Words:** emergency food pantries, matched household-agency data, outreach, program participation, SNAP

Program outreach activities are integral components of many social welfare programs. The activities are designed and promoted in an effort to ensure that the programs reach the populations they are intended to serve, either by informing households that they are eligible for the programs or by informing households that are aware of their eligibility about the services and benefits the programs offer. One such program is the Supplemental Nutrition Assistance Program (SNAP). It is the largest federal food assistance program in the United States and aims to ensure that low-income households with limited resources have adequate access to food. Though participation in SNAP increased 176 percent in 13 years, from 17 million individuals in an average month in fiscal year 2000 to more than 47 million in fiscal year 2013, estimates are that one-quarter to one-third of eligible households do not participate in the program (Cunningham, Castner, and Sukasih 2013).

SNAP outreach activities target this group of "eligible nonparticipants" to attempt to increase the participation rate (the percentage of eligible households that participate in the program). The outreach activities are defined as "discretionary educational and informational efforts promoting

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This study uses data from the 2009 Hunger in America survey, which was designed and implemented by Mathematica Policy Research in collaboration with Feeding America. The author thanks Emily Engelhard of Feeding America and Phil Gleason of Mathematica Policy Research for their thoughtful review and critique. The views expressed are the author's and do not necessarily represent the views of Feeding America, Mathematica Policy Research, or the U.S. Department of Agriculture.

the nutrition and other benefits of participating in the program which are directed to nonparticipating but potentially eligible persons.<sup>1</sup> Examples of the activities include pre-certification efforts such as supporting a client-friendly environment in SNAP application centers and simplifying applications and/or the application process. The outreach policies typically are set by the state SNAP office and are implemented at the local SNAP agency level.

Policymakers face two important tasks related to program participation and outreach. The first is to identify the characteristics of individuals who participate in public food assistance programs such as SNAP and barriers to participation for those who are eligible but do not participate. This information can be used to most effectively reach different groups of nonparticipants and develop effective strategies for assisting nonparticipants in transitioning to the program. This assistance is particularly important for the most vulnerable populations; households in which annual income is below the federal poverty threshold are entitled under federal SNAP rules to a higher level of benefits than households with higher incomes. The second task is to evaluate the effects of the outreach activities on participation in SNAP. This evaluation aids administrators in determining best practices both for outreach activities and for allocation of limited state and local agency resources.

Identifying the characteristics of program participants has been a core component of SNAP's policy research for more than 20 years (Mabli et al. 2011b). The literature in terms of both academic journals and government reports focused on identifying factors associated with participation is extensive. However, less is known about the effects of program outreach efforts or about barriers to participation, in large part because data on these aspects of the program have not been available. While most nationally representative data sets provide information about the characteristics of SNAP participants and nonparticipants, they lack corresponding information from the local agencies that perform program outreach in the areas in which survey respondents live.

This study uses a recently collected data set to construct matched household-agency records and examine the effect of local program outreach efforts on SNAP participation. The survey data, and thus the analysis, are limited to one of the most vulnerable populations that participate in SNAP—households that receive food from emergency food pantries. The data come from the 2009 Hunger in America (HIA) survey, which is the largest nationally representative survey of emergency food program recipients available.<sup>2</sup>

I estimate econometric models of the associations between SNAP participation and SNAP outreach and eligibility services provided by emergency food pantries while accounting for differences in demographic and economic characteristics of households and state-level SNAP policies. The models also account for the endogenous relationship between household-level participation in SNAP and food-pantry-level provision of SNAP outreach and eligibility services in two ways. One model uses geocoding and characteristics of local agencies and communities to account for the possibility that food pantries that identify a relatively large percentage of clients in need of SNAP services may also be more likely to provide SNAP outreach services than food pantries that identify

<sup>1</sup> See [www.fns.usda.gov/snap/rules/Memo/2006/061906.pdf](http://www.fns.usda.gov/snap/rules/Memo/2006/061906.pdf) (accessed February 15, 2012).

<sup>2</sup> The 2009 HIA survey was conducted by Mathematica Policy Research in partnership with Feeding America, the nation's largest network of charitable food providers. The survey collects information on emergency food pantry clients' demographic, economic, and family characteristics, including participation in SNAP, through more than 42,000 in-person interviews.

relatively few clients in need. A second model incorporates county fixed effects to account for the possibility that agencies may be more likely to offer help through SNAP outreach and eligibility services in areas in which community members have a difficult time applying for SNAP at the local administrative office.

The study shows that agencies that provide SNAP applications to emergency food pantry clients and submit them to SNAP administrative offices increase the probability of a household participating in SNAP by 5–6 percentage points.

### **Background on SNAP Eligibility and Program Outreach**

SNAP is a federal program that provides monthly benefits that can be used to purchase food in more than 250,000 authorized stores across the United States. Eligibility for the program is determined at the household level and is based primarily on financial need determined by standards for a household's gross and net monthly incomes. Households are categorically eligible for SNAP and not subject to income or resource limits when all members receive income from one or more of three other federal programs: Supplemental Security Income (SSI), cash or in-kind Temporary Assistance to Needy Families (TANF), and General Assistance (GA).

The gross-income standard applies to households that are not categorically eligible and to households that do not include a person who is elderly or disabled. To qualify for SNAP, such households must have monthly gross incomes of 130 percent or less of the poverty guideline. Households' net incomes are determined by subtracting deductions permitted under SNAP from their monthly gross incomes. All households receive a standard deduction based on the location and size of the household. Other deductions depend on a household's circumstances. For example, households in which members earn wages receive a deduction equal to 20 percent of the combined earnings of household members, and households that include dependents receive a deduction for the out-of-pocket cost of childcare needed when other household members work, seek employment, or attend school. Other deductions apply to medical costs, shelter costs (e.g., rent, mortgage payments, and utility bills), and child support payments. Leftin, Gothro, and Eslami (2010) provides a detailed summary of the program's rules and eligibility requirements, including a description of the deductions from gross monthly income to arrive at net monthly income.

The U.S. Department of Agriculture (USDA) provides funding annually to states, community-based organizations, food banks, and emergency and nonemergency food programs to promote and expand SNAP outreach efforts in local communities. The 2002 Farm Security Act authorized USDA to provide \$5 million per year to assist states with efforts to increase access to and participation in SNAP. Since then, however, there has been a dramatic shift in the program's outreach policy. In fiscal year 2008, for example, federal and nonfederal outreach totaled nearly \$22 million, and the Food and Nutrition Service (FNS) at USDA provided outreach grants to nonprofit organizations and others that totaled almost \$750,000.

