MATHEMATICA Policy Research

REPORT

# Evaluation of Demonstration Projects to End Childhood Hunger (EDECH): The Kentucky Ticket to Healthy Food Project

April 2019


Andrew Gothro
Gregory Chojnacki
Rebecca Kleinman
Philip Gleason
Nicholas Redel
Breanna Wakar
Sarah Forrestal
Ronette Briefel



**Submitted to:**
U.S. Department of Agriculture
Food and Nutrition Service
3101 Park Center Drive
Alexandria, VA 22302
Project Officer: Michael Burke, COR
Contract Number: AG-3198-C-14-0019



**Submitted by:**
Mathematica Policy Research
1100 1st Street, NE
12th Floor
Washington, DC 20002-4221
Telephone: (202) 484-9220
Facsimile: (202) 863-1763
Project Director: Ronette Briefel


Reference Number: 50034.11H

USDA is an equal opportunity provider, employer, and lender

## ACKNOWLEDGEMENTS

This report was prepared by Mathematica Policy Research under contract with the U.S. Department of Agriculture (USDA), Food and Nutrition Service (FNS). Many people within and beyond these organizations assisted us throughout the course of this important study. At FNS, Danielle Berman and Michael Burke monitored the demonstration projects and provided helpful guidance throughout the initial evaluation study period. After the study planning period, Michael Burke provided technical input and guidance as the FNS project officer, and provided valuable comments on the report along with Anita Singh and Kathryn Law.

At Mathematica, we are grateful for the support from many staff who contributed to data collection and analysis activities. A large team of staff developed, pretested, programmed and fielded the surveys: Season Bedell, Seth Benson-Flannery, Erin Boyle, James Brunetto, Timothy Bruursema, Madeline Christian, Hannah Fox, Andrew Frost, Daisy Gonzalez, Bonnie Harvey, Cameron Hass, Mindy Hu, Wilma Jacob, Charlene Kemmerer, Shilpa Khambhati, Tong Li, Kim Mook, Ronald Palanca, Liban Saif, Robert Sheaff, Lucy Tindall, and Raquel af Ursin. Chris Rodger provided initial programming support and oversight. Nora Paxton led an experienced team of programmers who performed the quantitative data analysis, and conducted quality assurance for programming, including Jeffrey Harrington, Kelley Monzella, Malik Mubeen, Liz Potamites, Adele Rizutto, and Mason DeCamillis. Jacqueline Kauff and Pamela Holcomb provided input on the qualitative data collection protocols and effort. Micah Melia assisted with evaluation technical assistance and site visits. Jeanette Holdbrook and Michael Cavanaugh interviewed project participants, with support from Angela D'Angelo. Barbara Carlson, Rhoda Cohen, Andy Weiss, and Michael Ponza provided quality assurance for weights and nonresponse analysis, the survey instruments, survey data collection, and the report, respectively. Dawn Patterson, Cindy Castro, and Jennifer Baskwell assisted with report production, and Molly Cameron and Jim Cameron edited the report.

This report would not have been possible without the cooperation and support of administrators and staff in Kentucky who were responsible for implementing the project, providing data to support the evaluation, and assisting in the data collection process. In particular, we would like to thank Todd Trapp and Mary Gordon, who oversaw implementation of the project at the Kentucky Cabinet for Health and Family Services. We are also grateful for the helpful feedback of James Ziliak, who helped design the intervention project. Finally, we appreciate the participation of thousands of households enrolled in the demonstration project, and their time and willingness to be surveyed.

**This page has been left blank for double-sided copying.**

# CONTENTS

# EXHIBITS

**This page has been left blank for double-sided copying.**

# EXECUTIVE SUMMARY

This evaluation report describes the vision, implementation, and impacts on child food insecurity and other outcomes of the Kentucky Ticket to Healthy Food (TTHF) project. The evaluation was carried out under the Childhood Hunger Demonstration grants funded by the U.S. Department of Agriculture's (USDA) Food and Nutrition Service (FNS) in 2015–2018.

## The problem: Food insecurity among children

Food security is defined as access by all people at all times to enough food for an active, healthy life (Economic Research Service [ERS] 2017a). When a household does not have enough money or other resources to buy food, food intakes are reduced and eating patterns disrupted, leading to food insecurity and its social, developmental, and nutrition consequences, especially for children (National Research Council and Institute of Medicine 2013; Nord and Parker 2010). National estimates indicate that almost one in four families (24%) living in poverty in 2016 experienced food insecurity among children (FI-C),[1] and 44% experienced food insecurity among the household as a whole (Coleman-Jensen et al. 2017).

## A potential solution: Extra Supplemental Nutrition Assistance Program (SNAP) benefits based on two new deductions to the SNAP benefit formula targeting families with children

The 2010 Child Nutrition reauthorization called for the development of innovative strategies to "reduce the risk of childhood hunger or provide a significant improvement to the food security status of households with children," and an independent evaluation of the effectiveness of these strategies using rigorous experimental designs and methodologies to produce scientifically valid evidence of project impacts on food security (U.S. Congress, P.L. 111-296, 2010). USDA awarded a $3.6 million grant to Kentucky's SNAP agency, which implemented a 15-month project from January 2017 through March 2018. The project targeted households with children living in 17 rural and mountainous counties in eastern Kentucky with particularly high levels of unemployment and poverty.

The goal of the project was to reduce child food insecurity in these rural households by raising SNAP benefits to offset the higher transportation costs they face. The project intended to provide SNAP benefits that would better account for the true costs that low-income, geographically isolated households face when grocery shopping or commuting to work. The benefit was structured around changes to deductions in the SNAP benefit formula. A more realistic accounting of travel costs in the formula was consistent with recommendations from the Institute of Medicine (IOM) (Committee on Examination of the Adequacy of Food Resources and SNAP Allotments 2013). Specifically, TTHF added two new deductions to the formula: (1) a deduction for the transportation costs associated with six round trips to the grocery store per month; and (2) an earnings deduction equal to 10% of earned income, applicable to households with at least one employed household member (in addition to the existing 20% earned income

[1] FI-C in the household occurs when *any* of the children in it have their eating pattern disrupted (ERS 2017b).

deduction). The total monthly transportation deduction was a fixed amount that resulted in increases in SNAP benefits ranging from $9 to $20, depending on the county.[2] The earnings deduction allowed for an increase in SNAP benefits ranging from $1 to $114, depending on the household's earned income and net income. These deductions resulted in greater SNAP benefits for households with higher earned income. Because the deductions lowered households' net income, only those with positive net income received the TTHF benefit; those that had no net income received the maximum SNAP benefit and nothing extra through TTHF.

## The evaluation

**Study design.** The evaluation conducted by Mathematica Policy Research used a rigorous randomized controlled trial (RCT) design to estimate the Kentucky TTHF project's impact on the primary study outcome—FI-C—and other outcomes, including food security among adults and the household as a whole, food spending and shopping, and participation in nutrition assistance programs. A target population of approximately 12,400 households in eastern Kentucky met the project's eligibility criteria: receiving SNAP, having positive net income and children who would still be under age 18 by the end of the demonstration,[3] and living in the 17 targeted counties. For the evaluation, a subset of these households was stratified by county and presence of earnings, participated in the baseline survey, and was randomized to the treatment or the control group. Households randomly assigned to the intervention (treatment group) received extra monthly SNAP benefits on their Electronic Benefits Transfer (EBT) cards based on their transportation deduction and, if employed, earnings deduction. Households selected to receive the intervention received these deductions for each month they met the TTHF eligibility during the 15-month intervention that began in January 2017.

Households in the control group continued to receive their regular SNAP benefits as long as they remained eligible for SNAP.

- ***Study outcomes.*** The key study outcome was FI-C, as measured by the 30-day USDA food security survey module (ERS 2017c). Key secondary outcomes were (1) other measures of household food insecurity, including very low food security (VLFS) among children and food insecurity and VLFS among adults and households as a whole, (2) household participation in SNAP and other nutrition assistance programs, (3) household food expenditures (using SNAP benefits and out-of-pocket expenses), and (4) food shopping and nutrition behaviors. Most outcomes data were collected through a follow-up survey. Additional outcomes were measured using SNAP administrative data.

[2] The transportation deduction was designed to account for the costs of six round-trips to the nearest full grocery store. The deduction was calculated separately for each county, by multiplying the average distance from SNAP households' homes to the nearest full grocery store by two (to account for the round trip). This figure was multiplied by 0.56, to translate the distance into costs ($0.56 being the Federal per diem reimbursement for mileage in 2014, when the demonstration was designed). The deduction amounts ranged from $29 to $66, which translates into potential benefit increases of $9 to $20.

[3] Specifically, households had to have at least one child born after March 31, 2000, who would thus be under age 18 when the demonstration period was scheduled to end on March 31, 2018.

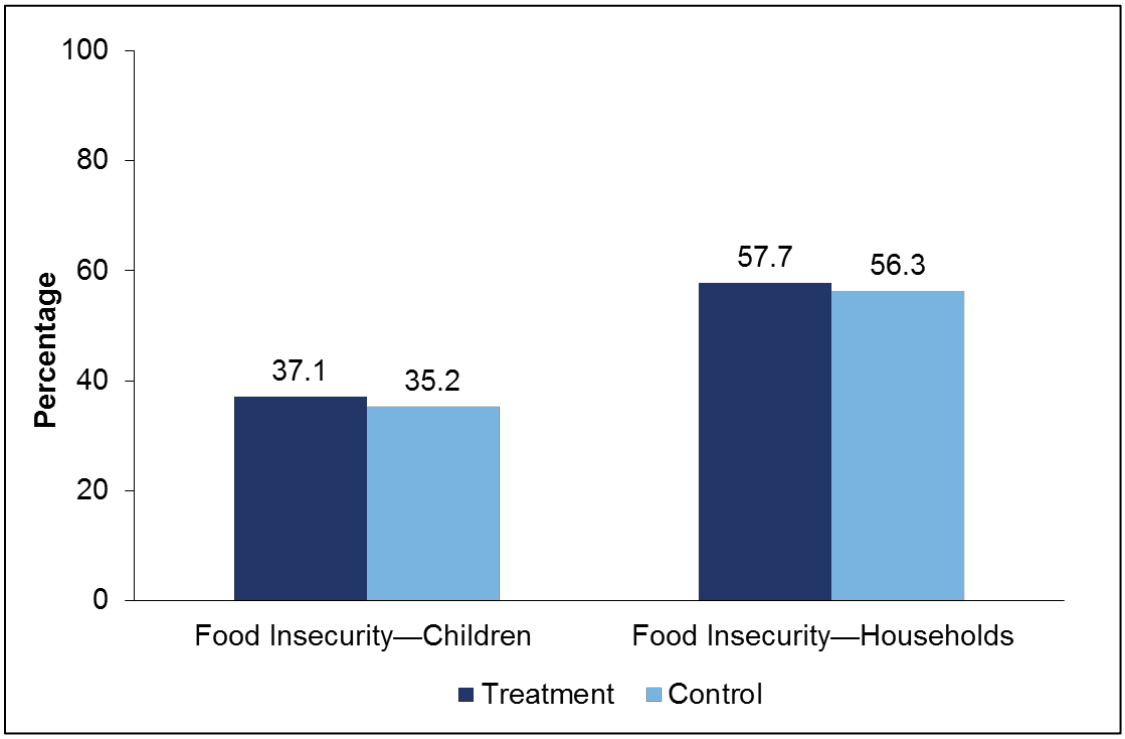
- ***Survey methods.*** A randomly selected sample of eligible SNAP households was administered the evaluation's baseline survey, conducted in 2016. Households that completed the baseline survey (n = 2,202) made up the evaluation sample and then were randomly assigned to the treatment group (1,103 households) or the control group (1,099 households).[4] A follow-up telephone survey was conducted approximately a year later, in 2017, to measure household outcomes (n = 1,639). Survey data were weighted to be representative of the target population in the 17 demonstration counties in eastern Kentucky.
- ***Quantitative and qualitative analytic methods.*** To estimate impacts, outcomes among households assigned to the treatment and control groups were compared, controlling for their baseline characteristics through use of a regression framework. For both the implementation and cost studies, descriptive tabulations were used to address the key research questions on implementation planning and operations, and the resources needed to implement the TTHF project. A summary of findings based on focus groups with participants highlighted their views on and uses of the extra SNAP benefits.
- **Study population.** The average household size among the evaluation sample at baseline was 3.7 members, with an average of 2.1 children. Approximately 94% of respondents were non-Hispanic white. The employment rate, defined as any adult in the household employed during the last 30 days, was 39%. Median household income in the last 30 days was approximately $1,000, and nearly all households (94%) were living below the poverty line. Approximately 44% of households reported receiving Supplemental Security Income (SSI) and 31% Social Security income. At baseline, all households participated in SNAP (an eligibility criterion); 74% received free or reduced-price school lunch; 28% participated in the Special Supplemental Nutrition Program for Women, Infant, and Children (WIC); and 19% obtained food from a food pantry, emergency kitchen, or other community food program in the 30 days before the survey.

## The findings: Impacts of the TTHF project on children and households

**Impacts on food security among children.** Overall, the project did not lead to a reduction in the prevalence of FI-C—the primary outcome in the evaluation. About 37% of households in the treatment group and 35% in the control group reported FI-C at follow-up (see Exhibit ES.1). The rates of other measures of food insecurity were also similar in treatment and control group households. At follow-up, 3.7% of households in the treatment group and 4.5% in the control group reported VLFS among children—the most severe form of food insecurity; this difference was not statistically significant. Rates of VLFS at the household level were reported for 3 of 10 households overall, with no significant difference between the treatment and control groups.

[4] Households outside of the evaluation sample were also randomly assigned to the treatment and control groups so that all eligible households would have a chance to receive project benefits.

## Exhibit ES.1. Impact of the Kentucky TTHF project on food insecurity among children




Source: Evaluation of Demonstration Projects to End Childhood Hunger, 2017 follow-up survey (n = 1,623). Tabulations are weighted to be representative of all eligible SNAP households in the Kentucky TTHF demonstration and prepared by Mathematica Policy Research.

Notes: Estimates are regression adjusted to account for households' baseline characteristics. Treatment-control differences are not statistically significantly greater than zero at the 0.05 level, one-tailed test.

TTHF = Ticket to Healthy Food.

***Impacts for subgroups.*** Estimated impacts on FI-C also did not differ for subgroups of households examined in the analysis. These include groups defined based on socioeconomic characteristics, including the expected level of extra SNAP benefits; the presence of a single adult versus two or more; the presence of at least one teen in the household; FI-C at baseline; and household participation in WIC at baseline.

Since the Kentucky TTHF project was designed to account for additional transportation costs faced by households with at least one employed member, the project benefit formula increased the amount of extra SNAP funds a household received in proportion to earned income. As a result, the average treatment household with earnings received a TTHF benefit that was three times as large as the average treatment household without earnings. However, despite the increased level of project benefits households with earnings received, the project did not reduce FI-C for that group. Among both households with and without earnings, rates of FI-C were similar among treatment and control households. In both the treatment and control groups,

roughly 40% of households without earned income experienced FI-C, higher than the 30% among those with earned income.[5]

Overall, treatment and control households experienced changes in their household employment, housing stability, and household composition at similar rates. The results do not provide evidence of any changes in circumstances specific to treatment or control households that could have influenced the measured impact of Kentucky's TTHF project on food insecurity. Likewise, there were no differences between treatment and control households' reported availability of help and support from family, friends, and the community that may have affected the effectiveness of the project.

**Impacts on SNAP benefit receipt and food spending.** The average treatment household received $22 in project benefits in the month before the follow-up survey—an average that includes households that received no extra benefits in some or all months, either because they had no net income or were no longer on SNAP.[6] For the TTHF benefits to have reduced FI-C, households would have had to increase their overall food purchases, including SNAP and out-of-pocket spending, in response to the additional TTHF benefits. The results of this study suggest that this outcome did occur: combined food spending in the treatment group was $20 higher than in the control group, on average. In other words, food spending increased by nearly the full $22 average benefit provided by the project. Further, this pattern held among households with earned income, indicating that the larger benefits this group received translated into larger increases in overall food spending. Also, because households with earnings had smaller regular SNAP benefit amounts, their average project benefit represented a 13% increase in total SNAP benefits, compared with a 4% increase among households without earnings (see Exhibit ES.2).[7]

**Pathway from extra SNAP benefits to food in the household**

*How much in extra SNAP benefits did the typical household receive each month?*
**$22 per month**

*How much did it raise the typical household's total SNAP spending?*
**$22 per month**

*How much larger did it make the household's total spending on food (SNAP and out-of-pocket)?*
**$20 per month**

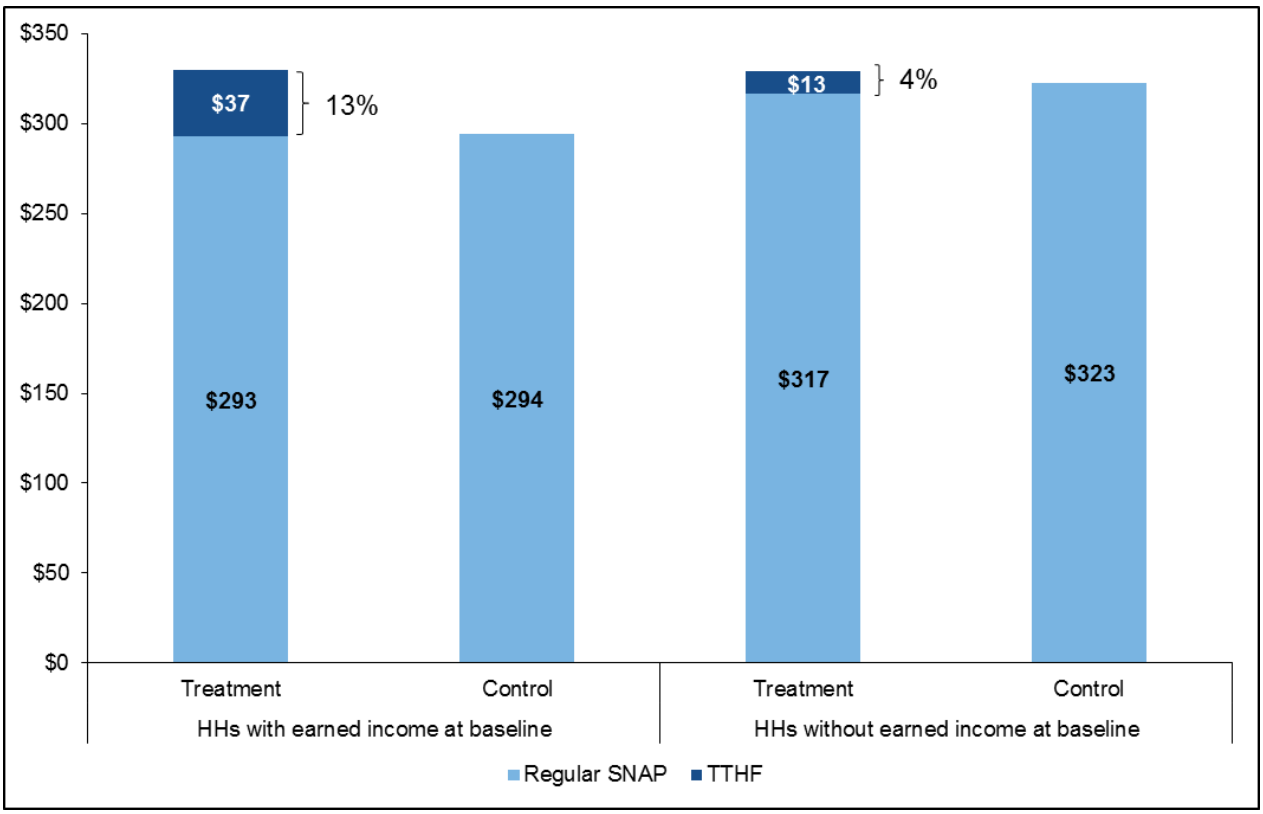
*How many additional meals would that cover?*
**2 meals for a family of 4**

[5] Also, rates of FI-C did not change substantially from baseline to follow-up.

[6] Approximately 21% of households did not receive any benefits from the project in the month before the follow-up survey.

[7] Households with earned income comprised 39% of the project's target population.

## Exhibit ES.2. Average regular SNAP and TTHF SNAP benefits among households with and without earned income




Source: Kentucky SNAP administrative data (n = 1,639), 2016–2018 and EDECH 2015–2016 baseline survey and 2017 follow-up survey. Tabulations are weighted to be representative of all eligible SNAP households in the Kentucky TTHF demonstration and prepared by Mathematica Policy Research.

HHs = households; SNAP = Supplemental Nutrition Assistance Program; TTHF = Ticket to Healthy Food.

**Impacts on food shopping.** The TTHF project did not affect households' shopping behavior at follow-up; treatment and control households engaged in similar patterns. Nearly all (98% of households in each group) traveled by car. They traveled approximately 12 miles to the store where they bought most of their food; this distance was similar among treatment and control households. Roughly four out of five households primarily shopped at a grocery store or supermarket, with the remainder shopping at a discount store. Approximately three out of five respondents reported low prices as the primary reason for their choice of grocery store; they shopped an average of seven times in the last 30 days.

**Impacts on food program participation.** At the time of the follow-up survey, 87% of treatment households and 84% of control households remained on SNAP; there was no significant difference between the groups. Treatment and control households also participated in household and child nutrition assistance programs at similar rates. In addition, similar percentages of each group (about 20%) received help from a food pantry, emergency kitchen, or other community food program.

## Implementation and costs of the Kentucky TTHF project

The evaluation included an analysis of project implementation and costs, based on a review of grant documents and materials, ongoing communications with project staff, site visit interviews during the planning and implementation periods, and focus groups with participants. The TTHF project's major success was getting extra SNAP benefits to project participants. This accomplishment was important, given that the SNAP enhancement was the project's mechanism for reducing FI-C. The project's major challenge was that the benefits were low overall, based both on participant perspectives and a normative examination of TTHF benefit receipt.

The analysis of SNAP administrative data found that almost all 2,820 households (94%) selected to receive TTHF ("TTHF households") received it for at least one month, and typically for 11 of the maximum 15 months. Households with earnings at baseline received the benefit slightly less often than those without, possibly because those with earnings were more likely to leave SNAP during the project period. Households also cycled in and out of TTHF during the evaluation.

The average monthly TTHF benefit was $30, but in practice the amount households received varied substantially based on whether they had earnings. Households with earnings received both the earned income and transportation deductions. Households without earnings received only the transportation deduction—which was considerably smaller than the deduction for earned income. Thus, the 38% percent of households with earnings at baseline had average extra benefits of $53 (in the months they received the benefit). The 62% of households without earnings at baseline had average extra benefits of just $16. During the months they received the benefit, most of the households with earned income at baseline received more than $50 in average monthly benefits. By comparison, more than 90% of households without earned income at baseline received $20 or less per month through TTHF. The maximum benefit households could have received through the transportation deduction alone was $20, so those without earnings at baseline that received more than this amount during the project period did so by becoming employed after baseline and thus received the extra earned income deduction.

Based on the cost analysis, approximately $1.4 million[8] of the total grant award of $3.6 million was spent during the evaluation period. This included a 23-month start-up and planning period and a 15-month implementation period. About 56% of total costs consisted of the extra SNAP benefits to TTHF households, and 31% were related to modifying the State's SNAP eligibility system. Of the start-up costs, the State's SNAP eligibility system contractor accounted for 75% of them by modifying the new SNAP eligibility system for the demonstration. The remaining start-up costs went toward demonstration management (17%) and benefit distribution (8%). The extra SNAP benefits represented the vast majority of the implementation period costs (95%), with the SNAP office and SNAP EBT contractor accounting for the remainder. The average total cost of the project was $514 per TTHF household. These costs were sizeable for a 15-month demonstration and represent a potential drawback when instituting a temporary benefit. However, if a State intended to implement the changes widely, this cost ultimately

[8] This figure excludes $2.2 million in grant money remaining at the conclusion of the evaluation period, which Kentucky intends to spend during a no-cost extension period. It includes both paid and donated labor.

would be both necessary and proportionally low relative to the total SNAP expenses for a statewide population, and even lower proportionally over time.

## Conclusion

Using a rigorous random assignment design, this study examined the impact of the Kentucky TTHF project, which aimed to reduce FI-C by providing extra SNAP benefits to households with children living in poverty. These extra benefits were determined by two new deductions to the SNAP benefit formula and were designed to account for burdensome transportation costs associated with grocery shopping and commuting to work. Overall, the project did not reduce FI-C or other measures of 30-day food insecurity. This lack of an impact may be related to the size of the benefit or its targeting. The project delivered an average extra SNAP benefit of $22 a month but delivered larger average benefits to households with earned income ($37) than to those without it ($13). Even though the households without earnings were at a higher risk for food insecurity (40% FI-C at baseline, compared with 30% among those with earnings), they received smaller increases in SNAP benefits. Overall, the project led to an increase in monthly SNAP spending of $22 for the typical household, and an increase of $20 per month in total food purchases, including out-of-pocket spending—the equivalent of about two meals for a family of four during the month (Feeding America 2017). Both treatment and control group households reported high participation in food and nutrition programs, and one in eight families also relied on emergency or other community food assistance. Study findings suggest that this increase in spending was not large enough to reduce food insecurity as measured by the standard 30-day survey module, although the study could not rule out effects on other aspects of well-being.

The design decision to prioritize benefits for households facing high costs of working in a rural, isolated area rather than targeting those most economically disadvantaged or at highest risk of FI-C may have influenced the project's effectiveness at reducing FI-C. Yet, the fact that the project was structured around changes to the existing SNAP benefit formula and was consistent with USDA's plan to promote self-sufficiency in SNAP implementation, makes it highly policy relevant (FNS 2017b). If the intervention had led to a reduction in food insecurity, it would be easy to roll out the benefit changes in a larger way because they were already encoded into the State's eligibility system, and no changes were made to the maximum SNAP benefit.

## GLOSSARY OF ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| AAPOR | American Association for Public Opinion Research |
| ARRA | American Recovery and Reinvestment Act |
| BL | Baseline |
| BLS | Bureau of Labor Statistics |
| C | Control |
| CATI | Computer-assisted telephone interview |
| CONSORT | Consolidated Standards of Reporting Trials |
| DCBS | Department of Community Based Services |
| DOL | Department of Labor |
| EBT | Electronic Benefits Transfer |
| EDECH | Evaluation of Demonstration Projects to End Childhood Hunger |
| ERS | Economic Research Service |
| ES | Executive Summary |
| FI-C | Food insecurity among children |
| FI-HH | Food insecurity among household |
| FNS | Food and Nutrition Service |
| FS-C | Food security among children |
| FU | Follow-up |
| FY | Fiscal year |
| GED | General Education Development |
| HH | Household |
| HHFK | Healthy, Hunger Free Kids |
| IOM | Institute of Medicine |
| IRB | Institutional Review Board |

| | |
|---|---|
| NA | Not applicable |
| NSLP | National School Lunch Program |
| OATS | Office of Administrative and Technology Services |
| ODC | Other direct costs |
| OMB | Office of Management and Budget |
| OOP | Out-of-pocket spending |
| RCT | Randomized controlled trial |
| SBP | School Breakfast Program |
| SEBTC | Summer Electronic Benefits Transfer for Children |
| SES | SNAP eligibility system |
| SFSP | Summer Food Service Program |
| SNAP | Supplemental Nutrition Assistance Program |
| SNAP E&T | SNAP Employment and Training Pilots |
| SOAR | Shaping Our Appalachian Region |
| SSI | Supplemental Security Income |
| T | Treatment |
| TANF | Temporary Assistance for Needy Families |
| TTHF | Ticket to Healthy Food |
| USDA | United States Department of Agriculture |
| VLFS | Very low food security |
| WIC | Special Supplemental Nutrition Program for Women, Infants, and Children |

# I. THE KENTUCKY TICKET TO HEALTHY FOOD PROJECT

This evaluation report describes the vision, implementation, and impacts on child food insecurity and other outcomes of the Kentucky Ticket to Healthy Food (TTHF) project. The project was carried out under the Childhood Hunger Demonstration grants funded by the U.S. Department of Agriculture's (USDA) Food and Nutrition Service (FNS) from 2015 through 2018. The demonstration was designed to reduce food insecurity among low-income families with at least one child under age 18 (who would remain under 18 throughout the demonstration). Households already receiving Supplemental Nutrition Assistance Program (SNAP) benefits were provided with extra SNAP benefits monthly through additional deductions to the household income used to calculate benefits.

## A. Introduction

Access to adequate healthy food is important to children's nutrition, psychosocial development, and health (Coleman-Jensen et al. 2013; National Research Council and Institute of Medicine 2013). Households in poverty often struggle to meet the food needs of household members. A household's ability to do so—its food security[9]—is a function of available resources (money to buy food and other resources), competing demands for those resources, and the cost of acquiring food (Nord et al. 2014).

USDA's FNS administers 15 nutrition assistance programs designed to ensure that low-income Americans do not go hungry and have access to healthful and nutritionally adequate diets (FNS 2016). Despite high participation in SNAP, the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC),[10] and the National School Lunch Program (NSLP),[11] rates of food insecurity among low-income households with children remain a concern.[12] To address this concern, the 2010 Child Nutrition reauthorization called for the development and independent outcome evaluation of innovative strategies to "reduce the risk of childhood hunger or provide a significant improvement to the food security status of households with children," including alternative models of service delivery or benefit

In 2016, one in five families with incomes eligible for SNAP (22%) experienced food insecurity among the children (FI-C), and 41% experienced food insecurity in the household as a whole (FI-HH) (Coleman-Jensen et al. 2017).

[9] Food security is defined as access by all people at all times to enough food for an active, healthy life (Economic Research Service [ERS] 2017a). Household food insecurity occurs when the food intake of one or more household members is reduced and their eating patterns are disrupted because the household lacks money and other resources for food (ERS 2017a). Food insecurity can be measured at the household, adult, and child levels. Food insecurity among children (FI-C) occurs when *any* of the children in the household have their eating patterns disrupted, and food insecurity among adults (FI-A) occurs when *any* of the adults in the household have their eating patterns disrupted because "there wasn't enough money for food."

[10] In fiscal year (FY) 2017, 42.1 million people participated in SNAP (FNS 2018c), and 7.3 million women and children participated in WIC (FNS 2018e). In both programs, total participation decreased slightly compared to the 2011–2014 period.

[11] Participation in NSLP has remained stable in the past decade; 30.0 million children participated in FY 2017 (FNS 2018b). In FY 2017, 74% of all school lunches were free or reduced price (FNS 2018b).

[12] In the 2012 SNAP Food Security Survey, 33% of households with children entering SNAP (that is, new entrants) had food insecure children (Mabli et al. 2013).

levels (FNS 2017a; 2018a; U.S. Congress, P.L. 111-296, 2010). USDA awarded grants to States and Indian tribal organizations in February 2015 to develop and implement their strategies for reducing childhood food insecurity. The legislation also provided $40 million to USDA to conduct and rigorously evaluate the Childhood Hunger Demonstration projects. The resulting Evaluation of Demonstration Projects to End Childhood Hunger (EDECH) study independently evaluated the implementation and impacts of four of the grantees' demonstration projects (FNS 2018a). This report, one of four, presents results from the EDECH study for one of the grantees: Kentucky.

The EDECH study investigated the project's impacts on food insecurity among children—the primary outcome. The EDECH evaluation had six research objectives that are addressed in this report (Exhibit I.1).

### Exhibit I.1. Overview of the EDECH evaluation design

| Study component | Sample | Data sources | Main outcomes |
|---|---|---|---|
| **Objective 1. To describe the demonstration project in detail** | | | |
| Implementation | State agency directors, project staff, and State vendors assisting with the demonstration | Document review; in-person interviews | Project vision; project components; planning process; stakeholders' roles |
| **Objective 2. To describe the processes involved in the implementation and operation of the demonstration project** | | | |
| Implementation | State agency directors, project staff, and State vendors assisting with the demonstration; parents/guardians | In-person interviews; parent/guardian focus groups; administrative data | Project components; implementation processes; project challenges and successes; staff and participants' perceptions and experiences |
| **Objective 3. To determine the impact of the demonstration project on the prevalence of food insecurity** | | | |
| Impact | Parents/guardians | Baseline and follow-up household surveys; SNAP caseload and EBT administrative data; findings from Objectives 1 and 2 | Food insecurity among children; adult and household-level food insecurity among households with children |
| **Objective 4. To determine how impacts on food insecurity among children and households with children vary by relevant factors** | | | |
| Impact | Parents/guardians | Baseline and follow-up household surveys; findings from Objectives 1 and 2 | Food insecurity among children by household total and earned income, race/ethnicity, and other factors |
| **Objective 5. To determine the impact of the demonstration project on additional household outcomes potentially related to food security** | | | |
| Impact | Parents/guardians | Baseline and follow-up household surveys; SNAP EBT administrative data; findings from Objectives 1 and 2 | Participation in nutrition assistance programs; food shopping and spending patterns |
| **Objective 6. To determine the demonstration's cost and effectiveness** | | | |
| Cost | Project staff and State vendors assisting with the demonstration | Document review; in-person interviews; cost workbooks; administrative data | Total project costs; component costs of ongoing operations and how they relate to the impact observed |

EBT = Electronic benefits transfer; SNAP = Supplemental Nutrition Assistance Program.

## B. The TTHF project in Kentucky

The Kentucky TTHF project was designed to reduce food insecurity in SNAP households with children by accounting for transportation costs when calculating SNAP benefits. The project targeted households living in a 17-county region of eastern Kentucky that has higher food insecurity, poverty, and unemployment compared to the rest of the State—that is, participating households lived in a rural, economically depressed region of the State. Because of the rural landscape, coupled with mountainous terrain, households can incur high transportation costs when traveling to work or acquiring nutritious foods. This circumstance raises the cost of traveling to full-service grocery stores, which tend to offer greater selection of nutritious foods at lower prices than higher-priced, small stores that may be closer (Ver Ploeg et al. 2015, 2017). The project offered additional deductions to household income to offset the high costs households faced in accessing full-service grocery stores or getting to work because of the rural and mountainous landscape. By increasing SNAP benefits in this way, the project intended to provide SNAP benefits that would better account for households' true costs of living and working in the region. The design of this demonstration arose from a recommendation from the Institute of Medicine (IOM), which said that a key factor when considering the adequacy of SNAP benefits should be "the influence of specific individual, household, and environmental factors…" (Committee on Examination of the Adequacy of Food Resources and SNAP Allotments 2013). Among these factors, the IOM report suggested considering the "limited access to certain food outlets (e.g., supermarkets) that may affect the ability of some SNAP participants to purchase a variety of healthy foods at a reasonable cost."

The Kentucky Cabinet for Health and Family Services (awarded a $3,566,810 grant from FNS) provided an additional benefit on Electronic Benefits Transfer (EBT) cards to enhance the benefits for eligible SNAP households. Eligible households were those receiving SNAP and having positive SNAP net income and children who would remain under age 18 throughout the demonstration period.[13] Households were randomly assigned to a treatment or control group in this randomized controlled trial (RCT). Following an initial planning period, the project implementation lasted 15 months. Households in the treatment group were eligible for these benefits for each month they remained on SNAP from January 1, 2017 through March 31, 2018. Although project benefits were funded and tracked separately from regular SNAP benefits, participants used the grant benefits as they would their regular SNAP ones; thus, for simplicity, this report calls them extra SNAP or TTHF benefits.

> The SNAP formula calculates net income for households by subtracting allowable deductions from a household's gross income. Every dollar of net income reduces a household's SNAP benefit by $0.30. Therefore, every extra dollar of deduction increases the SNAP benefit by $0.30 until net income reaches zero and the maximum SNAP benefit is reached, at which point further deductions do not affect the SNAP benefit (FNS 2018d).

The extra SNAP benefit was designed to target rural households with high transportation costs, including those residing an average of 4 to 10 miles from full-service grocery stores. The benefit was determined through (1) a fixed transportation deduction from income, based on each

[13] Specifically, households had to have at least one child born after March 31, 2000, who would thus be under age 18 when the demonstration period was scheduled to end on March 31, 2018.

demonstration county's average distance to the grocery store; and (2) an enhanced earned income deduction equal to 10% of earned income. Households with earned income received both deductions; those without earned income received only the first one. The project benefits are summarized briefly here, and in greater detail in Chapter II.

- Households assigned to the treatment group received an extra monthly SNAP benefit based on two new deductions in the SNAP benefit formula:

  1. A transportation deduction for the costs associated with six round trips monthly to the grocery store. The total monthly transportation deduction was a fixed amount that ranged from $29 to $66, depending on the county, resulting in increases in SNAP benefits ranging from $9 to $20. According to the State's grant application, this deduction was designed to account for elevated transportation costs rural households in particular face. This deduction was also designed to provide support to all households regardless of their employment status.

  2. An earnings deduction equal to 10% of earned income for households with at least one employed member. This benefit applied only to households that had income through employment and was in addition to the existing deduction of 20% of reported earnings. The earnings deduction allowed for an increase in SNAP benefits ranging from $1 to $114. The earned income deduction was intended to offset high transportation costs indirectly by targeting those households with members who commuted to work in a high-cost travel environment. Thus, this deduction adjusted the SNAP benefit formula to account for the reality that commuting is costlier for workers in this region. Structuring one of the TTHF deductions through SNAP's existing earned income deduction also had the potential to improve the work incentives inherent in SNAP by helping to make the decision to work pay off a bit more for those households whose costs for traveling to work could be greater.

- Households assigned to the control group did not receive the project benefit but continued to receive their typical SNAP benefit as long as they remained eligible.

**Example households participating in the Kentucky TTHF project**

**Household A** lives in a county with a transportation deduction of $50 and has no earned income. Under the TTHF, the demonstration would deduct an additional $50 from the household's net income. Under the SNAP benefit formula, which reduces benefits by $0.30 for every dollar of net income the household has, this translates to $15 in additional SNAP benefits per month (50 * 0.3 = $15).

**Household B** lives in a county with a transportation deduction of $50 and reported earned income of $700 per month. Under the TTHF, the demonstration would deduct an additional $120 from the household's net income: $50 for the transportation deduction and $70 for the additional earned income deduction (worth 10% of earnings). Under the SNAP benefit formula, which reduces benefits by $0.30 for every dollar of net income the household has, this translates to $36 in additional SNAP benefits per month (120 * 0.3 = $36).

The TTHF was designed to integrate with the existing SNAP benefit formula. If the intervention did improve food insecurity, it would be administratively simple to roll out the

benefit formula changes more broadly without changing the maximum SNAP benefits. Strengthening the work incentives in the SNAP benefit formula was also consistent with USDA's plan to allow States more flexibility in SNAP implementation to promote self-sufficiency (FNS 2017b), which may make this approach politically more feasible to scale up.

Through these SNAP formula deductions, Kentucky hoped to address two primary goals:

1. **Reduce food insecurity among children:** This goal was the primary one for the project, in keeping with the 2010 Child Nutrition reauthorization. The State sought to reduce food insecurity among children by giving eligible households extra SNAP benefits. Extra benefits were intended to help households access lower-cost groceries in full-service stores instead of using higher-priced small stores. Randomized controlled trial evidence shows that extra SNAP benefits can reduce food insecurity among children (Collins et al. 2016). Qualitative findings based on about 120 in-depth interviews has shown that many SNAP families with children scramble to feed their families at the end of the month (Edin et al. 2013)
2. **Improve quality of food purchases:** The State wished to improve the overall quality of food purchases at full-service grocery stores by providing extra SNAP benefits that would allow households to travel farther to obtain higher quality food or make more frequent visits to a grocery store. Its intent was that improving access to full-service grocery stores and having extra SNAP benefits would work together to increase households' ability to purchase healthier and lower-cost perishable foods.

## C. Evaluation design

The centerpiece of the evaluation design for estimating the TTHF project's impacts was an RCT. This design used random assignment to ensure that the project's treatment and control groups were statistically equivalent at the beginning of project implementation, the only difference being that households in the former were eligible to receive the benefits provided by the Kentucky TTHF project and those in the latter were not. RCTs are considered the gold standard of evaluation design, producing rigorous evidence on project impacts (Rossi et al. 2004). Based on this design, the study evaluated the TTHF project's impacts, implementation, and costs. Appendix A presents a detailed description of the study design and methods.

Conducting the study's RCT evaluation design involved three steps: (1) identifying eligible SNAP households—those in the target population;[14] (2) randomly assigning households to the treatment or control group and notifying them of their eligibility for benefits; and (3) measuring outcomes in the treatment and control group households, and then comparing them at the end of the implementation period. Eligible SNAP households included those residing in the project area, having children under age 18 (at the end of the demonstration) and positive net income, and not participating in the SNAP Employment and Training Pilots (SNAP E&T) evaluation in Kentucky.[15] The initial sampling of households was stratified by county (because the deduction

[14] Approximately 12,400 households were in the target population.

[15] Households in the TTHF project were located in 17 rural counties in eastern Kentucky (see Appendix A.1). The counties overlapped with the eight counties included in the SNAP E&T evaluation that began randomly assigning SNAP participants in April 2016. The SNAP E&T study provided education, training, employment, and work

for transportation costs varied by county) and the presence or absence of earnings (because the earned-income deduction was available only to the subset of households with earnings). In addition, before random assignment, a baseline household survey was conducted; the evaluation sample consisted of households that completed the survey and subsequently were randomly assigned.[16]

Random assignment to the study's treatment and control groups was conducted at the household level, with each household having an approximately equal chance of being assigned to each group. Because the groups had similar characteristics before the project's implementation, including similar levels of food insecurity, any differences in outcomes at the end of the implementation period could be attributed to the impact of the TTHF project. The evaluation sample included 2,202 households, with 1,103 assigned to the treatment group and 1,099 assigned to the control group (see Appendix Exhibit A.7).[17] The characteristics of the two groups were similar, with two small differences among the socioeconomic and demographic characteristics examined—treatment households had a mean size of 3.6 members and 2.0 children compared with 3.8 members and 2.1 children in the control households; see Appendix Exhibits A.1–A.2.

The **impact study** measured the impacts of receiving the extra SNAP benefits. The key study outcome was food insecurity among children (FI-C), as measured by USDA's 30-day survey module. Key secondary outcomes were (1) other measures of food insecurity, (2) household participation in SNAP and other nutrition assistance programs, (3) household food expenditures, and (4) food shopping and nutrition behaviors. Most outcomes were collected through a follow-up survey administered near the end of the 15-month implementation period. Additional outcomes were measured with administrative data from the State's SNAP eligibility system and the SNAP EBT system. To estimate impacts, outcomes among households assigned to the treatment and control groups were compared, controlling for baseline characteristics of households using a regression framework. Although a simple comparison of mean outcomes between the treatment and control groups would result in an unbiased estimate of project impacts, given the random assignment design, controlling for baseline characteristics improves

supports (in the form of cash and vouchers) to those in the treatment group. Both evaluations were analyzing employment and well-being outcomes, therefore, allowing participants to receive service from both pilots could have affected the results of each evaluation. To prevent this, the evaluation teams coordinated their sampling and prevented individuals from participating in both pilots.

[16] Sample weights were created to ensure that households responding to the baseline survey were representative of all eligible households. In addition, any differences between respondents and nonrespondents on the baseline survey would have affected the treatment and control groups in the same way because random assignment was conducted after completion of the baseline survey. Although baseline survey nonrespondents were not included in the evaluation sample, a separate random assignment was conducted for those households, so they had the same chance of receiving project benefits as respondents. Weights for the follow-up survey were also constructed to ensure that the sample completing that survey would be representative of the target population.

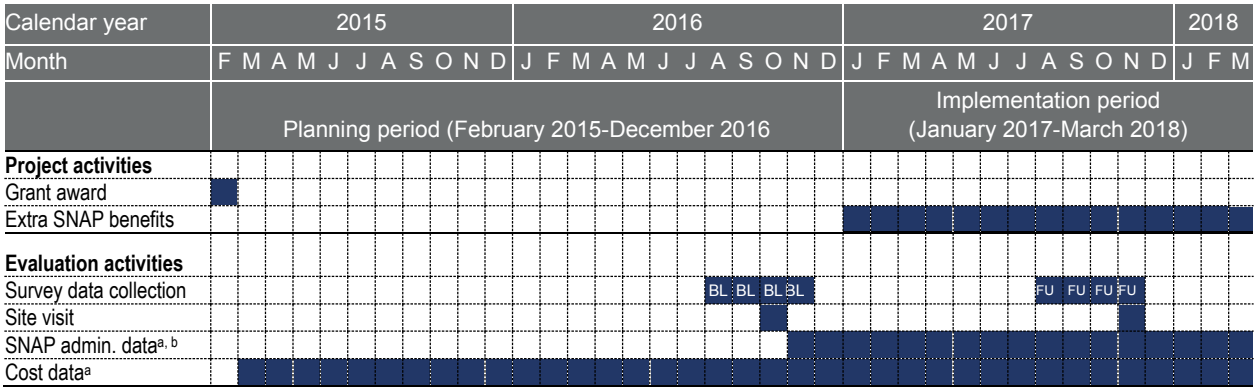
[17] In the larger group of all households eligible for project benefits at the time of sampling, 2,820 ultimately were randomly assigned to receive project benefits, including the 1,103 assigned to the treatment group in the evaluation sample and 1,717 households outside of the evaluation sample randomly selected to receive benefits. A total of 9,579 households from the original sample were randomly assigned not to receive benefits, including the 1,099 in the evaluation sample's control group and 8,480 others.

the statistical power of these estimates.[18] Data on baseline characteristics were obtained from a baseline survey administered a few months before the beginning of the implementation period. Appendix A presents details of the study approach to sampling, random assignment, and analysis methods; Appendix B includes a description of the data collection methods and data sources used to evaluate the project.

The **implementation study** described the design and implementation of TTHF project benefits to document project activities, challenges, and successes, and to help interpret the project impacts. As part of the implementation study, in-person interviews were conducted with State and local agency directors and managers and State vendors to assess (1) project outreach and recruitment strategies during the planning and early implementation periods, and (2) provision of extra SNAP benefits during the implementation period. Focus groups with project participants were also conducted. Finally, for the **cost study,** information on the grantee's project costs were collected and analyzed to understand the resources needed to implement the TTHF project. Grantees completed standardized cost accounting worksheets quarterly. For both the implementation and cost studies, descriptive tabulations were used to address the key questions.

Exhibit I.2 provides a timeline of project activities for Kentucky's planning and 15-month implementation periods, and key evaluation activities. Data collection covered both of these periods, with the survey periods and site visits occurring before and near the end of the implementation period. Kentucky experienced a longer planning period than the 12 months originally anticipated due to a delay in switching State EBT vendors.

## Exhibit I.2. Timeline for Kentucky's TTHF 15-month project




Source: Evaluation of Demonstration Projects to End Childhood Hunger.

[a] Months included in data source.

[b] SNAP administrative data include SNAP caseload and SNAP EBT data. EBT data were available for the months during the period November 2016–March 2018.

Admin. data = administrative data; BL = baseline survey; EBT = Electronic Benefits Transfer; FU = follow-up survey; SNAP = Supplemental Nutrition Assistance Program.

[18] In addition, these baseline characteristics account for any differences between the treatment and control groups that arise by chance, despite random assignment.

**This page has been left blank for double-sided copying.**

# II. KENTUCKY TTHF IMPLEMENTATION AND COSTS

This chapter describes the Kentucky TTHF project's design, implementation, and costs to document the project activities and highlight factors that may have influenced its impacts. The chapter includes information on the project's eligibility criteria, benefits, household members' level of awareness of and participation in the project, and project costs. Project staff and participant households' perceptions of the TTHF project's successes, challenges, and lessons are particularly instructive for understanding its impacts on participating households, and for other States or funders seeking to learn from Kentucky's experience.

Data sources are described in Appendix B. In brief, the main data sources to support the implementation analyses were (1) two site visits, including interviews with project staff; (2) two focus groups with project participants who received TTHF benefits; (3) quantitative data on receipt and spending of the TTHF benefits; and (4) reviews of grantee documents, including the grant application, quarterly progress reports to FNS, and operational materials (such as letters to households). Cost data derive from detailed, standardized cost accounting worksheets that grantees completed quarterly.

## A. The demonstration project

### 1. Overview of the demonstration area

State planners selected 17 contiguous, rural counties in eastern Kentucky as the project area because of their isolation and high rates of unemployment and food insecurity relative to the rest of the State. Project staff described the decline of the coal industry and mountainous terrain as greatly affecting unemployment and food insecurity in this region of Kentucky (Chojnacki and Gothro 2017; Melia and Gothro 2016). Because of the mountainous landscape, the area is relatively isolated. Staff described residents' commutes to other parts of the State for work as long and arduous. Also, Internet access was not widespread, thus restricting access to jobs. Large winter storms in this mountainous region can limit access to food through travel restrictions or school closures for children who rely on free or reduced-price school meals.

A chief reason for designing the TTHF benefit around transportation was the perception that the mountainous terrain reduced access to food. According to staff and households, the local grocery stores tended to be small, locally owned "mom and pop shops" with limited produce, higher prices, and lower quality compared with supermarkets such as Kroger and Walmart that were farther away. Some focus group discussants described traveling great distances to reach supermarkets that offered the products they wanted at prices they could afford. Some of the households lived 20 miles or more from large supermarkets, and others traveled even farther (90 miles each way) to reach Lexington, the closest major city to the project area, when they could couple grocery shopping with medical appointments or other reasons for a visit to the city. Yet these households did not perceive transportation per se as a barrier to food security, despite traveling long distances in some cases. Rather, they perceived high food prices and their limited financial means as the main challenge. Some focus group discussants also described health-related diet restrictions (such as food allergies or heart disease), either personally or among their children, as contributing to the costs and inconvenience of food shopping.

The widespread barriers to economic security in the region are reflected in its USDA Economic Research Service (ERS) designation as one of five "persistently poor" regions in the country. This designation signifies that county poverty rates were higher than 20% in the past five decennial censuses (ERS 2018; Islam et al. 2015). Sixteen of the 17 demonstration counties met this threshold (ERS 2015). The area was also included in the Federal education initiative Race to the Top and was designated as a USDA StrikeForce region and a Promise Zone, both Federal initiatives that partner with community organizations to steer investment to economically underdeveloped regions (Kentucky Promise Zone 2016; USDA 2016).

In 2014, when the State applied for the TTHF grant, the average unemployment rate in the 17 selected counties was 11%, substantially higher than the 2014 unemployment rates for the State (7%) and nation (6%) (U.S. DOL BLS 2017a, 2017c). As reported in the State's grant application, the child poverty rate averaged almost 40% in the 17 counties, compared to 28% in the State and 20% nationwide (U.S. Census Bureau n.d.). The child food insecurity rate in the 17 counties averaged 28%, and participation in Disability Insurance, Supplemental Security Income (SSI), and SNAP was 9%, 12%, and 38%, respectively, according to the State's grant application.

By the time the project began in 2017, the unemployment rate ranged from 6% to 17% in the counties (as of December 2016), although it was still higher than the statewide rate of 5% (U.S. DOL, BLS 2018). The economy improved during the course of the 15-month intervention, with the unemployment rates dropping to a range of 5% to 14%, and all but one of the counties experiencing unemployment rates below 8% (U.S. DOL, BLS 2017a, 2017c).[19] Thus, the TTHF intervention was delivered during a period of economic recovery in the region.

### 2. Nature of benefits

Eligible SNAP households were offered extra SNAP benefits each month for 15 months, beginning in January 2017 and ending in March 2018. Households in the project area that met the project eligibility criteria as of July 2016 (just before the baseline survey) were identified as potentially eligible for the project. Those still meeting the criteria as of November 2016, two months before project implementation began, were randomly assigned either to receive benefits or not. A total of 2,820 households were randomly assigned to receive TTHF benefits; 9,579 were assigned not to receive them. A random sample of households selected for the evaluation and randomized to the treatment or control group after completion of the baseline survey (n = 2,202) was the basis of the impact analysis in Chapter III (the sampling and random assignment process are described in detail in Appendix A). Henceforth, this report uses "treatment and control" to refer to the evaluation sample, and "TTHF households" or "TTHF group" to refer to the entire set of households assigned to receive the TTHF intervention.

[19] Other labor market indicators provide additional detail about how the local economy changed during the demonstration period. The average labor force participation rate in December 2016, 36%, was much lower than the State average of 57%. It increased slightly to 37% in March 2018, while the State rate increased to 58%. The average unemployment rate fell from 9% to 7% in the demonstration counties over the same time period, while the State rate fell from 5% to 4% (U.S. DOL, BLS 2017b, 2018a, 2018b; U.S. Census Bureau, 2017).

The extra SNAP benefits were based on two new deductions added to the SNAP benefit formula:

1. **A deduction for the transportation costs** associated with six round trips to the grocery store every month. The demonstration deducted a fixed amount from treatment households' net income equal to the average mileage to the grocery store for six round trips at the Federal per diem rate of $0.56 per mile.[20] The deduction amounts for each county were based on the average distance from SNAP participants' residences to the nearest grocery store that offered the full Thrifty Food Plan[21] (such as Save-a-Lot or IGA stores). Under this formula, the total monthly transportation deduction ranged from $29 to $66, depending on the county—equivalent to $9 to $20 in extra SNAP benefits.
2. **An earned income deduction** of 10% of earned income for households that reported earnings in addition to the existing deduction of 20% of reported earnings. This benefit applied only to households that had income through employment and was intended to offset additional transportation costs faced by households with employed members who commuted to jobs in a region with high transportation costs.

**Kentucky TTHF benefits**

Eligible SNAP households were randomly assigned to continue receiving their regular SNAP benefits (control group) or receiving their regular benefits plus the extra TTHF SNAP benefits (treatment group) as long as they remained eligible for SNAP. The extra SNAP benefits were based on two new deductions in the SNAP benefit formula. **Households received $0.30 more in SNAP benefits for every extra dollar deducted from their net income until the maximum SNAP benefit was reached.** The new deductions were as follows:

- **A deduction for the transportation costs** associated with six round trips to the grocery store (based on $0.56 per mile to the grocery store)
- **An earnings deduction equal** to 10% of earned income, applicable to households with at least one employed household member

The two deductions were applied to the SNAP benefit formula, which in its simplest form is as follows:

$$\text{SNAP benefit} = \text{maximum SNAP benefit} - 0.3 * \text{SNAP net income}$$

SNAP net income is calculated by subtracting specified deductions from a household's monthly gross income. Income includes earned and unearned sources, such as Social Security payments or SSI. Every dollar deducted from net income increases the household's SNAP benefit by $0.30 until the household receives the maximum SNAP benefit ($511 for a family of three in fiscal

[20] The TTHF project used the Federal per diem rate from fiscal year 2014 ($0.56 per mile)—the year the State submitted the grant application.

[21] USDA's Thrifty Food Plan identifies a market basket of foods that can provide a nutritious diet at minimal costs (Center for Nutrition Policy and Promotion 2018). USDA uses the costs of these foods to set the maximum SNAP benefit level. Maximum SNAP benefits vary by household size and are adjusted each year for inflation. The Thrifty Food Plan assumes that households purchase foods at grocery stores and prepare them at home.

year 2017).[22] The two SNAP net income deductions thus raised a household's SNAP benefits by $0.30 for every dollar deducted until the maximum SNAP benefit was reached. For example, a household receiving a transportation deduction of $40 and an extra earnings deduction of $50 would receive an extra $27 in SNAP every month ($27 = 0.3 * $90). A household receiving a transportation deduction of $40 and no extra earnings deduction would receive $12 additional in SNAP benefits ($12 = 0.3 * $40).[23] Because the deductions lowered households' net income, only those with positive net income received the TTHF benefit; those that had no net income did not receive extra benefits through TTHF. For this reason, only households that had net income at its outset were included in the project.

### 3. Benefit delivery process

TTHF households received the extra SNAP benefits for every month during the 15-month demonstration in which they met the project eligibility criteria. If the household moved out of the 17 counties, cycled off of SNAP, no longer had children living in the household, or no longer had net income, it stopped receiving the TTHF benefit.[24] If the household regained eligibility, TTHF benefits restarted. If it no longer had net income but met the other eligibility criteria, the household would simply receive the maximum SNAP benefit and not gain anything extra from TTHF.

Participants used the TTHF SNAP benefit the same way they used regular SNAP benefits for food purchases; that is, they could purchase the same foods at the same places with the same EBT card. The extra benefit and SNAP balance appeared as a single combined balance on the card such that households could not distinguish between the two sets of benefits when making purchases. The balances were also combined on printed receipts and in the State call center's automated option for checking benefits. Households could determine their TTHF benefit amounts through letters State staff mailed to them at the outset of the project and during recertification.

Administratively, the extra benefits came from a separate funding stream; for accounting purposes, the State monitored them separately from regular SNAP benefits. When households made SNAP purchases, they first spent down their TTHF benefit for the month. Once that benefit was depleted, they spent down their regular SNAP benefits. Unspent funds from the TTHF and regular SNAP benefits rolled over to subsequent months (as is standard procedure for unspent SNAP funds). TTHF benefits expired two months after the project ended.

To calculate the benefits, Kentucky modified Benefind, its benefit administration system. The modifications used participants' existing case information on county of residence and net and earned income to calculate the new deductions. Specifically, the State's contracted vendor had to reprogram the system to (1) create a new data field identifying households selected to

[22] For a detailed description of the SNAP eligibility and benefit calculation process, see "A Quick Guide to SNAP Eligibility and Benefits" (Center on Budget and Policy Priorities, 2017)

[23] See additional examples in text box in Chapter 1, Section B.

[24] Households were randomized to the treatment or control group if they completed the baseline survey and met TTHF eligibility criteria at that time. All households were followed over time and included in the analysis regardless of whether they later lost eligibility for the TTHF or SNAP.

receive the TTHF benefit; (2) track TTHF eligibility each month by monitoring administrative fields for county of residence, net income, and the presence of children; and (3) calculate the TTHF benefit each month for eligible households by applying the new deductions to the SNAP benefit formula. Staff also built in checkpoints to verify the new calculations and generated reports separately for TTHF and regular SNAP benefits so they could monitor the former. Overall, consultants involved in the system modifications considered the changes to be minor updates because they did not involve major structural changes to the SNAP benefit calculation. As discussed in Section II.D and Chapter IV, however, the labor costs associated with these changes were substantial, suggesting that the changes may not have been so simple, or that staff perceived them as simple relative to a major upgrade of the eligibility system, which also occurred during the planning period.

Modifying the Benefind system to calculate the TTHF benefits had important advantages. First, once the system changes were complete, the project required little staff time to disburse the benefit. The new deductions updated automatically if households reported changes to their residence or income. Second, SNAP caseworkers could view the TTHF benefit in Benefind and answer basic client questions about the project, including informing households of their TTHF benefit levels.

Disbursing the benefits via households' existing EBT cards required an EBT vendor with this capacity. Because the regular and TTHF benefits derived from separate funding streams, they had to be set up as separate lines of credit. The State's EBT vendor at the start of the planning period indicated it was not feasible to do so because it was approaching the end of its contract with the State and intended not to renew it (for reasons unrelated to the demonstration). Kentucky project planners thus could not begin the project until the State executed a contract with a new EBT vendor. This change in vendors delayed the start of the project by a year. Fortuitously, this delay kept Kentucky from initiating TTHF immediately before the planned upgrade to Benefind, which would have limited staff time for the new benefit and raised the potential for technical problems in administering it. Kentucky switched to Benefind from an older system in early 2016, which is when TTHF was initially planned to launch. (Kentucky uses Benefind to administer SNAP as well as Medicaid, Temporary Assistance for Needy Families [TANF], and other programs.) Even with this schedule change, the TTHF planning period overlapped with work on the Benefind upgrade, resulting in a high workload for State and contracted technical staff.

### 4. Grantee organizational structures, partners, and staffing

#### a. Lead and partner agencies

Kentucky's SNAP agency, housed in the Department of Community Based Services (DCBS), was the formal lead organization for the TTHF project. The DCBS Division of Family Support oversees SNAP policy and was responsible for sending notices to households, coordinating with the EBT vendor, and informing SNAP caseworkers of the project. DCBS staff worked closely with the technology team in the Office of Administrative and Technology Services (OATS). OATS operates the Benefind eligibility system and handles general information technology services for DCBS (as well as other departments within the Cabinet for Health and Family Services). OATS facilitated the technological aspects of TTHF, including developing technical design specifications for the EBT distribution and tracking, and the new

TTHF deductions in Benefind. DCBS hired a project manager, situated within OATS, to coordinate the planning and operations. Although the project manager position was a new hire, the person selected for the role had worked for DCBS for 30 years and had expertise in SNAP policy and DCBS technology. All State staff were based in the State capital, Frankfort, which is roughly two hours by car to the eastern corridor where the project was being implemented.

Three partners played key roles in the project. First, a State-Federal initiative known as Shaping Our Appalachian Region (SOAR), along with support from the Governor's Office, served as the impetus for DCBS to apply for the grant opportunity. SOAR staff brought together the key stakeholders to apply for the grant and provided early input on the target population and benefit structure. An economics researcher at the University of Kentucky designed the TTHF SNAP deductions for the State's grant application and provided input throughout the project planning phase. Finally, Kentucky's technology vendor for the Benefind system encoded the deductions in Benefind to calculate the TTHF benefits and monitored them. For example, the vendor ensured that periodic updates to Benefind did not disrupt the TTHF benefit calculation. Consultants from the Benefind vendor were already working with OATS to install and manage Benefind; TTHF was added to their contract.

#### b. Communication and collaboration between agencies and staff

DCBS and OATS staff worked closely together during the project, helped by their long-standing partnership administering SNAP and other means-tested programs. During the planning process, key staff from DCBS and OATS communicated frequently through informal processes (email and telephone calls). In the same way, OATS communicated often with the EBT and Benefind vendors. During the implementation period, processes for distributing the TTHF benefit required only routine monthly communications to monitor the benefit calculation and distribution. SNAP frontline caseworkers, who updated households' case information during routine eligibility or recertification determinations, were generally responsible for raising any concerns regarding the benefit calculation. According to State staff, the frontline workers did not elevate any concerns during the project.

## B. Client engagement and participation

### 1. Communication with participants

**Recruitment and consent.** Households were selected for TTHF by virtue of receiving SNAP, having positive net income and children under age 18 (who would remain under 18 throughout the demonstration), and residing in the 17 counties. Apart from identifying eligible SNAP households and disseminating notification letters, State planners did not undertake a separate effort to recruit households. They used a passive consent process to allow households selected for the baseline survey to opt out of the evaluation (none did so), but there was no consent process connected to enrollment in the project itself.

From the perspective of TTHF households, enrollment and retention in TTHF was automatic. They received the extra SNAP benefits without having to take any action. Disbursing the benefits through households' existing EBT cards simplified the enrollment process by removing potential obstacles (such as a recipient overlooking or failing to receive a new card in the mail), helping to make delivery of the benefits successful. Similarly, retention efforts to keep households enrolled were unnecessary because they did not need to take any action to continue

receiving the TTHF benefits, provided they remained eligible. This approach also helped to keep administrative costs low during the operational period.

**Communication with participants.** Households received information about TTHF through two channels: notification letters and SNAP caseworkers. State staff conveyed information on their group assignment and, for TTHF households, their TTHF benefit amount and that the benefits were temporary. Households received three notification letters in total. DCBS staff mailed the initial letter before random assignment to inform households about the upcoming project, the possibility of being randomly selected for the treatment or control group, and the extra SNAP benefits they would receive if selected for the former. This letter stated that the TTHF benefit was "based on the average cost of transportation to the grocery store and/or the amount of earned income in the household," that it would function in the same way as SNAP benefits, and would be available for 15 months. DCBS mailed a subsequent letter following randomization to notify households that had been selected to receive the benefit. In addition, TTHF households received the standard letter that DCBS sends to all SNAP households whenever their SNAP benefit levels change and during recertification. The latter two letters listed the TTHF benefit level apart from the regular SNAP benefit level, which allowed households to view the TTHF supplement.

SNAP caseworkers provided the second avenue for information about the project. The TTHF project manager described the project to local SNAP office supervisors, who passed on the information to frontline caseworkers. The goal was to equip the frontline workers to answer clients' questions about TTHF. The recertification interview (or eligibility determination for households that left and rejoined SNAP) was the primary opportunity for household members to speak with a State representative about the project. (Recertification typically occurs every 12 months.) Because the TTHF benefit was listed separately from the regular SNAP benefit on a summary screen in Benefind, caseworkers could easily relay the TTHF benefit amount to households; they could also give households a basic sense of its purpose. For example, local caseworkers interviewed for the evaluation said some staff informed participants that the benefit was intended to compensate for transportation difficulties in accessing grocery stores in some counties. Other staff did not necessarily highlight the project's transportation focus when describing it to participants. There was no script for caseworkers to use in explaining the benefits to households, likely resulting in variation as to how much households were told about the project's purpose.

The degree to which households were aware of the TTHF benefit levels and its purpose was unclear. State and local staff said they received few questions from household members, which they took as a positive indication that households understood the project. However, focus group discussions with participants (representing 22 treatment households) suggested that these outreach efforts had mixed success at giving households a basic awareness of the project, and highlighted that households were generally apprehensive about raising their questions. For example, some focus group discussants knew their TTHF benefit levels, but many had not noticed the notification letters, thus making it unclear how long it took households to notice their EBT benefits had gone up or link the benefit increase to the TTHF project. Some discussants admitted that they did not always open mail from DCBS. If a household failed to notice the initial letters, they would likely have been unaware of the TTHF project until their next recertification interview. Focus group discussants also tended to know few other details about the

project, including its purpose. A few had been concerned initially that the extra benefit would lower their regular SNAP benefit levels or was a mistake that would be revoked if they asked questions, although it appears these fears had been allayed at some point. Additionally, much of their understanding of the project stemmed from the evaluation's data collection outreach, suggesting that households not selected for the evaluation sample may have known less about the project's purpose. Overall, focus group discussants would have preferred more information about the project.

Contrary to their expectations, State staff and caseworkers did not receive complaints from SNAP households that were randomly selected for the control group. Staff felt that publicizing the project only to eligible the treatment group households—rather than undertaking a broader information campaign—precluded questions from nonparticipating households, which would have diverted additional resources toward communication.

## 2. Project participation

This section describes the share of eligible households that received the TTHF benefit, how much households received in extra SNAP benefits, and how much they spent. Data are from the State's EBT data systems and reflect the 15 months of the demonstration period. This analysis uses data for households initially assigned to receive the benefit, and is intended to describe participation in the main project benefit. Chapter III, in contrast, limits the analysis to the evaluation sample and compares treatment and control households to estimate the project's impact on SNAP receipt and spending.[25]

Exhibit II.1 provides key findings on receipt and spending of TTHF benefits.

### Exhibit II.1. Extent to which TTHF households received and spent the extra SNAP benefit

| Outcome | TTHF households | | |
|---|---|---|---|
| | All | With earnings at baseline[a] | Without earnings at baseline[b] |
| **Share of households that received extra SNAP benefits (among all households)** | | | |
| Households received benefit for at least 1 month (%) | 94.4 | 94.2 | 94.5 |
| Households received benefit in all 15 demonstration months (%) | 12.9 | 9.7 | 14.9 |
| Households received benefit in at least one month but less than 15 months (%) | 81.5 | 84.5 | 79.6 |
| Households received benefits in a given month (%, averaged across all months) | 70.2 | 65.8 | 73.0 |
| Average number of months households received the benefit (out of 15 months) | 10.5 | 9.9 | 11.0 |

[25] The implementation analysis used the full sample (2,820 TTHF households) rather than the evaluation sample (1,103 households in the treatment group) to allow for a more complete picture of Kentucky's implementation process; and because data on implementation activities and outcomes were available for the full sample. By contrast, key outcomes for the impact analysis were available only for the evaluation sample. However, sample weights used in the impact analysis made the evaluation sample representative of the full sample. Thus, results from the analyses of SNAP benefit receipt and spending are comparable to the full TTHF sample (reported here) and the evaluation sample.

| Outcome | TTHF households | | |
|---|---|---|---|
| | All | With earnings at baseline[a] | Without earnings at baseline[b] |
| **Amount of extra SNAP benefits households received** | | | |
| Average monthly extra benefit received ($) | | | |
| In all months (all households) | 20.41 | 35.16 | 11.35 |
| In all months (among households that received any benefit) | 21.62 | 37.31 | 12.01 |
| In months household received a benefit | 29.87 | 53.10 | 15.65 |
| Average percent increase in SNAP benefits (all households) (%) | 10.6 | 18.6 | 5.7 |
| Households by average extra monthly benefit level (%) (in months households received a benefit)[c] | | | |
| $10.00 or less received | 10.8 | 1.0 | 16.8 |
| $10.01 to $20.00 received | 48.5 | 5.1 | 75.0 |
| $20.01 to $30.00 received | 5.1 | 7.2 | 3.9 |
| $30.01 to $40.00 received | 5.5 | 11.1 | 2.1 |
| $40.01 to $50.00 received | 8.2 | 19.7 | 1.1 |
| $50.01 to $75.00 received | 16.9 | 43.1 | 0.8 |
| $75.01 to $100.00 received | 4.6 | 11.7 | 0.2 |
| More than $100.00 received | 0.5 | 1.1 | 0.1 |
| Households by percentage increase in SNAP provided by the demonstration (%) (in months households received a benefit)[c] | | | |
| < 2.5% | 10.6 | 1.7 | 16.1 |
| 2.5 to less than 5% | 26.8 | 5.3 | 40.0 |
| 5 to less than 7.5% | 13.1 | 7.1 | 16.8 |
| 7.5 to less than 10% | 8.8 | 8.1 | 9.2 |
| 10 to less than 15% | 11.9 | 17.9 | 8.2 |
| 15 to less than 25% | 12.8 | 25.1 | 5.3 |
| 25 to less than 50% | 9.9 | 21.3 | 3.0 |
| 50% or more | 5.7 | 13.0 | 1.3 |
| **Amount of SNAP benefits households spent** | | | |
| Average monthly TTHF benefits spent ($) | | | |
| In all months (all households) | 20.03 | 34.94 | 10.90 |
| In all months (among households that received any benefit) | 20.84 | 36.25 | 11.36 |
| In months household received a benefit | 28.50 | 51.01 | 14.64 |
| Households with remaining overall SNAP balances (%) (among households that received a TTHF benefit)[d] | | | |
| $0 remaining | 28.8 | 29.9 | 28.2 |
| $0.01 to $2.00 remaining | 38.5 | 33.3 | 41.6 |
| $2.01 to $10.00 remaining | 16.9 | 18.0 | 16.3 |
| $10.01 to $50.00 remaining | 8.7 | 10.1 | 7.8 |
| $50.01 or more remaining | 7.1 | 8.7 | 6.2 |
| Average remaining overall SNAP balance among households that did not exhaust benefits ($) | 26.45 | 29.96 | 24.34 |
| Sample size | 2,820 | 1,074 | 1,746 |

Source: Evaluation of Demonstration Projects to End Childhood Hunger, Kentucky SNAP EBT database, 2016–2018. Tabulations were prepared by Mathematica Policy Research.

[a] Households with earnings benefited from the extra earned income deduction, which allowed households to deduct an additional 10% of their earnings from their SNAP net income. Households received this deduction every month during the demonstration in which they had earnings, according to their SNAP case record. These households also received the fixed transportation deduction, which was available to all TTHF households.

[b] Households without earnings received the fixed transportation deduction, which was available to all TTHF households, but not the extra earned income deduction.

[c] Due to the structure of the KY SNAP benefit cycle, the EBT data collection period for the evaluation covered 15 months of SNAP issuance and 14 complete months of SNAP redemption. Amount of benefits spent is estimated as total TTHF benefits received during the demonstration, minus ending balance on EBT account at the end of the last benefit month covered by the evaluation period. The end of the second-last benefit cycle in the demonstration was

used to estimate the ending balance, because (a) the evaluation data collection period did not cover the month after the formal implementation of the demonstration ended and (b) Kentucky continued providing the demonstration benefits after formal implementation ended, so there is no reason to believe that household behavior changed at the end of the formal demonstration period. For approximately 2.5% of households in the TTHF group, the study team did not receive the EBT data needed to calculate their ending balance or SNAP benefits spent; these households thus are excluded from the analysis sample for these outcomes.

[d] Percentages may sum to slightly above or below 100% due to rounding.

EBT = Electronic Benefits Transfer; SNAP = Supplemental Nutrition Assistance Program.

- **Almost all households (94%) selected to receive TTHF received it for at least one month, and typically received it for 11 months.** On average, households received it for 10.5 out of the 15 months. Households would not have received the benefit in any month when they did not meet project criteria (including remaining on SNAP, residing in the project area, having positive SNAP net income, and having a child who would remain under 18 throughout the demonstration in the household). Households with earnings at baseline received the benefit slightly less often than those without, likely because those with earnings were more likely to leave SNAP during the project period.
- **Participation in the project fell during the project period.** In the first month of the project—January 2017—82% of TTHF households received the benefits. That proportion fell steadily to 60% in March 2018, the final month. This decrease occurred because households received benefits only for as long as they retained eligibility, and no new households could replace them if they moved off the project. (Appendix Exhibit C.1 shows the monthly participation rates.) Yet, although on net there was a steady decline in TTHF participation, there was also a fair amount of churn as households lost and regained project eligibility. Overall, 94% of households received TTHF benefits at least once, but only 13% of households received TTHF benefits in all 15 demonstration months. As households lost and regained net income, they lost and regained TTHF eligibility. Churning on and off of SNAP also occurred but was likely less common because (as discussed in Chapter III), this was a relatively stable SNAP population.
- **The level of benefits households received varied substantially based on whether they had earnings at baseline.** The average monthly TTHF benefit over all TTHF households was $20. When looking only at months in which households received benefits, it rose to $30. But, this masks large differences between households with and without earnings. Those with earnings at baseline (38% of all TTHF households) were more likely to receive both the extra earned income and transportation deductions, and had average benefits of $53 (in the months they received the benefit). Households without earnings at baseline (62% of all TTHF households) usually received only the transportation deduction and had average benefits of under $16. Breaking down the overall average benefit levels further highlights the disparity between these types of households. During the months they received the benefit, most of the households with earned income at baseline received more than $50 in average benefits, and 13% received more than $75 a month (in the months they received the benefit). By comparison, more than 90% of households without earned income at baseline received $20 or less per month through TTHF. The maximum households could have received through the transportation deduction alone was $20, so those without earnings at baseline that received more than this amount during the project period did so by becoming employed and thus receiving the extra earned income deduction.

- **Participating households spent nearly all of the TTHF benefits they received.** The average amounts of TTHF benefits households spent was within $1 of the amounts they received across households with and without earnings. Considering TTHF and regular SNAP benefits together, the majority of households had $2 or less on their EBT cards at the end of the month, on average.

Discussions with treatment households during focus groups—although not representative of all treatment households and likely including those without substantial transportation or mobility barriers—provide insight into (1) how participants perceived the TTHF benefits and (2) whether the benefits may have influenced their shopping patterns. (Chapter III discusses project impacts on shopping patterns for the evaluation sample.)

First, focus group discussants valued the extra SNAP benefits, which aligns with the finding that households spent nearly the full benefit. They noted that TTHF strengthened a program they relied on as a critical support. In the words of one discussant, "*Every little bit helps in my home.*" They also endorsed the premise of accounting for their actual living expenses—including transportation costs. Yet the inadequacy of overall SNAP benefit levels to support feeding their families was a recurrent topic in the focus groups. Discussants perceived the extra benefit as helpful but insufficient to bridge the gap between what they received in SNAP each month and what they needed to provide adequate food for their families. ("*I don't think that they give people enough [for] a family. I mean, honestly, what I get might last me two weeks.*") Many people reported regularly running out of food between SNAP allotments. Some State and local staff members, though not all, also perceived SNAP benefits in general as too low to fully support a family's needs, with one noting that families with earnings may receive only modest support through SNAP. Discussants also noted two other factors that contributed to their food costs: health-related dietary restrictions (such as food allergies)—relatively common among the discussants—and having older children in the house. (As one parent observed, *"Teenage boys will eat you out of house and home."*)

Second, participants described their shopping behaviors. They were highly price conscious, and many purchased different items at different stores to get the lowest price possible. As one discussant said, *"I will not buy anything if I can save on it somewhere else."* Some discussants traveled great distances to reach stores that offered the products they wanted at prices they could afford, sometimes by incorporating grocery shopping into their commutes for work, medical appointments, or other trips. However, no focus group discussants said that the extra benefit encouraged them to travel to grocery stores that were different than those to which they would have otherwise gone, potentially aligning with their self-descriptions as savvy shoppers. Discussants agreed that a lack of economic resources was the primary barrier to accessing sufficient food—not transportation barriers.[26] Additionally, as some focus group discussants observed, the benefits may have been too low to subsidize trips to the grocery store; as one stated, *"The food stamps don't cover gas in the car."* That said, some households reported the TTHF supplement was enough to help them purchase healthier foods, such as fruits and vegetables, which they perceived as more expensive. According to a discussant: *"Mine has*

[26] This perspective might not be representative of all project participants. It is possible that participants with substantial transportation barriers or disabilities might have been less likely to participate in the focus groups.

*benefited me. It's a little more than what I was getting, but I'm able to let my kids pick a wider variety of snacks, and they love fruit."*

## C. Successes and challenges in the design and implementation of TTHF

This section draws on the preceding analyses of interview, focus group, and TTHF benefit data to summarize TTHF's key successes and challenges. Its major success was getting extra SNAP benefits to project participants. This accomplishment was important, given that the SNAP enhancement was the project's mechanism for reducing FI-C. The project's major challenge was that the benefits were low overall, based on participant perspectives and a normative examination of TTHF benefit receipt. This section expands on factors that contributed to these successes, challenges, and lessons, providing insight into what might have improved the benefit and its delivery. Some of the successes and challenges relate to TTHF's design (that is, decisions around what to distribute to whom, and how); others relate to implementation (the ability to execute those plans).

### 1. Successes: What worked well, and why?

**TTHF successfully delivered the extra SNAP benefit to households.** The TTHF team accomplished its goal of delivering the SNAP benefit enhancement to all eligible SNAP households throughout the implementation period. This process was consistent with the process for administering standard SNAP benefits (including the certification periods used), except for the two additional deductions. Distributing the benefit through existing SNAP EBT cards prevented challenges to benefit redemption that likely would have surfaced from other benefit distribution options, such as mailing new cards or coupons. As a result of a long delay brought on by an unrelated change in the State's EBT vendor, TTHF staff had nearly two years to plan how to determine and distribute the benefits, and prepare the system changes, which may have helped this process.

**The decision to calculate TTHF benefit levels in Benefind, the State eligibility system, was a practical solution, given that the design rested on changing the SNAP benefit formula.** Integrating the new deductions into the main SNAP benefit formula in Benefind meant minimal ongoing work for staff once the change was made. For example, caseworkers merely had to run the standard benefit calculation to determine total SNAP benefit levels during recertification, eligibility determinations, or off-cycle changes in household case information. From the perspective of households, the TTHF benefit was seamlessly integrated with their regular SNAP benefits so they could use a single EBT card as if they had one source of funding. Enabling caseworkers to view the TTHF amount on their benefit summary screens made it possible for them to provide basic information about the project to participants.

**By not widely publicizing the project, staff avoided concerns from those SNAP households not selected to receive project benefits.** This approach is advantageous for restricted, temporary demonstration projects. It was feasible only because take-up of benefits was automatic; no outreach was needed for participants to use the project benefit. In addition to being unnecessary, a larger outreach effort could have raised project costs because of the need for additional caseworker training or more time spent in counseling participating or nonparticipating households.

## 2. Challenges

**TTHF benefits were low overall.** The average monthly benefit for households selected to participate in the TTHF was $20.[27] (The average was $30 over only those months in which households received the benefit.) Measured as a percentage of the household's regular SNAP benefits, the TTHF benefit provided an 11% increase in SNAP benefits for the average household in the treatment group. As focus group discussants noted, this amount was appreciated but did not substantially improve their ability to provide food for their families over the course of a month. One participant said, *"Yeah, I know it wasn't much. It was like $12, $16, but it wasn't that much at all, but that helps."* Discussants noted that TTHF did not fully close the gap between their financial resources and what they believed they needed to feed their families adequately. Some State and local staff shared the viewpoint that SNAP recipients overall could use more assistance, particularly in this high-need region, and affirmed that any additional benefits were helpful. At least one other staff, however, noted that SNAP benefits were intended to supplement rather than entirely cover a family's monthly food expenditures.

**TTHF benefits might not have been targeted to the SNAP households most in need.** Despite the perceptions that project households had unmet food needs, it is useful to remember that TTHF steered benefits toward SNAP households with comparatively higher income, which might be less likely to be food insecure than those with lower income. In addition to qualifying for TTHF by virtue of having positive net income,[28] the more substantial of the two TTHF deductions was the earned income deduction. It was roughly triple the size of the transportation deduction and available only to households with earnings. SNAP households with earnings likely have more financial resources than those without but they received far larger benefits from the TTHF. The average TTHF benefit for households with earnings at baseline was $53 in those months that households received benefits, compared to $16 for households without earnings. On the other hand, the earnings deduction was purposeful. It was intended to offset high transportation costs related to working. Also, as several staff interviewees noted, it could incentivize employment and encourage greater self-sufficiency—a desirable aspect of the project, although one that relied in part on participants understanding the TTHF benefit mechanisms. The next challenge underscores that such understanding was limited.

**Participants had limited knowledge of TTHF.** In the focus groups, most discussants were aware of the extra benefits and knew the amount of those benefits they received but had limited understanding of the project's details and purpose. Some described the purpose as helping them access more nutritious food, but few connected it with transportation barriers or believed it was intended to alter where they purchased food.

[27] Average benefit calculations were made across all households and all months in the evaluation. Therefore, the average includes households that never received a benefit as well as months where no benefit was received among households that received a benefit in some but not all months.

[28] In fiscal year 2016, 25% of SNAP households in Kentucky had zero gross income. The proportion with zero net income would be higher than the 25% with zero gross income—and possibly higher in the TTHF project region than statewide (Lauffer 2017).

## 3. Recommendations and lessons learned from staff and households

Federal and State planners considering similar SNAP demonstration projects in other locations can learn valuable lessons from the implementation of the TTHF project. They include successes to replicate, alternative project designs to consider, and cautions about potential challenges, and are drawn directly from respondents or based on analysis and interpretation of the data sources discussed throughout this chapter.

**Using the existing SNAP infrastructure is an effective way to direct additional resources to SNAP households.** Changes to the SNAP benefit formula, such as those used to deliver TTHF, take advantage of the automation available in many State SNAP eligibility systems. Such changes require little continuing effort for staff after the initial changes are made. They do not require extensive training for frontline caseworkers and provide built-in quality assurance of benefit provision.

Using SNAP to direct new benefits to existing participants can be done without requiring substantial client knowledge of the project and can ensure high participation if no steps are required for clients to access the benefits. One caveat is that client familiarity with a demonstration project may be required if a project intends to influence client behaviors in a particular way—such as shopping at certain types of stores to increase access to more nutritious options at lower prices. Participants in the TTHF were not consistently aware of the specific goals of the project.

**Projects might have more success influencing client behavior as intended if benefits were tied specifically to the desired changes.** Focus group discussants noted that the TTHF benefits did not directly alleviate their transportation costs. Few were aware that transportation costs were the basis for the TTHF benefit levels or that benefits were higher with higher earned income. Although, as discussed above, an advantage of the TTHF design was that participant awareness of the project was not critical for them to receive the benefits, Chapters III and IV explore whether they altered their shopping behaviors or employment rates despite this lack of awareness. There is some indication from the focus groups that TTHF did not influence which grocery stores they frequented. It is unclear whether simply making participants more aware of the intended goals (such as traveling farther to reach grocery stores with lower costs and higher quality) would be sufficient to influence their behavior. Another option, as some focus group discussants suggested, would be to tie the benefits more directly to the desired changes.[29]

**Implementing SNAP demonstration projects during or shortly after making major changes to the SNAP eligibility system is complex and could be risky.** State staff were concerned before the launch of TTHF that the recent upgrade to Benefind might make errors in the demonstration more likely. In the end, the implementation was successful, but the scope for problems likely would have been greater if planning and implementation had coincided with the Benefind upgrade.