### **Relevant Past Work**

There is a large literature on SNAP participation decisions (see Mabli et al. (2011b) and Burstein et al. (2009) for recent comprehensive reviews). Some

studies have examined the factors associated with the likelihood of participating in SNAP relative to not participating. Other studies have looked at factors associated with the complex dynamics of SNAP entry and exit decisions. Both sets of analyses used microdata at an individual or household level. A third line of analysis has focused on state-level data on caseloads to examine the impact of economic and policy factors on aggregate changes in SNAP participation over time. Within each stream of research, some studies have addressed associations between SNAP participation and program outreach activities but have been limited in size and scope.

Ratcliffe, McKernan, and Finegold (2008) used national data from the U.S. Census Bureau's Survey of Income and Program Participation in 1996 and 2001 to examine the impacts of a wide variety of factors, including state-determined SNAP parameters, on the probability of participation to examine effects of SNAP's policies and procedures. The results from that study suggest that a number of SNAP policies affect households' receipt of benefits, including the amounts of state-level expenditures on outreach.

The most recent study of SNAP entry and exit decisions, or SNAP "dynamics," was commissioned by USDA, which is responsible for SNAP at the national level. Mabli et al. (2011a, 2011b) investigated how individual demographic and economic characteristics, state economic measures, and SNAP policies were associated with SNAP entry and exit for 2004 through 2006. The study examined a wide range of policies, including SNAP outreach efforts, and found that, at the state level, program entry was positively associated with outreach expenditures, though the size of the association was small.

Mabli, Sama-Martin, and Castner (2009) and Mabli and Ferrerrosa (2010) used panel data on state caseloads to examine associations between economic/policy measures and aggregate caseload trends for several SNAP policies, including state-level outreach spending. That study found no statistical relationship between outreach spending and SNAP participation for all SNAP households collectively, but Mabli and Ferrerrosa (2010), which used a similar approach, found that program outreach expenditures increased the number of SNAP participants per capita in subgroups of interest to policymakers, such as elderly-only and adult-only households and participants living in the poorest households.

In a state-level analysis of the impact of economic and policy measures on SNAP caseload trends, Kornfeld (2002) noted that many facets of SNAP administration, including the effectiveness of local outreach to eligible nonparticipants, were difficult to quantify. Indeed, the approach adopted by nearly all of the studies so far has been to obtain information on outreach spending from reports of administrative costs and of grants awarded to states for outreach from the FNS website and then to normalize the expenditures by each state's caseload. Since outreach grants may apply to particular sections of a state rather than to the state as a whole, any inferences based on those variables typically should be interpreted with caution.

An alternative to quantifying outreach effort using state-level spending is to use local agency-level data. Bartlett, Burstein, and Hamilton (2004) examined a host of policies and SNAP office practices in June 2000 in a survey of 109 local SNAP offices. The study found that greater outreach activities led to greater awareness of eligibility, which presumably would lead to greater participation in SNAP. To the best of my knowledge, that study is the only example of analysis of SNAP outreach efforts at a local level, and its sample size is small relative to the number of local sites used in this study.

## Conceptual Model

Several factors, alone or in combination, could lead an individual to enter SNAP. Some may enroll because of a change in personal financial circumstances that made them eligible; others who are already eligible may enroll because they recently learned about the program or their eligibility (through program outreach, for example). Still others may enroll because they are concurrently enrolled in other public assistance programs such as TANF and SSI and the staff of those programs encouraged them to apply for SNAP benefits.

Gundersen and Oliveira (2001), building on Moffitt's (1983) model of welfare participation, developed a basic economic model in which a household's decision to participate in SNAP is derived from calculating the utility and disutility of participating.<sup>3</sup> Keane and Moffitt (1998) developed a similar model to examine participation decisions in multiple programs (Aid to Families with Dependent Children, SNAP, and Medicaid). It is used empirically in Mabli and Ohls (2012) and Ratcliffe, McKernan, and Finegold (2008).

In this model, household utility is determined by levels of consumption of food and nonfood goods. Households attempt to maximize their consumption of such goods subject to an income resource constraint. In the model, the sole benefit of participating in SNAP is monetary: money received to spend on food. The utility of that benefit is weighed against disutilities associated with participating, which consist of stigma and the transaction costs. Stigma can stem from individuals who believe that people disapprove of their receiving benefits. Stigma also encompasses a more general preference for not receiving SNAP. The transaction costs are comprised of a variety of investments of money and time related to traveling to and spending time in SNAP offices and the availability and cost of transportation.

Several theoretic implications of the model are salient to this empirical analysis. First, other things being equal, the lower a household's income, the more likely it is to participate in SNAP because the benefit of participating is greater. By corollary, households that have higher incomes are less likely to participate. Second, some variation in participation among households that are eligible to receive similar SNAP benefit amounts can be attributed to differences in preferences for food and nonfood goods as well as to variation in stigma and transaction costs.

Program outreach activities can affect households' participation decisions in different ways. The activities can spread awareness of the program by informing nonparticipating households of their eligibility, and those households may subsequently weigh the benefits and costs of participating and decide to participate. The outreach activities also can decrease households' transaction costs by providing applications, assisting with their completion, and even submitting the applications to the local SNAP office. The model predicts that a reduction in the transaction costs, all else being equal, would likely increase participation so individuals who attend programs that offer such services (such as food pantries) should be more likely to participate. Finally, outreach activities may promote participation by mitigating stigma.

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<sup>3</sup> The primary purpose of the study was to estimate the impact of SNAP on household food insecurity. Thus, the model also considered the role of food insecurity in the SNAP participation decision. I omitted this factor because that relationship exceeds the scope of this research.

## Data and Sample Construction

All of the analyses were conducted using a combination of HIA survey data, SNAP administrative data on state-level counts of SNAP participants and indicators of SNAP policies, and data from the U.S. Census Bureau's American Community Survey (ACS) for 2005 through 2009 on geographic boundaries and population characteristics in its summary file.

### *HIA Client and Agency Survey Data*

The HIA client and agency survey data were collected from February to May of 2009. The HIA client survey was designed and implemented by Mathematica Policy Research (hereafter referred to simply as Mathematica) in collaboration with Feeding America to estimate the number of clients receiving emergency food from pantries, kitchens, and shelters in the Feeding America network and to provide a profile of the characteristics of those clients. The HIA agency survey was designed to provide a profile of the characteristics of individual sites at which emergency food had been provided. The data used in this study come from both client and agency surveys.

In early 2009 when the HIA surveys were conducted, Feeding America's national network consisted of 205 food banks that distributed food and grocery products to 61,000 agencies nationwide; those agencies, in turn, operated emergency and nonemergency food programs (Mabli et al. 2010). The client survey involved 181 of those food banks. The sampling frame was developed by Mathematica and consisted of a stratified, multi-stage design in which, for each food bank, agencies were selected from a frame that contained all of the agencies that received food from the food bank. Next, program sites were chosen from the selected agencies. Finally, a random sampling of clients was conducted at each program site. About 6,500 program sites participated in the client survey, and 61,085 interviews were completed, which equaled 77 percent of eligible survey respondents. All respondents were 18 years of age or older.

Although the interviews were conducted at pantries, kitchens, and shelters, this study focused solely on clients of emergency pantries since the sampling unit for pantry clients (households), unlike the sampling units for kitchens and shelters (individuals), corresponds to the program unit to which SNAP benefits are provided. In addition, separate modules of the survey were administered to clients at pantries, kitchens, and shelters. Restricting the sample to pantry clients resulted in 42,441 individuals interviewed.

SNAP eligibility rules generally set household income and asset thresholds. However, in this analysis I did not restrict the sample households to those having gross monthly incomes of less than 130 percent of the federal poverty level because some households with greater incomes could be categorically eligible for SNAP. Among the HIA pantry households, 90 percent had gross monthly incomes that were at or below that threshold and 95 percent had incomes that were at or below 165 percent of the poverty level. Thus, most of the sample is eligible or nearly eligible for SNAP based on gross income.<sup>4</sup> Although eligibility is also determined by household assets, I did not restrict

<sup>4</sup> The findings are robust to including only SNAP income-eligible households in the sample (restricting the sample to households with income of less than or equal to 130 percent of the poverty level).

the sample based on assets because survey respondents were not asked to provide information about them.

The HIA agency survey provided information about the SNAP outreach and eligibility services offered at the pantry sites at which clients were interviewed. The model included variables indicating three types of services offered at the sites:

- The site provides SNAP information or applications only.
- The site provides SNAP applications and submits the completed applications for clients but does not walk clients through completing the applications.
- The site provides applications, walks clients through completion of the applications, and submits the completed applications for clients.

The HIA agency survey also provided information on several additional characteristics about the pantry sites:

- Type of agency: faith-based, private nonprofit, governmental, other type of community action program.
- Whether the agency provided certain services: assistance with tax preparation, utility bills, and short-term financing; budget and credit counseling; and provision of transportation, clothing, and furniture.
- Number of paid staff members employed.
- Number of volunteers during the week before the agency completed the survey.

This agency-level information was merged into the client data file using an identifier for the program site at which the client interview was conducted. Because completion of the agency survey was not a prerequisite for a site's inclusion in client interviews, program-level information was available for 35,183 of the 42,441 client households (83 percent). Table A.1 in the appendix, which is available upon request, provides a comparison of the characteristics of the client households for which program-level information was available with those of the households for which it was not. The two groups of households were similar with one exception: households for which program-level information was available were more likely to include individuals who were married and who had graduated from high school and less likely to include an elderly member.

Estimating policy effects from a cross-sectional data file raises concern about the relative timing of receiving outreach and eligibility services and participating in SNAP. The sample of all pantry client households included ones that had only recently begun to use pantry services and even households from which members were accessing a pantry for the first time. It is unlikely that the pantry's outreach and eligibility services could have had much, if any, effect on the household's SNAP participation status beyond making them aware of the services. The sample also included households that received services from multiple pantries in the area rather than solely from the pantry where the interview was conducted. For these households, the SNAP participation decision may have been influenced by outreach and eligibility services offered at any of the pantries. Of the 35,183 client households in the matched household-agency sample, 18.3 percent reported visiting the pantry only in the month in which the interview occurred and 20.8 percent reported visiting at least two pantries in the past month. To isolate the effect of specific outreach services on SNAP

participation among users who had been exposed to the services, I excluded households that had only recently begun using pantry services, had attended for the first time, or had received services from multiple pantries in the area, leaving 21,611 households.

### *SNAP Policy Data*

SNAP is administered at the federal level, but SNAP policies offered by each state can vary. Differences in participation rates across states have been associated not only with state-level economic conditions but also with SNAP policies (Mabli, Sama-Martin, and Castner 2009, Kornfeld 2002).<sup>5</sup> To account for the effect of SNAP policies, the models included policy variables that have been found in prior research to be associated with the likelihood of participation in the program (Ziliak 2013, Ganong and Liebman 2013, Mabli et al. 2011a). The variables were taken from a variety of administrative sources in which the data is reported by fiscal year. The variables were merged into the HIA client-survey data file using a variable that identified each household's state of residence.

SNAP participants are required to appear periodically at the local SNAP office or to participate in a telephone interview for recertification to continue to receive benefits. The certification period varies with the likelihood of a change in the SNAP household's financial circumstances. It can be up to 24 months for households with elderly members and up to 48 months for households that are participating in SSI Combined Application Project demonstrations. In fiscal year 2011, SNAP households were certified for benefits for an average of 12 months. I used SNAP quality-control data available from FNS to produce a variable that measured the average length of participants' certification periods in the state in which each pantry household resided.<sup>6</sup>

Broad-based categorical eligibility refers to noncash benefits or services funded by TANF or state maintenance-of-effort (MOE) funds that confer categorical eligibility to virtually all households that apply for SNAP. The benefit is usually in the form of a TANF/MOE-funded brochure or handout that provides information on a range of government assistance programs available to households in need. The information is given to all SNAP applicants who meet the state-determined eligibility criteria for receiving it. Because the brochure is prepared with TANF/MOE funds, most households who receive it are categorically SNAP-eligible. States have flexibility in setting eligibility criteria for receiving the referral information, but most use only a gross income test. In the model, the broad-based categorical eligibility measure is constructed using a database produced by Mathematica for FNS (Trippe and Gillooly 2010) that was based on survey data collected from states by FNS and on several

<sup>5</sup> Participation rates for 2010 varied greatly, from 55 percent in California to 100 percent in Maine and Oregon (Cunningham, Castner, and Sukash 2013).

<sup>6</sup> The SNAP quality-control database is an edited version of the raw data file generated by the SNAP quality-control system and contains demographic, economic, and SNAP-eligibility information for a nationally representative sample of approximately 50,000 SNAP households. The main purpose of the quality-control review is to assess the accuracy of eligibility determinations and benefit calculations and to determine each state's payment error rate. These data also serve as an important source of detailed demographic and financial information on a large sample of active SNAP participants. The quality-control data include adjustments to the number of participants to remove those who received benefits for disaster assistance to avoid erroneously attributing a caseload change driven by a natural disaster to a shift in policy or economics. The file also includes adjustments to remove individuals who were ineligible to receive benefits.

reports by the U.S. General Accounting Office and the Center on Budget and Policy Priorities. The database contains the effective date of implementation of the referral-information policy for each state and the District of Columbia. I used this information to construct a fiscal-year-level variable indicating that the state offered this service.

The analysis of program outreach spending uses data from FNS on administrative costs and from historical records of the amounts of outreach grants awarded by FNS that were listed on the agency's website.<sup>7</sup> I normalized outreach spending by state caseload size.