[29] The Healthy Incentives Pilot demonstration funded by FNS in Massachusetts provided financial incentives for SNAP participants to increase their consumption of fruits and vegetables (Bartlett et al. 2014).

## D. Cost of implementing the Kentucky TTHF project

The objective of the cost analysis was to describe the resources required to launch and sustain the Kentucky TTHF project, and estimate the cost of those resources (in dollar terms). Analysis of project costs was based on a detailed listing of all resources used to deliver the project. The relevant resources were defined to be those over and above what would have been used for the existing SNAP program. The analysis was based on data from grantee staff (including on labor, other direct costs, and partner or contractor costs) and administrative databases (SNAP benefit redemptions). Appendix B describes the methods used for the cost study.

**Kentucky TTHF project costs**

Most of the project costs went toward extra SNAP benefits for participating households ($810,591), but the project also incurred sizable contractor costs for revisions to the SNAP eligibility system ($448,948). Only $189,591 went toward labor and SNAP EBT contractor costs for distributing these benefits.

The following sections present the costs for labor, vendors or contractors, and extra SNAP benefits involved with implementing the TTHF project. The analyses distinguish between start-up costs (those associated with preparations for providing project benefits incurred during the project start-up period of March 1, 2015 to December 31, 2016) and implementation costs (those that were ongoing and associated with providing extra SNAP benefits during the implementation period of January 1, 2017 to March 31, 2018). Section D.1 presents the start-up and implementation costs for labor, vendors or contractors, and extra SNAP benefits. Section D.2 presents the start-up and implementation costs for each organization involved in the project, and the cost of the extra SNAP benefits.

### 1. Component costs, by time period

The Federal grant award was for $3,566,810. The project reported a paid cost of $1,449,130, or 41% of the value of the grant through the end of the evaluation period (March 2018). The key reasons for the difference between the project's funding and expenditures involves the time period of the data collection, as the project did not distribute all available extra SNAP benefits during the data collection period and planned to continue service provision beyond the date of the final cost report for the evaluation.

Including the estimated value of donated or in-kind resources (i.e. of $15,067 for in-kind other direct costs [ODCs] for mailings) the total project cost was $1,464,197. The remainder of this analysis reports total rather than paid costs. Total cost includes both paid costs and the value of donated or in-kind resources.

Extra SNAP benefits accounted for $810,591 (55%) of the total costs, whereas vendor or partner costs accounted for $508,829 (35%), and labor costs accounted for $129,710 (9%). The project reported no paid ODCs and only $15,067 of donated or in-kind ODCs.[30] On average, the total cost per household assigned to receive the extra SNAP benefits was $519.22—$46.00 for

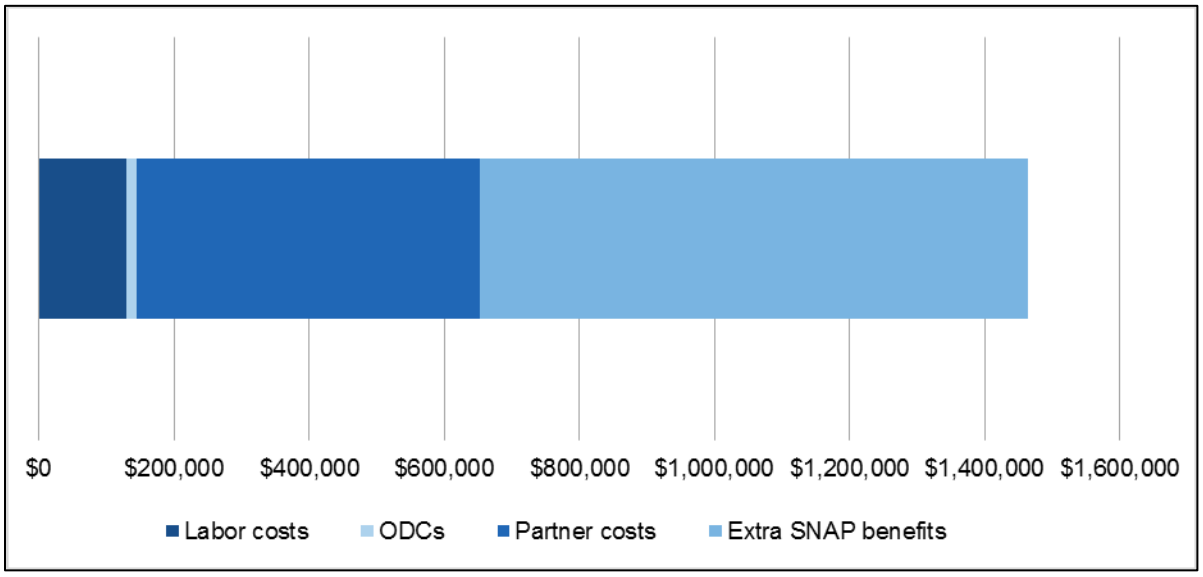
[30] The remainder of this analysis reports total rather than paid costs. Total cost includes both paid costs and the value of donated or in-kind resources.

labor, $5.34 for non-labor resources, $180.44 in vendor and partner costs, and $287.44 in extra SNAP benefits redeemed.[31]

Start-up costs accounted for 41% of the total project cost and 91% of the incurred costs (that is, the total minus the cost of the extra SNAP benefits); these costs accounted for 78% of the total labor and 97% of total partner costs. No ODCs were incurred during the start-up period. On average, the start-up cost per household assigned to receive the benefits amounted to $35.86 in labor and $175.43 in vendor or partner costs. Implementation costs accounted for the remainder of project costs, including 58% of total and 9% of incurred costs. The cost of extra SNAP benefits alone accounted for the majority of project costs—55% of total project costs (as noted above) and 93% of implementation costs.

Exhibits II.2, II.3, and II.4 show the total cost per component and the total and per-household start-up and implementation costs for each component. More detailed cost information is presented in Appendix Exhibit C.2.

### Exhibit II.2. Total costs, by component

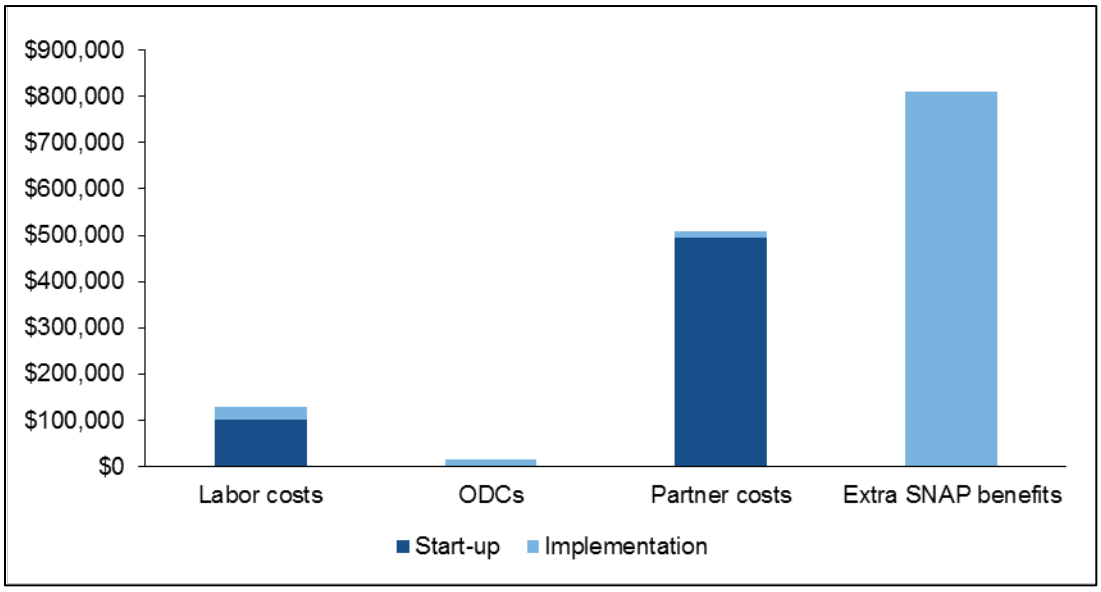



Source: The Kentucky TTHF project cost data collection instruments. Start-up costs cover March 1, 2015 to December 31, 2016. Implementation costs cover January 1, 2017 to March 31, 2018. The grantee continued to provide services after the evaluation period ended on March 31, 2018, so the costs reported here do not include costs for closing out operations.

Extra SNAP benefits = the Extra SNAP benefits were provided through the Kentucky TTHF project; SNAP = Supplemental Nutritional Assistance Program.

[31] Costs per household were calculated based on the total number of households receiving the TTHF benefit (n = 2,820) and not limited to the subset of treatment households in the evaluation sample.

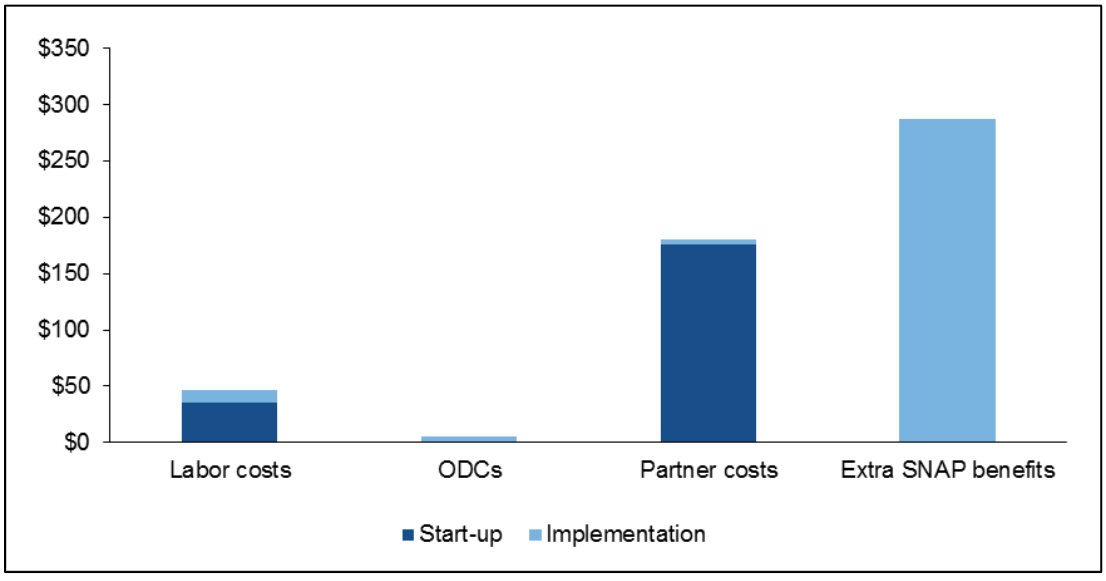
## Exhibit II.3. Total start-up and implementation costs, by component




Source: The Kentucky TTHF project cost data collection instruments. Start-up costs cover March 1, 2015 to December 31, 2016. Implementation costs cover January 1, 2017 to March 31, 2018. The grantee continued to provide services after the evaluation period ended on March 31, 2018, so the costs reported here do not include costs for closing out operations.

Extra SNAP benefits = the Extra SNAP benefits were provided through the Kentucky TTHF project; SNAP = Supplemental Nutritional Assistance Program.

## Exhibit II.4. Per-household start-up and implementation costs, by component




Source: The Kentucky TTHF project cost data collection instruments. Start-up costs cover March 1, 2015 to December 31, 2016. Implementation costs cover January 1, 2017 to March 31, 2018. The grantee continued to provide services after the evaluation period ended on March 31, 2018, so the costs reported here do not include costs for closing out operations.

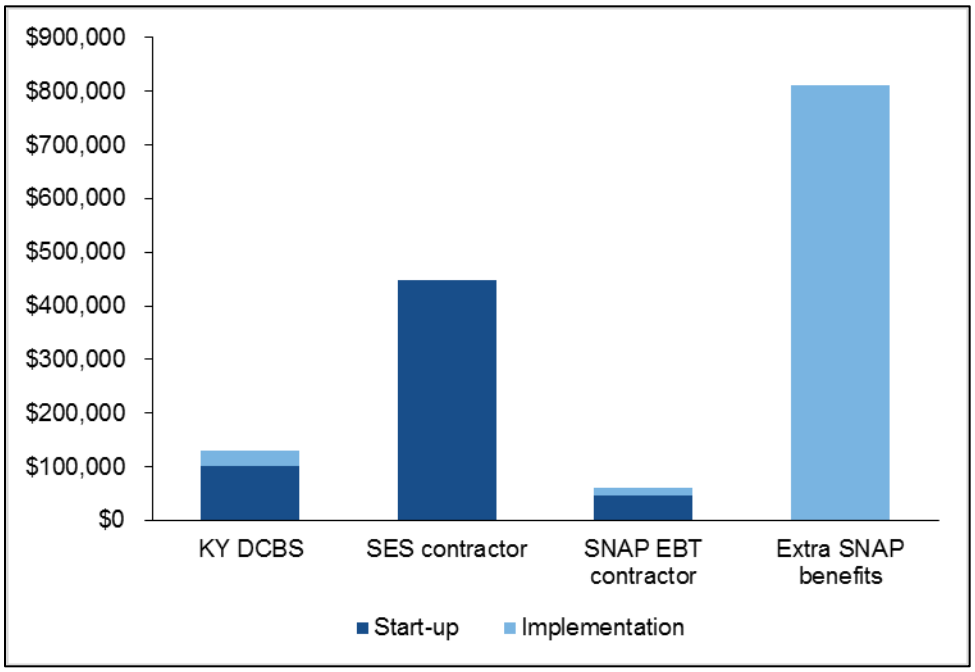
Extra SNAP benefits = the Extra SNAP benefits were provided through the Kentucky TTHF project; SNAP = Supplemental Nutritional Assistance Program.

## 2. Organization costs, by time period

This section describes the start-up and implementation costs for each organization involved in TTHF, including (1) the Kentucky Department of Community Based Services (KY DCBS), (2) the SNAP eligibility system (SES) contractor,[32] and (3) the SNAP EBT contractor, and also describes the cost of the extra SNAP benefits.

Exhibits II.5 and II.6 show the total and per-household start-up and implementation costs for each organization, and the cost of the extra SNAP benefits. KY DCBS accounted for 10% of the overall costs (that is, costs across both the start-up and implementation periods), the SES contractor accounted for 31%, and the SNAP EBT contractor accounted for 4%. The extra SNAP benefits accounted for the remaining 55% of the overall costs.

### Exhibit II.5. Total start-up and implementation costs, by organization

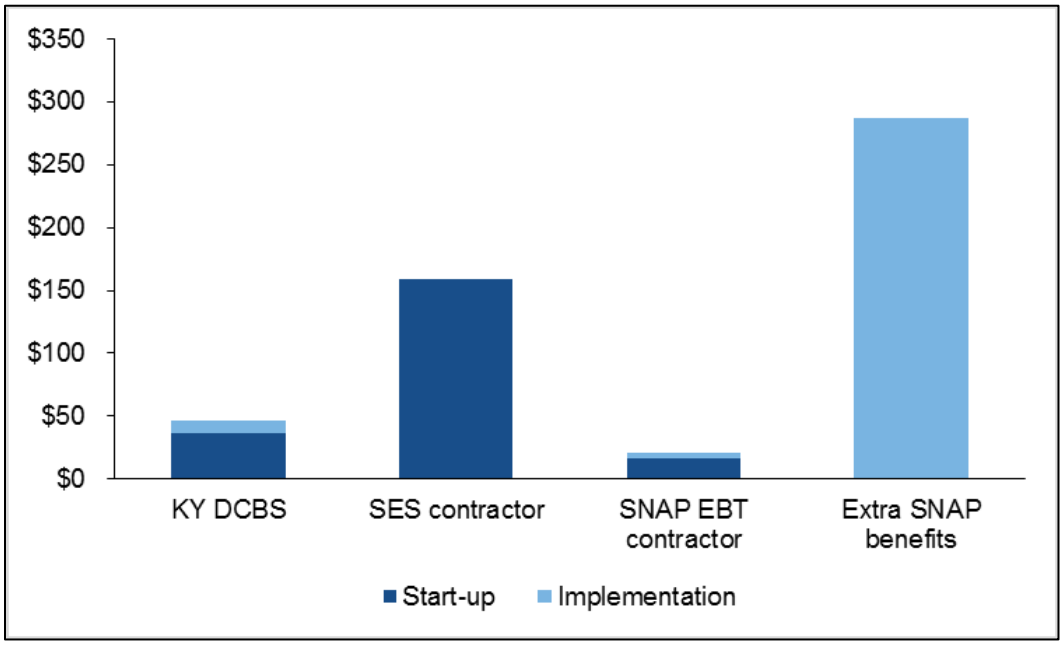



Source: The Kentucky TTHF project cost data-collection instruments. Start-up costs cover March 1, 2015 to December 31, 2016. Implementation costs cover January 1, 2017 to March 31, 2018. The grantee continued to provide services after the evaluation period ended on March 31, 2018, so the costs reported here do not include costs for closing out operations.

EBT = Electronic Benefits Transfer; KY DCBS = Kentucky Department of Community Based Services; Extra SNAP benefits = the extra SNAP benefits provided through the Kentucky TTHF project; SES = SNAP eligibility system; SNAP = Supplemental Nutritional Assistance Program.

[32] At the outset of the demonstration, KY DCBS was developing a new SNAP eligibility system. The SES contractor was hired to construct components of this system, including revisions to the eligibility calculator, mailing functionality, data files, and data matching.

### Exhibit II.6. Per household start-up and implementation costs, by organization




Source: The Kentucky TTHF project cost data collection instruments. Start-up costs cover March 1, 2015 to December 31, 2016. Implementation costs cover January 1, 2017 to March 31, 2018. The grantee continued to provide services after the evaluation period ended on March 31, 2018, so the costs reported here do not include costs for closing out operations.

EBT = Electronic Benefits Transfer; KY DCBS = Kentucky Department of Community Based Services; Extra SNAP benefits = the extra SNAP benefits provided through the Kentucky TTHF project; SES = SNAP eligibility system; SNAP = Supplemental Nutritional Assistance Program.

Although 45% of the overall costs were incurred costs (that is, the total cost minus that of the extra SNAP benefits), the vast majority of these incurred costs (91%) took place during the start-up period. Of the $595,849 in start-up costs, the SES contractor accounted for 75% to modify the new SNAP eligibility system, KY DCBS accounted for 17% to manage the demonstration, and the SNAP EBT contractor accounted for 8% to manage the distribution of the extra SNAP benefits. Extra SNAP benefits represented the vast majority of the $868,348 implementation costs (93%), with KY DCBS and the SNAP EBT contractor accounting for just 5% and 2% of implementation costs, respectively. Although it appears that the total incurred costs approached the cost of the benefits distributed (45% and 55% of the overall costs, respectively) it is important to remember that the project plans to continue service provision beyond the date of the final cost report. If the current cost trends continue, incurred costs should increase slightly during this extended service provision period, whereas the costs of the distributed benefits should increase substantially.

**This page has been left blank for double-sided copying.**

# III. THE IMPACTS OF THE KENTUCKY TTHF PROJECT ON FOOD SECURITY AND OTHER OUTCOMES

This chapter describes the households in the TTHF project and the project's impacts on childhood food insecurity and other outcomes. It first describes the baseline characteristics of households in the evaluation sample. The chapter then presents evidence on how the project affected outcomes for these households during the implementation period, including their SNAP receipt and food shopping and spending patterns; indicators of the households' food insecurity; and other outcomes, such as their participation in other nutrition assistance programs. Data sources are detailed in Appendix B. In brief, the data sources to support the impact analyses were (1) the baseline and follow-up surveys, and (2) administrative data on SNAP caseloads and EBT transactions.

All impact analyses were based on the subset of households in the evaluation sample. This sample consisted of households that completed the baseline survey (administered before project implementation) and were subsequently randomly assigned to the treatment or control group, with each household having an approximately equal chance of being assigned to either group.[33] The evaluation sample was surveyed again approximately one year after implementation began. This sample included 2,202 households, split roughly evenly between the treatment and control groups. Impact models were then estimated using the 1,639 households that completed the follow-up survey, weighted to represent the target population—households participating in SNAP in 17 Kentucky counties that had at least one child under age 18 (who would remain under 18 throughout the demonstration) and positive net income. To estimate impacts, treatment and control outcomes were compared, controlling for baseline characteristics of households using a regression framework. The survey response rate was 66% at baseline and 74% at follow-up. See Appendix A for details on the random assignment design, follow-up survey response rates, sampling, and weighting methods.

## A. Household characteristics at baseline

This section reports the baseline characteristics of consenting households that responded to the baseline survey conducted in the period of August to November 2016. Baseline characteristics are presented in Exhibit III.1 and discussed in greater detail below. Estimates were weighted to be representative of the target population of households in the Kentucky TTHF project that met the project's eligibility criteria. Appendix A presents supplemental exhibits on household characteristics at baseline, including a comparison of them for the treatment and control groups, showing that the characteristics were similar across the groups, both among the full evaluation sample and for households that completed the follow-up survey.[34] Out of the set of characteristics measured at baseline, none showed statistically significant differences between

[33] As described in Chapter II, treatment households were offered additional SNAP benefits, including a fixed income deduction based on the average distance to the grocery store in each participating county and—for households with earnings—an additional 10% earned income deduction. The typical treatment household with earnings was provided approximately $53 per month, whereas the typical household without earnings was provided $16 per month. The control group received regular SNAP benefits as long as they were SNAP eligible.

[34] Appendix A also shows characteristics of households at follow-up.

the two groups, except that the treatment group had a slightly smaller household size (3.6 members versus 3.8 in the control group, and 2.0 children in the treatment group versus 2.1 in the control group) (see Appendix Exhibit A.1 for these characteristics separately for the treatment and control groups). Appendix B presents further methodological detail about the survey and its administration.

## Exhibit III.1. Household characteristics at baseline

| Characteristic | Mean (SE) or percentage |
|---|---|
| **Household size** | |
| Mean number of household members who share food | 3.7 (0.03) |
| Mean number of children in household | 2.1 (0.02) |
| *Percentage of households with* | |
| 1 child | 34.9 |
| 2 children | 36.5 |
| 3 or more children | 28.5 |
| **Median household income last month ($)[a]** | 999 (11) |
| **Any household adult employed in last 30 days** | 39.4 |
| **Median gross earned income last month among households with an employed adult ($)[b]** | 1,097 (26) |
| **Sources of income** | |
| Reported receiving TANF | 13.6 |
| Reported receiving Social Security | 31.2 |
| Reported receiving SSI | 43.6 |
| Reported receiving veterans benefits | 0.7 |
| Reported receiving unemployment insurance or workers' compensation benefits | 1.9 |
| Reported receiving child support payments | 16.0 |
| Reported receiving financial support from family and friends | 15.4 |
| Reported receiving any other income besides earnings | 0.3 |
| Reported none of the above | 24.2 |
| *Percentage of households with* | |
| No income[c] | 1.8 |
| At or below poverty line (0–100% of poverty) | 94.4 |
| At or below 130% of poverty line | 98.8 |
| At or below 185% of poverty line | 99.7 |
| Above 185% of poverty line | 0.3 |
| Sample size | 2,202 |

Source: Evaluation of Demonstration Projects to End Childhood Hunger, 2016 baseline survey. Tabulations prepared by Mathematica Policy Research.

Notes: Estimates are percentages unless otherwise noted. Tabulations are weighted to be representative of all eligible households in the Kentucky demonstration, based on the baseline weights. Missing values, which ranged from 0.0 to 3.0% of observations, were excluded from the calculations.

[a] Includes all earnings, Social Security, pensions, veterans benefits, unemployment insurance, workers' compensation benefits, child support, payments from roomers and boarders, TANF, and SSI for all household members.

[b] Earned income includes household total countable earnings before taxes from wages and salaries from a job or self-employment, and income from rental property.

SE = standard error; SSI = Supplemental Security Income; TANF = Temporary Assistance for Needy Families; VLFS = very low food security.

[c] The presence of net income based on SNAP administrative information was a requirement for inclusion in the evaluation. However, some households reported zero income in the baseline survey, as shown in this exhibit.

### 1. Baseline household demographic characteristics and socioeconomic status

Household size was calculated using the SNAP definition of household size—the number of household members who share food by purchasing and preparing meals together. The mean household size was 3.7 members who shared food. On average, 2.1 of the household members were children, defined as 18 years old or younger, or still in high school if older than age 18, and living with an adult in a household. Thirty-five percent of the households had one child, 37% had two children, and 29% had three or more children.

Eligibility rules for the TTHF project limited participation to households currently participating in SNAP, so the expectation was that the baseline sample would be relatively disadvantaged. Median household income in the last 30 days was approximately $1,000; 94% of households were below the poverty line.[35] Approximately 44% of households reported receiving SSI, 31% Social Security, and 14% TANF.

Demonstration benefits included a 10% earned income deduction. Nearly 40% of households included at least one adult employed during the last 30 days. Among households with an employed adult, the median earned income in the last 30 days was approximately $1,100.

### 2. Baseline participation in nutrition assistance programs

SNAP participation was universal in the evaluation sample because, as noted above, it was an eligibility criterion for the TTHF project (Exhibit III.2). Twenty-eight percent of baseline survey respondents reported receiving WIC. Approximately two-thirds reported receiving free or reduced-price (FRP) school breakfasts, and three-fourths received FRP school lunches at some point during the last 30 days.[36] The share of respondents who reported receiving assistance from a food pantry, kitchen, or other community program was 19% in the 30 days before the baseline survey.

### 3. Baseline food security status

Exhibit III.2 shows the baseline food security status over the past 30 days of households, adults, and children. Before TTHF project implementation, 59% of households with children experienced food insecurity, 56% of households experienced food insecurity among adults, and 37% experienced FI-C. Rates of very low food security (VLFS), a subcategory within the food insecure category, were 33%, 33%, and 4%, respectively, among households, adults, and children. The prevalence of food insecurity in the project's evaluation sample was higher than national estimates. In 2016, 44% of below-poverty households with children in the United States experienced food insecurity, and 24% of families living in poverty experienced FI-C (Coleman-Jensen et al. 2017).[37]

[35] The poverty threshold for a family of four in 2016 was $24,563 (U.S. Census Bureau n.d.), or $2,047 per month.

[36] Approximately 13% of baseline surveys occurred in the summer before the start of the school year; therefore, school meal participation would not be applicable.

[37] The 2016 national estimates used a 12-month reference period when assessing food insecurity, rather than the 30-day measure used in this study.

## Exhibit III.2. Reported program participation and food security at baseline

| Characteristic | Percentage |
|---|---|
| **Household nutrition benefit program participation[a]** | |
| Reported currently receiving SNAP[b] | 100.0 |
| Reported receiving WIC | 27.8 |
| Reported receiving FRP SBP[c] | 67.7 |
| Reported receiving FRP NSLP[d] | 74.4 |
| Reported receiving food from pantry, emergency kitchen, or other community program | 19.4 |
| **Household food security status** | |
| Secure | 41.1 |
| Insecure | 58.9 |
| VLFS | 33.3 |
| **Adult food security status** | |
| Secure | 43.7 |
| Insecure | 56.3 |
| VLFS | 32.9 |
| **Child food security status** | |
| Secure | 63.2 |
| Insecure | 36.8 |
| VLFS | 3.9 |
| Sample size | 2,202 |

Source: Evaluation of Demonstration Projects to End Childhood Hunger, 2016 baseline survey. Tabulations prepared by Mathematica Policy Research.

Notes: Tabulations are weighted to be representative of all eligible households in the Kentucky demonstration, based on the baseline weights. Missing values, which ranged from 0.0 to 0.5% of observations, were excluded from the calculations. Program participation questions generally reflected current participation at the time of the interview, defined as "during the last 30 days." Approximately 16% of the baseline surveys were conducted prior to August 11, 2016, before most children began attending school.

[a] Calculated for all households as a descriptive variable and not limited only to those households eligible for a specific program listed.

[b] Based on SNAP administrative records.

[c] If the sample is restricted to the survey period when school was in session, the estimate is 72.7% (n=1,854).

[d] If the sample is restricted to the survey period when school was in session, the estimate is 79.9% (n=1,853).

FRP = free or reduced-price; NSLP = National School Lunch Program; SBP = School Breakfast Program; SNAP = Supplemental Nutrition Assistance Program; VLFS = very low food security; WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

### 4. Baseline monthly food expenditures

Respondents were asked about their household spending on food in the last 30 days, and the mean expenditures per person were then calculated (Exhibit III.3). On average, households spent $198 per month on food, excluding purchases made with SNAP and WIC. Per person, households spent a total of $58 per month on food. Respondents reported spending an average of $45 per person out of pocket on food purchased at supermarkets, grocery stores, or other types of stores per month, and an average of $15 per person per month at restaurants.

## Exhibit III.3. Food shopping and food expenditures at baseline

| | Mean (SE) or percentage |
|---|---|
| **Reported monthly out-of-pocket household mean food expenditures ($)[a]** | 198 (3) |
| **Reported monthly out-of-pocket per-person mean food expenditures ($)[a]** | |
| Total out-of-pocket expenditures[a] | 58 (1) |
| Food expenditures at supermarkets, grocery stores, and other types of stores[b] | 45 (1) |
| Expenditures at restaurants[c] | 15 (0)^ |
| **Travel to grocery stores** | |
| Usual transportation used to get to grocery store: car | 99.2 |
| Average distance to grocery shopping destination (one-way miles) (%)[d] | 12.1 (0.22) |
| 0–2 miles | 14.1 |
| 3–5 miles | 16.2 |
| 6–10 miles | 26.2 |
| 11–19 miles | 22.4 |
| 20–29 miles | 13.8 |
| 30 or more miles | 7.4 |
| Average travel time to grocery store (one-way minutes) | 18.2 (0.26) |
| **Food shopping behavior** | |
| Mean number of times shopped for food in past 30 days | 6.8 (0.12) |
| Type of store shopped at for groceries (%)[e] | |
| Supermarkets/grocery stores | 80.0 |
| Discount stores | 19.5 |
| Main reason for shopping at grocery store (%) | |
| Low prices | 59.9 |
| Close to home/convenient or easy to get to | 18.8 |
| Variety of foods (general) | 5.6 |
| Quality of food | 4.8 |
| Sales | 4.7 |
| Sample size | 2,202 |

Source: Evaluation of Demonstrations to End Childhood Hunger, 2016 baseline survey. Tabulations are weighted to be representative of all eligible households in the Kentucky TTHF demonstration and prepared by Mathematica Policy Research.

Notes: Questions about food expenditures were asked about the last 30 days. Missing values, which ranged from 0.0 to 5.4% of observations, were excluded from the calculations.

[a] Sum total of reported out-of-pocket food expenditures at stores and restaurants in the last 30 days. Excludes purchases made with SNAP and WIC.

[b] Out-of-pocket expenditures on food at supermarkets, grocery stores, and other stores. Excludes purchases made with SNAP and WIC. The sum is not equal to the sum of the two means because of missing data. If expenditures at either stores or restaurants are missing, then the total is missing.

[c] Includes carryout, drive through, and all types of restaurants.

[d] Reported miles ranged from 0 to 120 miles from home.

[e] Less than 1% of households reported buying most of their groceries at other types of stores.

^ Greater than zero but less than 0.5.

SE = standard error; Supplemental Nutrition Assistance Program; TTHF = Ticket to Healthy Food; WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

### 5. Baseline shopping behaviors and family dinners

Respondents were asked multiple questions about their shopping experiences (Exhibit III.3). Almost universally, respondents used a car as their transportation to get to the grocery store (99%). About two-thirds (69%) of respondents drove their own car, 22% had someone else drive them, and 8% drove someone else's car as their usual means of transport to the store (data not shown in the exhibit; see Briefel et al. 2018). The majority of respondents selected their primary grocery destination because of its low prices (60%); 19% shopped at the store because the location was convenient. The mean distance to their primary grocery shopping destination was 12.1 miles, although 21% of households reported driving 20 or more miles to reach their grocery store.

On average, respondents shopped for food 6.8 times in the past 30 days, though just under half (49%) reported shopping less than 5 times (data not shown in exhibit; see Briefel et al. 2018). Four out of five respondents (80%) shopped at a full-service grocery store, whereas one in five (20%) reported frequenting a discount store.

## B. SNAP participation, benefit receipt, and spending levels

The Kentucky TTHF project was intended to reduce FI-C by increasing households' SNAP benefits. The project provided extra SNAP benefits to treatment households based on their earned income and the estimated county-specific household travel costs to reach a grocery store (FNS 2018a). This section describes the additional benefits treatment households received from the project. It also compares patterns of SNAP spending among treatment and control households at the time of the follow-up survey that measured food security.

The project provided extra SNAP benefits to treatment households as intended, resulting in higher overall SNAP benefits among treatment households. These households received an average of $22 in extra SNAP benefits in the month of the follow-up survey, whereas control households did not receive any extra SNAP benefits from the project (Exhibit III.4). The extra SNAP benefits translated into treatment households receiving $21 more than control households in total SNAP benefits because the latter received slightly more in regular SNAP benefits.[38] Measured as a share of the $312 average total SNAP benefit among control households, the $21 in additional benefits received by treatment households represent a 7% increase in overall SNAP benefits.

Did the extra SNAP benefits provided by the project lead households to spend more on food? On average, treatment households spent $22 more in SNAP funds during the survey response month than control households (Exhibit III.4). After accounting for slightly lower food expenditures out of pocket, treatment households spent $20 more than control households in combined SNAP and out-of-pocket food purchases. Considered as a share of the average control household's combined food spending of $560, the demonstration led to a modest 4% increase in

[38] As noted in Chapter II, households with earned income received a larger benefit, on average, than those without it. Among treatment households as a whole (including those not in the evaluation sample), households with earned income at baseline received an average monthly benefit of $35, whereas those with no earned income received an average benefit of $11.

food spending.[39] Another indication that treatment households increased spending in line with their additional benefits was the EBT account balance at the end of the demonstration, which was similar between treatment and control households, as was the ratio between SNAP spending and SNAP benefits received in the survey response month (Exhibit III.4).

Measures of the timing of SNAP spending provide information on whether the project benefits caused treatment households' SNAP budgets to last longer than those of control households. One such measure uses SNAP transaction data to calculate the number of days between the date a household exhausts the month's SNAP benefits and when it receives the next month's benefits.[40] Using this measure, treatment and control group households experienced similar patterns in the timing of SNAP spending. Approximately one-quarter of households in both experimental groups had exhausted their benefits within 10 days of receiving them, resulting in a gap of 21 days or longer during which they had no SNAP funds available (Exhibit III.4). An additional one-sixth of households had exhausted their benefits by the second week, resulting in a gap of 15 to 21 days. The remaining 45% experienced gaps of two weeks or less, implying that benefits lasted into the third week of the month and, for a little over one-quarter of households, the full month.[41]

A survey measure of how many weeks SNAP benefits usually last provides a second source of information on benefit exhaustion patterns. Treatment households' SNAP benefits were more likely than control households' benefits to last into the third week of the month or beyond, according to this measure, and this difference was statistically significant. Approximately 65% of treatment households reported that benefits lasted into at least the third week, whereas roughly 56% of control households reported benefits lasting that long.

Taken together, these two measures indicate that treatment households' SNAP benefits may have lasted longer, even if the additional project benefits did not change the timing of when households made their final purchase. This situation could have occurred if the timing of shopping was similar among treatment and control households, but treatment households used their extra SNAP benefits to buy more food in their final purchase than control households. As a result, the food they buy might be extended further into the month than for control households, leading them to report that their benefits lasted longer.[42]

Finally, the project's extra SNAP benefits did not lead to a difference in households' likelihood of staying enrolled in SNAP over the course of the demonstration. Households in each

[39] The median demonstration benefit was $15, and the median household's combined SNAP plus out-of-pocket spending was not significantly different between treatment and control households.

[40] Exhaustion was defined as having an EBT balance of less than $5 in benefits.

[41] These proportions sum to approximately 90% because 10 to 15% of households either did not receive a SNAP benefit during the 30-day survey reference period or did not spend any SNAP benefits and were thus excluded from exhaustion calculations.

[42] Approximately 20% of households in the treatment and control groups reported receiving food from a food pantry or similar program in the month before the survey. This finding implies that small differences in the amount of time that SNAP benefits lasted for a household might not translate into improved food security if other sources, such as food pantries, allowed control group households to make up the difference in overall food available.

group remained eligible for SNAP during roughly 13 of the 15 demonstration months, or 87% of the demonstration period.

## Exhibit III.4. SNAP benefit receipt and spending in the Kentucky TTHF project

| | Treatment | Control | Difference (SE)[a] | p-value |
|---|---|---|---|---|
| **Regular SNAP benefit in follow-up survey month ($)** | 310 | 312 | -1 (8) | 0.872 |
| **TTHF benefit in follow-up survey month ($)** | 22 | 0 | 22 (1) | <.001 |
| **Total SNAP benefit in follow-up survey month ($)** | 333 | 312 | 21 (8) | 0.007 |
| **Average monthly SNAP benefit ($)** | | | | |
| Regular SNAP benefit | 305 | 310 | -5 (5) | 0.291 |
| TTHF benefit | 21 | 0 | 21 (1) | <.001 |
| Total SNAP benefit | 326 | 310 | 15 (5) | 0.003 |
| **Percentage of months eligible for SNAP** | 87.2 | 87.1 | 0.1 | 0.917 |
| **Mean food expenditures ($)** | | | | |
| SNAP purchases in survey response month ($) | 334 | 312 | 22 (8) | 0.008 |
| OOP purchases ($)[b] | 247 | 249 | -2 (8) | 0.800 |
| SNAP plus OOP spending in survey response month ($)[c] | 581 | 560 | 20 (9) | 0.030 |
| **Median food expenditures ($)** | | | | |
| SNAP purchases in survey response month ($) | 317 | 302 | 15 (3) | <.001 |
| OOP spending in survey response month ($) | 195 | 200 | -5 (5) | 0.320 |
| SNAP plus OOP spending in survey response month ($) | 533 | 525 | 8 (6) | 0.154 |
| **SNAP benefit redemption** | | | | |
| Ratio of EBT spending to month's SNAP benefit in survey response month | 1.01 | 1.01 | 0.01 | 0.485 |
| Funds remaining in EBT account at end of demonstration ($) | 19 | 14 | 5 (3) | 0.097 |
| **Days between exhausting benefits and next month's benefit load, in follow-up survey month[d]** | 13.4 | 13.2 | 0.2 (0.6) | 0.804 |
| **Percentage of households with each level of gap days** | | | | 0.099 |
| Zero days | 27.1 | 28.5 | -1.4 | |
| 1–3 days | 3.0 | 1.7 | 1.2 | |
| 4–7 days | 4.6 | 5.0 | -0.5 | |
| 8–14 days | 10.3 | 7.7 | 2.6 | |
| 15–21 days | 17.2 | 15.9 | 1.3 | |
| More than 21 days | 27.7 | 27.4 | 0.4 | |
| Did not receive SNAP in response month[e] | 10.3 | 13.8 | -3.6 | |
| **Percentage of households reporting each number of weeks SNAP benefits lasted** | | | | 0.009 |
| 1 | 9.0 | 12.2 | -3.2 | |
| 2 | 26.3 | 32.0 | -5.8 | |
| 3 | 46.8 | 40.6 | 6.3 | |
| 4 or more | 17.9 | 15.3 | 2.7 | |

| | Treatment | Control | Difference (SE)[a] | p-value |
|---|---|---|---|---|
| Sample size | 1,103 | 1,099 | | |

Source: Kentucky SNAP administrative data and, where noted, EDECH 2017 follow-up survey data. Tabulations are weighted to be representative of all eligible households in the Kentucky TTHF demonstration and prepared by Mathematica Policy Research.

Notes: Measures of average monthly SNAP benefit, percentage of months eligible for SNAP, SNAP benefit redemption, and the number of days between benefit exhaustion and next benefit load incorporate data from all 2,202 households that completed the baseline survey and were randomly assigned. The remaining measures used data from the 1,639 households that completed a follow-up survey. Analysis weights are designed to make both samples representative of the population of households eligible for the project. Regressions controlled for baseline measures of child and adult food insecurity, and VLFS; household income and employment status; the survey respondent's age, race/ethnicity, health status, and primary language spoken; the number of children in the household and presence of a teenager; household participation in WIC or free or reduced-price breakfast and lunch; and duration of SNAP participation in the year before the baseline survey.

[a] Difference column may not match the (Treatment minus Control) calculation exactly due to rounding.

[b] Sum total of reported OOP food expenditures at stores and restaurants in the last 30 days. Excludes purchases made with SNAP and WIC, measured using the EDECH 2017 follow-up survey.

[c] Sum total of reported OOP food expenditures at stores and restaurants in the last 30 days, plus SNAP expenditures in the month before the survey response. This measure combines information on EBT purchases from Kentucky administrative data with information from the EDECH 2017 follow-up survey.

[d] Exhaustion of benefits was defined as having an EBT balance of less than $1 in benefits. Households that never reached a balance of less than $1 were assigned a zero value on the "gap days" variable.

[e] A small number of households that received benefits but did not spend any of them during the month are also included in this category.

EBT = Electronic Benefits Transfer; EDECH = Evaluation of Demonstrations to End Childhood Hunger; OOP = out-of-pocket spending; SE = standard error; SNAP = Supplemental Nutrition Assistance Program; TTHF = Ticket to Healthy Food; VLFS = very low food security; WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

## C. Impacts of the Kentucky TTHF project on child food insecurity

The primary goal of this evaluation was to measure the impact of Kentucky's TTHF project on FI-C. This section presents the impacts of the project on food insecurity and VLFS among children (VLFS-C), as well as the secondary measures of food insecurity and VLFS among adults or households as a whole. It also describes changes among the treatment and control groups' household circumstances and sources of help available to them to provide contextual information on factors that might influence food security.

### 1. What was the impact of the project on the prevalence of food insecurity?

The study examined food insecurity measures collected using the USDA's 18-question module and a 30-day reference period, based on a follow-up survey administered toward the end of the project's first 12 months of its 15-month implementation period. Impacts on food insecurity in the full sample are presented in Exhibit III.5 and discussed in greater detail below.[43] Impacts on FI-C, by key subgroups of interest, are presented in Exhibit III.6.