The model incorporated several policies that were designed to improve access to the SNAP program and have only recently begun to be used in studies of SNAP participation (Ziliak 2013, Ganong and Liebman 2013): whether the state in which an individual resided (i) offered services through a call-in center in some or all parts of the state that allowed individuals to discuss eligibility factors with caseworkers at a time convenient for the individual; (ii) had been granted a waiver to use telephone interviews in lieu of face-to-face interviews at initial certification without having to document household hardship; (iii) allowed households to submit SNAP applications online in some or all parts of the state, and (iv) operated a Combined Application Project (CAP) for recipients of SSI so they could use a streamlined SNAP application process. These data were obtained from the Economic Research Service's SNAP policy database for 2010.<sup>8</sup>

#### *Data on Local Area Characteristics from the American Community Survey*

The U.S. Census Bureau's boundary files were used to geocode agency addresses and, thus, to identify the census tract and county in which the agency was located. I used the census tract<sup>9</sup> identifier and the corresponding 2005–2009 ACS data files<sup>10</sup> to measure the prevalence of five characteristics of the areas in which agencies were located and used the county identifier to estimate a fixed-effects model. Both of the ACS variables and the fixed-effects modeling were used to help address the endogeneity of provision of SNAP outreach services. The ACS variables are:

- percentage of families that have incomes below 200 percent of the federal poverty threshold.
- percentage of the total population that is non-white.

<sup>7</sup> See [www.fns.usda.gov/snap/outreach/grants.htm](http://www.fns.usda.gov/snap/outreach/grants.htm).

<sup>8</sup> See [www.ers.usda.gov/data-products/snap-policy-database.aspx](http://www.ers.usda.gov/data-products/snap-policy-database.aspx).

<sup>9</sup> Census tracts are geographic boundaries developed by the U.S. Census Bureau. They are drawn to encompass similar population sizes and thus vary in spatial size depending on whether they are comprised of a metropolitan or nonmetropolitan area. Census tracts are the largest geographies defined by the Census Bureau and generally contain between 1,500 and 8,000 people with a target size of 4,000. Because the population characteristics in the ACS 2005–2009 summary data file were defined using the 2000 census tract boundaries, it was necessary to use the 2000 version of the boundaries to match the population data. Census tracts are typically much smaller than counties. In 2000, there were roughly 60,000 census tracts in the United States and a little more than 3,100 counties, and on average, counties contained 20 census tracts. Although drawn to comprise targeted population sizes, census tract boundaries are also drawn to align with county boundaries; no census tract crosses county boundaries.

<sup>10</sup> For small geographies such as census tracts, the Census Bureau releases ACS data that have been aggregated over five years to increase both sample sizes and precision.

- percentage of the total population that is Hispanic.
- percentage of the population that is older than 25 years and has no more than a high school diploma or equivalent.
- percentage of female-headed households that include children.

All of the estimates presented use survey weights provided with the data for pantry households that make the estimates representative of a monthly cross-section of the population participating in emergency food programs. Standard errors were estimated using Taylor-series linearization methods in Stata to account for the survey's multi-stage sampling design.

## Empirical Methodology

The main empirical analysis consists of a model of SNAP participation that is based on a utility-maximization framework in which the household participates in SNAP only if the benefits of participation exceed the costs of participation. Linear probability models are estimated in which the dependent variable has a value of 1 when the household was participating in SNAP at the time of the interview and 0 otherwise.<sup>11</sup> The primary independent variables are the indicators of food-pantry-level SNAP outreach and eligibility services offered. The set of explanatory variables consists of standard demographic, economic, and household composition variables that traditionally have been included in analyses of SNAP participation decisions: the respondent's age, gender, marital status, education level, employment status, citizenship status, race, and ethnicity; the household's monthly income; and several measures of household composition—number of children from birth through age five, number of children age six through seventeen, number of adults, and whether the household included an elderly member.

Additional explanatory variables account for state-level SNAP policies (length of certification period, SNAP outreach expenditure per participant, and indicators for whether the states offered broad-based categorical eligibility, operated call-in centers in some or all parts of the state, allowed telephone interviews, allowed households to apply online, and offered combined applications for SSI recipients). Mean values of the variables are presented in Table A.2 in the appendix (available from the author).

Whether an agency offers SNAP outreach and eligibility services can be endogenously determined within the model in two ways. First, food pantries that identify a relatively large percentage of clients as being in need of SNAP may be more likely to provide SNAP outreach services than food pantries that have relatively few clients in need of SNAP. To minimize bias from this endogeneity, I used each agency's street address to geocode the agencies' locations, merged the ACS local-area (census tract) characteristics into the household-level analysis file, and controlled for these characteristics in the model. I also included a comprehensive set of agency-level variables related to the agency's offering of services other than SNAP outreach and eligibility, the agency type, and the agency's size as indicated by the number of paid and volunteer staff members.

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<sup>11</sup> The findings are robust to using logistic regression models, both in terms of the magnitude of the effect and its statistical significance.

The second form of endogeneity is associated with local SNAP administrative offices near each food pantry. One example of the potential for this kind of endogeneity is a local SNAP office in which caseworkers are said to treat applicants or participants unfairly or are known to make applicants spend hours waiting in line to apply for and maintain their benefits. Food pantries in proximity to such a SNAP office could be more likely than other food pantries to offer SNAP outreach and eligibility services. To address this type of endogeneity, I used the census tract identifiers to determine the county in which each agency was located and estimated a model that included county fixed effects.<sup>12</sup>

The findings could also be affected by selection bias. Because the study design was cross-sectional, I could observe SNAP participation among food-pantry clients and provision of SNAP outreach and eligibility services by agencies only at a single point in time. SNAP participation may reduce household members' need to visit emergency food pantries, both in terms of the likelihood of visiting a pantry initially and, for those who visit pantries and subsequently enter SNAP, the likelihood of continuing to use pantry services. Thus, the sample of emergency food pantry clients does not represent all low-income households; it represents only those households that chose to receive food from a pantry. I do not address this type of selection bias because the data are limited to those households, but I interpret the findings as representative only of that population.

After estimating the econometric models, I used responses to a survey question presented to all of the respondents whose households were *not* participating in SNAP to help interpret the findings related to associations between agency-level outreach and eligibility services and transaction costs. Respondents from households that were not participating were asked why they had not applied to the program and were presented with a list of 20 possible reasons that were not read aloud. Respondents could select more than one reason. The responses offered fell into one of three types of reasons—ineligibility, inconvenience, and social stigma. Appendix Table A.3 presents the percent of this population that chose each response category. "Ineligibility" consisted of household members reporting that they thought they were not eligible because of income, assets, or citizenship status or were eligible only for a small benefit. About 24 percent of the nonparticipants cited one of these reasons and "didn't think eligible" was the most prevalent. Responses related to "inconvenience" (8.2 percent of the nonparticipant respondents) consisted of households reporting that they did not know where to go or who to contact to apply, it was hard to get to the SNAP office, the application process was long and complicated, the questions asked were too personal, the SNAP office staff was disrespectful, the office was unpleasant or in an unsafe area, the office was not open when they were available, and/or the SNAP office did not offer services in their language. Reasons related to "social stigma," which were cited by 2.9 percent of the nonparticipant group, consisted of households reporting that they felt embarrassed about applying for or using benefits, felt that family or friends did not approve of their receiving benefits, and/or disliked relying on the government for assistance.

<sup>12</sup> In the models that included county fixed effects, the effect of outreach was identified from variation in outreach across pantries in the same county, and counties that contained only one pantry did not contribute to identification. Of the 6,329 pantries in the client data set, 3.9 percent were the only pantry in the county. The median number of pantries per county was 28.

I statistically compared the percentage of nonparticipant households that reported each category of reason according to whether the respondents were interviewed at program sites that offered SNAP outreach and eligibility services.

## Results

### *Descriptive Statistics*

Estimating the SNAP participation rate for the full sample and for subgroups defined by household income, household composition, and agency-level SNAP policies reveals two key findings. First, SNAP participation rates decrease with household income and differ in expected ways across the household-composition subgroups. Second, SNAP participation rates generally increase as agency-level outreach policies become more comprehensive.

The SNAP participation rate in 2009 among households that accessed an emergency food pantry was 43.0 percent (Table 1). This is the percentage of households that reported participating in the program rather than the percentage of income- and asset-eligible households that participated, though most of the households likely would have met the net income and asset tests. This estimate is smaller than estimates of the national participation rate among all eligible U.S. households in 2009 of 67 percent (Cunningham, Castner, and Sukasih 2013). National surveys of emergency food recipients have found similar SNAP participation rates, however. In a USDA-sponsored study of the emergency food assistance system (Briefel et al. 2003), 44 percent of the SNAP-eligible households that accessed pantries were participating in SNAP. Using estimates from the 2009 Current Population Survey (U.S. Census Bureau and Bureau of Labor Statistics), Nord et al. (2010) estimated that 49 percent of households that had accessed food pantries had received SNAP benefits in the preceding 30 days. And previous Hunger in America studies found SNAP participation rates for food pantry households of 36 percent in 2006 and 31 percent in 2001 (Kim, Ohls, and Cohen 2002, Kim, Cohen, and Ohls 2006).

The participation rate was greater for households with relatively little income: 51.3 percent of households in which income was less than the mean income-to-poverty ratio of 74 percent were participating and 33.3 percent of households in which income was equal to or greater than the mean income-to-poverty ratio were participating. Differences in the participation rate across the household-composition subgroups reflect an ordering similar to that of the low-income households nationwide; participation rates were lower for households that did not include children than for households that did and were lower for childless households that included an elderly member than for childless households that did not include an elderly member.

The participation rate varied across outreach and eligibility services offered by agencies. In 2009, 41.5 percent of the households that received emergency food from a pantry that provided only information and/or applications participated in SNAP. The participation rate was slightly higher, 42.9 percent, for households that received food from pantries that either provided SNAP applications or submitted completed applications for their clients (but did not walk clients through completing the application). The participation rate was higher still, 47.7 percent, when pantries also assisted clients in completing applications. When pantries provided applications and submitted them to administrative offices for clients, the participation rate was 46.9 percent.

**Table 1. SNAP Participation Rates among Food Pantry Households by Household Income, Household Composition, and Agency Outreach and Eligibility Services**

	Participation Rate	Standard Error
All households	43.0%	0.8%
Household Income		
Lower income households – below mean value of 74 percent of the federal poverty threshold	51.3%	1.1% ***
Higher income households – at or above mean value of 74 percent of the federal poverty threshold	33.3%	1.1%
Household Composition		
Households with children	46.1%	1.3% ***
Households without children	40.6%	1.0%
Childless households with elderly	33.1%	1.8% ***
Childless households without elderly	44.3%	1.2%
Agency Outreach and Eligibility Services <sup>a</sup>		
Sites that only provide SNAP information and/or application	41.5%	1.4%
Sites that provide SNAP applications and submit applications for clients (but do not walk clients through application)	42.9%	1.8%
Sites that provide applications, walk clients through the application, and submit applications for clients	47.7%	2.0% ***
Sites that provide SNAP applications and submit applications for clients <sup>b</sup>	46.9%	1.7% ***
Sample size: 21,611		

<sup>a</sup> SNAP participation rates are statistically compared to “program sites that only provide SNAP information and/or application.”

<sup>b</sup> This policy is a combination of the two prior policies: “provides SNAP applications and submits applications for clients (but does not walk clients through application)” and “provides applications, walks clients through the application, and submits applications for clients.”

Notes: \*\*\*, \*\*, and \* denote differences in the percentage compared to the referent group that are statistically significant at the 0.01, 0.05, or 0.10 level.

Source: Hunger in America (2009).

### *Regression Results for the Full Sample*

Linear-probability regression models were used to estimate associations between the likelihood of participating in SNAP and various outreach and eligibility services provided by food pantries while accounting for differences in demographic and economic characteristics of the households and state-level SNAP policies. I first present results from the regression model that does not account for endogenous provision of outreach and eligibility services and then present the results from the two models that account for endogeneity. I present

associations with outreach only; associations for the other explanatory variables are provided in Table A.4 of the appendix.

The results of the regressions for the full sample are presented in Table 2. Attendance at a program that provides SNAP information and/or applications is associated with a 2.9 percentage point decrease in the probability of participating in SNAP relative to attendance at a program that provides no information or applications. The magnitudes of the associations between the other outreach policies and the likelihood of participation are positive and become larger as the outreach policy expands, but none are statistically significant at the 0.10 level.

Offering an outreach and eligibility service that provides SNAP information or applications can be quite different from an agency-level policy to walk clients through completion of the application and/or submit the applications for them. For this reason, I estimated the likelihood of participation in SNAP using a model in which there was a single outreach and eligibility variable that indicated whether the pantry site provided and submitted applications for clients (regardless of whether the pantry also walked clients through completion of them). That estimate indicates that programs that provide the services are associated with a 3.7 percentage point increase in the likelihood of participation in SNAP relative to programs that do not.

**Table 2. Effects of Agency Outreach and Eligibility Services on a Household's Probability of Participation in SNAP**

	No Agency or Local Area Characteristics, No Fixed Effects	Agency and Local Area Characteristics, No Fixed Effects	Agency and Local Area Characteristics and County Fixed Effects
Regression Model with Separate Outreach and Eligibility Service Variables			
Only provide SNAP information and/or applications	-0.029 * (0.017)	-0.014 (0.017)	-0.018 (0.016)
Provide SNAP applications and submit applications for clients but do not walk clients through application	-0.002 (0.046)	0.002 (0.048)	0.014 (0.049)
Provide applications, walk clients through application, and submit applications for clients; provide information about SNAP application and eligibility	0.030 (0.023)	0.059 ** (0.025)	0.049 ** (0.023)
Regression Model with Grouped Outreach and Eligibility Service Variable			
Provides and submits applications	0.037 * (0.020)	0.057 *** (0.022)	0.053 *** (0.020)
Sample size: 21,611			

Notes: The effects are estimated from a linear probability regression. Standard errors are shown in parentheses. Table A.5 in the appendix, which is available from the author, contains the regression coefficients and standard errors of all model variables. \*\*\*, \*\*, and \* identify statistical significance at the 0.01, 0.05, or 0.10 level.