[43] Analytic sample sizes in exhibits based on the follow-up survey data vary according to the questions included in each exhibit. Specifically, the sample size in a given exhibit is the sample for the highest nonmissing survey data element in that exhibit. A small number of households (14, including 1% of households in the treatment group and

The project did not lead to a reduction in FI-C. The estimated rate of child food insecurity was approximately 37% among treatment households and 35% among control group households, and this difference was not statistically significant (Exhibit III.5).[44] Treatment and control households also exhibited similar rates of VLFS-C at follow-up, with 3.7% of treatment group and 4.4% of control group households reporting VLFS among children; again, the difference was not significant.

The project also did not reduce food insecurity among adults or households as a whole. Among control households, 53% reported food insecurity among adults and 56% reported food insecurity among households as a whole, compared with 54% and 58% among treatment households; differences between treatment and control households on these two secondary outcome measures were not statistically significant (Exhibit III.5). Approximately 30% to 32% of treatment and control households had VLFS among adults and within households as a whole; this rate did not differ significantly between treatment and control households.

## Exhibit III.5. Impact of the Kentucky TTHF project on food insecurity

| | Treatment | Control | Difference[a] | 95% confidence interval | p-value |
|---|---|---|---|---|---|
| **Children** | | | | | |
| Secure | 62.9 | 64.8 | -1.8 | [-5.9, 2.2] | 0.812 |
| Insecure | 37.1 | 35.2 | 1.8 | [-2.2, 5.9] | 0.812 |
| VLFS | 3.7 | 4.4 | -0.7 | [-2.4, 1.0] | 0.204 |
| **Adults** | | | | | |
| Secure | 46.1 | 47.0 | -0.9 | [-5.1, 3.4] | 0.654 |
| Insecure | 53.9 | 53.0 | 0.9 | [-3.4, 5.1] | 0.654 |
| VLFS | 31.2 | 29.6 | 1.6 | [-2.2, 5.4] | 0.790 |
| **Households** | | | | | |
| Secure | 42.3 | 43.7 | -1.5 | [-5.7, 2.7] | 0.754 |
| Insecure | 57.7 | 56.3 | 1.5 | [-2.7, 5.7] | 0.754 |
| VLFS | 31.5 | 29.7 | 1.9 | [-1.9, 5.7] | 0.832 |
| Sample size | 829 | 809 | | | |

Source: Evaluation of Demonstration Projects to End Childhood Hunger, 2017 follow-up survey. Tabulations are weighted to be representative of all eligible households in the Kentucky TTHF demonstration and prepared by Mathematica Policy Research.

1% in the control group) did not include children at the time of the follow-up survey or did not respond to a sufficient number of food security items to measure child food insecurity. These households are missing in the data analysis of FI-C and are therefore not included in estimates of the impact of the project on FI-C or VLFS-C. They are included in estimates of the impact of the project on other outcomes.

[44] Among households in the treatment group, 80% received TTHF benefits at some point in the two months before they responded to the follow-up survey; among responding households 74% with earned income and 84% without earned income received TTHF benefits in this time period. An alternate analysis approach that identifies the impact among only households that received TTHF benefits in this time frame yielded an estimated impact on FI-C and VLFS-C that was of a similar magnitude and also not statistically significant. This estimate, known as a complier average causal effect, or the effect of treatment on the treated, assumes that the project had no impact on 30-day food insecurity outcomes as measured on the survey among households that did not receive TTHF benefits during the two months before their survey response.

Notes: Food security was measured using the standard USDA 18-item survey module and a 30-day reference period. VLFS is a subcategory within the food insecure category. The p-value associated with each impact estimate is from a one-tailed test of statistical significance. Regressions controlled for baseline measures of child and adult food insecurity and VLFS; household income and employment status; the survey respondent's age, race/ethnicity, health status, and primary language spoken; the number of children in the household and presence of a teenager; household participation in WIC or free or reduced-price breakfast and lunch; and duration of SNAP participation in the year before the baseline survey. Regressions also controlled for the month of survey response.

[a] Difference column may not match the (Treatment minus Control) calculation exactly due to rounding.

TTHF = Ticket to Healthy Food; SNAP = Supplemental Nutrition Assistance Program; USDA = U.S. Department of Agriculture; VLFS = very low food security; WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

## 2. How did impacts on food insecurity among children vary by household characteristics?

Even if the project did not reduce FI-C in eligible households overall, it might have reduced FI-C within subgroups of the population as defined by baseline measures of household composition, socioeconomic characteristics, or food security. Exhibit III.6 presents impacts within these groups to assess whether the project reduced FI-C in specific types of households.

### Exhibit III.6. Impact of the Kentucky TTHF project on food insecurity among children, by subgroup

| Characteristic | Treatment | | Control | | Difference[a] | Difference within subgroup: p-value | Difference between subgroups: p-value[b] |
|---|---|---|---|---|---|---|---|
| | Sample size | FI-C | Sample size | FI-C | | | |
| **Presence of earned income** | | | | | | | 0.701 |
| Received earned income | 297 | 30.7 | 286 | 28.1 | 2.7 | 0.792 | |
| Did not receive earned income | 525 | 41.1 | 515 | 39.8 | 1.3 | 0.688 | |
| **Expected demonstration benefits at baseline[c]** | | | | | | | 0.189 |
| Quartile 1: $0–$12.60 | 209 | 43.6 | 202 | 37.1 | 6.5 | 0.929 | |
| Quartile 2: $12.70–$17.10 | 220 | 37.4 | 220 | 43.0 | -5.6 | 0.078 | |
| Quartile 3: $17.20–$44.60 | 187 | 39.9 | 177 | 36.0 | 3.9 | 0.805 | |
| Quartile 4: $44.70 and above | 206 | 27.0 | 202 | 25.2 | 1.8 | 0.677 | |
| **Baseline food security among children** | | | | | | | 0.346 |
| Secure (FS-C) | 498 | 21.0 | 497 | 17.9 | 3.2 | 0.902 | |
| Insecure (FI-C) | 319 | 64.7 | 294 | 65.0 | -0.3 | 0.466 | |
| **Household composition** | | | | | | | 0.639 |
| Single adult | 373 | 39.3 | 344 | 38.3 | 0.9 | 0.613 | |
| Two or more adults | 443 | 35.5 | 455 | 32.7 | 2.8 | 0.848 | |
| **Presence of a teenager in the household** | | | | | | | 0.708 |
| Household has no teens | 455 | 32.0 | 413 | 30.9 | 1.1 | 0.644 | |
| Household has 1 or more teens | 367 | 42.8 | 388 | 40.0 | 2.8 | 0.824 | |
| **WIC participation** | | | | | | | 0.329 |
| Participates in WIC | 211 | 33.0 | 223 | 28.0 | 5.0 | 0.899 | |
| Does not participate in WIC | 608 | 38.9 | 576 | 38.3 | 0.7 | 0.606 | |
| **Respondent level of education** | | | | | | | 0.030 |
| Less than high school | 252 | 33.8 | 246 | 38.5 | -4.6 | 0.103 | |
| High school, GED | 342 | 34.6 | 308 | 33.1 | 1.5 | 0.681 | |
| Some college or higher | 220 | 44.2 | 239 | 34.4 | 9.8[d] | 0.993 | |
| Sample size | 822 | | 801 | | | | |

Source: Evaluation of Demonstration Projects to End Childhood Hunger, 2017 follow-up survey. Tabulations are weighted to be representative of all eligible households in the Kentucky TTHF demonstration and prepared by Mathematica Policy Research.

Notes: Food security was measured using the 30-day survey module. The p-value associated with each impact estimate is from a one-tailed test of statistical significance, whereas the p-value associated with the test of differences in impacts across subgroups is from a two-tailed test. Of the 17 estimated impacts on FI-C among subgroups, only one—the estimated impact among those whose education included at least some college—would have been statistically significant at the 5% level using a two-tailed test. Regressions controlled for baseline measures of child and adult food insecurity and VLFS; household income and employment status; the survey respondent's age, race/ethnicity, health status, and primary language spoken; the number of children in the household and presence of a teenager; household participation in WIC or free or reduced-price breakfast and lunch; and duration of SNAP participation in the year before the baseline survey. Regressions also controlled for the month of survey response.

[a] Difference column may not match the (Treatment minus Control) calculation exactly due to rounding.

[b] p-value is from a chi-square test of significant difference between subgroup impacts.

[c] Subgroups are based on an estimate of the extra SNAP benefit a household would get if it were assigned to treatment, estimated using household county of residence, earned income, and maximum SNAP benefit size at the time of random assignment. The mean predicted benefit was $10.12 in the first quartile, $15.15 in the second quartile, $27.46 in the third quartile, and $63.44 in the fourth quartile. The mean observed demonstration benefit levels at follow-up among treatment households in these quartiles were approximately $10, $14, $21, and $43, respectively.

[d] The impact on FI-C among households with education including at least some college was statistically significant at the 5% level when using a two-tailed test.

FI-C = food insecurity among children; FS-C = food security among children; GED = general educational development; TTHF = Ticket to Healthy Food; SNAP = Supplemental Nutrition Assistance Program; VLFS = very low food security; WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

The Kentucky TTHF project was designed to account for additional transportation costs faced by households with at least one employed member. Accordingly, the project benefit formula increased the amount of extra SNAP funds a household received in proportion to earned income. As described in Chapter II, the average treatment household with earnings received a TTHF benefit three times as large as the average treatment household without earnings. This difference reflects that households with earnings received extra SNAP benefits from both of the intervention's benefit components (the transportation deduction and a 10% increase in the earnings deduction), whereas households with no earnings received only the transportation deduction.

If households with an employed member face additional costs that contribute to food insecurity when they are not addressed in the standard SNAP formula, the project design might be most likely to reduce FI-C among these households. However, the project did not reduce FI-C in households with earnings, even though they received both the transportation and earnings deductions (Exhibit III.6). Similarly, treatment households eligible to receive additional benefits through the transportation deduction alone did not report lower rates in FI-C than their control group counterparts. In other words, rates of FI-C were similar among treatment and control households with and without earned income. In both the treatment and control groups, roughly 40% of households without earned income experienced FI-C, much higher than among the households with earned income (30%).

Estimated impacts among households expected to receive higher and lower amounts of extra SNAP benefits shed light on whether the project was more effective when it provided larger benefits. As expected, results indicate that households in the top quartile of predicted benefits (that is, those with more earned income at baseline) had lower rates of FI-C (27%). However, differences in FI-C between treatment and control households in each group are not statistically significant, nor are the measured impacts significantly different across groups.

Additional analyses to assess whether impacts differed across other subgroups of households did not indicate that the project was effective among certain groups. Characteristics used to define subgroups included child food security at baseline, number of adults in the household, age of children, participation in WIC, and the head of household's level of education. Although the estimated impacts on child food security differed significantly across households with different levels of education, the pattern of differences in the estimated impacts among such households was not replicated when analyzing other food security measures.[45]

### 3. What is the relationship between changes in household circumstances and impacts on food insecurity?

Changes in household circumstances, such as employment, housing stability, and household composition, could influence the impact of the Kentucky TTHF project. In particular, if these circumstances had changed in different ways among treatment and control households, this could provide contextual information when interpreting the project's impacts on food insecurity. This section describes changes in household circumstances that might affect food security or the effectiveness of the Kentucky TTHF project. Exhibit III.7 presents the proportion of treatment and control households that experienced changes in household membership or employment or were evicted in the six months before the follow-up survey. Appendix Exhibits A.3 and A.4 present household and survey respondent characteristics at follow-up.

Treatment and control group households experienced changes in employment and the number of people living in the household at similar rates. Approximately one in six households experienced a change in employment or pay, also at a rate that was similar among treatment and control households. Households were somewhat more likely to have a member obtain a job during this period (about 23%) than to have lost one (16%), though one in five households experiencing a change in employment saw pay or hours decline. Roughly 14% of households experienced a change in the number of household members—a share nearly identical among treatment and control groups. Although they experienced specific types of changes in household composition at slightly different rates, overall these changes did not lead to differences in mean household size at follow-up (Appendix Exhibit A.3). Finally, less than 1% of households in either group reported being evicted from their home.

Overall, treatment and control households experienced changes in their household circumstances at similar rates.[46] These results do not provide evidence of any changes in

[45] The p-value of the test of differences in impacts across education levels indicates that it is unlikely these differences were due to chance alone. However, the difference between the impacts on FI-C between these subgroups were not observed when examining other food security measures. For example, whereas the impacts on child food insecurity ranged from -4.6 percentage points in the lowest education group to 9.8 percentage points in the highest group, when analyzing VLFS among children, the impacts in the lowest and highest education groups were 1.1 and -0.8 percentage points, respectively. In other words, the relationship between level of education and estimated impacts was reversed. When analyzing food insecurity among adults, the pattern in impacts on child food insecurity again was not replicated: the estimated impacts were 4 and 2.5 percentage points, respectively, among the lowest and highest education groups.

[46] There was just one statistically significant difference between treatment and control groups among the types of changes measured (in the prevalence of deaths among family members), which is consistent with what would be expected due to chance alone.

circumstances specific to treatment or control households that could have influenced the measured impact of Kentucky's TTHF project on food insecurity.

## Exhibit III.7. Reported household changes in the six months before follow-up

| | Treatment | Control | Difference[a] | p-value |
|---|---|---|---|---|
| **Percentage of households with a change in number of people living in household (HH size)** | 14.4 | 14.2 | 0.2 | 0.902 |
| **Reasons for change in HH size (%)[b]** | | | | |
| Percentage of households with | | | | |
| Birth, new step, foster, or adopted child | 15.5 | 19.5 | -4.0 | 0.453 |
| Marriage, romantic partner | 7.7 | 8.5 | -0.8 | 0.832 |
| Family, boarder, other child, other adult moved in | 30.3 | 25.3 | 5.0 | 0.408 |
| Family, boarder, other child, other adult moved out | 37.5 | 45.9 | -8.4 | 0.204 |
| Separation or divorce | 12.6 | 11.1 | 1.4 | 0.739 |
| Death of HH member | 3.3 | 0.0 | 3.3 | 0.048 |
| HH member incarcerated | 0.0 | 0.9 | -0.9 | 0.313 |
| Sample member moved | 0.0 | 1.9 | -1.9 | 0.153 |
| Other[c] | 0.0 | 0.7 | -0.7 | 0.315 |
| **Percentage of households with a change in employment or change in pay** | 17.5 | 16.4 | 1.1 | 0.566 |
| Percentage of households that[b] | | | | |
| Obtained a job | 24.5 | 22.0 | 2.5 | 0.643 |
| Changed jobs | 16.2 | 15.5 | 0.6 | 0.892 |
| Increase in pay or hours | 20.7 | 23.7 | -3.0 | 0.567 |
| Lost a job | 15.9 | 15.7 | 0.2 | 0.967 |
| Quit a job | 8.2 | 6.8 | 1.4 | 0.681 |
| Decrease in pay or hours | 19.4 | 21.3 | -1.9 | 0.703 |
| Seasonal work | 2.8 | 2.3 | 0.6 | 0.776 |
| Temporary leave (maternity, workers' compensation, disability) | 4.6 | 3.6 | 1.0 | 0.681 |
| Other[d] | 3.3 | 2.9 | 0.4 | 0.842 |
| **Percentage of households reporting an eviction** | 0.6 | 0.5 | 0.1 | 0.735 |
| **Of three categories of changes, number reported in the past six months[e]** (%) | | | | 0.210 |
| None | 71.3 | 71.0 | 0.3 | |
| One | 25.0 | 27.0 | -2.0 | |
| Two | 3.4 | 1.9 | 1.6 | |
| Three | 0.2 | 0.1 | 0.1 | |
| Sample size | 829 | 806 | | |

Source: Evaluation of Demonstration Projects to End Childhood Hunger, 2017 follow-up survey. Tabulations are weighted to be representative of all eligible households in the Kentucky TTHF demonstration and prepared by Mathematica Policy Research.

Notes: Chi-squared tests of independence were conducted to test for significant differences in proportions between the treatment and the control groups for each characteristic.

[a] Difference column may not match the (Treatment minus Control) calculation exactly due to rounding.

[b] Calculated among households that reported a change. Multiple reasons could be reported.

[c] Other reasons include child went to college, different custody arrangements, evicted, and personal issues.

[d] Other reasons include change in job location, change in job shift, and retirement.

[e] Includes changes in household size, changes in employment or pay, and eviction. Frequencies may not add to 100% due to rounding.

HH = household; TTHF = Ticket to Healthy Food.

### 4. What is the relationship between availability of supports and impacts on child food insecurity?

The level of support that households can access from family members, friends, and others in the community may influence their level of food security (Chilton et al. 2013; Edin et al. 2013). This aspect of a household's overall resource level might help identify households in which the demonstration would be expected to be most effective. For example, households with less access to support might be more likely to experience food insecurity, and the extra SNAP benefits provided by the demonstration might represent a larger increase in their overall resources available to meet their food and nutrition needs. On the other hand, if households with support available from others are more likely to be near the threshold of food security even when they report being food insecure, then the project's additional benefits might be more likely to cause these households to become food secure than households with less support available.

Both treatment and control households were more likely to report that help is available from family than from friends or others in the community (Exhibit III.8). More than 40% of treatment and control households had family members who could provide most or all of the help they would need, whereas 20% or less of households in each group reported this level of help available from friends or other community members. There were no statistically significant differences between treatment and control households in the availability of help from different sources. Similar proportions of treatment and control households also reported having received financial assistance from family or friends in the 30 days before the follow-up survey. Approximately 15% of each group reported receiving this type of assistance; the difference was not statistically significant (Appendix Exhibit A.3).

### Exhibit III.8. Reported access to help from family, friends, and the local community

| Percentage of households reporting they could get help, if needed for a problem, from | Treatment | Control | Difference[a] | p-value |
|---|---|---|---|---|
| **Family living nearby** | | | | 0.621 |
| All of the help needed | 15.5 | 14.1 | 1.4 | |
| Most of the help needed | 27.7 | 30.6 | -2.9 | |
| Very little of the help needed | 32.7 | 32.1 | 0.6 | |
| No help | 24.1 | 23.2 | 0.9 | |
| **Friends** | | | | 0.787 |
| All of the help needed | 5.5 | 5.0 | 0.5 | |
| Most of the help needed | 13.5 | 15.2 | -1.7 | |
| Very little of the help needed | 40.1 | 39.0 | 1.0 | |
| No help | 41.0 | 40.9 | 0.2 | |
| **Other people in the community** | | | | 0.662 |
| All of the help needed | 4.4 | 4.2 | 0.3 | |
| Most of the help needed | 12.1 | 13.6 | -1.5 | |
| Very little of the help needed | 35.3 | 32.8 | 2.5 | |
| No help | 48.2 | 49.5 | -1.3 | |
| Sample size | 829 | 806 | | |

Source: Evaluation of Demonstration Projects to End Childhood Hunger, 2017 follow-up survey. Tabulations are weighted to be representative of all eligible households in the Kentucky TTHF demonstration and prepared by Mathematica Policy Research.

Note: Chi-squared tests of independence were conducted to test for significant differences in proportions between the treatment and control groups for each characteristic.

[a] Difference column may not match the (Treatment minus Control) calculation exactly due to rounding.

TTHF = Ticket to Healthy Food.

Even if treatment and control households did not experience different levels of support available from family, friends, and other community members, the Kentucky TTHF project could have been more or less effective among households with different levels of support. Appendix Exhibit D.1 presents descriptive information on the level of FI-C among treatment and control households with higher or lower levels of support from family, friends, and other community members. In general, FI-C was higher among households with lower levels of support at follow-up. These descriptive results should be interpreted with caution, however; these comparisons could potentially be misleading if the project led to changes in the types of treatment households that reported different levels of help available.

## D. Impacts on shopping behavior and program participation

The Kentucky TTHF project was intended to reduce food security by increasing households' resources, thus allowing them to buy more food. Results from the previous two sections indicate that the demonstration caused a modest increase in combined SNAP and out-of-pocket food spending, but the increased spending did not result in measurable reductions in FI-C. Measures of household shopping behavior and program participation may shed light on why increases in food spending did not lead to such reductions. This section compares the shopping and family dinner patterns of treatment and control households (Exhibit III.9), and monthly food expenditures at follow-up (Exhibit III.10) before presenting findings on participation in other food and nutrition programs (Exhibit III.11). These findings help assess specific potential explanations about why the project's extra SNAP benefits did not lead to the hypothesized effects on FI-C.

### 1. Did the project have an impact on shopping or spending patterns?

Food spending is higher among SNAP households residing in rural areas than in those living in urban or suburban areas (Tiehen et al. 2017). The Kentucky TTHF project was designed in part to offset the cost of travel to buy food in a mountainous region where transportation costs might significantly shape shopping behavior because households need to travel farther to access a full-service grocery store (see Chapters I and II). Previous research has shown that SNAP households' reasons for shopping at a particular grocery store are based on (1) low prices or sales and (2) geographic convenience (Mabli 2014). Shopping and food spending decisions that households make after receiving extra SNAP funds could affect whether those funds reduce food insecurity. For example, the project might be expected to improve food security if the extra SNAP benefits made households more likely to travel farther to stores where they could buy perishable and other foods at lower cost than a local "mom and pop" store.[47] Alternatively,

[47] This situation could arise if, for example, the additional SNAP funds increased food budgets enough that the amount saved due to lower food prices at a more distant store would be enough to offset the additional cost of gas or time cost of the trip.

households might think of the additional funds as providing an opportunity to shop at more conveniently located stores or a way to use out-of-pocket funds to buy food from restaurants. This response might be more likely for household members that spend a substantial amount of time traveling to and from work. In this case, the project benefits may be less likely to reduce food insecurity, although they might improve some other aspects of household well-being.

Treatment and control households engaged in similar patterns of shopping behavior. They traveled approximately 12 miles to the store where they bought most of their food; this distance was similar among treatment and control households (Exhibit III.9).[48] Roughly four out of five households primarily shopped at a grocery store or supermarket, with the remainder shopping at a discount store (Exhibit III.9). Approximately three out of five respondents reported low prices as the primary reason for their choice of grocery store. Finally, about half of households shopped weekly or less often, whereas the other half shopped five or more times in a month. There were no significant differences between treatment and control households on these measures of food shopping behaviors.

## Exhibit III.9. Food shopping and related behaviors among treatment and control households at follow-up

| | Treatment | Control | Difference (SE)[a] | p-value |
|---|---|---|---|---|
| **Mean number of times shopped for food in past 30 days** | 6.8 | 6.9 | 0.0 (0.3) | 0.866 |
| **Percentage that shopped at each frequency** | | | | 0.744 |
| Less than 5 times (or 0–4) | 46.5 | 46.9 | -0.4 | |
| 5–9 times | 30.4 | 31.2 | -0.8 | |
| 10–19 times | 18.1 | 16.2 | 1.9 | |
| 20–30 times | 5.0 | 5.7 | -0.7 | |
| **Average distance to grocery shopping destination (one-way miles)[b]** | 12.1 | 12.3 | -0.2 (0.5) | 0.629 |
| At least one HH member employed at baseline | 10.8 | 12.0 | -1.2 (0.6) | 0.064 |
| No HH member employed at baseline | 12.3 | 12.6 | -0.3 (0.5) | 0.537 |
| **Percentage traveling each distance to grocery shopping destination** | | | | 0.063 |
| 0–2 miles | 15.6 | 11.7 | 4.0 | |
| 3–5 miles | 14.8 | 17.0 | -2.2 | |
| 6–10 miles | 25.6 | 27.1 | -1.5 | |
| 11–19 miles | 23.2 | 21.2 | 2.0 | |
| 20–29 miles | 12.4 | 15.9 | -3.5 | |
| 30 or more miles | 8.4 | 7.2 | 1.2 | |
| **Type of store where bought most of groceries (%)** | | | | 0.798 |
| Supermarkets/grocery stores | 78.5 | 79.8 | -1.3 | |
| Discount stores | 20.5 | 19.3 | 1.2 | |
| Dollar stores, warehouse clubs, farmers' markets, or other[c] | 1.1 | 0.9 | 0.2 | |

[48] Among households with at least one member employed, treatment households traveled about one mile less than those in the control group, on average (p = 0.064). One possible explanation for this finding is that these treatment households may have used their additional benefits to buy food at more convenient locations.

| | Treatment | Control | Difference (SE)[a] | p-value |
|---|---|---|---|---|
| **Main reason for shopping at store (%)** | | | | 0.494 |
| Low prices | 59.5 | 61.2 | -1.7 | |
| Close to home/convenient or easy to get to | 18.3 | 16.5 | 1.7 | |
| Variety of foods (general) | 6.6 | 6.2 | 0.5 | |
| Sales | 3.9 | 4.2 | -0.3 | |
| Quality of food | 2.9 | 1.5 | 1.3 | |
| Meat department | 1.1 | 1.1 | 0.0 | |
| Other[d] | 7.8 | 9.4 | -1.6 | |
| **Percentage of households reporting each level of travel time to store (one-way minutes)** | | | | 0.310 |
| Less than 10 minutes | 20.4 | 17.8 | 2.6 | |
| 10–15 minutes | 34.5 | 37.3 | -2.8 | |
| 16–30 minutes | 35.0 | 36.4 | -1.5 | |
| Greater than 30 minutes | 10.1 | 8.5 | 1.7 | |
| **Usual transportation used to get to store** | | | | 0.432 |
| Car | 98.4 | 98.5 | -0.2 | |
| Walk/bicycle | 1.3 | 0.8 | 0.6 | |
| Public transport | 0.2 | 0.3 | -0.1 | |
| Other[e] | 0.1 | 0.4 | -0.3 | |
| **Distribution of the number of nights a week family typically sits down together to have dinner as a family (%)** | | | | 0.379 |
| Every night | 50.6 | 47.6 | 3.0 | |
| 5 or 6 nights | 19.8 | 22.6 | -2.8 | |
| 3 or 4 nights | 21.3 | 19.8 | 1.5 | |
| 1 or 2 nights | 5.9 | 7.6 | -1.7 | |
| Never | 2.4 | 2.5 | -0.1 | |
| Sample size | 830 | 809 | | |

Source: Evaluation of Demonstrations to End Childhood Hunger, 2017 follow-up survey. Tabulations are weighted to be representative of all eligible households in the Kentucky demonstration and prepared by Mathematica Policy Research.

Notes: For continuous measures, reported p-values are obtained from two-tailed t-tests of statistically significant differences; for binary and categorical measures, p-values are from chi-squared tests of independence.

[a] Difference column may not match the (Treatment minus Control) calculation exactly due to rounding.

[b] Reported miles ranged from 0 to 75 miles from home.

[c] Includes convenience store; ethnic food store; and other retailers, such as surplus store and local produce store.

[d] Includes other reasons, such as the "respondent or family works there" and "store has a cart to ride since they have health problems."

[e] Includes other reasons, such as "daughter does shopping," "children's grandpa goes to the store for them," and "uses a transportation service for medical reasons."

HH = household; SE = standard error.

The amount of money households spent out of pocket on food—and where they spent those dollars—could affect whether the project's SNAP benefits translated into reductions in food insecurity. Findings presented earlier indicated that treatment and control households spent similar amounts out of pocket on food, so there is little evidence that they used the increased SNAP benefits to reduce out-of-pocket spending on food. Still, if households in the treatment group responded to the increase in SNAP benefits by diverting some of their out-of-pocket spending from grocery stores to more expensive restaurant purchases, the extra SNAP benefits might not help reduce food insecurity even if combined (SNAP plus out-of-pocket) food spending increased.

A comparison of monthly food expenditures in treatment and control households reveals similar patterns of spending at restaurants versus grocery or other food stores. On average, households spent $51, or about 20% of their out-of-pocket spending, at restaurants, and the remainder at grocery stores (Exhibit III.10). Because treatment and control households were similar in size, these household expenditures translated to similar amounts per person in each group. The similarity of out-of-pocket spending patterns suggests that treatment households did not respond to the project's extra SNAP benefits by spending more out of pocket at restaurants. Because the extra SNAP funds that treatment households received could be spent only at food stores, not restaurants, these results suggest that treatment households chose to spend a larger total amount (SNAP plus out of pocket) at grocery stores or other food stores.

## Exhibit III.10. Reported monthly food expenditures at follow-up

| | Treatment ($) | Control ($) | Difference (SE) ($)[a] | p-value |
|---|---|---|---|---|
| **Total out-of-pocket food expenditures[b]** | | | | |
| Household mean | 247 | 249 | -2 (8) | 0.800 |
| Household median | 195 | 200 | -5 (5) | 0.320 |
| Per-person mean | 69 | 70 | -1 (2) | 0.746 |
| Per-person median | 56 | 55 | 1 (2) | 0.460 |
| **Food expenditures at supermarkets, grocery stores, and other types of stores[c]** | | | | |
| Household mean | 197 | 198 | -1 (7) | 0.867 |
| Household median | 145 | 150 | -5 (5) | 0.280 |
| Per-person mean | 55 | 56 | -1 (2) | 0.702 |
| Per-person median | 43 | 44 | 0 (1) | 0.813 |
| **Expenditures at restaurants[d]** | | | | |
| Household mean | 51 | 51 | 0 (3) | 0.941 |
| Household median | 34 | 35 | -1 (1) | 0.460 |
| Per-person mean | 14 | 14 | 0 (1) | 0.870 |
| Per-person median | 10 | 10 | 0 (0)^ | 0.440 |
| Sample size | 825 | 805 | | |

Source: Evaluation of Demonstration Projects to End Childhood Hunger, 2017 follow-up survey. Tabulations are weighted to be representative of all eligible households in the Kentucky TTHF demonstration and prepared by Mathematica Policy Research.

Notes: Questions were asked about the last 30 days. Regressions controlled for baseline measures of child and adult food insecurity and VLFS; household income and employment status; the survey respondent's age, race/ethnicity, health status, and primary language spoken; the number of children in the household and presence of a teenager; household participation in WIC or free or reduced-price breakfast and lunch; and duration of SNAP participation in the year before the baseline survey. Regressions also controlled for the month of survey response. Reported p-values are obtained from two-tailed t-tests of statistically significant differences.

[a] Difference column may not match the (Treatment minus Control) calculation exactly due to rounding.

[b] Sum total of reported out-of-pocket food expenditures at stores and restaurants in the last 30 days; excludes purchases made with SNAP and WIC.

[c] Out-of-pocket expenditures on food at supermarkets, grocery stores, and other stores; excludes purchases made with SNAP and WIC.

[d] Includes carryout, drive through, and all types of restaurants.

^ Greater than zero but less than 0.5.

SE = standard error; SNAP = Supplemental Nutrition Assistance Program; TTHF = Ticket to Healthy Food; VLFS = very low food security; WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

## 2. Did the project have an impact on participation in nutrition assistance programs?

The Kentucky TTHF project did not lead to changes in nutrition assistance program participation, ruling out a potential pathway the project could have influenced FI-C. Exhibit III.11 presents program participation rates among treatment and control households over the 30 days before the follow-up survey.

At the time of the follow-up survey, more than 80% of treatment and control households had remained enrolled in SNAP, although the treatment group's slightly higher participation rate (87%) was not significantly different from that of the control group (84%) (Exhibit III.11). Approximately 24% of households in each group were participating in WIC, compared with the baseline level of approximately 28% (Exhibit III.11 and Appendix Exhibit A.2). Treatment and control households also participated in child nutrition programs at similar rates—in both groups, more than 60% of households had participated in at least one of six such programs identified in the follow-up survey in the previous 30 days. Respondents from the treatment group most commonly reported children participating in NSLP (approximately 57%) and the School Breakfast Program (SBP) (roughly 52%). Approximately 5% to 15% received food from each of four other sources: a free supper at an afterschool program; a food backpack program; a meal or snack at an afterschool program; or food from another center, such as day care.[49] One in five households received food from a food pantry, emergency kitchen, or similar community program providing free meals.[50]

It does not appear that the project's effectiveness at reducing FI-C was influenced by any effects on program participation. The similar rates at which treatment and control households remained enrolled in SNAP suggest that the project did not make treatment households more likely to recertify. On the other hand, the lack of statistically significant differences in participation in other nutrition programs indicates that the project's extra SNAP benefits also did not make households less likely to participate in other programs.

[49] The rates of participation in NSLP and SBP at follow-up represent substantial reductions from baseline, when the reported NSLP and SBP participation rates were 74% and 68%, respectively. This may be because the proportion of survey respondents (44%) completing the follow-up survey before August 10, 2017, when most children were out of school, was higher than the proportion completing it before that date in the previous year (13%). Among households surveyed after August 10, 2017, 75% of treatment households and 78% of control households participated in NSLP. In this sample of survey respondents, 69% of households in the treatment and control groups participated in SBP.

[50] One hypothesis explaining why approximately one-fifth of the sample was using a food pantry, emergency kitchen, or other community food program is that households no longer enrolled in SNAP at follow-up would make up a disproportionate share of those using these food programs. However, among those using a food pantry or other community program, only about 5%–10% were not enrolled in SNAP at follow-up, a lower rate than in the sample as a whole.

## Exhibit III.11. Reported participation in household and child nutrition programs at follow-up

| | Treatment | Control | Difference (SE)[a] | p-value |
|---|---|---|---|---|
| **Household nutrition benefit program[b]** | | | | |
| Reported currently receiving SNAP (%) | 86.6 | 83.8 | 2.7 | 0.115 |
| Reported receiving WIC (%) | 23.5 | 23.7 | -0.2 | 0.887 |
| Reported receiving none of the above nutrition benefits (%) | 10.8 | 12.2 | -1.3 | 0.392 |
| **Children's nutrition program[b]** | | | | |
| Reported receiving SBP[c] (%) | 52.2 | 51.1 | 1.1 | 0.622 |
| Reported receiving NSLP[c] (%) | 56.5 | 58.1 | -1.6 | 0.460 |
| Reported receiving free supper meals at an afterschool program held in their school building (%) | 10.3 | 11.3 | -1.0 | 0.529 |
| Reported receiving backpack program (%) | 13.3 | 13.0 | 0.3 | 0.864 |
| Reported receiving food at any other afterschool program where meals or snacks are served (%) | 10.1 | 12.1 | -2.0 | 0.189 |
| Reported receiving food at another center, e.g., Head Start or day care (%) | 6.5 | 4.5 | 2.1 | 0.073 |
| Reported receiving none of the child nutrition benefits listed above[d] (%) | 38.1 | 35.9 | 2.2 | 0.321 |
| **Mean number of 8 listed nutrition programs in which household reported participating** | 2.6 | 2.6 | 0.0 (0.1) | 0.806 |
| **Reported receiving food from food pantry, emergency kitchen, or other community program providing free meals** | 20.0 | 21.4 | -1.4 | 0.429 |
| Sample size | 830 | 808 | | |

Source: Evaluation of Demonstration Projects to End Childhood Hunger, 2017 follow-up survey. Tabulations are weighted to be representative of all eligible households in the Kentucky TTHF demonstration and prepared by Mathematica Policy Research.

Notes: Program participation questions generally reflected current participation at the time of the interview, defined as "during the last 30 days." Reported p-values are from two-tailed tests of statistical significance. Regressions controlled for baseline measures of household income and employment status; the survey respondent's age, race/ethnicity, health status, and primary language spoken; the number of children in the household and presence of a teenager; duration of SNAP participation in the year before the baseline survey; and household participation in the program being analyzed at follow-up. Regressions also controlled for the month of survey response.

[a] Difference column may not match the treatment and control columns exactly due to rounding.

[b] Calculated for all households as a descriptive variable and not limited only to those households eligible for a specific program listed.

[c] The numerator in this proportion includes free or reduced-price school breakfast or school lunch and excludes paid school meals. About 44% of respondents answered the follow-up survey before August 10, 2017, when most children were out of school. Reported participation rates among those that answered the survey once school started was 69% in both the treatment group and the control group for free or reduced-price SBP, and 75% in the treatment group and 78% in the control group for free or reduced-price NSLP. Many respondents who answered the survey earlier likely had children who participated in the NSLP and SBP once school started.

[d] Calculation excludes free meals or snacks at summer food programs due to the timing of data collection.

HH = household; NSLP = National School Lunch Program; SBP = School Breakfast Program; SE = standard error; SNAP = Supplemental Nutrition Assistance Program; TTHF = Ticket to Healthy Food; WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

**This page has been left blank for double-sided copying.**

# IV. STUDY FINDINGS AND CONCLUSIONS

This chapter summarizes and discusses study findings from the evaluation of the Kentucky TTHF project, including an assessment of project implementation and impacts on food insecurity among children. It first briefly reviews the project's goals and design, and then summarizes and discusses the findings from the implementation and impact analyses. It ends with a discussion of study conclusions and limitations.

## A. The Kentucky TTHF project

Adequate and consistent access to healthy food is important to children's nutrition, psychosocial development, and health (Coleman-Jensen et al. 2013; National Research Council and Institute of Medicine 2013). However, a substantial number of American children fail to get adequate and consistent access to food based on the best available measure of food insecurity. Rates of food insecurity are highest in areas of high poverty, and eastern Kentucky, where TTHF was implemented, is one of the poorest regions in the nation. Because of the wide-scale barriers to economic security, USDA designated the region as one of only five "persistently poor" regions in the country (Islam et al. 2015). Going hand in hand with high poverty rates are high rates of unemployment and food insecurity. In 2016, just before the Kentucky TTHF project launched, the estimated rate of household food insecurity in the State's TTHF demonstration counties (among all income groups) was 17%—higher than the national rate of 12% (Coleman-Jensen et al. 2017; Feeding America 2017). Beginning in 2013 and 2014, a number of initiatives and grants were instituted to address the region's high poverty, including designation as a USDA StrikeForce region and a Promise Zone, both of which are Federal-local partnerships intended to steer investment to economically underdeveloped regions (Kentucky Promise Zone 2016; USDA 2016). The region also received a SNAP E&T grant, which provided SNAP recipients with work-related education and training (Federal Grants 2018).

Kentucky's SNAP agency received a Child Nutrition reauthorization grant to design and implement a project to address food insecurity among children. Together with SNAP eligibility system staff and vendors, and an academic partner, they crafted the TTHF demonstration to address the food security needs of low-income SNAP households. The households targeted for these benefits were those thought to be at high risk of FI-C—those receiving SNAP, with a child under age 18 (who would remain under 18 throughout the demonstration), and living in one of 17 rural counties in eastern Kentucky with particularly high levels of unemployment, poverty, and risk of food insecurity.[51] The counties were rural, with rugged, mountainous terrain, which made them relatively isolated and also made travel more costly. In such rural counties, the high costs of travel are relevant for most households, requiring that they travel substantial distances to get to large, full-service grocery stores and to work.

The goal of the demonstration was to reduce food insecurity by raising SNAP benefits to account for the reality of higher transportation costs. Doing so could improve access to full-service grocery stores that were likely to be farther away but offer lower prices and greater

[51] All of the TTHF counties are in the StrikeForce area, and 8 of the 17 counties are in the Promise Zone (Kentucky Promise Zone 2016), which is also the project area for the SNAP E&T evaluation. Some individuals were eligible for both the SNAP E&T and TTHF projects, but the evaluation teams took steps to avoid sample overlap across the two evaluations.

access to a wide variety of more nutritious foods. The design of this demonstration arose from a recommendation from IOM—that a key factor when considering the adequacy of SNAP benefits should be "the influence of specific individual, household, and environmental factors…" (Committee on Examination of the Adequacy of Food Resources and SNAP Allotments 2013). Among these factors, the IOM report suggested considering the "limited access to certain food outlets (e.g., supermarkets) that may affect the ability of some SNAP participants to purchase a variety of healthy foods at a reasonable cost."

To address these considerations, the demonstration was structured around changes to deductions in the SNAP benefit formula that would improve it by better capturing the travel costs that low-income, geographically isolated households incur when grocery shopping or commuting to work. Specifically, TTHF added two new deductions to the SNAP benefit formula: (1) a deduction for the transportation costs associated with six round trips to the grocery store per month, and (2) an earnings deduction equal to 10% of earned income, applicable to households with at least one employed household member. These deductions resulted in greater SNAP benefits for SNAP households with positive net income, with larger increases in benefits going to households with employed members.

The TTHF was designed to integrate with the existing SNAP benefit formula. In Kentucky, if the intervention was shown to improve food insecurity, it would be easy to roll out the benefit changes in a larger way because the changes were already encoded in the State's eligibility system. Even at a national level, implementing the TTHF policy would involve making changes to the details of how SNAP benefits are determined but not require an entirely new program or a fundamental change to the existing SNAP program. The fact that the demonstration worked through changes to income deductions implied that no changes would be made to the maximum SNAP benefit, which is based on the Thrifty Food Plan (Center for Nutrition Policy and Promotion 2018). Moreover, these changes to the benefit formula had the potential to strengthen SNAP's existing work incentives, by decreasing the rate at which benefits are reduced as earned income increases. In the demonstration, workers received the highest monthly TTHF benefit—and the higher their earnings, the higher the TTHF benefit. In this way, the design was also consistent with USDA's plan to allow States more flexibility in SNAP implementation to promote self-sufficiency (FNS 2017b).

Two other features of the design of the TTHF demonstration are worth noting. First, the extra SNAP benefit was modest for most households, limiting the likelihood that it could improve food insecurity among children and households in poverty. Thus, the evaluation tested the effects of only modest increases to a household's SNAP benefits. Second, the structure of benefits directed most benefits to households with earned income rather than the most disadvantaged, which had little or no income. Within the evaluation sample, TTHF benefits were especially low for households without workers. These households were more food insecure at baseline—41%, compared to 30% of households with workers—and thus may have benefited more from a larger SNAP increase. In fact, because the demonstration did not increase any household's SNAP benefits above the current maximum, those with no net income and already receiving the maximum benefit level were not included in the demonstration's target population (or in the evaluation sample).

The evaluation of the Kentucky TTHF project examined the characteristics of households receiving the TTHF benefits, assessed the project's implementation, and examined what impact the extra SNAP benefits from the project had on the food security and other outcomes of the low-income households that participated in the study.

**How did the study work?**

The study used ***an experimental design***—the most rigorous way of estimating demonstration effects. Households eligible for benefits were initially randomly assigned to one of two groups—a control group that received only the regular benefits from SNAP and other programs, and a treatment group that received extra SNAP benefits. These groups were followed through the project's implementation period and their outcomes measured about 12 months later based on survey and administrative data. Because the treatment and control groups were similar at the beginning of the implementation period due to random assignment, later differences between them in FI-C can be attributed to the impact of the project, as can other outcomes.