Source: Hunger in America 2009; American Community Survey 2005–2009.

Most of the associations between the likelihood of participating in SNAP and the demographic and economic characteristics are statistically significant and have signs that are similar to those found in prior studies of SNAP participation. (All regression coefficients and standard errors are presented in Table A.4 in the appendix.) SNAP participation is positively associated with being female, being non-Hispanic (relative to being Hispanic), being a citizen, and having a greater number of children ages zero through five. There is a lower likelihood of participation when respondents are older, are married, have a larger number of adults in their household, have an elderly member in their household, have completed high school or more, have greater incomes relative to the federal poverty level, and are employed full-time or part-time. Households in states with positive SNAP outreach expenditures per capita, relative to no outreach expenditures, are more likely to participate in SNAP. This is also true for households in states in which call center services are available for the entire state, in states that have been granted a waiver to use a telephone interview in lieu of a face-to-face interview at initial certification without having to document household hardship, and in states that offer CAP to SSI recipients.

When controlling for the agency and local-area characteristics, I find that providing and submitting SNAP applications for clients is associated with a 5.7 percentage point increase in the probability of SNAP participation (Table 2, column 2). In the model that controls for agency and local-area characteristics and includes county fixed effects based on agency location (column 3), providing and submitting applications is associated with a 5.3 percentage point increase in the probability of participation. Both estimates are statistically significant at the 0.01 level.<sup>13</sup>

### *Regression Results for Household Subgroups*

To analyze the household income and composition subgroups, I re-estimated the likelihood of participation in SNAP using the models that accounted for the endogenous relationship between SNAP participation and provision of outreach and eligibility services. The results for the model with the single SNAP outreach/eligibility variable that indicated whether the pantry site provided and submitted applications for clients (regardless of whether clients were walked through completion of the application) are presented in Table 3.<sup>14</sup>

In the model without fixed effects, attending a site that provided and submitted SNAP applications for clients is associated with a 6.6 percentage point increase in the probability of participation for "higher income"

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<sup>13</sup> The sample excluded households that had only recently begun using pantry services, had attended for the first time, or had received services from multiple pantries in the area. Estimating the model using only the excluded households showed that providing and submitting SNAP applications for clients was not associated with the probability of a household's participation in SNAP.

<sup>14</sup> Table A.5 in the appendix presents the results of the regressions with separate outreach variables. The results for the subgroups with the single outreach variable "provides and submits application" are generally similar in sign and statistical significance to the results for "provides and submits SNAP applications and walks client through application." There are few significant associations between SNAP participation and (i) "only providing SNAP information and/or applications" and (ii) "providing and submitting SNAP applications, but not walking clients through application."

households.<sup>15</sup> In the model with fixed effects, SNAP outreach is associated with a 6.3 percentage point increase in the likelihood of SNAP participation for the higher-income households. "Lower income" households are associated with a 5.4 percent increase without fixed effects and a 4.8 percent increase with fixed effects. There is no statistical difference in the magnitudes of the associations for higher-income and lower-income households.

A site that provides and submits SNAP applications for clients is associated with a 6.6 percentage point increase in the probability of SNAP participation for childless households in the model without fixed effects (Table 3). In the model with fixed effects, SNAP outreach is associated with a 7.6 percentage point increase in the likelihood of participation for childless households. For households that include children, the association is not statistically significant in either model, and there is no statistical difference in the magnitudes of the associations for households with and without children.

Finally, both of the models show a positive association between SNAP participation and outreach for childless households that have no elderly member—9.8 percentage points in the model with fixed effects and 9.0 percentage points in the model without fixed effects (Table 3). There is no

<sup>15</sup> "Higher income" households have an income-to-poverty ratio at the mean of 74 percent or higher. The ratio for "lower income" households is less than the mean of 74 percent.

**Table 3. Effects of the Agency Providing and Submitting SNAP Applications on Household Probability of Participation in SNAP by Household Subgroup**

Households	Agency and Local Area Characteristics, No Fixed Effects	Agency and Local Area Characteristics and Fixed Effects	Sample Size
All	0.057 *** (0.022)	0.053 *** (0.020)	21,611
Lower income: below mean of 74 percent of the federal poverty threshold	0.054 ** (0.027)	0.048 * (0.027)	11,239
Higher income: at or above mean of 74 percent of the federal poverty threshold	0.066 ** (0.028)	0.063 ** (0.026)	10,372
With children	0.046 (0.033)	0.022 (0.030)	9,122
Without children	0.066 *** (0.025)	0.076 *** (0.023)	12,489
Childless with elderly	-0.004 (0.036)	0.043 (0.035)	4,390
Childless without elderly	0.090 *** (0.031)	0.098 *** (0.029)	8,099

Notes: The effects are estimated from a linear probability regression. Standard errors are shown in parentheses. \*\*\*, \*\*, and \* denote statistical significance at the 0.01, 0.05, or 0.10 level. The effect for childless households without elderly is statistically different from the effect for childless households with elderly at the 0.05 level.

Source: Hunger in America 2009; American Community Survey 2005–2009.

statistical association for childless households that include an elderly member. The associations for households with and without an elderly member in the model without fixed effects are statistically different at the 0.05 level.

#### *Regression Results for the Agency Subgroups*

Table 4 reports the results of estimates for the agency subgroups: agency type (faith-based, governmental, community action program, private nonprofit, or other), number of paid staff members, and number of volunteers. In both models, attending a program that provided and submitted SNAP applications is associated with an increase in the probability of participation for households that received services from faith-based agencies. The magnitudes of the

**Table 4. Effects of Agency Providing and Submitting SNAP Applications on Household Probability of Participation in SNAP by Agency Subgroup**

	Agency and Local Area Characteristics, No Fixed Effects	Agency and Local Area Characteristics and Fixed Effects	Sample Size
All households	0.057 *** (0.022)	0.053 *** (0.020)	21,611
<hr/>			
Agency			
Faith-based	0.071 *** (0.026)	0.061 *** (0.023)	14,979
Governmental	-0.550 (0.427)	-2.655 (3.138)	271
Community action program	0.017 (0.103)	-0.516 *** (0.124)	524
Other private nonprofit	0.057 * (0.032)	-0.018 (0.032)	4,790
Other agency type	-0.017 (0.081)	0.017 (0.075)	1,047
<hr/>			
Agency Size			
Less than or equal to the median number of agency paid staff members	0.031 (0.030)	0.055 * (0.029)	13,367
Great than the median number of agency paid staff members	0.075 *** (0.023)	0.061 *** (0.022)	8,244
Less than or equal to the median number of agency volunteers	0.068 ** (0.027)	0.055 ** (0.025)	10,705
Great than the median number of agency volunteers	0.054 * (0.029)	0.036 (0.028)	10,906

Notes: The median number of paid staff at an agency was 0. The median number of volunteers at an agency was 10.56. The effects are estimated from a linear probability regression. Standard errors are shown in parentheses. \*\*\*, \*\*, and \* denote statistical significance at the 0.01, 0.05, or 0.10 level.