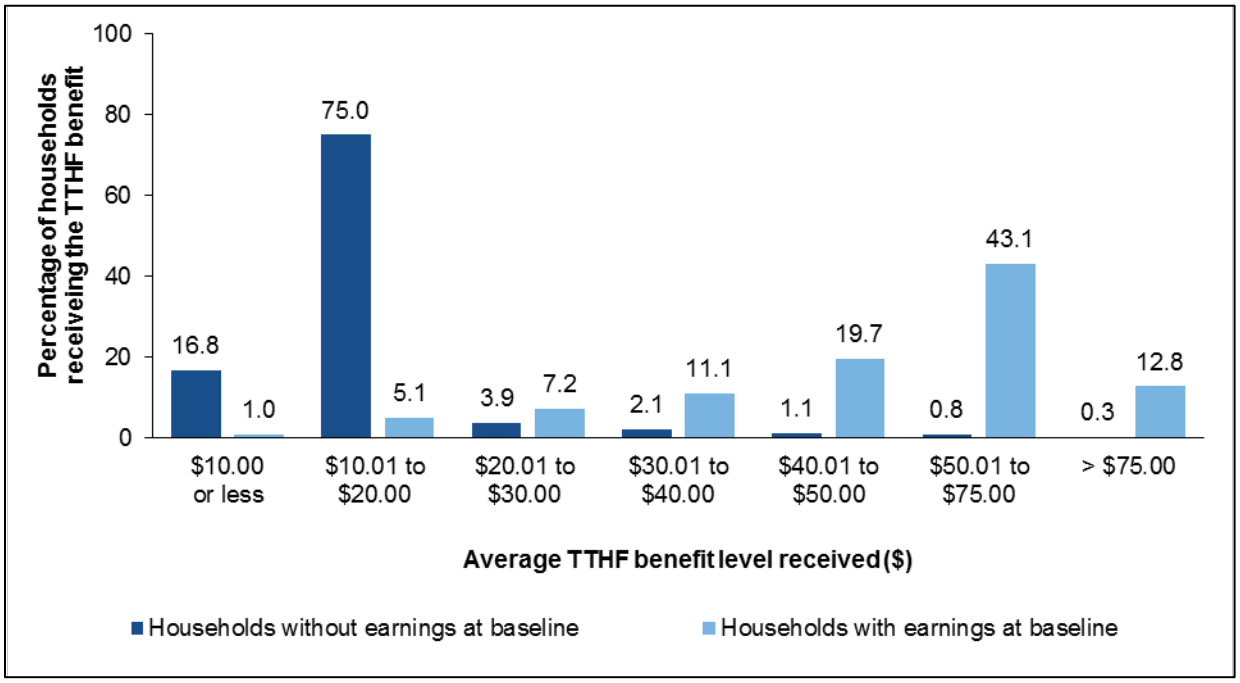
## B. Successes and challenges of the Kentucky TTHF project implementation

The TTHF project successfully distributed extra SNAP benefits—and participants used them. This success hinged on seamless delivery. From the households' perspectives, the benefits were distributed automatically. Without having to take any action, the basic and extra SNAP benefits appeared on households' existing EBT cards as a single combined benefit, which they could use to purchase the same foods at the same places with the same EBT card as with regular SNAP benefits. Any extra benefits a household failed to use in a given month automatically carried over to the next month. To the households, it was a seamless process.

Behind the scenes, the process was more complex. Kentucky designed the SNAP benefit boost to operate within the parameters of the SNAP benefit formula. This change required modifications to the State's existing SNAP eligibility system, which calculates benefits for SNAP participants each month. Specifically, the State's contracted vendor had to reprogram the system to (1) create a new data field identifying households selected to receive the TTHF benefit; (2) track TTHF eligibility each month by monitoring administrative fields for county of residence, net income, and the presence of children; and (3) calculate the TTHF benefit each month for eligible households by applying the new deductions to the SNAP benefit formula. The State then applied the TTHF benefit to participants' EBT cards, tracking the benefits separately from regular SNAP benefits for accounting purposes.

TTHF faced two primary challenges in improving participant outcomes: (1) the low level of average benefits delivered and (2) their uneven distribution across participants. Households without earnings at baseline overwhelmingly received benefits of $20 or less in months when they received benefits (Exhibit IV.1). In fact, this benefit was the largest households could receive through the TTHF's transportation deduction alone. In contrast, households reporting earned income at baseline received TTHF benefits of more than $20 in months when they received any. More than half of such households received more than $50 a month, on average. These households were much more likely to benefit from the extra earned income deduction in addition to the transportation deduction. The overall result was that households' experience with TTHF varied according to their circumstances. Many households received TTHF benefits that might have been too small to affect child food insecurity; those receiving larger benefits might not have been those in the greatest need. Section C contains a discussion of the impact results on households with different characteristics.

**Exhibit IV.1. Distribution of monthly TTHF benefit levels for households with and without earnings**




Source: Evaluation of Demonstration Projects to End Childhood Hunger, Kentucky SNAP EBT database, 2016–2018 (n = 2,820). Tabulations were prepared by Mathematica Policy Research.

Notes: Households without earnings at baseline represent 62% of all households assigned to receive TTHF benefits. Households with earnings represent 38% of all households assigned to receive the benefits. This analysis was not limited to households in the evaluation sample. Benefits shown represent average benefits in months that households received benefits.

EBT = Electronic Benefits Transfer; SNAP = Supplemental Nutrition Assistance Program; TTHF = Kentucky Ticket to Healthy Food.

Finally, one finding from the cost analysis is that the costs associated with modifying the SNAP eligibility system for TTHF were nearly $450,000, representing about 31% of total project costs. These costs were sizeable for a 15-month demonstration and represent a potential drawback for instituting a temporary benefit. However, if, a State intended to implement the changes widely, this cost ultimately would be both necessary and proportionally low relative to the total SNAP expenses for a statewide population, and even lower proportionally over time.

**Costs of TTHF Implementation**

**Total project costs[a]** = $1,449,130

Payments to households = 56% of total costs and 95% of implementation period costs ($514 per household)

Planning and administrative costs during start-up: 41% of total ($211 per household)

[a] Covers the planning and implementation periods.

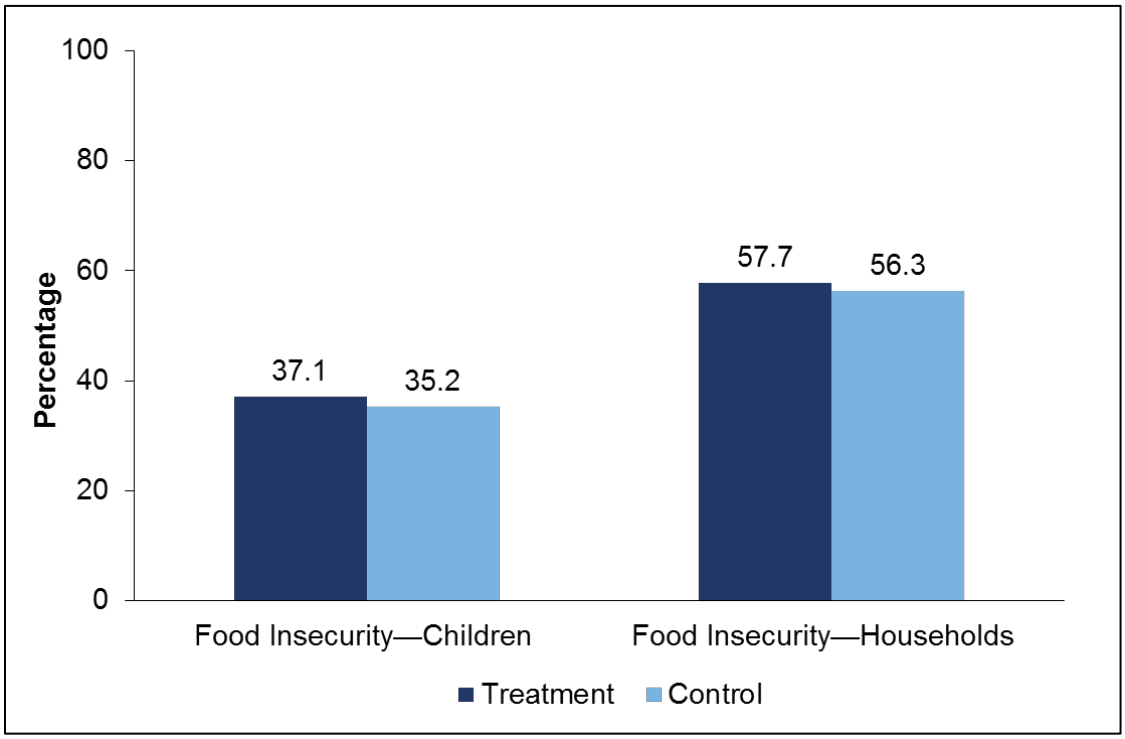
## C. Summary of impact results

The TTHF project was implemented among a set of households facing economic challenges, consistent with the project's intended target population. At baseline, 94% of households in the evaluation sample had income below the poverty line. As intended, all of the households that

received extra SNAP benefits were SNAP participants, had at least one child under 18 in the household, and had net income greater than zero at baseline. Approximately 39% of households in the evaluation sample had at least one employed member.[52] Roughly 37% reported FI-C at baseline, substantially higher than the 2016 national rate of 24% among households with children and incomes below the poverty level (Coleman-Jensen et al. 2017).[53]

The primary goal of the project was to reduce FI-C, and the evidence from this evaluation indicates that the project did not achieve this goal. The prevalence of FI-C among households in the treatment group (37%) was similar to the rate in control households (35%), with the difference not being statistically significant (Exhibit IV.2). Treatment households were also not

### Exhibit IV.2. Impact of the Kentucky TTHF project on food insecurity among children and households




Source: Evaluation of Demonstration Projects to End Childhood Hunger, 2017 follow-up survey (n = 1,623). Tabulations are weighted to be representative of all eligible households in the Kentucky TTHF demonstration and prepared by Mathematica Policy Research.

Note: Treatment-control differences are not statistically significantly less than zero at the 0.05 level, one-tailed test.

TTHF = Ticket to Healthy Food.

[52] Results presented in Section C pertain to the evaluation sample. The outcomes for households in the evaluation treatment group (n = 1,103) differ slightly from those described in Section B of this chapter, which use the full set of households assigned to receive the TTHF benefit (n = 2,820).

[53] The EDECH study uses a 30-day measure of food insecurity, whereas the national estimate is based on the 12-month measure. A 30-day measure could be considered the lower-bound estimate of a 12-month measure. National statistics using a 30-day measure for a comparable population subgroup of SNAP households with children are not available.

less likely than control households to experience VLFS among children, nor were they less likely to experience food insecurity among adults or in the household as a whole (Exhibit III.5).

Additionally, the project did not lead to reductions in child food insecurity in key subgroups of households. Of particular interest were households with higher baseline levels of food insecurity, such as those with lower levels of education, older children, or a single parent, that might have benefited more from the additional benefits and thus experienced measurable reductions in food insecurity. The project did not reduce FI-C in any of these groups.

Another subgroup of particular interest is households reporting earnings at baseline. As described in Section B above, these households received much higher benefits from TTHF than those not reporting earnings. However, the results from this study indicate that the project did not reduce FI-C in households with earned income. Among treatment households with earned income at baseline, 29% experienced FI-C at follow-up, compared with 28% among their counterparts in the control group (Exhibit IV.4).[54] The difference between these rates was not statistically significant. Although households with earned income at baseline exhibited lower rates of food insecurity than those without, this pattern was similar between the treatment and control groups at follow-up. Also, rates of FI-C did not change substantially from baseline to follow-up.

To explore this issue further, SNAP benefit levels and food insecurity rates based on the presence or absence of earned income at baseline were examined. Comparing the overall SNAP benefits received by households in the treatment group with those received by control group households shows what effect the project had on purchasing power. Treatment households with earned income at baseline received a substantially larger increase in extra SNAP benefits than those without. Households with earned income at baseline received an average extra benefit of $37 in the month before the follow-up survey, compared with $13 among those with no earned income at baseline (Exhibit IV.3).[55] Further, because households with earnings had smaller regular SNAP benefit amounts, their average project benefit represented a 13% increase in total SNAP benefits, compared with a 4% increase among those without earnings. However, the increased difference in benefits received between treatment and control households did not lead to differences in FI-C among households with earnings.

Other evaluations have found that increasing SNAP benefits can reduce food insecurity, but in those cases the benefit increases were larger than in the TTHF. In the evaluation of the Summer Electronic Benefits Transfer for Children (SEBTC) program, SNAP benefit increases of $60 per child per month resulted treatment households receiving and using an average of $92 in benefits more than control households, and spending an average of $53 more per month on food. These benefits led to a 7.7 percentage point decrease in FI-C (Collins et al. 2016). In another part of that study, receiving benefits of $60 per child per month was compared with receiving $30 per child per month. In this case, one group ended up getting $45 more in benefits per month on average, which led them to spend $29 more on food in the typical month and led to a decrease of

[54] Rates of FI-C described here are not adjusted to account for baseline FI-C and thus differ from those shown in Chapter III.

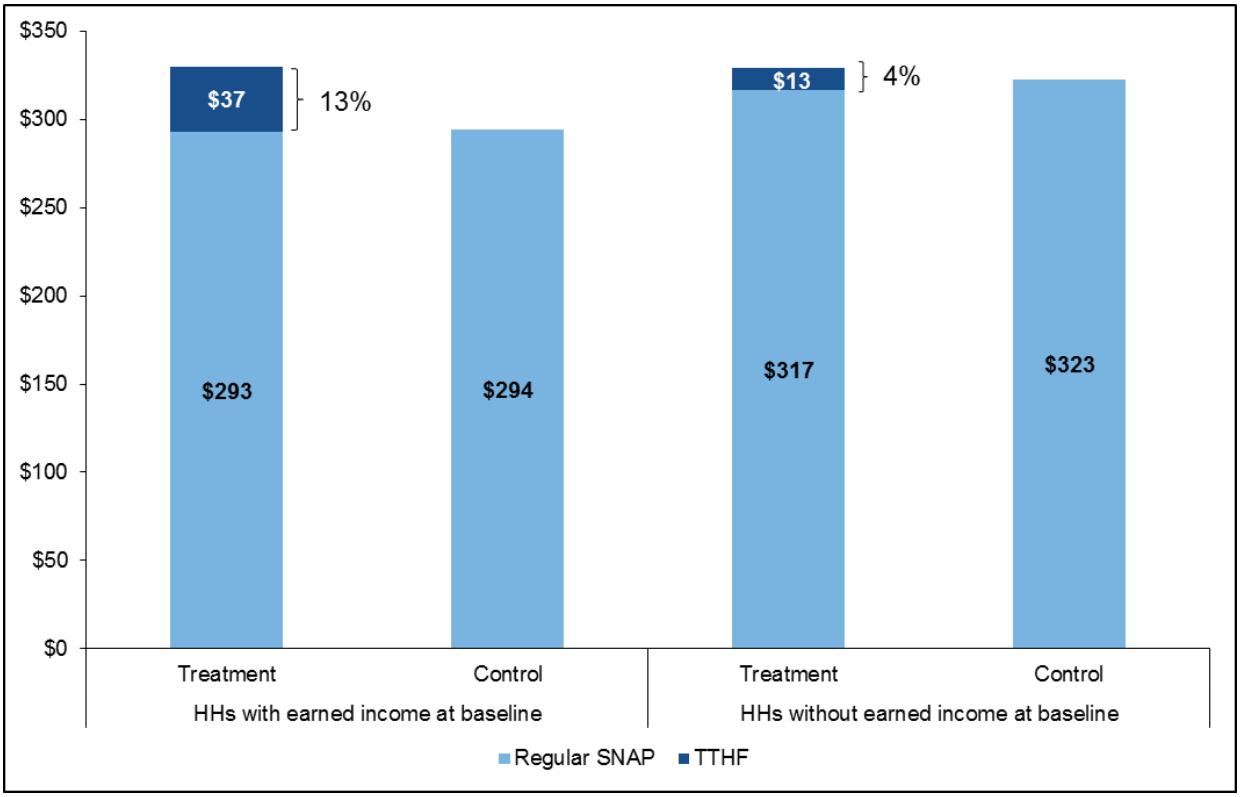
[55] These averages include households that did not receive extra benefits in the month before the follow-up survey, either because they were no longer on SNAP or no longer met the TTHF eligibility requirements.

3.6 percentage points in FI-C. The SEBTC benefits differed in several ways from those of the TTHF project. They were provided during the summer months only, and provided as either SNAP benefits or WIC benefits depending on the demonstration site. These benefits were also communicated more clearly to participants as additional benefits they were receiving as part of a demonstration program than was the case in the TTHF project.

Research on the increase in SNAP benefits arising from the American Recovery and Reinvestment Act (ARRA) of 2009 also provides relevant context for interpreting the findings from this study. ARRA led to an increase in SNAP benefits of 13.6 percent of the maximum benefit level for all participating households (regardless of whether they were eligible for the maximum benefit). For example, four-person households received increases of $80 per month in their SNAP benefits and three-person households received $63 increases per month (Nord and Prell 2011). On average, this amounted to an increase of about 16% to 19% in benefits as a result of ARRA. The ARRA SNAP benefit increase led to a statistically significant decline in both household food insecurity and VLFS-H (Nord and Prell 2011).[56]

[56] The Nord and Prell (2011) study was non-experimental, with impact estimates based on a comparison of all low-income households in late 2008, before the ARRA increase in benefits went into effect, to late 2009, after the increase. This makes it difficult to translate their estimates into how food insecurity rates of SNAP participants were affected, since the low-income households being studied included SNAP participants and non-participants. However, the estimated reduction in food insecurity was statistically significant, and slightly higher-income households that were not eligible for SNAP did not experience a similar decline in rates of food insecurity. Finally, additional studies found that there were corresponding increases in rates of food insecurity among low-income households when the ARRA benefits decline and then ultimately ended over the next five years (Nord 2013; Katare and Kim 2017)

## Exhibit IV.3. Average regular SNAP and TTHF SNAP benefits among households with and without earned income

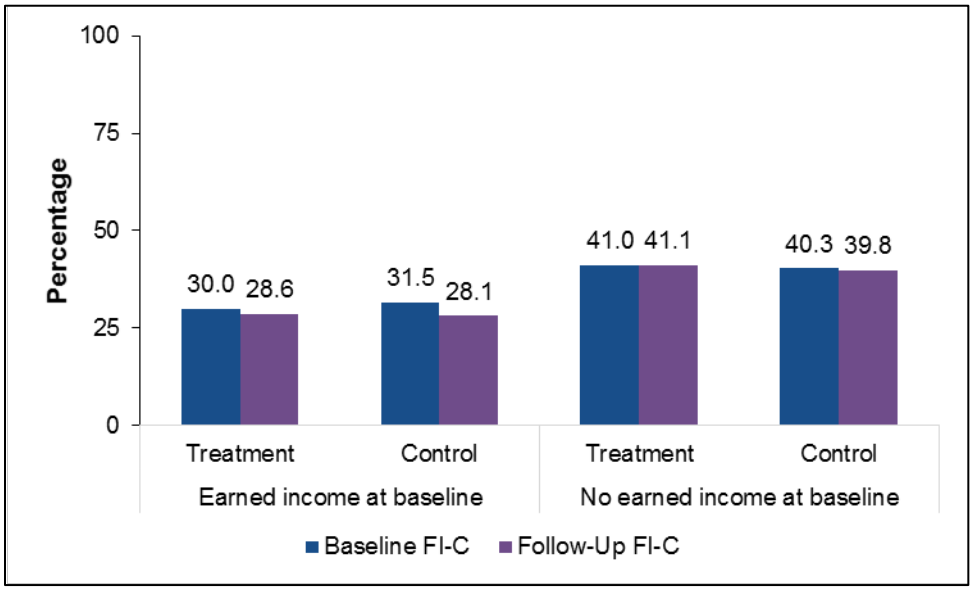



Source: Kentucky SNAP administrative data (n = 1,639), 2016–2018 and EDECH 2015–2016 baseline survey and 2017 follow-up survey. Tabulations are weighted to be representative of all eligible households in the Kentucky TTHF demonstration and prepared by Mathematica Policy Research.

HHs= households; SNAP = Supplemental Nutrition Assistance Program; TTHF = Ticket to Healthy Food.

The demonstration was intended to influence FI-C by helping treatment households access full grocery stores by accounting for elevated transportation costs in the region. However, analysis of results suggests that the project did not cause changes in households' food shopping behavior. The follow-up survey includes items measuring the type of store where respondents reported buying most of their groceries, the distance they traveled to that store and travel time required, frequency of their shopping, the main reason they shopped at that store, and their mode of transportation when shopping. This study did not find significant differences between treatment and control households in any of these measures. Several factors could have prevented the extra benefits from causing these changes in behavior. For example, households may already have taken advantage of opportunities to access food at the most affordable prices, or the extra SNAP benefits may not have been large enough to incentivize trips to more distant stores with lower prices. Other potential factors include the limited awareness that participants had of the purpose of the demonstration and the reduction in TTHF participation by the time of the follow-up survey.

## Exhibit IV.4. Rates of food insecurity among children at baseline and follow-up in households with or without earned income




Source: Evaluation of Demonstration Projects to End Childhood Hunger, 2015–2016 baseline survey (n = 2,194) and 2017 follow-up survey (n = 1,623). Tabulations are weighted to be representative of all eligible households in the Kentucky TTHF demonstration and prepared by Mathematica Policy Research.

Notes: Earnings were measured at baseline. Treatment-control differences are not statistically significantly less than zero at the 0.05 level, one-tailed test. Rates of FI-C at follow-up displayed in the exhibit are not adjusted to account for baseline FI-C and thus differ from those shown in Chapter III.

FI-C = food insecurity among children, TTHF = Ticket to Healthy Food.

For the TTHF benefits to have reduced FI-C, households would have needed to increase their overall food purchases, including SNAP and out-of-pocket spending, in response to the additional TTHF benefits. The results of this study suggest that this did occur: combined food spending in the treatment group was $20 higher than in the control group, on average. In other words, food spending increased by nearly the full $22 average benefit provided by the project. Further, this pattern held among households with earned income, indicating that the larger benefits this group received translated into larger increases in overall food spending.

Why did these increases not lead to measurable reductions in FI-C? One possibility is that the increase in food spending of $20 was not large enough to lead to a substantial increase in the amount of food in the household. As one focus group discussant noted, *"Mine's like $19 a month that I get. And yeah, it helps, every little bit helps, but you know, that doesn't go very far nowadays."* In the SEBTC evaluation, in which increases to households' food resources led to reductions in food insecurity, there was a larger effect of the intervention on food spending. In that case, treatment households spent $53 more on food than control households, on average (Collins et al. 2016). Under the TTHF, the $20 increase in household food spending amounts to just over $5 each month per household member, or about seven meals for a food-secure person (or two meals for the entire household) over the course of the month (Feeding America 2017). It is worth noting, however, that project benefits did not reduce food insecurity even among households with earnings that received larger increases in SNAP benefits ($37, on average).

The project may have led to changes among treatment households not measured by the main food insecurity measure. For example, the extra SNAP benefits may have improved some aspects of the households' food security situation, but the changes may not have been large enough to register in the set of items used to measure food insecurity. Alternatively, if households used the extra SNAP benefits to purchase more foods such as fresh fruit or vegetables that are healthier but more expensive, even less additional food would have come into the household as a result of the project.

Another possible explanation for the lack of effects on food insecurity is that some households may face nonfinancial barriers to food security. In particular, barriers such as physical or mental health challenges may prevent some households from attaining food security (Anderson et al. 2016). Poverty and low income are associated with a variety of adverse health outcomes, including higher rates of infant mortality, shorter life expectancy, and higher rates of chronic disease (American Academy of Family Practitioners 2015). Research has shown that households that experience very low food security also experience unmet health needs, poor health outcomes, depression, and disability (Choi et al. 2017). The additional resources for purchasing food may be welcomed by these households but may not be sufficient to help recipients overcome those barriers.

## D. Limitations of the study

Although the evaluation of Kentucky's TTHF project has identified findings that can inform discussions of policies to reduce childhood hunger, it nonetheless has limitations that should be kept in mind when considering the study's implications:

- The evaluation was conducted in a region that faces distinctive challenges, including rugged terrain and much longer travel distances than SNAP participants nationwide (Ver Ploeg et al. 2015). The study population also differs in important ways from national populations that may be of interest: in particular, 39% of households contained an employed adult, compared with 55% of SNAP households with children nationwide. Additionally, 44% of TTHF households received SSI compared to 21% of SNAP households nationally (Lauffer 2017). Among TTHF households, 37% experienced FI-C compared with 24% among households living in poverty nationwide (Coleman-Jensen et al. 2017). As a result, study findings do not necessarily reflect what the impacts of this project would have been among populations in other areas.
- The survey could not include every measure of potential interest to food security, so some meaningful changes in behavior or well-being as a result of the project may have gone undetected. For example, the survey instrument asked respondents to describe features of the store where they buy most of their food, so changes in trips to stores that were not the main source of food would not be measured. Similarly, if the extra SNAP benefits allowed households to buy more nutritious food, it might improve well-being, but the survey in Kentucky did not include questions on the types of foods purchased or food quality. In addition, the survey did not include questions on households' disability statuses due to space limitations. Gathering information on the prevalence of disability would have shed light on potential barriers to food security other than financial means.
- Specific features of the project design presented challenges when evaluating its impact. The determination of project benefits based on earned income might improve its policy relevance

by strengthening the program's work incentives. However, this targeting mechanism made it more difficult to assess whether increases in benefits could be expected to improve the project's effectiveness. Specifically, the households that received larger benefits—households with more earned income—were different in important ways from those receiving smaller benefits.

## E. Conclusions

This study examined the impact of the Kentucky TTHF project, which was designed to reduce FI-C by providing extra SNAP benefits to households with children through new deductions in the SNAP benefit formula. Overall, the project did not reduce FI-C or lead to measurable improvements on other measures of 30-day food security. This outcome might have been related to the size of the project benefit or its targeting. The project delivered an average benefit of $22 but provided much larger average benefits to households with earned income ($37) than those without it. Given that the former also exhibited a lower baseline rate of FI-C (roughly 30%) than the latter (about 40%), this design decision might have influenced the project's effectiveness. The average project benefit of $22 led to a $20 increase in monthly food spending—the equivalent of about two meals for a family of four. This increase in spending may not have been large enough to reduce food insecurity as measured by the standard survey module, although the study could not rule out effects on other aspects of well-being.

Future research should attempt to better understand why the benefits provided by this project and the resulting increase in food spending did not lead to reductions in food insecurity. Given evidence from other studies that SNAP benefits have reduced food insecurity (Gundersen and Ziliak 2014; Mabli et al. 2013; Schanzenbach 2013) and that additional EBT funds can meaningfully improve FI-C (Collins et al. 2016), more research is needed to understand the specific conditions and benefit amounts that can lead to measurable reductions. Are certain households more likely to benefit from extra SNAP funds than others, and are there specific junctures (for example, at the end of the school year or following an abrupt change in household circumstances) when these funds are most effective? In other words, might the amount of funds provided to households with earned income have been enough to affect food security if it had been targeted to a different set of households? Or were there other, non-economic barriers that prevented the project benefits from reducing food insecurity? This study and future research in this area can provide a more solid foundation of evidence to inform efforts to enhance children's food security.

**This page has been left blank for double-sided copying.**

## REFERENCES

American Academy of Family Practitioners. "Poverty and Health - The Family Medicine Perspective (Position Paper)." 2015 Available at: https://www.aafp.org/about/policies/all/policy-povertyhealth.html.

Anderson, Patricia M., Kristin F. Butcher, Hilary W. Hoynes, and Diane Whitmore Schanzenbach. "Beyond Income: What Else Predicts Very Low Food Security Among Children?" *Southern Economic Journal*, vol. 82, no. 4, 2016, pp. 1078–1105.

Bartlett, Susan, Jacob Klerman, Lauren Olsho, Christopher Logan, Michelle Blocklin, Marianne Beauregard, Ayesha Enver, Parke Wilde, Cheryl Owens, and Margaret Melhem. "Evaluation of the Healthy Incentives Pilot (HIP): Final Report." Prepared by Abt Associates for the U.S. Department of Agriculture, Food and Nutrition Service, September 2014. Available at https://fns-prod.azureedge.net/sites/default/files/ops/HIP-Final.pdf.

Briefel, Ronette, Micah Melia, Bonnie Harvey, Sarah Forrestal, Gregory Chojnacki, Pia Caronongan, Andrew Gothro, Charlotte Cabili, Rebecca Kleinman, Vivian Gabor, Nicholas Redel, and Philip Gleason. "Evaluation of Demonstration Projects to End Childhood Hunger (EDECH): Final Interim Evaluation Report." Report submitted to the U.S. Department of Agriculture, Food and Nutrition Service. Washington, DC: Mathematica Policy Research, February 2018. Available at https://www.fns.usda.gov/evaluation-demonstration-projects-end-childhood-hunger-edech-final-interim-evaluation-report

Castner, Laura and Juliette Henke. "Benefit Redemption Patterns in SNAP." Report submitted to the U.S. Department of Agriculture, Food and Nutrition Service. Washington, DC: Mathematica Policy Research, February 2011. Available at: https://fns-prod.azureedge.net/sites/default/files/ARRASpendingPatterns.pdf.

Center for Nutrition Policy and Promotion. "USDA Food Plans." Available at https://www.cnpp.usda.gov/USDAFoodPlansCostofFood.

Center on Budget and Policy Priorities. "A Quick Guide to SNAP Eligibility and Benefits." September 14, 2017. Available at https://www.cbpp.org/research/a-quick-guide-to-snap-eligibility-and-benefits.

Chilton, Mariana, Jenny Rabinowich, Amanda Breen, and Sherita Mouzon. "When the systems fail: Individual and household coping strategies related to child hunger." 2013. Washington, DC: National Academy of Sciences. Available at https://sites.nationalacademies.org/cs/groups/dbassesite/documents/webpage/dbasse_084305.pdf.

Choi, Seul Ki, Maryah Fram, and Edward Frongillo. "Very Low Food Security in US Households Is Predicted by Complex Patterns of Health, Economics, and Service Participation." *Journal of Nutrition*, vol. 147, 2017, pp. 1992–2000.

Chojnacki, Gregory and Andrew Gothro. "Evaluation of Demonstrations to End Childhood Hunger (EDECH): Summary of Operations Site Visit to Kentucky." Report submitted to the U.S. Department of Agriculture, Food and Nutrition Service. Washington, DC: Mathematica Policy Research, December 2017.

Coleman-Jensen, Alisha, William McFall, and Mark Nord. "Food Insecurity in Households with Children: Prevalence, Severity, and Household Characteristics, 2010–11." *ERS Economic Information Bulletin*, no. 113. Washington, DC: United States Department of Agriculture, Economic Research Service, May 2013.

Coleman-Jensen, Alisha, Matthew P. Rabbitt, Christian A. Gregory, and Anita Singh. "Household Food Security in the United States in 2016." ERS Report no. 237. Washington, DC: United States Department of Agriculture, Economic Research Service, September 2017.

Collins, Ann M., Ronette Briefel, Jacob Alex Klerman, Anne Wolf, Gretchen Rowe, Chris Logan, Ayesha Enver, Syeda Fatima, Anne Gordon, and Julia Lyskawa. "Summer Electronic Benefits Transfer for Children (SEBTC) Demonstration: Summary Report." Report submitted to the U.S. Department of Agriculture, Food and Nutrition Service. Cambridge, MA: Abt Associates, May 2016.

Committee on Examination of the Adequacy of Food Resources and SNAP Allotments; Food and Nutrition Board; Committee on National Statistics; Institute of Medicine; National Research Council. *Supplemental Nutrition Assistance Program: Examining the Evidence to Define Benefit Adequacy*, edited by Julie A. Caswell and Ann L. Yaktine. Washington, DC: National Academies Press, 2013. Available at https://www.ncbi.nlm.nih.gov/books/NBK206911/.

Economic Research Service, U.S. Department of Agriculture. "Rural Poverty and Well-being." 2015. Available at https://www.ers.usda.gov/data-products/county-typology-codes/.

Economic Research Service, U.S. Department of Agriculture. "Definitions of Food Security." 2017a. Available at https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/definitions-of-food-security/.

Economic Research Service, U.S. Department of Agriculture. "Food Security in the U.S., History & Background." 2017b. Available at https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/history-background.

Economic Research Service, U.S. Department of Agriculture. "Food Security in the U.S., Survey Tools." 2017c. Available at https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/survey-tools.

Economic Research Service, U.S. Department of Agriculture. "County Typology Codes." *ERS County Typology Codes, 2015 Edition: Persistent Poverty and Persistent Child Poverty Counties*. 2018. Available at https://www.ers.usda.gov/topics/rural-economy-population/rural-poverty-well-being/.

Edin, Kathryn, Melody Boyd, James Mabli, Jim Ohls, Julie Worthington, Sara Greene, Nicholas Redel, and Swetha Sridharan. "Final Report: SNAP Food Security In-Depth Interview Study." Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service, March 2013.

Federal Grants. "USDA FNS SNAP E&T Grants." 2018. Available at: http://www.federalgrants.com/USDA-FNS-SNAP-E-and-T-Pilots-47791.html.

Feeding America. "Map the Meal Gap." 2017. Available at http://www.feedingamerica.org/research/map-the-meal-gap/2015/2015-mapthemealgap-one-pager.pdf.

Food and Nutrition Service. "Programs and Services." 2016. Available at https://www.fns.usda.gov/programs-and-services.

Food and Nutrition Service. "Healthy Hunger-Free Kids Act." 2017a. Available at https://www.fns.usda.gov/school-meals/healthy-hunger-free-kids-act.

Food and Nutrition Service. "USDA Promises New SNAP Flexibilities to Promote Self-Sufficiency." 2017b. Available at https://www.fns.usda.gov/pressrelease/2017/016317.

Food and Nutrition Service. "Demonstration Projects to End Childhood Hunger." 2018a. Available at https://www.fns.usda.gov/ops/demonstration-projects-end-childhood-hunger

Food and Nutrition Service. "National School Lunch Program: Participation and Lunches Served." 2018b. Available at https://www.fns.usda.gov/sites/default/files/pd/slsummar.pdf.

Food and Nutrition Service. "Supplemental Nutrition Assistance Program (SNAP)." 2018c. https://www.fns.usda.gov/snap/eligibility.

Food and Nutrition Service. "Supplemental Nutrition Assistance Program Participation and Costs." 2018d. Available at https://www.fns.usda.gov/sites/default/files/pd/SNAPsummary.pdf.

Food and Nutrition Service. "WIC Program Participation and Costs." 2018e. Available at https://www.fns.usda.gov/sites/default/files/pd/wisummary.pdf.

Gundersen, Craig and James Ziliak. "Childhood Food Insecurity in the U.S.: Trends, Causes, and Policy Options." The Future of Children. Princeton, NJ: Brookings. Fall 2014. Available at https://futureofchildren.princeton.edu/sites/futureofchildren/files/media/childhood_food_insecurity_researchreport-fall2014.pdf

Islam, T.M. Tonmoy, Jenny Minier, and James P. Ziliak. "On Persistent Poverty in a Rich Country." *Southern Economic Journal*, vol. 81, no. 3, 2015, pp. 653–678.

Katare, B. and J. Kim. "Effects of the 2013 SNAP Benefit Cut on Food Security." *Applied Economic Perspectives and Policy*, vol. 39, no. 4, December 2017, pp. 662–681.

Kentucky Promise Zone. "Kentucky Highlands Promise Zone." 2016. Available at http://www.kypromisezone.com/.

Lauffer, Sarah. "Characteristics of Supplemental Nutrition Assistance Program Households: Fiscal Year 2016." Final report submitted to the U.S. Department of Agriculture, Food and Nutrition Service, Office of Research and Analysis. Washington, DC: Mathematica Policy Research, October 2017.

Mabli, James. "SNAP Participation, Food Security, and Geographic Access to Food." Report submitted to the U.S. Department of Agriculture, Food and Nutrition Service. Washington, DC: Mathematica Policy Research, March 2014. Available at https://fns-prod.azureedge.net/sites/default/files/SNAPFS_FoodAccess.pdf.

Mabli, James, Jim Ohls, Lisa Dragoset, Laura Castner, and Betsy Santos. "Measuring the Effect of Supplemental Nutrition Assistance Program (SNAP) Participation on Food Security." Report submitted to the U.S. Department of Agriculture, Food and Nutrition Service. Washington, DC: Mathematica Policy Research, August 2013. Available at https://fns-prod.azureedge.net/sites/default/files/Measuring2013.pdf.

Melia, Micah and Andrew Gothro. "Evaluation of Demonstrations to End Childhood Hunger (EDECH): Summary of Pre-Implementation Site Visit to Kentucky." Report submitted to the U.S. Department of Agriculture, Food and Nutrition Service. Washington, DC: Mathematica Policy Research, December 2016.

National Research Council and Institute of Medicine. "Research Opportunities Concerning the Causes and Consequences of Child Food Insecurity and Hunger: A Workshop Summary." Kirkendall, N., C. House, C.F. Citro, Rapporteurs. Committee on National Statistics, Division of Behavioral and Social Sciences and Education. Food and Nutrition Board, Institute of Medicine. Washington, DC: National Academies Press, 2013.

Nord M. "Youth are Less Likely to be Food Insecure than Adults in the Same Household." *Journal of Hunger and Environmental Nutrition*, vol. 8, no. 2, 2013, pp.146–163.

Nord M, Coleman-Jensen A, Gregory C. "Prevalence of U.S. Food Insecurity Is Related to Changes in Unemployment, Inflation, and the Price of Food." ERR-167. Washington, DC: U.S. Department of Agriculture, Economic Research Service, June 2014.

Nord, Mark and Lynn Parker. "How adequately are food needs of children in low-income households being met?" *Children and Youth Services Review,* vol. 32, no. 9, 2010, pp.1175-1185.

Nord, Mark, and Mark Prell. "Food Security Improved Following the 2009 ARRA Increase in SNAP Benefits." ERR-116. Washington, DC: U.S. Department of Agriculture, Economic Research Service, April 2011.

Rossi, Peter H., Mark W. Lipsey, and Howard E. Freeman. Evaluation: A Systematic Approach, 7th ed. Thousand Oaks, Calif.: Sage, 2004. Schanzenbach, Diane Whitmore. "Strengthening SNAP for a More Food-Secure, Healthy America." Discussion Paper 06-2013. Washington DC: Brookings. The Hamilton Project. Available at http://www.hamiltonproject.org/assets/legacy/files/downloads_and_links/THP_SchDiscPaper_pages_Final.pdf.

Tiehen, Laura, Constance Newman, and John A. Kirlin. "The Food-Spending Patterns of Households Participating in the Supplemental Nutrition Assistance Program: Findings from USDA's FoodAPS." EIB-176. U.S. Department of Agriculture, Economic Research Service, August 2017.

U.S. Census Bureau. "Annual Estimates of the Resident Population for Selected Age Groups by Sex for the United States, States, Counties, and Puerto Rico Commonwealth and Municipios: April 1, 2010 to July 1, 2017." 2017. Available at https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t .

U.S. Census Bureau. "POV46: Poverty Status by State: 2014. Below 100% and 50% of Poverty—People Under 18 Years of Age." n.d. Available at https://www.census.gov/data/tables/time-series/demo/income-poverty/cps-pov/pov-46.2014.html.

U.S. Census Bureau. "Poverty Thresholds by Size of Family and Number of Children." n.d. Available at https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-poverty-thresholds.html.

U.S. Congress, 111th Congress, S.3307 - Healthy, Hunger-Free Kids Act of 2010. P.L. 111-296, 2010. Available at https://www.congress.gov/bill/111th-congress/senate-bill/3307.

U.S. Department of Agriculture. "2017 Report to Congress." 2018. Available at https://fns-prod.azureedge.net/sites/default/files/ops/ChildhoodHunger-2017Congress.pdf.

U.S. Department of Agriculture. "StrikeForce Initiative for Rural Growth and Opportunity." January 2016. Available at https://www.usda.gov/sites/default/files/documents/ky-strikeforce-info-0115.pdf.

U.S. Department of Labor, Bureau of Labor Statistics (BLS). "Local Area Unemployment Statistics. Labor Force Data by County, 2014 Annual Averages." 2017a. Available at https://www.bls.gov/lau/#data.

U.S. Department of Labor, Bureau of Labor Statistics (BLS). "Local Area Unemployment Statistics. Labor force data by county, not seasonally adjusted, latest 14 months." 2017b. Available at https://web.archive.org/web/20170713063834/https:/www.bls.gov/web/metro/laucntycur14.zip.

U.S. Department of Labor, Bureau of Labor Statistics (BLS). "Local Area Unemployment Statistics. Labor force data by county, not seasonally adjusted, latest 14 months." 2018a. Available at https://www.bls.gov/lau/#cntyaa.

U.S. Department of Labor, Bureau of Land Statistics (BLS). "Local Area Unemployment Statistics. Labor force data by state, not seasonally adjusted, January 2016 to August 2018." 2018b. Available at https://www.bls.gov/lau/#data.

U.S. Department of Labor, Bureau of Labor Statistics (BLS). "Local Area Unemployment Statistics. Unemployment Rates for States, 2014 Annual Averages." 2017c. Available at https://www.bls.gov/lau/lastrk14.htm.

U.S. Department of Labor, Bureau of Labor Statistics (BLS). "Local Area Unemployment Statistics Map." 2018c. Available at https://data.bls.gov/map/MapToolServlet?survey=la&map=state&seasonal=u.

Ver Ploeg, Michele, Elizabeth Larimore, and Parke Wilde. "The Influence of Food Store Access on Grocery Shopping and Food Spending." EIB-180. U.S. Department of Agriculture, Economic Research Service, October 2017. Available at: https://www.ers.usda.gov/webdocs/publications/85442/eib-180.pdf?v=43024.

Ver Ploeg, Michele, Lisa Mancino, Jessica E. Todd, Dawn Marie Clay, and Benjamin Scharadin. "Where Do Americans Usually Shop for Food and How Do They Travel to Get There? Initial Findings from the National Household Food Acquisition and Purchase Survey." EIB-138. U.S. Department of Agriculture, Economic Research Service, March 2015.

# APPENDICES

**This page has been left blank for double-sided copying.**

# CONTENTS

**This page has been left blank for double-sided copying.**

# APPENDIX A

# STUDY DESIGN AND ANALYTIC METHODS

**This page has been left blank for double-sided copying.**

# A.1. STUDY DESIGN: SAMPLING, RANDOM ASSIGNMENT, AND ANALYSIS

This appendix describes the sampling design, random assignment, and analysis methods for the evaluation of the Kentucky Ticket to Healthy Food (TTHF) project. This design was used to estimate impacts of the project on household food security and other outcomes.

## A. Sampling design and random assignment

The target population for the Kentucky project included households participating in SNAP as of November 2016 in the 17 counties[1] participating in the study with an adult head, children under age 18, positive net income, and that were not participating in the SNAP Employment and Training (SNAP E&T) evaluation.[2,3] The estimates from the study reflect the impacts of the Kentucky project just for this population in these counties and as such may not be generalizable to other areas in Kentucky, points in time, or types of households. The study team received an initial listing of the full eligible population in July 2016. From that sample frame, a sample was selected for the baseline survey, the baseline survey was administered, study eligibility was confirmed, and then random assignment was conducted in December 2016. Households assigned to receive project benefits first got the extra SNAP benefits in January 2017.

***Initial sampling.*** The initial sampling frame consisted of 12,399 households. A random sample of 6,006 was selected from this frame in July 2016. This was a stratified random sample, with stratification by county and presence or absence of earnings. There was no clustering. From this sample of 6,006 households, a randomly selected subsample of 4,504 households were released and targeted for the baseline survey.

***Baseline survey.*** Between August and November 2016, the baseline survey was administered. During the process of conducting the baseline survey, approximately 25% of the

[1] Bell, Breathitt, Clay, Floyd, Harlan, Johnson, Knott, Knox, Lee, Leslie, Letcher, Magoffin, Owsley, Perry, Pike, Whitley, and Wolfe counties.

[2] The SNAP E&T evaluation was a separate study sponsored by the U.S. Department of Agriculture that provided a different set of benefits (enhanced employment and training and related services) to selected SNAP households in a subset of the same counties in the EDECH study. Households included in the population being studied by the SNAP E&T evaluation were excluded from the EDECH study population so that households in either the treatment or control group did not receive a separate set of demonstration benefits which could affect their receipt of SNAP, earnings, or food security.

[3] Households on SNAP, with children less than 18, and positive net income were initially identified in July 2016. To remain eligible, as of November 2016 these households had to have remained on SNAP in Kentucky, had to have net income greater than zero, had to live in a county within the demonstration area, and had to have at least one child in the household who would be under the age of 18 at the end of the demonstration (as well as to not be participating in the SNAP E&T evaluation).

households contacted were determined to be ineligible.[4] Ultimately, 2,202 households completed the baseline survey and remained eligible for project benefits.[5]

Households' eligibility for the evaluation sample was based on whether or not they completed the baseline survey. Households that completed the baseline survey and remained otherwise eligible for project benefits were included in the evaluation sample; all others were excluded. However, households that did not complete the baseline survey remained eligible for project benefits and, among the sample selected for the survey, whether or not the household completed the survey did not affect their likelihood of receiving benefits.

Because the evaluation sample excludes households that did not complete the baseline survey, sample weights were constructed to ensure that the evaluation sample is representative of the full target population described above covering the eligible portion of the 12,399 households (see Appendix A.3 for a description of the sample weights). Since random assignment was conducted after the baseline survey was administered, households' propensity to complete the baseline survey was not related to their randomly assigned treatment status, by design. In other words, any differences between the treatment and control groups cannot have occurred because of differences between the groups in the probability of completing the baseline survey.

***Random assignment.*** As noted above, households were required to remain on SNAP through November 2016 to be eligible for project benefits, so administrative data from Kentucky were used to identify and exclude any households from the initial sampling frame that had left SNAP by that month. Among the 2,202 households that remained in the evaluation sample, random assignment was conducted in late November 2016. Households were randomly assigned into either the treatment group or the control group. Households assigned to the treatment group were eligible to receive additional benefits for each month they remained on SNAP during the intervention period of January 2017 through March 2018. Households assigned to the control group received their normal SNAP benefits during the intervention period (if they remained on SNAP).

Stratified random assignment was used, with strata formed on the basis of the household's county and presence or absence of earnings. Within each stratum, approximately half of the households were assigned to each group. When the number of households in a given stratum was not divisible by two, any additional households were assigned to the treatment or control group at random. Ultimately, a few more of these households were assigned to the treatment group, so that a total of 1,103 households were assigned to the treatment group and 1,099 households were assigned to the control group.

[4] Households were determined to be ineligible during baseline data collection if the household was no longer enrolled in SNAP, no longer had an age-eligible child in the household, or no longer lived in the demonstration area.

[5] Briefel et al. (2018) compares the characteristics of the 2,202 households that responded to the baseline survey with the characteristics of nonrespondents and of the sample frame of 11,296 eligible households. Characteristics were similar among these three groups; the only statistically significant difference was that survey respondents were less likely to have earned income than households in the eligible sample frame as a whole. Once sampling weights are applied, the weighted proportion of households with earnings among respondents is similar to the proportion in the eligible sample frame as a whole.

Among households selected for the baseline survey sample that did not complete the survey but remained eligible for project benefits, a random assignment process with the same probability of selection into the treatment group, but without stratification, was used to determine which of these households would receive benefits. Finally, among households not selected for the baseline survey sample, a simple (non-stratified) random assignment process was conducted to select those that would fill the remaining open slots to receive project benefits.

***Characteristics of evaluation sample households assigned to the treatment and control groups.*** Random assignment should have ensured that households in treatment and control groups had similar characteristics at baseline. To confirm that this was the case, this section presents baseline characteristics of these groups, using an approach similar to the approach used in the impact analysis. In particular, the section shows baseline characteristics the two groups both for the full group of households that completed the baseline survey (the evaluation sample) and the subset that also completed the follow-up survey and were used in the impact analysis.

Treatment and control households had similar characteristics at baseline, as expected in groups created by random assignment. Out of the characteristics measured at baseline, none had statistically significant differences between the two groups with the exception that the treatment group had a slightly smaller household size (3.6 members versus 3.8 in the control group, and 2.0 children in the treatment group versus 2.1 in the control group) (Exhibit A.1). On average, households in the sample of baseline survey respondents had between three and four members, including two children. A little over half of households (56–57%) reported food insecurity among adults, and 37% reported food insecurity among children. About four in 10 households had at least one member employed, and the median monthly income was $1,000.

## Exhibit A.1. Household characteristics at baseline, baseline survey respondents

| Characteristic | Treatment | Control | Difference[a] | p-value |
|---|---|---|---|---|
| **Household (HH) size** | | | | |
| Mean number of HH members who share food | 3.6 | 3.8 | -0.2 (0.1) | 0.007 |
| Mean number of children in household | 2.0 | 2.1 | -0.1 (0.0) | 0.016 |
| **Age of children (%)** | | | | |
| Less than 5 years | 41.1 | 39.8 | 1.3 | 0.545 |
| 5 to 11 years | 60.5 | 59.8 | 0.7 | 0.742 |
| 12 to 17 years | 42.8 | 46.3 | -3.4 | 0.106 |
| 18 years (or older if still in school) | 3.8 | 4.0 | -0.2 | 0.803 |
| **Single adult household** | 46.2 | 44.3 | 1.9 | 0.387 |
| **Median HH income last month ($)[b]** | 1,000 | 1,000 | 0 (27) | 0.999 |
| **Any household adult employed in last 30 days (%)** | 39.7 | 39.2 | 0.4 | 0.835 |
| **Nutrition benefit program participation (% unless noted)[c]** | | | | |
| Reported currently receiving SNAP[d] | 100.0 | 100.0 | 0.0 | -- |
| Reported receiving SNAP during all of the previous year | 86.4 | 86.4 | 0.0 | 0.988 |
| Baseline SNAP benefit ($)[e] | 338 | 350 | -12 | 0.150 |

| Characteristic | Treatment | Control | Difference[a] | p-value |
|---|---|---|---|---|
| Reported receiving WIC | 26.9 | 28.8 | -1.9 | 0.328 |
| Reported receiving food from pantry, emergency kitchen or other community program | 19.4 | 19.4 | 0.0 | 0.999 |
| Reported receiving FRPL | 74.4 | 74.5 | -0.1 | 0.969 |
| Reported receiving FRPB | 67.8 | 67.5 | 0.3 | 0.871 |
| Reported receiving any child nutrition benefits outside school hours[f] | 28.4 | 25.7 | 2.7 | 0.157 |
| **HH food security status (%)** | | | | |
| Insecure | 58.4 | 59.5 | -1.1 | 0.594 |
| VLFS | 32.1 | 34.5 | -2.4 | 0.233 |
| **Adult food security status (%)** | | | | |
| Insecure | 55.9 | 56.7 | -0.8 | 0.699 |
| VLFS | 31.8 | 34.0 | -2.1 | 0.288 |
| **Child food security status (%)** | | | | |
| Insecure | 36.7 | 36.9 | -0.2 | 0.935 |
| VLFS | 3.3 | 4.5 | -1.2 | 0.136 |
| **Reported monthly HH mean out-of-pocket food expenditures ($)**[f] | 196 | 200 | -4 (6) | 0.562 |
| **Reported monthly per person out-of-pocket mean food expenditures ($)** | | | | |
| Total out-of-pocket expenditures[g] | 58 | 57 | 0 (2) | 0.956 |
| Food expenditures at supermarkets, grocery stores, and other types of stores[g] | 45 | 46 | 0 (2) | 0.851 |
| Expenditures at restaurants[h] | 12 | 12 | 0 (1) | 0.701 |
| **Respondent race/ethnicity** | | | | 0.510 |
| Hispanic, all races | 1.3 | 1.2 | 0.1 | |
| Black, non-Hispanic | 1.7 | 0.9 | 0.7 | |
| White, non-Hispanic | 93.1 | 94.0 | -1.0 | |
| Other, non-Hispanic | 4.0 | 3.8 | 0.2 | |
| **Respondent age** | | | | 0.601 |
| Under 40 | 59.4 | 60.5 | -1.1 | |
| 40 or older | 40.6 | 39.5 | 1.1 | |
| **Respondent health status** | | | | 0.169 |
| Excellent, very good, or good | 52.5 | 55.4 | -3.0 | |
| Fair or poor | 47.5 | 44.6 | 3.0 | |
| Sample size | 1,103 | 1,099 | | |

Source: Evaluation of Demonstration Projects to End Childhood Hunger, 2016 baseline survey. Tabulations are weighted to be representative of all eligible households in the Kentucky demonstration and prepared by Mathematica Policy Research.

Note: For continuous measures, reported p-values are obtained from two-tailed t-tests of statistically significant differences; for binary measures, p-values are from chi-squared tests of independence. Tests of statistical significance were not conducted for differences between treatment and control households in the percentage with a child under age 5 and the percentage participating in SNAP, since project eligibility criteria required that households have these characteristics.

[a] The difference shown in this column may not be exactly equal to the absolute T-C difference because of rounding.

[b] Includes all earnings, Social Security, pensions, Veteran's benefits, unemployment insurance, workers' compensation benefits, child support, payments from roomers and borders, TANF, and SSI for all household members.

[c] Calculated for all households as a descriptive variable and not constrained to only those households that are eligible for a specific program listed.

[d] Based on SNAP administrative records.

[e] December 2016 basic (non-TTHF) SNAP benefit, from the SNAP caseload data.

[f] Sum total of reported out-of-pocket food expenditures at stores and restaurants in the last 30 days. Excludes purchases made with SNAP and WIC.

[g] Out-of-pocket expenditures on food at supermarkets, grocery stores, and other stores. Excludes purchases made with SNAP and WIC.

[h] Includes carryout, drive through, and all types of restaurants.

EBT = Electronic Benefits Transfer; FRPB = free or reduced-price breakfast; FRPL = free or reduced-price lunch; HH = household; SNAP = Supplemental Nutrition Assistance Program; SSI= Supplemental Security Income; TANF = Temporary Assistance for Needy Families; TTHF = Ticket to Healthy Food; VLFS = very low food security; WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

Even if these groups are similar at baseline, it is possible that the main impact analysis was based on a sample in which the treatment and control groups were not equivalent, since only households that completed the follow-up survey were included in the analysis of project impacts on the key study outcomes. However, among households that completed the follow-up survey, those in the treatment and control group had similar characteristics at baseline. Out of the characteristics measured at baseline, there were no statistically significant differences between the treatment group and the control group that responded to the follow-up survey (Exhibit A.2).

Household characteristics within the sample of follow-up survey respondents were similar to the characteristics of the broader sample that responded to the baseline survey. On average, households in the sample of baseline survey respondents had between three and four members, including two children. A little over half of households (56-57%) reported food insecurity among adults, and 37% reported food insecurity among children. About 40% of households had at least one member employed, and the median monthly income was $1,000.

## Exhibit A.2. Household characteristics at baseline, follow-up survey respondents

| Characteristic | Treatment | Control | Difference[a] | p-value |
|---|---|---|---|---|
| **Household (HH) size** | | | | |
| Mean number of HH members who share food | 3.7 | 3.8 | -0.1 (0.1) | 0.054 |
| Mean number of children in household | 2.0 | 2.1 | -0.1 (0.1) | 0.127 |
| **Age of children (%)** | | | | |
| Less than 5 years | 40.9 | 39.3 | 1.6 | 0.525 |
| 5 to 11 years | 60.1 | 60.3 | -0.2 | 0.949 |
| 12 to 17 years | 43.0 | 47.2 | -4.3 | 0.086 |
| 18 years (or older if still in school) | 3.8 | 4.0 | -0.2 | 0.853 |
| **Single adult household** | 44.9 | 43.5 | 1.4 | 0.586 |
| **Median HH income last month ($)[b]** | 1,000 | 1,000 | 0 (29) | 0.999 |
| **Any household adult employed in last 30 days (%)** | 39.5 | 39.1 | 0.4 | 0.878 |
| **HH nutrition benefit program participation (% unless noted)[c]** | | | | |
| Reported currently receiving SNAP[d] | 100.0 | 100.0 | 0.0 | -- |

| Characteristic | Treatment | Control | Difference[a] | p-value |
|---|---|---|---|---|
| Reported receiving SNAP during all of the previous year | 87.0 | 88.2 | -1.2 | 0.487 |
| Baseline SNAP benefit ($)[e] | 343 | 347 | -4 (10) | 0.668 |
| Reported receiving WIC | 27.4 | 29.0 | -1.6 | 0.485 |
| Reported receiving food from pantry, emergency kitchen or other community program | 19.8 | 19.5 | 0.4 | 0.855 |
| Reported receiving FRPL | 73.5 | 73.0 | 0.4 | 0.845 |
| Reported receiving FRPB | 66.4 | 66.2 | 0.2 | 0.935 |
| Reported receiving any child nutrition benefits outside school hours[f] | 27.8 | 23.5 | 4.2 | 0.054 |
| **HH food security status (%)** | | | | |
| Insecure | 57.8 | 59.1 | -1.3 | 0.600 |
| VLFS | 32.4 | 35.2 | -2.8 | 0.243 |
| **Adult food security status (%)** | | | | |
| Insecure | 55.9 | 56.6 | -0.8 | 0.765 |
| VLFS | 32.1 | 34.6 | -2.6 | 0.281 |
| **Child food security status (%)** | | | | |
| Insecure | 36.8 | 36.5 | 0.3 | 0.916 |
| VLFS | 3.1 | 4.9 | -1.8 | 0.080 |
| **Reported monthly HH mean out-of-pocket food expenditures[f] ($)** | 195 | 199 | -4 (7) | 0.558 |
| **Reported monthly per person mean out-of-pocket food expenditures ($)** | | | | |
| Total out-of-pocket expenditures[f] | 56 | 57 | -1 (2) | 0.677 |
| Food expenditures at supermarkets, grocery stores, and other types of stores[g] | 44 | 46 | -1 (2) | 0.429 |
| Expenditures at restaurants[h] | 12 | 12 | 0 (1) | 0.513 |
| **Respondent race/ethnicity** | | | | 0.449 |
| Hispanic, all races | 1.2 | 0.7 | 0.5 | |
| Black, non-Hispanic | 1.5 | 0.9 | 0.7 | |
| White, non-Hispanic | 93.7 | 94.3 | -0.7 | |
| Other, non-Hispanic | 3.7 | 4.1 | -0.5 | |
| **Respondent age** | | | | 0.591 |
| Under 40 | 59.4 | 60.7 | -1.3 | |
| 40 or older | 40.6 | 39.3 | 1.3 | |
| **Respondent health status** | | | | 0.350 |
| Excellent, very good, or good | 51.7 | 54.1 | -2.4 | |
| Fair or poor | 48.3 | 46.0 | 2.4 | |
| Sample size | 830 | 809 | | |

Source: Evaluation of Demonstration Projects to End Childhood Hunger, 2016 baseline survey and 2017 follow-up survey. Tabulations are weighted to be representative of all eligible households in the Kentucky demonstration and prepared by Mathematica Policy Research.

Note: For continuous measures, reported p-values are obtained from two-tailed t-tests of statistically significant differences; for binary measures, p-values are from chi-squared tests of independence. Tests of statistical significance were not conducted for differences between treatment and control households in the percentage with a child under age 5 and the percentage participating in SNAP, since project eligibility criteria required that households have these characteristics.

[a] The difference shown in this column may not be exactly equal to the absolute T-C difference because of rounding.

[b] Includes all earnings, Social Security, pensions, Veteran's benefits, unemployment insurance, workers' compensation benefits, child support, payments from roomers and borders, TANF, and SSI for all household members.

[c] Calculated for all households as a descriptive variable and not constrained to only those households that are eligible for a specific program listed.

[d] Based on SNAP administrative records.

[e] December 2016 basic (non-TTHF) SNAP benefit, from the SNAP caseload data.

[f] Sum total of reported out-of-pocket food expenditures at stores and restaurants in the last 30 days. Excludes purchases made with SNAP and WIC.

[g] Out-of-pocket expenditures on food at supermarkets, grocery stores, and other stores. Excludes purchases made with SNAP and WIC.

[h] Includes carryout, drive through, and all types of restaurants.

EBT = Electronic Benefits Transfer; FRPB = free or reduced-price breakfast; FRPL = free or reduced-price lunch; HH = household; TTHF = Ticket to Healthy Food; SNAP = Supplemental Nutrition Assistance Program; SSI= Supplemental Security Income; TANF = Temporary Assistance for Needy Families; VLFS = very low food security; WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

Household and respondent characteristics at the time of the follow-up survey provide contextual information to support the interpretation of impact analysis results. Exhibit A.3 presents household characteristics at the time of the follow-up survey among survey respondents, by treatment group. The characteristics of households in the treatment and control groups were similar at follow-up. Out of the characteristics measured, there were no statistically significant differences between the two groups.

## Exhibit A.3. Household characteristics at follow-up

| Characteristic | Treatment | Control | Difference[a] | p-value |
|---|---|---|---|---|
| **Household (HH) size** | | | | |
| Mean number of HH members who share food | 3.7 | 3.8 | -0.1 (0.1) | 0.124 |
| **Number of children** | | | | |
| *Percentage of households with:* | | | | 0.235 |
| 1 child | 36.0 | 31.3 | 4.7 | |
| 2 children | 34.3 | 37.2 | -2.9 | |
| 3 or more children | 28.9 | 30.8 | -1.9 | |
| Mean number of children in household | 2.1 | 2.2 | -0.1 (0.1) | 0.163 |
| **Age of children** | | | | 0.225 |
| Less than 5 years | 37.7 | 34.7 | 3.0 | |
| 5 to 11 years | 61.6 | 61.3 | 0.3 | |
| 12 to 17 years | 47.0 | 52.1 | -5.0 | |
| 18 years (or older if still in school) | 7.0 | 6.2 | 0.8 | |
| **Any household adult employed in last 30 days (%)** | 39.8 | 40.0 | -0.2 | 0.930 |
| **Last month household income[b]** | | | | |
| Median ($) | 1,055 | 1,063 | -8 (40) | 0.843 |
| Mean ($) | 1,222 | 1,236 | -14 (42) | 0.729 |
| *Percentage of households* | | | | 0.098 |
| No income | 3.7 | 2.8 | 0.8 | |
| Positive income below 75% of poverty line | 70.5 | 68.3 | 2.2 | |
| 75% of poverty line to poverty line | 16.6 | 16.9 | -0.3 | |
| At or above 100% of poverty line but below 130% | 5.1 | 8.2 | -3.1 | |

| Characteristic | Treatment | Control | Difference[a] | p-value |
|---|---|---|---|---|
| At or above 130% of poverty line but below 185% | 2.2 | 2.8 | -0.5 | |
| At or above 185% of poverty line | 1.9 | 1.0 | 0.9 | |
| **Sources of income (%)** | | | | |
| Reported receiving TANF | 7.2 | 6.1 | 1.1 | 0.390 |
| Reported receiving Social Security | 32.8 | 33.2 | -0.4 | 0.852 |
| Reported receiving SSI or supplemental security income | 44.0 | 42.8 | 1.2 | 0.627 |
| Reported receiving veteran's benefits | 0.5 | 1.2 | -0.7 | 0.112 |
| Reported receiving unemployment insurance or workers' compensation benefits | 1.0 | 1.5 | -0.5 | 0.415 |
| Reported receiving child support payments | 15.4 | 15.2 | 0.2 | 0.903 |
| Reported receiving financial support from family and friends | 14.5 | 15.8 | -1.4 | 0.455 |
| Reported receiving any other income besides earnings | 0.3 | 0.5 | -0.2 | 0.484 |
| Reported none of the above | 25.4 | 27.7 | -2.3 | 0.316 |
| Sample size | 830 | 809 | | |

Source: Evaluation of Demonstration Projects to End Childhood Hunger, 2017 follow-up survey. Tabulations are weighted to be representative of all eligible households in the Kentucky demonstration and prepared by Mathematica Policy Research.

Note: For continuous measures, reported p-values are obtained from two-tailed t-tests of statistically significant differences; for binary measures, p-values are from chi-squared tests of independence.

[a] The difference shown in this column may not be exactly equal to the absolute T-C difference because of rounding.

[b] Includes all earnings, Social Security, pensions, Veteran's benefits, unemployment insurance, workers' compensation benefits, child support, payments from roomers and borders, TANF, and SSI for all household members.

HH = household; SNAP = Supplemental Nutrition Assistance Program; SSI= Supplemental Security Income; TANF = Temporary Assistance for Needy Families; WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

Respondent characteristics were also similar in the treatment and control groups at follow-up (Exhibit A.4). There were no significant differences in the demographic characteristics of respondents between treatment groups. Overall, respondents were non-Hispanic white and female.

Household size, composition, and employment were similar at the baseline and follow-up time points. There were no substantial changes sample-wide in the characteristics measured, except for the rate of SNAP participation, which is most likely due to households exiting the program and not being replaced by new enrollees, since the study sample does not include households that joined SNAP after the initial sampling for the baseline survey. Appendix Exhibit A.5 at the end of this section presents characteristics of the sample at baseline and follow-up.

## Exhibit A.4. Demographics of respondents at follow-up

| Characteristic | Treatment | Control | Difference[a] | p-value |
|---|---|---|---|---|
| **Gender** | | | | 0.734 |
| Male | 11.3 | 11.9 | -0.6 | |
| Female | 88.7 | 88.2 | 0.6 | |
| **Age** | | | | 0.391 |
| Under 20 years | 0.1 | 0.3 | -0.2 | |
| 20 to 29 years | 19.5 | 19.2 | 0.3 | |
| 30 to 39 years | 36.9 | 38.3 | -1.5 | |
| 40 to 49 years | 21.4 | 23.9 | -2.5 | |
| 50 to 59 years | 15.5 | 12.9 | 2.6 | |
| 60 years or older | 6.7 | 5.4 | 1.3 | |
| **Race/Ethnicity** | | | | 0.318 |
| Hispanic, all races | 0.8 | 0.5 | 0.3 | |
| Black, non-Hispanic | 1.3 | 1.0 | 0.3 | |
| White, non-Hispanic | 94.2 | 93.2 | 1.0 | |
| Other, non-Hispanic | 3.8 | 5.4 | -1.6 | |
| **Level of education** | | | | 0.253 |
| Less than high school | 29.6 | 30.6 | -1.0 | |
| High school graduate (or GED) | 41.6 | 37.1 | 4.5 | |
| Some college (including 2 year degree) | 25.9 | 29.5 | -3.6 | |
| Four year college degree or higher | 3.0 | 2.8 | 0.2 | |
| **Marital status** | | | | 0.545 |
| Married | 41.1 | 41.2 | -0.1 | |
| Living with partner | 5.4 | 6.2 | -0.9 | |
| Separated or divorced | 37.1 | 34.6 | 2.4 | |
| Widowed | 5.2 | 4.5 | 0.7 | |
| Never married | 11.3 | 13.4 | -2.1 | |
| **Reported health status** | | | | 0.065 |
| Excellent | 5.3 | 5.3 | -0.1 | |
| Very good | 13.8 | 18.6 | -4.8 | |
| Good | 34.8 | 29.7 | 5.1 | |
| Fair | 30.8 | 30.4 | 0.4 | |
| Poor | 15.3 | 16.0 | -0.7 | |
| Sample size | 829 | 806 | | |

Source: Evaluation of Demonstration Projects to End Childhood Hunger, 2017 follow-up survey. Tabulations are weighted to be representative of all eligible households in the Kentucky demonstration and prepared by Mathematica Policy Research.

Note: Chi-squared tests of independence were conducted to test for significant differences in proportions between the treatment and the control groups for each characteristic.

[a] The difference shown in this column may not be exactly equal to the absolute T-C difference because of rounding.

GED = general educational development.

## Exhibit A.5. Household characteristics at baseline and follow-up

| Characteristic | Mean (SE) or percentage | |
|---|---|---|
| | Baseline | Follow-Up |
| **Household size** | | |
| Mean number of household members who share food | 3.7 (0.03) | 3.8 (0.0) |
| Mean number of children in household | 2.1 (0.02) | 2.1 (0.0) |
| **Median household income last month ($)[a]** | 999 (11) | 1,058 (20) |
| **Any household adult employed in last 30 days** | 39.4 | 39.9 |
| **Household nutrition benefit program participation[b]** | | |
| Reported currently receiving SNAP[c] | 100.0 | 85.3 |
| Reported receiving WIC | 27.8 | 23.3 |
| Reported receiving food from food pantry, emergency kitchen, or other community program | 19.4 | 20.7 |
| **Adult food security status** | | |
| Insecure | 56.3 | 53.3 |
| VLFS | 32.9 | 30.1 |
| **Child food security status** | | |
| Insecure | 36.8 | 35.7 |
| VLFS | 3.9 | 3.9 |
| **Reported monthly out-of-pocket per-person mean food expenditures ($)** | | |
| Total out-of-pocket expenditures[d] | 58 (1) | 69 (1) |
| Food expenditures at supermarkets, grocery stores, and other types of stores[e] | 45 (1) | 55 (1) |
| Expenditures at restaurants[f] | 15 (0.3) | 14 (0) |
| Sample size | 3,088 | 1,639 |

Source: Evaluation of Demonstration Projects to End Childhood Hunger, 2015–2016 baseline survey and 2017 follow-up survey. Tabulations prepared by Mathematica Policy Research.

Note: Estimates are percentages unless otherwise noted. Tabulations are weighted to be representative of all eligible households in the Kentucky TTHF demonstration, based on the baseline weights. Calculations are based on the full evaluation sample, including households ultimately assigned to both treatment groups and the control group. Program participation questions generally reflected current participation at the time of the interview, defined as "during the last 30 days." Food security was measured using the 30-day survey module. VLFS is a subcategory within the food insecure category. Questions about food expenditures were asked about the last 30 days.

[a] Includes all earnings, Social Security, pensions, veteran's benefits, unemployment insurance, workers' compensation benefits, child support, payments from roomers and borders, TANF, and SSI for all household members but does not include SNAP or WIC.

[b] Calculated for all households as a descriptive variable and not constrained to only those households eligible for a specific program listed.

[c] Based on SNAP administrative records.

[d] Sum total of reported out-of-pocket food expenditures at stores and restaurants in the last 30 days. Excludes purchases made with SNAP and WIC. The sum is not equal to the sum of the two means because of missing data. If expenditures at either stores or restaurants are missing, then the total is missing.

[e] Out-of-pocket expenditures on food at supermarkets, grocery stores, and other stores. Excludes purchases made with SNAP and WIC.

[f] Includes carryout, drive through, and all types of restaurants.

TTHF = Kentucky Ticket to Healthy Foods Project; SNAP = Supplemental Nutrition Assistance Program; SSI = Supplemental Security Income; TANF = Temporary Assistance for Needy Families; VLFS = very low food security; WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

## B. Analysis approach

***Descriptive analysis.*** This study included several descriptive analyses to provide an overview of the baseline characteristics of the sample, describe key implementation outcomes, and analyze project costs. These analyses used survey, cost and administrative EBT data, and the descriptive analyses employed varied by characteristic. For continuous variables, such as income or food expenditures, means or medians were calculated. For categorical characteristics such as education level or households' participation in SNAP, proportions or frequency distributions were calculated. In all of these analyses, appropriate statistical tests were used (t-tests for comparing means and chi-square tests for comparing frequency distributions and proportions) to identify statistically significant treatment-control differences. In addition, the study's sampling weights were applied to the calculations, including the estimation of standard errors used in statistical inference.

***Impact analysis.*** The approach to estimating project impacts compared outcomes among the treatment group and the control group. Because the study's primary outcome (food insecurity among children) is a binary variable, a logistic regression model was used to estimate project impacts. To test whether the results were sensitive to the modeling approach, a linear probability model was also estimated as an alternative approach (see Appendix D.2 for results). The basic form of the model being estimated (whether through a logistic or linear regression) was:

$$(1) \qquad y_h = \alpha + \delta T_h + \beta X_h + \varepsilon_h$$

where $y_h$ is the outcome of interest (such as food insecurity among children) for household *h*, $\alpha$ is the regression intercept, $T_h$ is a binary indicator for being assigned to the treatment group (set equal to 1 for treatment households and 0 for control households), $X_h$ represents a set or vector of household characteristics, $\beta$ is a vector of regression coefficients for those characteristics, and $\varepsilon_h$ is the regression's residual. The parameters of interest is $\delta$, which represents the impact of the project—extra SNAP benefits—on the outcome.

Under well-implemented RCT designs that identify equivalent treatment and control groups at baseline, it may not be necessary to include covariates in the regression model to produce unbiased impact estimates. However, controlling for the characteristics of sample respondents can help to improve the precision of the impact estimates if those characteristics are associated with the outcome of interest, in this case (primarily) food insecurity among children, and if these factors are related to sample attrition. The model used to estimate impacts of the Kentucky project included a set of covariates, including the baseline level of the outcome measure (that is, baseline food insecurity among children). Other baseline covariates in the model included food insecurity among adults and very low food security among children and adults; the presence of a single adult in the household versus more than one; indicators for the presence of a teen in the household and presence of a child under age five; household income, employment status, and SNAP benefit and duration of participation; respondent age, health status, and race/ethnicity; baseline participation in WIC, school-based meal programs or other child nutrition programs, or food pantries; and indicator variables for the month of follow-up survey response.

In cases in which there was valid outcome data for a sample member but missing baseline data for a variable (e.g., because they failed to complete an item on the baseline survey), that sample member was included in the analysis with an imputed value of the baseline variable. For the remaining baseline covariates, missing data was imputed using an approach known as "dummy variable adjustment" (Puma et al. 2009). This approach assigned arbitrary values (zeroes) in place of missing values on baseline covariates and then defined missing "flag" indicator variables to identify observations with missing data on baseline covariates. In particular, when a household was missing the value of a particular covariate, that value was changed to zero so that the household could be included in the impact analysis. In order to account for the fact that the true value of that covariate for households with missing values was not zero, the model also included a binary missing value indicator variable. In principle, each covariate with missing values would have an indicator variable that could be included in the model, equal to one for a given household if the original value of the covariate was missing (and it had been imputed), and equal to zero otherwise. In practice, covariates capturing similar household characteristics were often missing for the same households. Thus, if a separate missing value indicator had been created for each covariate and all were included in the model, there would have been a severe problem with multicollinearity. As a result, single missing value indicator variables for related covariates were created and included in the model. This approach was implemented by defining six missing value indicator flags, which indicated missing data on (1) a baseline measure of monthly income, (2) duration of SNAP enrollment, (3) other household characteristics, (4) respondent characteristics, (5) program participation, and (6) food insecurity.[6] In each case, if any of the covariates included in that set had a missing value for a given household, the missing value indicator flag was set to one. If all of the covariates had valid values for a household, the missing value indicator flag was set to zero. These six missing value indicator flags were included in the impact model as additional covariates.[7] Exhibit A.6 presents the percentage of observations with missing values on each covariate.

## Exhibit A.6. Missing data on baseline covariates, among follow-up survey respondents

| Covariate | Number Missing | Percentage missing |
|---|---|---|
| Teenager in house[a] | 0 | 0.0 |
| Child(ren) aged 5 to 11 in house | 1 | 0.1 |
| Child(ren) under age 5 in house | 0 | 0.0 |
| Single adult household | 7 | 0.4 |

[6] The missing flag for "other household characteristics" indicated the presence of missing values on employment status or single adult household; the respondent characteristics missing flag covered respondent age and health status; the program participation missing flag covered five indicators for receipt of benefits from five sources: WIC, food pantry or other community program benefits, FRPL, FRPB, and any other child nutrition benefits outside of school hours, such as a snack, food backpack, or supper; the food insecurity missing flag covered all six FI indicators, FI-C, FI-A, FI-HH, VLFS-C, VLFS-A, and VLFS-HH.

[7] Analyses of impacts on food insecurity, program participation, and food spending included baseline measures of the outcome being analyzed in addition to the covariates mentioned above. When the baseline measure of the outcome had missing values, these were also imputed using the dummy variable adjustment approach described above, and a separate indicator for missing values specific to that baseline measure was also included in the covariate set unless it was collinear with one of the existing missing flags.

| Covariate | Number Missing | Percentage missing |
|---|---|---|
| Respondent age is 40 or greater | 20 | 1.2 |
| Health status | 13 | 0.8 |
| Race/ethnicity[b] | 35 | 2.1 |
| Adult food insecurity | 8 | 0.5 |
| Child food insecurity | 8 | 0.5 |
| Household food insecurity | 8 | 0.5 |
| Adult very low food security | 8 | 0.5 |
| Child very low food security | 8 | 0.5 |
| Household very low food security | 11 | 0.7 |
| A household member is currently employed | 6 | 0.4 |
| Monthly income | 35 | 2.1 |
| Total number of nutrition programs participating in | 19 | 1.2 |
| Reported currently receiving SNAP | 0 | 0.0 |
| Baseline SNAP benefit amount | 0 | 0.0 |
| Received WIC | 5 | 0.3 |
| Household was on SNAP for full prior year | 14 | 0.9 |
| Did not participate in any household nutrition programs | 0 | 0.0 |
| Received FRPB | 4 | 0.2 |
| Received FRPL | 4 | 0.2 |
| Received SBP | 6 | 0.4 |
| Received NSLP | 1 | 0.1 |
| Received any food from a program outside of school hours | 7 | 0.4 |
| Received a food backpack | 1 | 0.1 |
| Received food at a daycare or other center | 0 | 0.0 |
| Received afterschool snacks | 4 | 0.2 |
| Received supper | 6 | 0.4 |
| Did not participate in any child nutrition programs | 0 | 0.0 |
| Received food from a food pantry or other community program | 4 | 0.2 |
| Monthly out of pocket food spending | 31 | 1.9 |
| Monthly out of pocket food spending, per person | 31 | 1.9 |
| Monthly household spending at restaurants | 15 | 0.9 |
| Monthly spending per person at restaurants | 15 | 0.9 |
| Monthly household spending out of pocket at grocery stores | 24 | 1.5 |
| Monthly spending per person out of pocket at grocery stores | 24 | 1.5 |

Source: Evaluation of Demonstration Projects to End Childhood Hunger, 2016 baseline survey and 2017 follow-up survey, and SNAP administrative data. Tabulations are weighted to be representative of all eligible households in the Kentucky demonstration and prepared by Mathematica Policy Research.

[a] Based on research indicating that the presence of a teenager is an important determinant of child food insecurity, impact models use a measure of the presence of teenagers collected from the same follow-up survey as the food insecurity outcome.

[b] For households missing a baseline measure of the race/ethnicity of the respondent, the missing value was imputed using the value at follow-up. Four households that were still missing race/ethnicity values after this initial imputation had their values imputed as the modal value of non-Hispanic White (which comprised 92% of the sample with non-missing data).

FRPB = free or reduced-price breakfast; FRPL = free or reduced-price lunch; NSLP = National School Lunch Program; SBP = School Breakfast Program; SNAP = Supplemental Nutrition Assistance Program; WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

In addition to the main analysis models that used imputation to address missing data, sensitivity analyses implemented two alternative approaches. One approach excluded all

covariates from the analysis model except random assignment stratum variables defined based county and presence or absence of earnings, since those were never missing. A second approach included all covariates but removed from the analysis sample any observation with a missing value on any model covariate. The results of these sensitivity analyses are presented in Exhibit D.2, and confirm that the estimated impacts on food insecurity among children obtained from each approach are similar.

The analysis used respondent weights that correspond to the survey's sampling design and adjust for survey nonresponse, as described in Appendix A.4. Standard errors were calculated that used appropriate adjustments for these weighting factors and accounted for heteroskedasticity in the sample (that is, did not assume that the amount of variance in the data was the same across subpopulations of survey respondents). With random assignment at the household level, the standard errors for the model (shown in Equation 1) did not need to be adjusted for clustering. Because the study focused on a primary outcome that was specified in advance (food insecurity among children), it was not necessary to perform a multiple-comparisons adjustment for the principal (confirmatory) impact estimates.

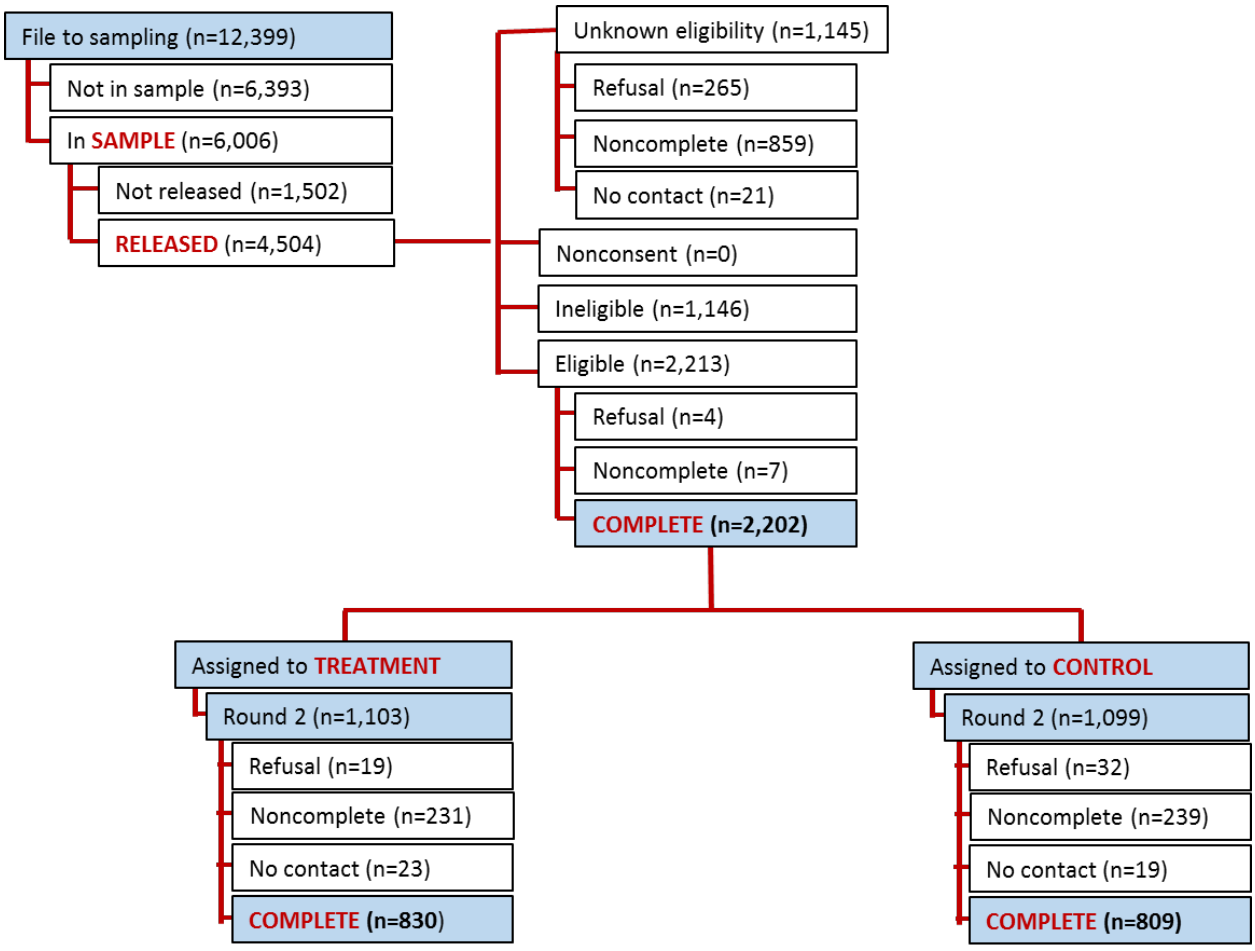
For this primary outcome, one-way hypothesis tests were conducted, where the null hypothesis was that the rate of food insecurity among children in the treatment group was less than or equal to the rate of food insecurity among children in the control group. The alternative hypothesis was that the rate of food insecurity among children was higher in the treatment group. One-way significance tests were conducted for this outcome because of the assumption that providing extra resources to a household would only lead to a reduction in food insecurity (if it had any effect at all), and would not be expected to lead to an increase in food insecurity. For all other outcomes, two-way hypothesis tests were conducted. A $p<0.05$ standard of statistical significance was used in all tests.