Source: Hunger in America 2009; American Community Survey 2005–2009.

associations (7.1 and 6.1 percentage points in the models without and with fixed effects, respectively) are generally similar to those for the full sample (5.7 percentage points). Also consistent across models is the lack of a statistical association for households that received services from governmental agencies.<sup>16</sup>

Attending a program that provided and submitted applications for clients is generally associated with an increase in the probability of participation for households that received services from agencies that had a smaller number of paid staff members and from agencies that had a larger number of paid staff members relative to the median of 0. The magnitudes for the groups do not differ statistically.

Finally, there is a positive association between an agency's provision and submission of client applications and participation in SNAP for households that received services from agencies that had a smaller number of volunteer staff members relative to the median of 10.6. There is no significant association in the model with fixed effects for households that received services from agencies that had a larger number of volunteer staff members.

#### *Regression Results for SNAP Policy Subgroups*

Table 5 reports the estimates for the subgroups defined by types of SNAP policies offered by states in which households reside: operating call-in centers in some or all parts of the state, allowing telephone interviews, allowing online applications, and offering a combined application for SSI recipients.

In the model with fixed effects, attending a program that provided and submitted applications for clients is associated with an increase in the probability of SNAP participation for households in states that have established policies that promote program access. The SNAP participation rate is 6.0 percentage points higher for households in states that offered services through a call-in center in all parts of the state (relative to not having a call center), which allowed individuals to discuss eligibility factors with caseworkers at convenient times. The participation rate was 5.8 percentage points higher for households in states that had been granted a waiver to use telephone interviews in lieu of face-to-face interviews for initial certification without having to document household hardship, 7.6 percentage points higher when households could submit the application online in all parts of the state (relative to not offering online applications), and 3.8 percentage points higher when the states offered combined applications for SSI recipients. The associations are generally similar in the model without fixed effects.

#### *Analysis of Reasons for Not Participating in SNAP*

The results already discussed show that attending a program that provided and submitted applications for clients is associated with an increase in the probability of participation. Table 6 reports the results of a statistical comparison of the percentage of *nonparticipant* households that reported reasons for not participating (ineligibility, inconvenience, and stigma) according to whether

<sup>16</sup> The large association for community action programs, which appears only in the fixed-effects model, may reflect the fact that the effect of outreach in that model is identified from variation in outreach services across pantries in the same county. While this is not an issue in the full sample of 21,611 households, the small sample of 524 households receiving services from community action programs limits the amount of variation in outreach services across pantries in the same county.

**Table 5. Effects of Agency Providing and Submitting SNAP Applications on Household Probability of Participation by SNAP Policy Subgroup**

	Agency and Local Area Characteristics, No Fixed Effects	Agency and Local Area Characteristics and Fixed Effects	Sample Size
All households	0.057 *** (0.022)	0.053 *** (0.020)	21,611
<b>State Services</b>			
Call center services entire state	0.061 * (0.037)	0.060 * (0.032)	6,356
Call center services some of state	0.071 ** (0.031)	0.030 (0.034)	9,097
Does not operate call center	0.012 (0.035)	0.018 (0.039)	6,158
Waiver to use a telephone interview instead of face-to-face interview	0.077 *** (0.028)	0.058 ** (0.027)	9,168
Does not offer face-to-face interviews	-0.002 (0.032)	0.022 (0.031)	12,443
Offers online applications for entire state	0.087 *** (0.030)	0.076 *** (0.028)	9,031
Offers online applications for some of state	-0.006 (0.052)	-0.032 (0.060)	3,396
Does not offer online applications	0.036 (0.030)	0.042 (0.029)	9,184
Offers combined application	0.071 *** (0.026)	0.038 * (0.023)	10,755
Does not offer combined application	0.019 (0.033)	0.041 (0.034)	10,856

Notes: The effects are estimated from a linear probability regression. Standard errors are shown in parentheses. \*\*\*, \*\*, and \* denote statistical significance at the 0.01, 0.05, or 0.10 level. The effect for individuals in a state with a waiver to use a telephone interview is statistically different from the effect for individuals in a state without a waiver at the 0.10 level.

Source: Hunger in America 2009; American Community Survey 2005–2009.

the interview site offered SNAP outreach and eligibility services. For the full sample, inconveniences were reported less often (2.9 percentage points) when the sites offered outreach and eligibility services. Furthermore, the only statistically significant difference was for reasons related to inconvenience.

## Discussion

The results of this study can be interpreted using a variant of the basic economic model developed in Gundersen and Oliveira (2001) and Keane and Moffitt (1998) in which households weigh the benefits of an increase in food purchasing power against the transaction costs related to traveling to and spending time in SNAP offices and the availability and costs of transportation

**Table 6. Reported Reasons for Not Participating in SNAP among Nonparticipants**

Reason	Full Sample Percentage of Households Reporting Reason at Pantry Sites				
	Sites Do Not Provide SNAP Outreach and Eligibility Services		Sites Provide SNAP Outreach and Eligibility Services	Difference	Percentage Points
	Estimate	Estimate			
Reason related to perceived ineligibility	23.9 (1.1)	24.2 (1.6)		0.2	1.0
Reason related to inconvenience	8.6 (0.9)	5.7 (1.0)		-2.9 **	-33.9
Reason related to stigma	2.6 (0.3)	3.1 (0.6)		0.5	18.9

Notes: The percent difference calculates the percentage difference between households that attend and do not attend agencies that provide outreach. Standard errors are shown in parentheses. \*\*\*, \*\*, and \* denote statistical significance at the 0.01, 0.05, or 0.10 level.

Source: Hunger in America 2009.

when deciding whether to participate in SNAP. A household has utility that is defined over food and other goods and attempts to maximize utility subject to an income constraint (income consists of earned income, transfer income, and other income). Participants receive a benefit that can be spent on food but also face a disutility that depends on the degree of stigma experienced and the transaction costs associated with participating. For simplicity in this discussion, I assume that the SNAP benefit is treated as income in the income constraint and that the disutility measure depends only on the transaction costs.