To facilitate interpretation of the impacts estimated using logistic models, tables of impact estimates present a mean impact rather than logit coefficients or odds ratios. The mean impact was calculated by using the coefficients estimated in the logistic model to predict probabilities of the outcome (for example, child food insecurity) for every sample member under two scenarios: first, as if each sample member had been in the control group, and then as if each had been in the treatment group. Each sample member then received a calculated difference in predicted probabilities under the two scenarios, and the mean impact was calculated as the average of those differences, accounting for respondent weights. In each table of estimated impacts, the control mean or proportion is the weighted value in the control group within analysis sample; the treatment mean or proportion is the sum of the control group value plus the mean impact. For continuous outcomes, tables present the impact estimate calculated directly from the linear regression model, but the calculation of the control mean and treatment mean is otherwise the same as described here.

## A.2 CONSORT FLOW DIAGRAM AND RESPONSE RATES

The Consolidated Standards of Reporting Trials (CONSORT) Flow Diagram (Exhibit A.7) shows the flow of participants from the recruitment stage, through consent, random assignment, and follow-up (Schulz et al. 2010). All participants completing a survey at baseline (n = 2,202) were randomly assigned to the treatment or the control group and contacted for follow-up survey.

**Exhibit A.7. CONSORT Diagram for the Kentucky TTHF project evaluation**




Households whose eligibility status was unknown at baseline and that were classified as noncompletes were reached on the telephone but the respondent either did not start the survey at all or started the survey but ended the telephone call before answering all of the eligibility questions. Eligible noncompletes at baseline answered all of the screening questions but ended the interview before answering enough of the questions to be included in the analysis.[8] Likewise, noncompletes at follow-up were reached on the telephone, but they either did not start the survey or they did not answer enough of the questions to be included in the analysis.

[8] Households had to complete the food security questions in Section E to be included in the analysis.

Exhibit A.8 shows the response rates among Kentucky participants overall, as well as by study group. The follow-up response rate for all participants was 74% ((830+809)/2202), and response rates by treatment group were similar to this overall rate. Response rates are based on standard definitions by the American Association for Public Opinion Research (AAPOR 2016). To calculate AAPOR response rate 4, the numerator contains the number of completes, which includes partial interviews[9]; the denominator includes the number of completes, partials, and eligible noncompletes (because only eligible baseline respondents were included in follow-up, all noncompletes are considered eligible).

## Exhibit A.8. Final follow-up survey response rates by study group

| Demonstration project | Total number of cases in evaluation sample | Response rate of all cases (%) | Number of treatment cases | Response rate of treatment group (%) | Number of control cases | Response rate of control group (%) |
|---|---|---|---|---|---|---|
| Kentucky | 2,202 | 74.4 | 1,103 | 75.2 | 1,099 | 73.6 |

Source: Evaluation of Demonstration Projects to End Childhood Hunger, 2017 follow-up survey. Response rates calculated by Mathematica Policy Research using AAPOR response rate 4 (AAPOR 2016).

Note: See CONSORT Flow Diagrams in Appendix A, Exhibit A.7 for additional details. The responding households in Nevada were randomized after completing the baseline survey.

AAPOR = American Association for Public Opinion Research; CONSORT = Consolidated Standards of Reporting Trials.

[9] Partial interviews are those that the respondent completed through at least the Food Security questions (Section E in the follow-up survey) before breaking off the interview.

## A.3. SAMPLE WEIGHTS FOR THE FOLLOW-UP ANALYSIS

This appendix describes the creation of sample weights for the analysis of follow-up data in the Kentucky project. One set of weights was created for the sample of households that completed the baseline survey and were randomly assigned (n=2,202). A separate set of weights was created for those that completed the follow-up survey (n=1,639). The focus of this appendix and most of the analysis in this report is the follow-up survey; details about the baseline survey are available in the interim report (Briefel et al. 2018).

### A. General features of the sample weights

Sample weights are applied to an analysis sample in order to make the data for that responding sample representative of the target population. In the case of EDECH, the population being generalized to includes the households potentially eligible for the demonstration services being offered as part of EDECH (the 12,399 households comprising the target population). Since a randomized experimental design was used, weights were created that make the group of treatment households and the group of control households in the analysis sample each representative of the broader household population.

If the sample included all households in the population, one can think of weights being equal to 1 for all sample households. In reality, the sample did not include all households in the population, so the sample weights were constructed to account for five key aspects of the study design and data collection—initial sampling, eligibility determination, baseline survey response, random assignment, and follow-up survey response.

The Kentucky project's target population included SNAP households in the counties participating in the study: with an adult head of household, children who will remain under age 18 throughout the project, positive net income, and not participating in the SNAP E&T evaluation. First, a sample of these households was selected, and then a baseline survey was conducted among them. The original population (sampling frame) contained 12,399 households, of which 6,006 were initially sampled and 4,504 were released for data collection (see Exhibit A.7). Only those households that completed a baseline survey were then included in the evaluation sample and randomly assigned, and these were also the households for which a follow-up survey was attempted.[10]

***Initial sampling (adjustment 1).*** Ultimately, the sample for which data were collected should be representative of the broader population of eligible households.

The initial sampling weight was set to the inverse of the probability of selection to ensure that the weighted size of the selected sample was equal to the population size. In Kentucky,

[10] Because random assignment was conducted using only households that completed the baseline survey, one could make the argument that the relevant population of interest should include only eligible households in the participating zip codes that would complete a baseline survey if given the chance. Random assignment ensures that the intervention was given at random to households in this group and does not give information about the eligible households that did not (or would not, if selected into the sample) complete a baseline survey. While this is true in a technical sense, from a policy perspective there is more interest in the broader population of all eligible households and so the weights were designed to be representative of this broader group.

initial sampling was stratified by county and presence of earnings. The weight was constructed within each of these strata and was set equal to the inverse probability of selection, which is the same for all households in a given stratum j.

$$p_{ij}^{s} = Prob\left\{HH\ i\ selected\ into\ sample\right\} = \frac{n_j^s}{N_j}$$

The numerator represents the number of households that were selected and released into the sample in the stratum, and the denominator represents the total number of households in the sampling frame in that stratum. Summing across all strata, the numerators and denominators add to the total sample size and frame size, respectively. A backup sample was selected in case enough completes were not obtained from the original sample, but their use was not necessary in this project and the backup sample was not released.

The weight for household *i* that accounts for selection into the initial sample, where sample members were asked to complete the baseline survey, is:

$$W_{ij}^{s} = \frac{1}{p_{ij}^{s}}$$

***Eligibility determination (adjustment 2).*** The sample ultimately used for analysis differed from the sample initially selected for analysis because of households found to be ineligible (discussed in this step) as well as survey nonresponse (discussed in adjustments 3 and 5).[11] Eligibility was defined at baseline based on the characteristics of the household at that point in time. Once households were determined to be eligible at baseline, there was no attempt to determine their ongoing eligibility status over time during the follow-up period as their household characteristics may have changed.[12] Prior to selecting the original sample, any eligibility information obtained was taken into account so that known ineligible households were excluded from the sample frame. However, some households were deemed ineligible after they were selected to be in the sample (due to updated information from administrative records or from survey responses). There were also households in the sample that had an unknown eligibility status, which could have been due to a noncomplete survey (due to refusal to complete the survey, inability to contact the household, or some other reason that did not allow for eligibility status to be known). These households with unknown eligibility status were accounted for with an adjustment to the sampling weights, giving more weight to sample members with determined eligibility status from groups with low rates of eligibility determination and less weight to those from groups with high rates of eligibility determination.

[11] These last two adjustments to the weights were different for the two different surveys, since the nonresponse mechanism and available explanatory variables presumably differ for each one. Separate weights were created for analysis of follow-up versus baseline survey data.

[12] However, it was possible that at some time during the follow-up period new information was received about the household's baseline eligibility. The data collection did not set out to obtain corrected information on baseline eligibility throughout the follow-up period.

To perform this adjustment, at least some information on the characteristics of the full population of households was needed so that which sorts of households had higher and which had lower eligibility determination rates was known. The challenge was that there was limited information available on the full population, though some household-level demographic information such as household size, language, income, and race was available. In addition to these first order variables, interaction terms were considered for inclusion in the model predicting eligibility determination status (using Chi-square Automatic Interaction Detector).[13]

The weighting adjustment was set to the inverse of the probability of having a known eligibility status for the survey $\left(p_{ij}^{e}\right)$, which was obtained from a stepwise regression model. For example, if language spoken in the home was found to be a significant predictor of having a known eligibility status from the stepwise logistic regression, then an English-speaking household would have a different probability of having a known eligibility status (and thus a different eligibility determination adjustment) than a non-English-speaking household. This adjustment was applied to the respondents, eligible nonrespondents, and ineligible households, and the weight was set to 0 for the nonrespondents with undetermined eligibility. After this adjustment, the weights approximately added up to the sample frame, which included some ineligible households. After dropping the undetermined and ineligible households, the weights added up to the best estimate of the eligible population.

This eligibility determination adjustment was applied to the sampling weight (described above). The weight that includes adjustments for sampling and eligibility determination for household *i* in stratum j is:

$$W_{ij}^{s,e} = \frac{1}{p_{ij}^{s}} * \frac{1}{p_{ij}^{e}} = \frac{1}{\left(p_{ij}^{s} * p_{ij}^{e}\right)}$$

This eligibility-adjusted weight accounts for sampling and baseline eligibility determination, and the sum of the weights should equal the best guess of the number of eligible households in the population at baseline. Due to the variability of propensity score adjustments in the previous steps, the weight did not exactly sum to this target, so a final adjustment was applied to the baseline weight that involved multiplying each weight in a given group by the ratio of the target sum (of one-half of all eligible households in the population) divided by the sum of the current weights.

***Baseline survey response (adjustment 3).*** Not all households selected to be in the sample and known to be eligible completed the baseline survey. A nonresponse adjustment to the eligibility determination-adjusted weights in the previous step accounted for this by giving more weight to responding sample members from groups with low response rates and less weight to those from groups with high response rates. Similar to the eligibility determination adjustment, some information about both responding and nonresponding households was needed so that the sorts of households with higher and lower response rates could be determined. The actual

[13] For more information about this procedure, see: http://www.statisticssolutions.com/non-parametric-analysis-chaid/.

adjustment to the weights was the inverse of an eligible household's probability of responding to the survey—more specifically, the probability that a household with that set of characteristics responded to the survey $\left(p_{ij}^{r1}\right)$, where the probability was again determined by a stepwise logistic regression model. In this model, the goal was to look for variables significantly associated with response. This adjustment was applied to the eligibility determination-adjusted sampling weights from the previous step for all respondents to the baseline survey, and the weight was set to 0 for the eligible nonrespondents, who were then dropped from analysis.

The weight that combines the adjustments for initial sampling, eligibility determination, and baseline survey response for household *i* in stratum *j* is:

$$W_{ij}^{s,e,r1} = \frac{1}{p_{ij}^{s}} * \frac{1}{p_{ij}^{e}} * \frac{1}{p_{ij}^{r1}} = \frac{1}{\left(p_{ij}^{s} * p_{ij}^{e} * p_{ij}^{r1}\right)}$$

***Random assignment (adjustment 4).*** Randomly assigning households selected into the sample groups can be thought of as another stage of randomly selecting samples. In other words, the treatment group and control group are subsamples of the full randomly selected sample. If every household had exactly the same probability of being selected into the treatment group and the control group, there would be no need to adjust the weights for random assignment. In the Kentucky project, however, blocked or stratified random assignment was conducted, and in practice not all households had the same probability of being selected into each group. A separate adjustment to the weights was used to account for the random assignment probability in the case of the treatment group and control group. For households that ended up in the treatment group, the prevailing weight (through adjustment 3) was divided by the probability of being assigned to the treatment group $\left(p_{ij}^{T}\right)$. For households in the control group, the prevailing weight was divided by the probability of being assigned to the control group (or one minus the probability of being assigned to the treatment group).

In the Kentucky project, random assignment was conducted at the household level, and was only conducted among households that completed the baseline survey. However, there was blocking (stratification) prior to random assignment. The random assignment was stratified based on county and presence/absence of earnings. The probability of being assigned to each of the two groups was approximately equal but, when rounding was necessary, the random assignment probability more often favored the treatment group. Thus, the treatment group ended up being slightly larger than the control group.

For a given household *i* in stratum *j* in randomization block *k*, the probability of being assigned to the treatment group is:

$$p_{ijk}^{T} = Prob\left\{HH\ i\ in\ stratum\ j\ assigned\ to\ T\ group\ in\ block\ k\right\} = \frac{\sum_{i \in t_k} W_{ij}^{s,e,r1}}{\sum_{i \in t_k + c_k} W_{ij}^{s,e,r1}}$$

Where $t_k$ denotes the households in the treatment group and $c_k$ denotes the households the control group.

The numerator is the sum of the weights among sampled responding households in stratum *j* that were assigned to the treatment group in block *k*, and the denominator is that number plus the sum of the weights among responding households in stratum *j* assigned to the control group in block *k*. In other words, the denominator is the sum of the weights of all households in that stratum that completed a baseline survey and were randomly assigned. The probability of being assigned to the control group was set equal to 1 minus the probability of being assigned to the treatment group in a particular block.

The adjustment for each group was then multiplied by approximately one half to ensure that the weighted sum of the full sample equals the population size (rather than twice the population size) and each group's weights sum up to one-half the estimate of the eligible population.

In other words, the final baseline weight for treatment group household *i* in stratum *j* is:

$$W_{ij}^{s,e,br,T} = \frac{1}{\left(p_{ij}^{s} * p_{ij}^{e} * p_{ij}^{r1}\right)} * \frac{1}{p_{ij}^{T}} * 0.5 = \frac{0.5}{\left(p_{ij}^{s} * p_{ij}^{e} * p_{ij}^{r1} * p_{ij}^{T}\right)}$$

And for control group households it is:

$$W_{ij}^{s,e,r1,C} = \frac{1}{\left(p_{ij}^{s} * p_{ij}^{e} * p_{ij}^{r1}\right)} * \frac{1}{\left(1 - p_{ij}^{T}\right)} * 0.5 = \frac{0.5}{\left(p_{ij}^{s} * p_{ij}^{e} * p_{ij}^{r1} * \left(1 - p_{ij}^{T}\right)\right)}$$

This final baseline weight accounts for sampling, baseline eligibility determination, baseline survey nonresponse, and random assignment, and the sum of the weights equals the best guess of the number of eligible households in the population at baseline. After applying and combining these four weighting adjustments, the distribution of baseline weights and associated design effect were examined to determine whether weight trimming was necessary to mitigate the impact of weighting on the variance of estimates, and to avoid the risk of any one household having undue influence on estimates due to a very high weight. No trimming was necessary for the Kentucky baseline weights. At the end of the baseline weighting process, each household that completed a baseline survey has a positive baseline weight, and the sum of the follow-up weights equals the best estimate of the full population of baseline-eligible households.

***Follow-up survey response (adjustment 5).*** In administering the follow-up survey, only those households that had completed the baseline survey were targeted; no follow-up survey was attempted for those households that did not complete the baseline survey. So in creating the weights for the follow-up survey, the final baseline weights (after adjusting for random

assignment) were used as the starting point, and these weights were then adjusted to account for nonresponse on the follow-up survey.[14]

Because the follow-up analysis included only those households that completed a follow-up survey, the weights of follow-up nonrespondents had to be reallocated to these respondents, in inverse proportion to their estimated likelihood of responding. The probability of responding was calculated by running a stepwise regression model that included characteristics of the evaluation sample (those that completed the baseline survey) as measured in the baseline survey and relevant interaction terms, separately for the treatment and control groups. The resulting adjustment was then applied to all responding households within each group. The model determined which characteristics were significantly associated with responding to the follow-up survey, and the resulting fitted values from the model could be interpreted as the probability of responding $\left(p_{ij}^{r2}\right)$. The inverse of this probability is the fifth adjustment factor. The baseline weights that resulted from the first four adjustments were multiplied by this factor for responding follow-up households (with nonresponding follow-up households being assigned a weight of 0).

Thus, the final follow-up weight for treatment group household *i* in stratum *j* is:

$$W_{ij}^{s,e,r1,T,r2} = \frac{0.5}{\left(p_{ij}^{s} * p_{ij}^{e} * p_{ij}^{r1} * p_{ij}^{T} * p_{ij}^{r2}\right)}$$

And for control group households it is:

$$W_{ij}^{s,e,r1,C,r2} = \frac{0.5}{\left(p_{ij}^{s} * p_{ij}^{e} * p_{ij}^{r1} * \left(1 - p_{ij}^{T}\right) * p_{ij}^{r2}\right)}$$

As with the baseline weight, a final adjustment was applied to the follow-up weight that involved multiplying each weight in a given treatment group by the ratio of the target sum (of one-half of all eligible households in the population) divided by the sum of the current weights.

After applying and combining all weighting adjustments for the follow-up weights, the weight distribution and associated design effect were examined to determine whether weight trimming was necessary to mitigate the impact of weighting on the variance of estimates, and to avoid the risk of any one household having undue influence on estimates due to a very high weight. No trimming was necessary for the Kentucky follow-up weights. At the end of the weighting process, each household that completed a follow-up survey has a positive follow-up weight, and the sum of the follow-up weights equals the best estimate of the full population of baseline-eligible households.

[14] In theory, if any new information about households' baseline eligibility status had been found during follow-up data collection, the adjustment for eligibility status could have been revised. However, no new information was found during follow-up data collection in the Kentucky project on households' baseline eligibility status.

## A.4. NONRESPONSE BIAS ANALYSIS FOR THE FOLLOW-UP SURVEY

The 2,202 households responding to the Kentucky baseline survey were randomized into treatment and control groups. All of these randomly assigned baseline survey respondents were contacted for the follow-up survey. Seventy-four percent of the households contacted for follow-up provided responses to the follow-up survey (n=1,639). This response rate fell short of an 80 percent benchmark (FNS 2015), so a nonresponse bias analysis was conducted to analyze any differences between households responding and not responding to the follow-up survey.

To address the implications of survey nonresponse, as well as to account for the sampling design, survey weights to be used in the analysis were created. The baseline survey weights accounted for sampling from the frame, survey eligibility, nonresponse to the baseline survey, and random assignment to one of the two study groups. The follow-up survey weights, calculated after the follow-up survey, account for nonresponse to the follow-up survey, such that only follow-up survey respondents have a positive final weight. This was done in order to produce estimates that reflect the entire eligible population based only on the responses received.

Because only households that responded to the baseline survey were contacted for the follow-up survey, the follow-up nonresponse bias analysis was based on the sample of baseline survey respondents, and comparisons between follow-up survey respondents and nonrespondents could be based on data from the baseline survey, as well as administrative variables for which data were available for all households in the frame. For the Kentucky project, six demographic variables from the frame file were used in analyzing differences between respondents and nonrespondents: whether the household has earnings, household size, gender, race, gross income, and net income. Additionally, several baseline survey variables were also used: employment of at least one adult in the household; ages of the baseline survey respondent as well as children in the household; receipt of WIC benefits, free or reduced-price school lunch, or food from sources such as food pantries or other community programs; categories of food insecure measures; and total dollar amount spent out-of-pocket on food at supermarkets and restaurants. Although all households included in the follow-up survey completed the baseline survey, individual baseline survey items were missing in a small number of cases. In the analysis, the distributions of these baseline and sample frame variables among follow-up respondents were compared with those of nonresponding households. This comparison was made after applying the baseline weight but not the follow-up weight, but the distribution of these variables among respondents is also shown after the follow-up weight was applied. Since response rates were similar among the two study groups (see Exhibit A.8), this nonresponse analysis was aggregated across groups.

Many of the baseline characteristics had similar mean values and distributions among households responding versus not responding to the follow-up survey (Exhibit A.2). Household size was similar between respondents and nonrespondents. Characteristics of the household's primary guardian (gender and race/ethnicity) as well as household income also did not differ by a statistically significant amount depending on whether the household responded to the follow-up survey. Other characteristics that were similar among the two groups included the percentage of households that received WIC or free or reduced-price lunch in the past 30 days, measures of food insecurity, and the monthly amount spent out-of-pocket on food at supermarkets and grocery stores.

There were statistically significant differences between follow-up respondents and nonrespondents, however. Respondents to the follow-up survey were less likely than nonrespondents to have earnings (36% of respondents versus 43% of nonrespondents), and they were also older (43% of respondents were 40 or older versus 30% of nonrespondents) and more likely to have older children living in the household (46% of respondents had at least one child 12 to 17 years old versus 41% of nonrespondents). Respondents were more likely to have household members receiving food from community sources such as food pantries in the past 30 days (21% versus 16%). There is also a significant difference in restaurant spending, with responding households having a lower mean than nonrespondents ($48 versus $59). The final follow-up survey weight accounted for these differences, as evidenced by the distribution of final weighted data falling between that of respondents and nonrespondents for most of the variables showing significant differences.

## Exhibit A.9. Household characteristics at baseline in the Kentucky project, among respondents and nonrespondents at follow-up

| Characteristic | Adjustments for sampling, eligibility, baseline response, random assignment | | Weighted characteristics using final follow-up weight |
|---|---|---|---|
| | Characteristics for respondents to follow-up (n=1,639) | Characteristics for nonrespondents to follow-up (n=563) | Respondents to follow-up (n=1,639) |
| Presence of earnings (%) | 36.4 | 43.3* | 37.9 |
| Household size (%) | | | |
| 2 | 20.0 | 16.9 | 19.4 |
| 3-4 | 60.4 | 64.6 | 60.5 |
| 5+ | 19.6 | 18.5 | 20.1 |
| Gender - male (%) | 14.9 | 18.1 | 15.9 |
| Race (%) | | | |
| White | 92.2 | 94.3 | 92.6 |
| Non-white | 2.8 | 2.0 | 2.5 |
| Missing | 5.0 | 3.7 | 4.9 |
| Monthly gross income ($) | 1,162 | 1,163 | 1,165 |
| Monthly net income ($) | 771 | 751 | 770 |
| At least one adult in household employed in past month (%) | | * | |
| Employed | 37.8 | 43.0 | 39.2 |
| Missing | 0.4 | 1.8 | 0.4 |
| Respondent age (%) | | * | |
| Under 20 | 0.4 | 0.2 | 0.4 |
| 20 to 29 | 21.8 | 26.8 | 23.0 |
| 30 to 39 | 34.0 | 39.4 | 36.0 |
| 40 to 49 | 22.5 | 17.1 | 21.1 |
| 50 to 59 | 14.1 | 8.3 | 12.7 |
| 60 or older | 6.0 | 4.6 | 5.7 |
| Missing | 1.2 | 3.8 | 1.2 |
| At least one child living in household age (%) | | | |
| Under 5 | 38.3 | 46.7* | 40.1 |
| 5 to 11 | 59.9 | 60.7 | 60.1 |
| 12 to 17 | 45.9 | 40.5* | 45.1 |
| 18 or older | 4.0 | 3.7 | 3.9 |
| Currently receiving SNAP (% at baseline) | 100.0 | 100.0 | 100.0 |
| Reported receiving WIC benefits in past 30 days (%) | 27.0 | 29.9 | 28.1 |
| Anyone in household received food from food pantries, food banks, soup kitchen, senior center, shelter, Meals on Wheels, church (%) | 20.7 | 15.5* | 19.6 |
| Household food insecure (%) | 58.7 | 58.6 | 58.1 |
| Household very low food security (%) | 33.8 | 31.1 | 33.6 |
| Adult(s) in household food insecure (%) | 56.5 | 55.0 | 56.0 |
| Adult(s) in household very low food security (%) | 33.4 | 30.9 | 33.2 |
| Child(ren) in household food insecure (%) | 37.4 | 34.4 | 36.5 |
| Child(ren) in household very low food security (%) | 3.8 | 4.0 | 4.0 |

| Characteristic | Adjustments for sampling, eligibility, baseline response, random assignment | | Weighted characteristics using final follow-up weight |
|---|---|---|---|
| | Characteristics for respondents to follow-up (n=1,639) | Characteristics for nonrespondents to follow-up (n=563) | Respondents to follow-up (n=1,639) |
| Monthly out-of-pocket amount spent on food at supermarkets and grocery stores ($) | 155 | 160 | 156 |
| Monthly amount spent on food at restaurants ($) | 48 | 59* | 49 |

Source: Evaluation of Demonstration Projects to End Childhood Hunger, 2016 baseline survey and 2017 follow-up survey.

Note: For variables for which less than 1% of households in each column have missing values, the percentage missing is not shown. The first two columns use a weight that adjusts for sampling, eligibility, random assignment, and baseline response, equivalent to the baseline weight. The third column includes adjustments for sampling, eligibility, baseline response, random assignment, and follow-up response and reflects the final follow-up weight.

*Difference between groups is statistically significant at the 0.05 level. Significance was tested for one set of groups, eligible respondents versus nonrespondents (sample weighted).

# APPENDIX B

# DATA COLLECTION METHODS

**This page has been left blank for double-sided copying.**

## B.1. SURVEY DATA COLLECTION METHODS

Sample members were contacted to complete two computer-assisted telephone interviews (CATI). The first survey was administered at baseline, prior to the start of the intervention. The second follow-up survey was administered approximately 12 months after the start of the intervention. During the follow-up data collection, field locators visited the demonstration area to find non-respondents. The following sections describe the instruments, obtaining Office of Management and Budget (OMB) clearance and institutional review board (IRB) approval, data collector training, and survey data collection.

### A. Survey contents

The purpose of the baseline survey was to describe the household characteristics of the eligible target populations before the start of each intervention. The purpose of the follow-up survey was to measure experiences and outcomes among study households to allow for the estimation of the impacts of the intervention as well as mediating factors among both treatment and control households after the intervention was implemented. The baseline and follow-up surveys contain items used in other surveys, including national studies and studies of low-income populations, along with items developed specifically for this evaluation.

Child and household food security was measured with USDA's standard 18-item U.S. Household Food Security Survey Module, used to monitor food security in large-scale population studies such as the Current Population Survey and the National Health and Nutrition Examination Survey (NHANES), and to measure food security in research studies (ERS 2017a, b). The USDA 18-item food security survey module includes 10 questions about the whole household and adults, and 8 questions about children (ERS 2017c). A 30-day reference period was used to measure food security because the 12-month food security measure would cover a period that includes the baseline period before treatment households had the opportunity to receive project benefits. In addition, the 30-day measure has less recall bias than a 12-month period; it can be measured contemporaneously with household income, food expenditures, and program participation; and the findings can be compared to other studies that also used a 30-day food security measure (e.g., Collins et al. 2016; Kabbani and Kmeid 2005; Mabli et al. 2013; Nord and Coleman-Jensen 2010; Nord and Prell 2011; Yen et al. 2008).

The standard procedures for scoring item responses were used to classify households, adults, and children as experiencing food security, food insecurity, or very low food security (ERS 2017b). The EDECH study used the adult/child cross-classification method, which eliminates a misclassification that affects a small percentage of cases, and is consistent with the underlying statistical theory that if either any adult or any child in the household is food insecure, then the household is classified as food insecure (Nord and Coleman-Jensen 2014). Food security outcomes were not imputed.[1]

[1] Food security measures were missing for 0.5% or less of households across categories and survey rounds because of item nonresponse. Among survey respondents at baseline, child food security constructs were missing for 8

Other relevant survey questions were adapted from the Summer Electronic Benefits Transfer for Children (SEBTC) evaluation (Collins et al. 2016) and the SNAP Food Security Study (Mabli et al. 2013) to measure food expenditures and program participation—critical intermediate outcomes in the causal chain leading to improved food security. Feedback from eight pretest participants and FNS and Economic Research Service reviewers informed revisions to the questionnaires. Exhibit B.1 presents a high-level overview of topics included in the surveys; the baseline and follow-up instruments are in Appendix B.2 and B.3, respectively.

## Exhibit B.1. Key topics included in the EDECH household surveys

| Survey modules (topics) | Baseline questionnaire | Follow-up questionnaire |
|---|---|---|
| **Food security (last 30 days)** | | |
| Food security (among children, adults, and households) | X | X |
| Food insecurity and very low food security (among children, adults, and households) | X | X |
| **Sociodemographic characteristics** | | |
| Household size and composition | X | Q |
| Ages of children (presence of teenager) | X | Q |
| Employment of adult household members (last 30 days) | X | Q |
| Household income (last calendar year, last month) and sources of income | X | X |
| Household earned income (last 30 days) | X | X |
| Respondent demographics and self-reported health status | X | X |
| **Nutrition assistance program participation and supports** | | |
| Participation in nutrition assistance programs (SNAP, WIC, SBP, NSLP) and other programs (free school suppers, school food backpacks, after school and child care programs, and summer food programs[a]) | X | X |
| Length of time on SNAP | X | X |
| Amount of SNAP benefit | X | X |
| Use of food banks, soup kitchens, or community or senior programs | X | X |
| Family, friend, and community support | X | X |
| **Food expenditures and food access (last 30 days)** | | |
| Food expenditures including out-of-pocket food costs | X | X |
| Food shopping, time/distance to supermarkets | X | X |
| **Food behavior** | | |
| Number of family dinners per week | X | X |
| **Children's diet quality** | | |
| School breakfast eating | X | X |
| Frequency of fast food consumption of household | X | X |

Source: Evaluation of Demonstration Projects to End Childhood Hunger, 2016 baseline survey and 2017 follow-up survey for the Kentucky demonstration.

Note: "X" indicates that the topic was included in the survey. "Q" indicates that survey questions were included that asked about households' change in status since baseline.

households, adult constructs for 9 households, and household constructs for 9 households (12 for VLFS-HH). Among survey respondents at follow-up, child food security constructs were missing for 2 households, adult constructs for 1 household, and household constructs for 2 households (3 for VLFS-HH).

[a] Summer food programs could include SFSP, Seamless Summer Option, or other free meals or snacks offered at places such as summer school, a community center, day camp, or park.

EDECH = Evaluation of Demonstration Projects to End Childhood Hunger; NSLP = National School Lunch Program; SBP = School Breakfast Program; SFSP = Summer Food Service Program; SNAP = Supplemental Nutrition Assistance Program; WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

## B. OMB clearance and IRB approval

OMB clearance was obtained on August 20, 2015 (FNS 2015). The New England IRB approved the evaluation activities and instruments on June 12, 2015.

## C. Telephone interviewer and field locator training

Prior to each round of survey data collection, telephone interviewers completed 16 hours of general and project-specific training. The 8-hour general training ensured that interviewers were well-versed in establishing rapport, maintaining participant confidentiality, minimizing nonresponse, and administering the CATI. The 8-hour project-specific training covered the study background, data collection procedures and goals, refusal aversion techniques, and data security. Interviewers passed a certification test before they began to collect data.

During the follow-up data collection, field locators completed a 4-hour locating training that highlighted key aspects of the study, locating procedures and goals, and data security. Locators passed a certification test before they began to search for households in the demonstration area.

## D. Survey data collection

Before baseline data collection, the grantee submitted files containing eligible households and contact information. The evaluation sample was then selected, as described in greater detail in Appendix A.1. Sample members' contact information was then submitted to a commercial locating database before data collection began. The purpose of this submission was twofold: (1) to obtain additional telephone numbers for households, and (2) to triangulate the telephone numbers already available on the sampling frames. Telephone numbers found in more than one source (that is, both the sampling frame and the database) were prioritized for dialing. Before the follow-up data collection, the grantee provided updated contact information for households, and contact information was again submitted to a commercial locating database.

The target respondents for the surveys were parents/guardians in eligible households.[2] Exhibit B.2 presents the field periods for each round of data collection.

### Exhibit B.2. Survey data collection periods

| Round | Survey start | Survey end |
|---|---|---|
| Baseline | August 2016 | November 2016 |
| Follow-up | August 2017 | November 2017 |

[2] Although the baseline and follow-up CATI surveys were administered in both English and Spanish, no respondents in Kentucky completed the follow-up survey in Spanish.

A total of 4,504 households were contacted for the baseline survey. Households received an advance letter describing the evaluation and the purpose of the interview, and inviting sample members to call a toll-free number to complete the survey. Shortly after the letters were mailed, outbound calls were placed to households. Household interviews were attempted multiple times at different times of the day, from the morning to the evening, and across all days of the week to maximize the chances of speaking with a sample member. Participating households were mailed a $30 gift card as a thank-you payment for their participation.

Response rates were monitored daily and follow-up strategies were adapted to address local considerations to maximize participation. Households received mail, email (if an email address was available), and postcard reminders throughout the field period. Sample members who refused to participate received an additional refusal conversion letter. Updated contact information was requested from grantees during data collection so that new telephone numbers and addresses could be attempted. Additional in-house locating, including Internet searches and more in-depth searches in the commercial locating database, were also performed.

A total of 2,202 households were contacted for the follow-up survey. The follow-up sample was limited to households that completed the baseline survey. Procedures used at baseline were repeated for the follow-up data collection. In addition, non-responding households received text messages requesting their participation, and field locators attempted to locate and persuade non-respondents to complete the interview. Participating households received a $30 gift card.

## B.2. BASELINE SURVEY INSTRUMENT

The final baseline questionnaire for households is shown in Appendix B.2.

OMB Clearance Number: 0584-0603
Expiration Date: 08/31/2018

# Evaluation of Demonstration Projects to End Childhood Hunger

## Baseline Questionnaire for Households

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection will be entered after clearance. The time required to complete this information collection is estimated to average 30 minutes per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection.

# A. Introduction

| ALL |
|---|
| IF DEMONSTRATION NE CHICKASAW NATION FILL1=two parts - an interview that will take about 30 minutes today, and a second interview about 12 months later. AND FILL2=interview<br>IF DEMONSTRATION=CHICKASAW NATION FILL1=three parts - an interview that will take about 30 minutes today, a second interview about 12 months from now, and a third interview about 18 months from now. The second and third interviews will also each take about 30 minutes. AND FILL2=interviews |

**BA1. For quality assurance purposes, this call may be monitored or recorded.**

**The study has [two parts - an interview that will take about 30 minutes today, and a second interview about 12 months later/three parts - an interview that will take about 30 minutes today, a second interview about 12 months from now, and a third interview about 18 months from now. The second and third interviews will also each take about 30 minutes.] As a way of saying thank you, you will get $30 for completing the interview today and a similar amount for the future [interview/interviews]. We will send you a prepaid gift card after you complete each interview.**

**The interviews have questions about your children's food choices as well as general questions about you and your household. Your answers will help the government make its child nutrition programs better.**

**Your participation in this interview is voluntary and you may stop at any time. You may also refuse to answer any question. Your benefits will not be affected by any answers to questions or if you choose not to participate.**

**All the information you give us will be kept private to the extent allowed by law. There is a small risk of the loss of confidentiality of your data, but procedures are in place to minimize this risk. Your name will not be attached to any of your answers. Your information will be used only in combination with information from other households for research purposes.**

**Do you have any questions about the interview before I begin?**

| | | |
|---|---|---|
| YES | 1 | GO TO FAQ |
| NO | 0 | GO TO BB1 |
| DON'T KNOW | d | |
| REFUSED | r | |

## B. Household Size and Composition

ALL

**The first few questions are about the people you live with.**

**BB1. Including yourself, how many people live in your household? Don't forget to include non-relatives who live in your household and, of course, babies, small children and foster children. Also include people who usually live in your household but may have been away within the last 30 days for reasons such as: vacation, traveling for work, or in the hospital. Do not include children living away at school or anyone who is now incarcerated**

**PROBE IF NEEDED: By temporarily away we mean away within the last 30 days**

|___|___| NUMBER OF PEOPLE
(1-20)

| | | |
|---|---|---|
| DON'T KNOW | d | Status refusal, Exit |
| REFUSED | r | Status refusal, Exit |

IF BB1=1

**BB1a. Just to confirm, you are the only person living in the household. There are no children, non-relatives, or people who usually live there but are currently away?**

| | | |
|---|---|---|
| YES | 1 | Status ineligible, Exit |
| NO, CORRECT NUMBER | 0 | Repeat BB1 |
| DON'T KNOW | d | Repeat BB1 |
| REFUSED | r | Status refusal, Exit |

[IF BB1 >1] AND [DEMONSTRATION = KENTUCKY

**BB1b. In which county do you currently live?**

**[List of eligible counties]**

| | | |
|---|---|---|
| OTHER | 99 | Status ineligible, Exit |
| DON'T KNOW | d | Status refusal, Exit |
| REFUSED | r | Status refusal, Exit |

[IF BB1 > 1] AND [DEMONSTRATION = NEVADA]

**BB1c. What is your current ZIP Code?**

**[List of eligible ZIP Codes]**

| | | |
|---|---|---|
| OTHER | 13 | Status ineligible, Exit |
| DON'T KNOW | d | Status refusal, Exit |
| REFUSED | r | Status refusal, Exit |

IF [DEMONSTRATION] = KENTUCKY OR NEVADA

**BB1d. Are you or others in your household currently receiving Supplemental Nutrition Assistance Program (SNAP)?**

**PROBE IF NEEDED: SNAP is the program formerly known as 'Food Stamps.'**

| | | |
|---|---|---|
| YES | 1 | |
| NO | 0 | GO TO BB1e |
| DON'T KNOW | d | GO TO BB1e |
| REFUSED | r | Status refusal, Exit |

IF [DEMONSTRATION = KENTUCKY OR NEVADA] AND [BB1D = 0 OR DK]

**BB1e. PROBE: In the past three months, have you or others in your household received SNAP benefits?**

| | | |
|---|---|---|
| YES | 1 | Status ineligible, Exit |
| NO | 0 | |
| DON'T KNOW | d | |
| REFUSED | r | Status refusal, Exit |

IF BB1 > 1

**BB2. Do all the people who live with you share the food that is bought for the household?**

| | | |
|---|---|---|
| YES | 1 | GO TO BB3 |
| NO | 0 | GO TO BB2a |
| DON'T KNOW | d | GO TO BB2a |
| REFUSED | r | GO TO BB2a |

BB2 = 0, D, OR R

**BB2a. Including yourself, how many people in your household share the food that is bought for the household?**

|___|___| NUMBER OF PEOPLE
(1-20)

| | | |
|---|---|---|
| DON'T KNOW | d | GO TO BB3 |
| REFUSED | r | GO TO BB3 |

HARD CHECK: [IF BB2a > BB1]; **The number of people in your household who share food is greater than the total number of people in your household. Did I make a mistake?**

[IF BB1 > 1] OR [IF BB2A > 1]

[IF BB2 = 1 FILL= NUMBER FROM BB1], OTHERWISE FILL=NUMBER FROM BB2a

**BB3. How many of those [NUMBER FROM BB1 OR BB2a] people in your household are children age 18 or younger or over 18 but still in high school?**

|___|___| NUMBER OF PEOPLE
(0-20)

DON'T KNOW ..... d Go to BB3a

REFUSED ..... r Go to BB3a

| |
|---|
| HARD CHECK: [IF BB3 > BB1]; **The number of children living in your household is greater than or equal to the total number of people in your household. Did I make a mistake?** |
| HARD CHECK: [IF BB3 > BB2a]; **The number of children living in your household is greater than the total number of people sharing food in your household. Did I make a mistake?** |

PROGRAMMER BOX BB3

IF BB3 GTE 1 AND DEMONSTRATION=KENTUCKY OR NEVADA, GO TO BB3B. ELSE IF BB3=D OR R GO TO BB3A. ELSE GO TO BB4.

BB3 = 0, D, OR R

**BB3a. Is there at least one child living in your household?**

YES ..... 1 REPEAT BB3

NO ..... 0 Status ineligible, Go to BB6

DON'T KNOW ..... d Status refusal, Exit

REFUSED ..... r Status refusal, Exit

IF DEMONSTRATION = KENTUCKY OR NEVADA

IF DEMONSTRATION = KENTUCKY FILL1= "was born after" AND FILL2 = "March 31, 2000"

IF DEMONSTRATION = NEVADA FILL1 = "will be under age 5 as of" AND FILL2 = "April 1, 2016"

**BB3b. Is there at least one child living in your household who [was born after/will be under age 5 as of] [March 31, 2000/April 1, 2016]?***

YES ..... 1

NO ..... 0 Status ineligible, Go to BB9

DON'T KNOW ..... d Status refusal, Go to BB9a

REFUSED ..... r Status refusal, Go to BB9a

*Represents the wording used to field the question; revised from the OMB version to coincide with eligibility age cut-offs and the intervention dates for the projects.

**BB4. [I'd like to make a list of the first names or initials of the children in your household. This will help me with asking some questions later.] What is the name of the [first/next] child?**

**IF NEEDED: You can give me the child's initials or some other way to refer to the child.**

_____
NAME

DON'T KNOW ..... d

REFUSED ..... r

| BB3 > 0 |
|---|
| FILL [ANSWER FROM BB4]<br>IF BB4 = D OR R FILL “this child” |

**BB4a. What is [ANSWER FROM BB4/this child]’s date of birth?**

PROGRAMMER: COLLECT DATE WITH SEPARATE FIELDS

|__|__| / |__|__| / |__|__|__|__|
MONTH DAY YEAR
(1-12) (1-31) (1996-2016)

DON’T KNOW ..... d

REFUSED ..... r

| BB4A = D OR R |
|---|
| FILL [ANSWER FROM BB4]<br>IF BB4 = D OR R FILL “this child” |

**BB4b. How old is [ANSWER FROM BB4/this child]? This information will help me with asking some questions later.**

|__|__| AGE OF CHILD

(0-52)

| BB4B = 0-52 |
|---|

**BB4c. Is that weeks, months, or years?**

WEEKS ..... 1

MONTHS ..... 2

YEARS ..... 3

DON’T KNOW ..... d

REFUSED ..... r

| SOFT CHECK: [IF BB4b > 18 AND BB4c = 3]; **The age is [ANSWER FROM BB4b] years old?** |
|---|

| BB3 > 0 |
|---|
| FILL [ANSWER FROM BB4]<br>IF BB4 = D OR R FILL “this child” |
| BB3 GTE 1 AND AGE GTE 3 YEARS AND DEMONSTRATION = CHICKASAW NATION OR VIRGINIA |
| FILL NAME1 FROM BB4 |

**BB4d. Is [ANSWER FROM BB4/this child] a boy or girl?**

INTERVIEWER: ASK IF RESPONDENT HAS NOT ALREADY MENTIONED CHILD'S SEX.