In the context of this model, the primary finding that provision of SNAP outreach and eligibility services is associated with an increase in the rate of participation in the program of 5–6 percentage points can be explained by a reduction in the transaction costs associated with applying to the program. The results reported in Table 2 suggest that sharing information about the program and providing the application is not enough to promote participation; those associations are not statistically significant in the models that account for the endogenous relationship between household-level SNAP participation and pantry-level provision of outreach and eligibility services. Rather, providing and submitting the applications and, in some cases, walking clients through completion of the application are associated with increased SNAP participation.

The models predict that the groups of households most affected by provision of outreach and eligibility services are the ones for which a decrease in the transaction costs has the greatest impact on the households' net utility (defined as the utility of receiving the benefit minus the disutility of the transaction costs). The SNAP benefit amount is smallest, on average, for households with greater incomes, households without children, and households that include an elderly member.<sup>17</sup>

<sup>17</sup> According to Leftin, Gothro, and Eslami (2010), in fiscal year 2009 the average monthly SNAP benefit was \$146 for a childless household, \$398 for a household with children, \$128 for a household that included an elderly member, and \$300 for a household with no elderly members.

If the transaction costs for all households are identical and only the utility of receiving SNAP benefits varies, the propensity to participate in SNAP would be larger for households that received a relatively large net benefit. In that case, a decrease in the transaction costs prompted by outreach and eligibility services should translate into higher participation rates for households that would typically receive relatively small benefits—higher-income households relative to lower-income households, households without children relative to households with children, and childless households with elderly members relative to childless households without elderly members. The results of the subgroup analyses are, at most, only suggestive that this may be true. The associations for higher-income households are large relative to the associations for lower-income households. In addition, associations exist for households without children but not for households with children.<sup>18</sup> However, the differences in the associations across subgroups generally are not statistically significant so there is no statistical evidence to support this hypothesis.

Similarly, the findings suggest that provision of outreach and eligibility services is effective only in states that have implemented policies that promote program access (having call centers, allowing telephone and online applications, and offering combined applications), though there are no statistical differences in associations for households in those states and households in states without such policies. In addition, significant associations between SNAP participation and policies such as call centers and online applications are found only when such policies were implemented statewide. Further research is needed to determine why SNAP outreach and eligibility services are more effective in states that promote access. There may be complementarities between the outreach/eligibility services provided and the application procedure. Or perhaps households in states that have implemented access-promotion policies differ in their propensity to respond to outreach and eligibility services relative to households in states that lack such policies.

Finally, although this analysis is based solely on households that received food from emergency pantries, the findings have implications for the provision of outreach and eligibility services to other populations and in other venues. Households that access emergency food pantries have much lower incomes than the more general population of households that are income-eligible or categorically eligible for SNAP. However, I find that the provision of outreach and eligibility services increases SNAP participation for both relatively low-income (below the sample mean of 74 percent of the poverty level) and relatively high-income (at or above 74 percent of the poverty level) households. The absence of an income differential suggests that eligible non-pantry households that have relatively high incomes might also be responsive to these services.

Whether similar services would be effective when provided in other venues such as grocery stores, senior centers, subsidized housing sites, and farmers' markets likely depends less on the type of venue than on the types of

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That study did not present the average size of benefits by income-poverty ratio but did present information for households with and without gross income. The average benefit was \$267 for households with gross income and \$296 for households with no gross income.

<sup>18</sup> The subgroups of childless households with and without elderly members are exceptions. There is a significant positive association for childless households without elderly members and no association for childless households with elderly members. In 2009, elderly individuals could be interviewed by telephone rather than face to face when applying for SNAP (Leftin, Gothro, and Eslami 2010) so there may be less of a connection between the forms of SNAP outreach considered in this study and their participation.

services that can be provided at these locations. The results show that sharing information about the program and providing applications is not enough to promote participation; providing and submitting applications and even walking nonparticipants through the application process are effective. Thus, outreach and eligibility services provided at grocery stores in low-income neighborhoods would need to go beyond simply promoting program awareness and distributing applications—staff would have to identify ways in which to assist clients in completing the applications and submitting them to local SNAP agencies. Further research is needed to explore whether there are differential effects across venues from providing this more comprehensive set of services.

## **Conclusion**

Recently published rates of participation in SNAP show that in 2009 about 33 percent of the households that were eligible to participate in the program nationwide did not (Cunningham, Castner, and Sukasih 2013). In 2010, the nationwide proportion decreased to 25 percent, but participation rates continued to vary greatly across states—from 55 percent in California, 60 percent in New Jersey and Wyoming, and 62 percent in Nevada to 95 percent in Michigan, 98 percent in Vermont, and 100 percent in Maine and Oregon. This state-level variation coupled with the amount that federal and state governments spend on program outreach point to the need to examine the effectiveness of outreach and eligibility services. That analysis can provide information that the programs can use to improve their targeting of benefits and efforts to reach various groups of nonparticipants, as well as to develop effective strategies for assisting nonparticipants in transitioning to the program.

This study uses a unique nationally representative data set to examine the relationship between participation in SNAP and SNAP outreach and eligibility services offered at various agency sites. The empirical model addresses the endogenous relationship between household-level SNAP participation and pantry-level provision of SNAP outreach and eligibility services in two ways. One model uses geocoding and agency and local-area characteristics to account for the possibility that food pantries that identify clients in need of SNAP benefits may be more likely to provide outreach services than pantries for which relatively few clients are in need of SNAP. A second model uses county fixed effects to account for the possibility that agencies may be more likely to offer help via outreach and eligibility services in areas in which community members have a difficult time applying for SNAP at the local administrative office (for various reasons). Providing applications at food pantries and submitting the completed applications to the SNAP administrative office increases the probability of household participation in SNAP by 5–6 percentage points in both models. The intuition behind these findings comes from a basic economic model in which households weigh the benefits and costs of participating in SNAP. Agencies that provide and submit the applications to administrative offices decrease the households' transaction costs, thereby creating a positive net benefit to participation for the households.

The data used in this analysis are well-suited to investigations of the relationship between outreach and eligibility services and SNAP participation. The data set was collected recently (in 2009) and is nationally representative (of all households that received food from pantries in Feeding America's network); the sample size is large, which facilitates analyses at a subgroup level;

the household records can be linked to the characteristics of the outreach/eligibility programs at the sites at which the interviews were conducted; and local-area information is available from agency locations identified from agency street addresses.

One limitation is the generalness of the information on SNAP outreach and eligibility services provided at the program sites. Variations in the services provided and associated policies across program sites are likely to be more diverse than what was expressed in the three survey questions presented to pantry clients. Obtaining richer data through future surveys would improve the ability to assess the relationships between SNAP participation and these services. In particular, the growing number of states that are modernizing their SNAP administrative practices by streamlining applications, adding online application and account capabilities, and providing call centers suggests that additional survey questions related to those improvements could provide more detailed information.

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