CODE ONE ONLY

BOY ..... 1
GIRL ..... 2
DON'T KNOW ..... d
REFUSED ..... r

[IF BB3 > 0] AND
[IF DEMONSTRATION = CHICKASAW NATION OR VIRGINIA] AND
[[IF BB4A [YEAR] < 2013] OR [IF BB4B > 3 AND BB4C = 3] OR [IF BB4B > 36 AND BB4C = 2]]

FILL [ANSWER FROM BB4]
IF BB4 = D OR R FILL "this child"

**BB4e. Is [ANSWER FROM BB4/this child] in grades pre-K through 12 in your local school system?**

YES ..... 1
NO ..... 0
DON'T KNOW ..... d
REFUSED ..... r

[IF BB4E = 1] AND [IF DEMONSTRATION = CHICKASAW NATION OR VIRGINIA]

**BB4f. What school does [ANSWER FROM BB4/this child] attend?**

**[List of schools + "other" option; "other" option routes respondent to BB9]**

DON'T KNOW ..... d
REFUSED ..... r

[IF BB4E = 1] AND [IF DEMONSTRATION = CHICKASAW NATION]

**BB4g. On school days during the last 30 days, did [ANSWER FROM BB4/this child] get free lunches at school?**

YES ..... 1
NO ..... 0
DON'T KNOW ..... d
REFUSED ..... r

[IF BB4E = 1] AND [IF DEMONSTRATION = VIRGINIA]

**BB4h. On school days during the last 30 days, did [ANSWER FROM BB4/this child] get free or reduced price lunches at school?**

YES ..... 1
NO ..... 0
DON'T KNOW ..... d
REFUSED ..... r

[IF BB1A = 1] OR
[IF BB3A = 0]

**BB6. I apologize, this survey is for individuals with at least one child under the age of 18 in the house.**

Go to END

[IF BB1 = R OR DK] or
[IF BB1a = R] or
[IF BB3a = R OR DK]

**BB6a. I apologize, this survey is for individuals with at least one child under the age of 18 in the house.**

Status refusal. Go to END

IF BB1B = 99

**BB7. I apologize, only certain counties are eligible for participation.**

Status ineligible. Go to END

IF BB1B = R OR DK

**BB7a. I apologize, only certain counties are eligible for participation.**

Status refusal. Go to END

IF BB1C = 13

**BB8. I apologize, only certain zip codes are eligible for participation.**

Status ineligible. Go to END

IF BB1C = R OR DK

**BB8a. I apologize, only certain zip codes are eligible for participation.**

Status refusal. Go to END

[IF BB3B = 0] OR
IF [BB1E = 1 OR DK] OR
IF [[DEMONSTRATION = CHICKASAW NATION OR VIRGINIA]] AND NO CHILDREN ATTEND AN ELIGIBLE SCHOOL IN BB4F]

**BB9. I apologize, you do not meet the eligibility criteria for this study at this time. We may try to contact you again in the future.**

Status ineligible. Go to END

[IF BB3B = R OR DK] OR
IF [BB1E = R] OR

**BB9a. I apologize, you do not meet the eligibility criteria for this study at this time. We may try to contact you again in the future.**

Status refusal. Go to END

## C. Children's Program Participation

**For the next series of questions we'll be asking about meals and snacks the children in your household may have had during the last 30 days, that is, since [MONTH] [DAY].**

AT LEAST ONE CHILD GTE AGE 3 YEARS

**BC1. On school days during the last 30 days, how many children in your household usually ate breakfast at school?**

|___|___| NUMBER OF CHILDREN
(0-20)

DON'T KNOW ..... d

REFUSED ..... r

IF BC1 = 1-20, D, R

**BC1a. On school days during the last 30 days, how many children in your household got free or reduced-price breakfasts at school?**

|___|___| NUMBER OF CHILDREN
(0- 20)

DON'T KNOW ..... d

REFUSED ..... r

AT LEAST ONE CHILD GTE AGE 3 YEARS

**BC1b. On school days during the last 30 days, how many children in your household usually ate a school lunch?**

|___|___| NUMBER OF CHILDREN
(0- 20)

DON'T KNOW ..... d

REFUSED ..... r

IF BC1B = 1-20, D, R

**BC1c. On school days during the last 30 days, how many children in your household got free or reduced-price lunches at school?**

|___|___| NUMBER OF CHILDREN
(0- 20)

DON'T KNOW ..... d

REFUSED ..... r

AT LEAST ONE CHILD GTE AGE 3 YEARS

**BC1d. During the last 30 days, how many children in your household got free supper meals at an after school program held in their school building?**

|___|___| NUMBER OF CHILDREN
(0- 20)

DON'T KNOW ..... d

REFUSED ..... r

AT LEAST ONE CHILD GTE AGE 3 YEARS

**BC1e. During the last 30 days, how many children in your household participated in any other after school program where meals or snacks are served?**

|___|___| NUMBER OF CHILDREN
(0- 20)

DON'T KNOW ..... d

REFUSED ..... r

ALL [Asked only for period when the last 30 day period included summer.]

**BC1f. During the last 30 days, how many children in your household received free meals or snacks at places such as summer school, a community center, day camp or park?**

|___|___| NUMBER OF CHILDREN
(0- 20)

DON'T KNOW ..... d

REFUSED ..... r

AT LEAST ONE CHILD LTE AGE 5 YEARS

**BC1g. During the last 30 days, how many children in your household received meals or snacks at a daycare center, family or group daycare home, or Head Start center?**

**IF NEEDED: Please include children who received meals or snacks whether the meals or snacks were free, reduced-price, or paid. Please also include meals and snacks that were included in any payment you made to the center or home.**

|___|___| NUMBER OF CHILDREN
(0- 20)

DON'T KNOW ..... d

REFUSED ..... r

AT LEAST ONE CHILD GTE AGE 3 YEARS

**BC2. During the last 30 days, how many children in your household got food through a school backpack food program for children?**

**PROBE IF NEEDED: The Backpack Food Program provides food for children to take home from school over weekends and holidays.**

|___|___| NUMBER OF CHILDREN
(0- 20)

DON'T KNOW ..... d

REFUSED ..... r

[IF BC2 > 0] AND [IF DEMONSTRATION = VIRGINIA]

If BC2 = 1: "child"
IF BC2 > 1: "children"

**BC2a. During the most recently completed school year, that is, school year 2014-2015, how often did your [child/children] usually take home a food backpack from school? Would you say…**

**Less often than once per month,** ..... 1

**Once per month,** ..... 2

**Two or three times per month, or** ..... 3

**Every week?** ..... 4

DON'T KNOW ..... d

REFUSED ..... r

IF DEMONSTRATION = CHICKASAW NATION

**BC3. How many children in your household received Summer EBT for Children benefits this past summer, that is, summer 2015?**

|___|___| NUMBER OF CHILDREN
(0- 20)

DON'T KNOW ..... d

REFUSED ..... r

## D. Food Purchase Behavior

**These next questions are about where you shop for food for your household.**

IF DEMONSTRATION = CHICKASAW NATION OR KENTUCKY

**BD1. During the past 30 days, about how many times did you or someone in your household shop for food?**

|___|___| NUMBER OF TIMES
(0-30)

DON'T KNOW ..... d

REFUSED ..... r

IF DEMONSTRATION = CHICKASAW NATION OR KENTUCKY

**BD2. During the past 30 days, at what kind of store did you buy most of your groceries?**

INTERVIEWER: READ ONLY IF NECESSARY

INTERVIEWER: CODE "ALDI" AS A SUPERMARKET/GROCERY STORE

CODE ONE ONLY

SUPERMARKETS/GROCERY STORES ..... 1

DISCOUNT STORES SUCH AS WAL-MART, TARGET, OR KMART ..... 2

WAREHOUSE CLUBS, SUCH AS PRICE CLUB, COSTCO, PACE, SAM'S CLUB, OR BJ'S ..... 3

CONVENIENCE STORES SUCH AS 7-11, QUICK CHECK, QUICK STOP ..... 4

GAS STATIONS, SUCH AS SHELL, FLYING J, EXXON, MARATHON OR AMACO ..... 5

ETHNIC FOOD STORES SUCH AS BODEGAS, ASIAN FOOD MARKETS, OR CARIBBEAN MARKETS ..... 6

FARMERS' MARKETS ..... 7

DOLLAR STORES ..... 8

SURPLUS/CLOSE-OUT RETAILERS SUCH AS BIG LOTS ..... 9

OTHER (SPECIFY) ..... 99

_____

DON'T KNOW ..... d

REFUSED ..... r

IF DEMONSTRATION = KENTUCKY

**BD3. What is the main reason you shop at that store?**

CODE ONE ONLY

LOW PRICES....1
SALES....2
QUALITY OF FOOD....3
VARIETY OF FOODS (GENERAL)....4
VARIETY OF SPECIAL FOODS (SUCH AS GLUTEN FREE)....5
CLOSE TO HOME/CONVENIENT....6
EASY TO GET TO....7
PRODUCE SELECTION....8
MEAT DEPARTMENT....9
LOYALTY/FREQUENT SHOPPER PROGRAM....10
OTHER (SPECIFY)....99

_____

DON'T KNOW....d
REFUSED....r

IF DEMONSTRATION = KENTUCKY

**BD4. How do you usually get to the store where you bought most of your groceries in the past 30 days?**

CODE ALL THAT APPLY

DRIVE OWN CAR....1
DRIVE SOMEONE ELSE'S CAR....2
SOMEONE ELSE DRIVES ME....3
WALK....4
BUS, SUBWAY, OR OTHER PUBLIC TRANSIT....5
TAXI OR OTHER PAID DRIVER....6
RIDE BICYCLE....7
OTHER (SPECIFY)....99

_____

DON'T KNOW....d
REFUSED....r

IF DEMONSTRATION = KENTUCKY

**BD4a. About how many minutes does it take to go one way from home to that store?**

INTERVIEWER: ENTER MIDPOINT IF RANGE IS GIVEN

|___|___|___| NUMBER OF MINUTES ONE WAY
(0-120)

DON'T KNOW ..... d

REFUSED ..... r

SOFT CHECK: IF BD4a > 60; **I just want to make sure I recorded your answer correctly. Did you say [ANSWER FROM BD4a]?**

DEMONSTRATION = CHICKASAW NATION OR KENTUCKY

**BD4b. And approximately how many miles away is that store from your home – one way?**

INTERVIEWER: ENTER MIDPOINT IF RANGE IS GIVEN; IF LESS THAN ONE MILE ENTER "0"

|___|___| NUMBER OF MILES ONE WAY
(0-99)

DON'T KNOW ..... d

REFUSED ..... r

SOFT CHECK: IF BD4b > 30; **I just want to make sure I recorded your answer correctly. Did you say [ANSWER FROM BD4b]?**

ALL

**BD5. How many nights a week does your family typically sit down together to have dinner as a family?**

CODE ONE ONLY

EVERY NIGHT ..... 1

5 OR 6 NIGHTS ..... 2

3 OR 4 NIGHTS ..... 3

1 OR 2 NIGHTS ..... 4

NEVER ..... 5

DON'T KNOW ..... d

REFUSED ..... r

IF DEMONSTRATION = NEVADA OR VIRGINIA

**BD6. During the past 7 days, how many times did you or someone else in your family prepare food for dinner or supper at home? Include times spent putting the ingredients together for dinner or supper, but do not include heating up leftovers.**

|___| NUMBER (0-7)

DON'T KNOW ..... d

REFUSED ..... r

IF DEMONSTRATION = NEVADA OR VIRGINIA

**BD7. How often do you shop with a grocery list? Would you say…**

CODE ONE ONLY

**Never,** ..... 1

**Rarely,** ..... 2

**Sometimes,** ..... 3

**Most of the time, or** ..... 4

**Always?** ..... 5

DON'T KNOW ..... d

REFUSED ..... r

IF DEMONSTRATION = NEVADA OR VIRGINIA

**BD8. In the past 12 months, about how many classes, lectures, events, or demonstrations about how to shop for or prepare nutritious food and meals did you or another adult in your household attend?**

|___|___| SESSIONS
(0-24)

DON'T KNOW ..... d

REFUSED ..... r

## E. Food Security

PROGRAMMER:

SELECT APPROPRIATE FILLS DEPENDING ON NUMBER OF ADULTS AND CHILDREN IN THE HOUSEHOLD. DEFAULT TO MULTIPLE ADULTS AND MULTIPLE CHILDREN IN HOUSEHOLD.

ALL

FILL [MONTH] [DAY]

**BE1. Now I'm going to read you several statements that people have made about their food situation. For these statements, please tell me whether the statement was often true, sometimes true, or never true for your household in the last 30 days, that is, since [MONTH] [DAY].**

**The first statement is "We worried whether our food would run out before we got money to buy more." Was that often true, sometimes true, or never true for your household in the last 30 days?**

CODE ONE ONLY

OFTEN TRUE ..... 1
SOMETIMES TRUE ..... 2
NEVER TRUE ..... 3
DON'T KNOW ..... d
REFUSED ..... r

ALL

**BE2. "The food that we bought just didn't last, and we didn't have money to get more." Was that often, sometimes, or never true for your household in the last 30 days?**

CODE ONE ONLY

OFTEN TRUE ..... 1
SOMETIMES TRUE ..... 2
NEVER TRUE ..... 3
DON'T KNOW ..... d
REFUSED ..... r

ALL

**BE3. "We couldn't afford to eat balanced meals." Was that often, sometimes, or never true for your household in the last 30 days?**

CODE ONE ONLY

OFTEN TRUE ..... 1
SOMETIMES TRUE ..... 2
NEVER TRUE ..... 3
DON'T KNOW ..... d
REFUSED ..... r

PROGRAMMER BOX BE3

IF BE1=1 OR 2 OR BE2=1 OR 2 OR BE3=1 OR 2, GO TO BE4;
OTHERWISE, SKIP TO BE9.

[IF BE1 = 1 OR 2] OR [IF BE2 = 1 OR 2] OR [IF BE3 = 1 OR 2]

IF [BB1 – BB3] > 1: "or other adults in your household"
FILL [MONTH] [DAY]

**BE4. In the last 30 days, that is, since [MONTH] [DAY], did you [or other adults in your household] ever cut the size of your meals or skip meals because there wasn't enough money for food?**

YES ..... 1
NO ..... 0 GO TO BE5
DON'T KNOW ..... d GO TO BE5
REFUSED ..... r GO TO BE5

IF BE4 = 1

**BE4a. In the last 30 days, how many days did this happen?**

|___|___| NUMBER OF DAYS (1-30) GO TO BE5
DON'T KNOW ..... d
REFUSED ..... r GO TO BE5

IF BE4A = D

**BE4b. Do you think it was one or two days, or more than two days?**

CODE ONE ONLY

ONE OR TWO DAYS ..... 1
MORE THAN TWO DAYS ..... 2
DON'T KNOW ..... d
REFUSED ..... r

BE1=1 OR 2 OR BE2=1 OR 2 OR BE3=1 OR 2

**BE5. In the last 30 days, did you ever eat less than you felt you should because there wasn't enough money for food?**

YES ..... 1
NO ..... 0
DON'T KNOW ..... d
REFUSED ..... r

[IF BE1 = 1 OR 2] OR [IF BE2 = 1 OR 2] OR [IF BE3 = 1 OR 2]

**BE6. In the last 30 days, were you ever hungry but didn't eat because there wasn't enough money for food?**

YES ..... 1
NO ..... 0
DON'T KNOW ..... d
REFUSED ..... r

[IF BE1 = 1 OR 2] OR [IF BE2 = 1 OR 2] OR [IF BE3 = 1 OR 2]

**BE7. In the last 30 days, did you lose weight because there wasn't enough money for food?**

YES ..... 1
NO ..... 0
DON'T KNOW ..... d
REFUSED ..... r

PROGRAMMER BOX BE7

IF BE4=1 OR BE5=1 OR BE6=1 OR BE7=1, GO TO BE8;
OTHERWISE, SKIP TO BE9.

[IF BE4 = 1] OR [IF BE5 = 1] OR [IF BE6 = 1] OR [IF BE7 = 1]

IF [BB1 – BB3] > 1: "or other adults in your household"

**BE8. In the last 30 days, did you [or other adults in your household] ever not eat for a whole day because there wasn't enough money for food?**

| | | |
|---|---|---|
| YES | 1 | |
| NO | 0 | GO TO BE9 |
| DON'T KNOW | d | GO TO BE9 |
| REFUSED | r | GO TO BE9 |

IF BE8 = 1

**BE8a. In the last 30 days, how many days did this happen?**

| | | |
|---|---|---|
| \|___\|___\| NUMBER OF DAYS (1-30) | | GO TO BE9 |
| DON'T KNOW | d | |
| REFUSED | r | GO TO BE9 |

IF BE8a = D

**BE8b. Do you think it was one or two days, or more than two days?**

CODE ONE ONLY

| | |
|---|---|
| ONE OR TWO DAYS | 1 |
| MORE THAN TWO DAYS | 2 |
| DON'T KNOW | d |
| REFUSED | r |

| ALL |
|---|
| IF BB3 = 1; FILL 1 “your child”<br>IF BB3 > 1; FILL 1“children living in your household”<br>IF BB1= 2 AND BB3 = 1; FILL 2 “I relied on only a few kinds of low-cost food to feed my child because I was running out of money to buy food.”<br>[IF [BB1 – BB3] = 1] AND [BB3>1]; FILL 2 “I relied on only a few kinds of low-cost food to feed my children because I was running out of money to buy food.”<br>[IF [BB1 – BB3] > 1] AND [BB3 = 1]; FILL 2 “We relied on only a few kinds of low-cost food to feed our child because we were running out of money to buy food.”<br>[IF [BB1 – BB3] > 1] AND [BB3 > 1]; FILL 2 “We relied on only a few kinds of low-cost food to feed our children because we were running out of money to buy food” |

**BE9. Now I’m going to read you several statements that people have made about the food situation of their children. For these statements, please tell me whether the statement was often true, sometimes true, or never true in the last 30 days for [your child/children living in your household].**

**[“I relied on only a few kinds of low-cost food to feed my child because I was running out of money to buy food.”/**

**“I relied on only a few kinds of low-cost food to feed my children because I was running out of money to buy food.”/**

**“We relied on only a few kinds of low-cost food to feed our child because we were running out of money to buy food.”/**

**“We relied on only a few kinds of low-cost food to feed our children because we were running out of money to buy food.”]**

Was that often, sometimes, or never true for your household in the last 30 days?

OFTEN TRUE ..... 1

SOMETIMES TRUE ..... 2

NEVER TRUE ..... 3

DON’T KNOW ..... d

REFUSED ..... r

| ALL |
|---|
| IF BB1= 2 AND BB3 = 1; FILL 1 "I couldn't feed my child a balanced meal, because I couldn't afford that."<br>[IF [BB1 – BB3] = 1] AND [BB3>1]; FILL 1 "I couldn't feed my children a balanced meal, because I couldn't afford that."<br>[IF [BB1 – BB3] > 1] AND [BB3 = 1]; FILL 1 "We couldn't feed our child a balanced meal, because we couldn't afford that."<br>[IF [BB1 – BB3] > 1] AND [BB3 > 1]; FILL 1 "We couldn't feed our children a balanced meal, because we couldn't afford that." |

**BE10. ["I couldn't feed my child a balanced meal, because I couldn't afford that."/**
**"I couldn't feed my children a balanced meal, because I couldn't afford that."/**
**"We couldn't feed our child a balanced meal, because we couldn't afford that."/**
**"We couldn't feed our children a balanced meal, because we couldn't afford that."]**

Was that often, sometimes, or never true for your household in the last 30 days?

OFTEN TRUE ..... 1
SOMETIMES TRUE ..... 2
NEVER TRUE ..... 3
DON'T KNOW ..... d
REFUSED ..... r

| ALL |
|---|
| IF BB1= 2 AND BB3 = 1; FILL 1 "My child was not eating enough because I just couldn't afford enough food."<br>[IF [BB1 – BB3] = 1] AND [BB3>1]; FILL 1 "My children were not eating enough because I just couldn't afford enough food."<br>[IF [BB1 – BB3] > 1] AND [BB3 = 1]; FILL 1 "Our child was not eating enough because we just couldn't afford enough food"<br>[IF [BB1 – BB3] > 1] AND [BB3 > 1]; FILL 1 "Our children were not eating enough because we just couldn't afford enough food." |

**BE11. ["My child was not eating enough because I just couldn't afford enough food."/**
**"My children were not eating enough because I just couldn't afford enough food."/**
**"Our child was not eating enough because we just couldn't afford enough food."/**
**"Our children were not eating enough because we just couldn't afford enough food."]**

Was that often, sometimes, or never true for your household in the last 30 days?

OFTEN TRUE ..... 1
SOMETIMES TRUE ..... 2
NEVER TRUE ..... 3
DON'T KNOW ..... d
REFUSED ..... r

PROGRAMMER BOX BE11

IF BE9=1 OR 2 OR BE10=1 OR 2 OR BE11=1 OR 2, GO TO BE12; OTHERWISE, SKIP TO BF1.

[IF BE9 = 1 OR 2] OR [IF BE10 = 1 OR 2] OR [IF BE11 = 1 OR 2]

FILL 1 [MONTH] [DAY]
IF BB3 = 1; FILL 2 "your child's"
IF BB3>1; FILL 2 "any of your children's"

**BE12. In the last 30 days, that is, since [MONTH] [DAY], did you ever cut the size of [your child's/any of your children's] meals because there wasn't enough money for food?**

YES ..... 1
NO ..... 0
DON'T KNOW ..... d
REFUSED ..... r

[IF BE9 = 1 OR 2] OR [IF BE10 = 1 OR 2] OR [IF BE11 = 1 OR 2]

IF BB3 = 1; FILL "your child"
IF BB3>1; FILL "any of your children"

**BE13. In the last 30 days, did [your child/any of your children] ever skip meals because there wasn't enough money for food?**

YES ..... 1
NO ..... 0 GO TO BE14
DON'T KNOW ..... d GO TO BE14
REFUSED ..... r GO TO BE14

BE13 = 1

**BE13a. In the last 30 days, how many days did this happen?**

|___|___| NUMBER OF DAYS (1-30) GO TO BE14
DON'T KNOW ..... d GO TO BE13b
REFUSED ..... r GO TO BE14

BE13a = D

**BE13b. Do you think it was one or two days, or more than two days?**

CODE ONE ONLY

ONE OR TWO DAYS ..... 1
MORE THAN TWO DAYS ..... 2
DON'T KNOW ..... d
REFUSED ..... r

[IF BE9 = 1 OR 2] OR [IF BE10 = 1 OR 2] OR [IF BE11 = 1 OR 2]

IF BB3 = 1; FILL "was your child"
IF BB3>1; FILL "were your children"

**BE14. In the last 30 days, [was your child/were your children] ever hungry but you just couldn't afford more food?**

YES ..... 1
NO ..... 0
DON'T KNOW ..... d
REFUSED ..... r

[IF BE9 = 1 OR 2] OR [IF BE10 = 1 OR 2] OR [IF BE11 = 1 OR 2]

IF BB3 = 1; FILL "your child"
IF BB3>1; FILL "any of your children"

**BE15. In the last 30 days, did [your child/any of your children] ever not eat for a whole day because there wasn't enough money for food?**

YES ..... 1
NO ..... 0
DON'T KNOW ..... d
REFUSED ..... r

## F. Food Expenditures

| ALL |
|---|

**Now, I'd like to ask some questions about shopping for food and eating at restaurants. These questions are about out-of-pocket spending on food. Later on I will ask you about purchases made with government benefits like SNAP, WIC, or FDPIR.**

| ALL |
|---|
| FILL DATE = [DATE] [MONTH] |

**BF1. First I'll ask you about money spent on food at supermarkets and other stores. Then we will talk about money spent at fast food restaurants and other restaurants.**

**Excluding any government benefits like SNAP or WIC, since [DATE] [MONTH] how much money did your family spend out of pocket at <u>supermarkets, grocery stores, and other stores</u>? Please do not include fast food restaurants and other types of restaurants.**

**PROBE: This includes stores such as Wal-Mart, Target, and Kmart, convenience stores like 7-11 or Mini Mart, stores like Costco or Sam's Club, dollar stores, bakeries, meat markets, vegetable stands, or farmer's markets.**

**PROBE: Please include the total amount spent in the past 30 days, since [DATE] [MONTH].**

|___|___|___|___| MONEY SPENT ($0-$9,999)

DON'T KNOW ..... d GO TO BF4

REFUSED ..... r GO TO BF4

| IF BF1 = $1-$9,999 |
|---|
| FILL AMOUNT FROM BF1 |

**BF2. Was any of this $[AMOUNT FROM BF1] spent on <u>nonfood items</u> such as cleaning or paper products, pet food, cigarettes or alcoholic beverages?**

YES ..... 1 GO TO BF3

NO ..... 0 GO TO BF4

DON'T KNOW ..... d GO TO BF4

REFUSED ..... r GO TO BF4

IF BF2 = 1

FILL AMOUNT FROM BF1

**BF3. About how much of the $[AMOUNT FROM BF1] was spent on nonfood items?**

|___|___|___|___| MONEY SPENT ($0-$9,999)

DON'T KNOW ..... d GO TO BF4

REFUSED ..... r GO TO BF4

HARD CHECK: IF [BF1 = $0-9,999] AND IF [BF3 > BF1]; **The amount spent on nonfood items is greater than the total amount spent at supermarkets, grocery stores, and other stores. Did I make a mistake?**

ALL

**BF4. During the last 30 days, how many times did your family eat food from a fast food restaurant or other kinds of restaurants? Include restaurant meals at home, at fast food or other restaurants, carryout, or drive thru.**

**PROBE IF NEEDED: Please include the total number of visits in the past 30 days, since [DATE] [MONTH].**

**PROBE IF** NEEDED: Such as food you get at McDonald's, KFC, Panda Express, Taco Bell, Pizza Hut, food trucks, Applebee's, Chili's, TGI Fridays, etc.

|___|___| TIMES (0-99)

DON'T KNOW ..... d GO TO BG1

REFUSED ..... r GO TO BG1

BF4 = 1-99

**BF5. About how much money did your family spend on food at all types of restaurants including fast food restaurants during the last 30 days?**

**PROBE: Please include the total amount spent in the past 30 days, since [DATE] [MONTH].**

|___|___|___|___| MONEY SPENT ($0-$9,999)

DON'T KNOW ..... d GO TO BG1

REFUSED ..... r GO TO BG1

## G. Other Program Participation

ALL

**Next, I'm going to read the names of some programs that provide food or meals or other services to individuals or households.**

ALL

FILL DATE = [DATE] [MONTH]

**BG1. In the last 30 days, that is, since [DATE] [MONTH], did you or anyone in your household receive food or benefits from the Women, Infants and Children program called WIC?**

| | | |
|---|---|---|
| YES | 1 | GO TO BG1A |
| NO | 0 | GO TO BG2 |
| DON'T KNOW | d | GO TO BG2 |
| REFUSED | r | GO TO BG2 |

BG1 = 1

**BG1a. How many women, infants, or children in the household got WIC foods or benefits?**

|___|___| NUMBER OF WOMEN, INFANTS, OR CHILDREN
(1-20)

| | | |
|---|---|---|
| DON'T KNOW | d | GO TO BG2 |
| REFUSED | r | GO TO BG2 |

BG1A=1-20

**BG1b. Of those, how many were infants or children up to age 5?**

|___|___| NUMBER OF INFANTS OR CHILDREN
(0-20)

| | |
|---|---|
| DON'T KNOW | d |
| REFUSED | r |

ALL

**BG2. In the last 30 days did you or anyone in your household receive food or meals from food pantries, food banks, local soup kitchens or emergency kitchens, community program, senior center, shelter, Meals on Wheels (or other programs delivering meals to your home), or church?**

| | |
|---|---|
| YES | 1 |
| NO | 0 |
| DON'T KNOW | d |
| REFUSED | r |

DEMONSTRATION = CHICKASAW NATION

**BG3. Do you or others in your household currently receive monthly commodity foods as part of the Food Distribution Program on Indian Reservations, also called FDPIR, *fi-dipper, or fid-purr*?**

YES ..... 1

NO ..... 0

DON'T KNOW ..... d

REFUSED ..... r

## H. SNAP Enrollment

ALL

**BH1. In the last 12 months, has your household ever been enrolled in the Supplemental Nutrition Assistance Program (SNAP)?**

| | | |
|---|---|---|
| YES | 1 | |
| NO | 0 | GO TO BH2a |
| DON'T KNOW | d | GO TO BH2a |
| REFUSED | r | GO TO BH2a |

BH1=1

**BH1a. In the last 12 months, how long did your household receive the Supplemental Nutrition Assistance Program (SNAP)? If your household received SNAP, stopped receiving it, and then started again, please include all of that time.**

|___|___|___|___| AMOUNT OF TIME

(0-365)

| | | |
|---|---|---|
| DON'T KNOW | d | GO TO BH2a |
| REFUSED | r | GO TO BH2a |

BH1A = 1-365

**BH1b. Is that days, weeks, or months?**

| | | |
|---|---|---|
| DAYS | 1 | |
| WEEKS | 2 | |
| MONTHS | 3 | |
| DON'T KNOW | d | GO TO BH2a |
| REFUSED | r | GO TO BH2a |

ALL

**BH2a. In total, how long have you and your household ever received the Supplemental Nutrition Assistance Program (SNAP)?**

**IF NEEDED: Please include <u>all</u> of the time your household has received SNAP, even if your household has started and stopped receiving benefits more than once.**

|___|___|___| AMOUNT OF TIME

(0-365)

| | | |
|---|---|---|
| DON'T KNOW | d | GO TO BH3 |
| REFUSED | r | GO TO BH3 |

IF BH2A = 1-365

**BH2b. Is that days, weeks, months, or years?**

CODE ONE ONLY

| | | |
|---|---|---|
| DAYS | 1 | |
| WEEKS | 2 | |
| MONTHS | 3 | |
| YEARS | 4 | |
| DON'T KNOW | d | GO TO BH3 |
| REFUSED | r | GO TO BH3 |

[BB1D=1 OR BH1=1] AND [DEMONSTRATION = CHICKASAW NATION OR KENTUCKY OR VIRGINIA]

**BH3. Are you or others in your household currently receiving SNAP?**

| | | |
|---|---|---|
| YES | 1 | |
| NO | 0 | GO TO BI1 |
| DON'T KNOW | d | GO TO BI1 |
| REFUSED | r | GO TO BI1 |

BB1D=1 OR [BB1E=0 OR DK] OR BH3=1 AND [DEMONSTRATION = KENTUCKY]

**BH4. What is the amount of the SNAP your household receives per month?**

|___|___|___|___| DOLLAR AMOUNT
($1 - $9999)

| | | |
|---|---|---|
| DON'T KNOW | d | GO TO BI1 |
| REFUSED | r | GO TO BI1 |

BB1D=1 OR [BB1E=0 OR DK] OR BH3=1 AND [DEMONSTRATION = KENTUCKY]

**BH5. In the last 12 months, did the amount of the benefit increase, decrease, or stay the same?**

CODE ONE ONLY

| | | |
|---|---|---|
| INCREASED | 1 | |
| DECREASED | 2 | |
| BOTH INCREASED AND DECREASED | 3 | |
| STAYED SAME | 4 | |
| DON'T KNOW | d | GO TO BI1 |
| REFUSED | r | GO TO BI1 |

BB1D=1 OR [BB1E=0 OR DK] OR BH3=1 AND [DEMONSTRATION = KENTUCKY]

**BH6. How many weeks do your SNAP benefits usually last?**

INTERVIEWER: CODE ANY ANSWER GREATER THAN 8 WEEKS AS 8

|___| NUMBER OF WEEKS
(0-8)

DON'T KNOW ..... d GO TO BI1

REFUSED ..... r GO TO BI1

## I. Household Resources

| ALL |
|---|
| FILL [DATE] [MONTH] |

**BI1. The next questions are about working or jobs. Were you or any other adult in your household working for pay in the last 30 days that is, since [DATE] [MONTH]?**

YES ..... 1
NO ..... 0
DON'T KNOW ..... d
REFUSED ..... r

| DEMONSTRATION = KENTUCKY AND BI1 = 1, D, R |
|---|

**BI2. And what was your household's total <u>earnings</u> before taxes last month? Please include earnings from wages and salaries from a job or self-employment, or income from a rental property. Do not include income from Social Security, pensions, child support, or cash welfare benefits, or the value of SNAP benefits or food stamps, WIC, Medicaid, or public housing.**

$ |___|___|___|___|___| DOLLAR AMOUNT ($0 – 99,999)

DON'T KNOW ..... d GO TO BI2a
REFUSED ..... r GO TO BI2a

| BI2 = D OR R |
|---|

**BI2a. Some people find it easier to select earnings from a range. Please stop me when I reach your household's total earnings for <u>last month</u>. Was it…**

CODE ONE ONLY

**Less than $500,** ..... 1
**$500 to less than $1,000,** ..... 2
**$1,000 to less than $1,500,** ..... 3
**$1,500 to less than $2,000,** ..... 4
**$2,000 to less than $2,500,** ..... 5
**$2,500 to less than $3,000, or** ..... 6
**$3,000 or more?** ..... 7
DON'T KNOW ..... d GO TO BI3
REFUSED ..... r GO TO BI3

| ALL |
|---|
| FILL [LAST MONTH] |

**BI3. What was your household's total <u>income</u> last month, during [LAST MONTH] before taxes? Please include all types of income received by all household members last month, including all earnings, Social Security, pensions, Veteran's Benefits, Unemployment Insurance, worker's compensation benefits, child support, payments from roomers or boarders, and cash welfare benefits such as TANF (*TAH-nif*) and SSI. Do not include the value of SNAP benefits or food stamps, WIC, Medicaid, or public housing.**

|___|___|___|___|___| DOLLAR AMOUNT ($0 – 99,999)

| | | |
|---|---|---|
| NO INCOME | 0 | GO TO BI4 |
| GAVE ANSWER | 1 | GO TO BI4 |
| DON'T KNOW | d | GO TO BI3B |
| REFUSED | r | GO TO BI3B |

| BI3 = D OR R |
|---|

**BI3b. Some people find it easier to select an income range. Please stop me when I reach your household's total income for <u>last month</u>. Was it…**

CODE ONE ONLY

| | |
|---|---|
| **Less than $500,** | 1 |
| **$500 to less than $1,000,** | 2 |
| **$1,000 to less than $1,500,** | 3 |
| **$1,500 to less than $2,000,** | 4 |
| **$2,000 to less than $2,500,** | 5 |
| **$2,500 to less than $3,000, or** | 6 |
| **$3,000 or more?** | 7 |
| DON'T KNOW | d |
| REFUSED | r |

ALL

**BI4. And, what was your household's total income last year before taxes?**

PROBE IF NEEDED: **Please include all types of income received by all household members last year, including all earnings, Social Security, pensions, Veteran's Benefits, Unemployment Insurance, worker's compensation benefits, child support, payments from roomers or boarders and cash welfare benefits such as TANF (*TAH-nif*) and SSI. Do not include the value of SNAP benefits or food stamps, WIC, Medicaid, or public housing.**

INTERVIEWER: "LAST YEAR," MEANING 2015.

|___|___|___|___|___| DOLLAR AMOUNT ($0 – 150,000)

DON'T KNOW ..... d GO TO BI4A

REFUSED ..... r GO TO BI4A

BI4 = D OR R

**BI4a. Some people find it easier to select an income range. Please stop me when I reach your household's total income for last year. Was it…**

CODE ONE ONLY

**Less than $10,000,** ..... 1 GO TO BI5

**$10,000 to less than $20,000,** ..... 2 GO TO BI5

**$20,000 to less than $35,000,** ..... 3 GO TO BI5

**$35,000 to less than $50,000,** ..... 4 GO TO BI5

**$50,000 to less than $75,000,** ..... 5 GO TO BI5

**$75,000 to less than $100,000,** ..... 6 GO TO BI5

**$100,000 to less than $150,000, or** ..... 7 GO TO BI5

**$150,000 or more?** ..... 8 GO TO BI5

DON'T KNOW ..... d GO TO BI5

REFUSED ..... r GO TO BI5

| ALL |
|---|
| FILL [MONTH] [DAY] |

**BI5. The next questions are about sources of income. The answers to these and all other questions on this survey will be kept private and will never be associated with your name. During the last 30 days, that is, since [MONTH] [DAY], did you or anyone in your household receive…**

CODE ONE PER ROW

| | YES | NO | DON'T KNOW | REFUSED |
|---|---|---|---|---|
| a. TANF, Temporary Assistance to Needy Families or other welfare such as General Assistance? | 1 | 0 | d | r |
| b. Social Security from the government for retirement, disability, or survivors' benefits, or other retirement benefits such as a government or private pension or annuity? | 1 | 0 | d | r |
| c. SSI or Supplemental Security Income from the federal, state, or local government? | 1 | 0 | d | r |
| d. Veteran's Benefits? | 1 | 0 | d | r |
| e. Unemployment Insurance or worker's compensation benefits? | 1 | 0 | d | r |
| f. Child support payments or payments from roomers or boarders? | 1 | 0 | d | r |
| g. Financial support from friends or family? | 1 | 0 | d | r |
| h. Any other income besides earnings? | 1 | 0 | d | r |

| BI5H = 1 |
|---|

**BI5H_Specify. What is that other income?**

_____
DESCRIPTION

DON'T KNOW .....d

REFUSED .....r

[BI6 on household limitations deleted per OMB on August 10, 2015.]

ALL

**BI7. Now I'd like to ask you about how much help you would expect to get from different sources if your household had a problem with which you needed help, for example, sickness or moving. After I read each source, please tell me if you would expect to get all of the help needed, most of the help needed, very little of the help needed, or no help?**

INTERVIEWER: REPEAT ANSWER CHOICES AS NEEDED.

CODE ONE PER ROW

| | | ALL OF THE HELP NEEDED | MOST OF THE HELP NEEDED | VERY LITTLE OF THE HELP NEEDED | NO HELP | DON'T KNOW | REFUSED |
|---|---|---|---|---|---|---|---|
| a. | Family living nearby? | 1 | 2 | 3 | 4 | d | r |
| b. | Friends? | 1 | 2 | 3 | 4 | d | r |
| c. | Other people in the community besides family and friends, such as a social service agency or a church? | 1 | 2 | 3 | 4 | d | r |

## J. Trigger Events

**The next few questions are about changes that may have occurred in your household in the past 6 months.**

ALL

**BJ1. Has there been a change in the number of people living in your household over the past 6 months?**

| | | |
|---|---|---|
| YES | 1 | |
| NO | 0 | GO TO BJ2 |
| DON'T KNOW | d | GO TO BJ2 |
| REFUSED | r | GO TO BJ2 |

BJ1 = 1

**BJ1a. What caused that change?**

CODE ALL THAT APPLY

| | |
|---|---|
| BIRTH OF CHILD | 1 |
| NEW STEP, FOSTER OR ADOPTED CHILD | 2 |
| MARRIAGE/ROMANTIC PARTNER | 3 |
| SEPARATION OR DIVORCE | 4 |
| DEATH OF HOUSEHOLD MEMBER | 5 |
| FAMILY/BOARDER/OTHER ADULT MOVED IN | 6 |
| FAMILY/BOARDER/OTHER ADULT MOVED OUT | 7 |
| HOUSEHOLD MEMBER INCARCERATED | 8 |
| OTHER (SPECIFY) | 99 |
| _____ | |
| DON'T KNOW | d |
| REFUSED | r |

ALL

**BJ2. At any time in the past 6 months was your household evicted from your house or apartment?**

| | |
|---|---|
| YES | 1 |
| NO | 0 |
| DON'T KNOW | d |
| REFUSED | r |

ALL

**BJ3. Have you or anyone in your household had a change in employment or a change in pay or hours worked from a job in the past 6 months?**

| | | |
|---|---|---|
| YES | 1 | |
| NO | 0 | GO TO BK1 |
| DON'T KNOW | d | GO TO BK1 |
| REFUSED | r | GO TO BK1 |

BJ3=1

**BJ3a. What was that change in employment or a change in pay or hours worked from a job that you or someone in your household experienced in the past 6 months?**

CODE ALL THAT APPLY

| | |
|---|---|
| OBTAINED A JOB | 1 |
| LOST JOB | 2 |
| INCREASE IN PAY OR HOURS | 3 |
| DECREASE IN PAY OR HOURS | 4 |
| OTHER (SPECIFY) | 99 |

_____

| | |
|---|---|
| DON'T KNOW | d |
| REFUSED | r |

## K. Respondent Demographics and Health Status

ALL

**BK1. Now, I have a few questions about you.**

**[RECORD GENDER FROM OBSERVATION.]**

**[PROBE ONLY IF NECESSARY: Because it is sometimes difficult to determine over the phone, I am asked to confirm with everyone…Are you male or female?]**

INTERVIEWER: CODE DON'T KNOW IF RESPONDENT DOES NOT WANT TO IDENTIFY AS MALE OR FEMALE

MALE ..... 1
FEMALE ..... 2
DON'T KNOW ..... d
REFUSED ..... r

ALL

**BK2. What is your relationship to the children living in the household?**

INTERVIEWER: READ ONLY IF NECESSARY

CODE ALL THAT APPLY

BIOLOGICAL/ADOPTIVE PARENT ..... 1
STEP-PARENT ..... 2
GRANDPARENT ..... 3
GREAT GRANDPARENT ..... 4
SIBLING/STEPSIBLING ..... 5
OTHER RELATIVE OR IN LAW ..... 6
FOSTER PARENT ..... 7
OTHER NON-RELATIVE ..... 8
PARENT'S PARTNER ..... 9
DON'T KNOW ..... d
REFUSED ..... r

ALL

**BK3. Are you of Hispanic or Latino origin?**

HISPANIC OR LATINO ..... 1
NOT HISPANIC OR LATINO ..... 0
DON'T KNOW ..... d
REFUSED ..... r

ALL

**BK4. I am going to read a list of five race categories. Please choose one or more races that you consider yourself to be. American Indian or Alaska Native; Asian; Black or African American; Native Hawaiian or other Pacific Islander; White?**

CODE ALL THAT APPLY

AMERICAN INDIAN OR ALASKA NATIVE ..... 1
ASIAN ..... 2
BLACK OR AFRICAN AMERICAN ..... 3
NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER ..... 4
WHITE ..... 5
DON'T KNOW ..... d
REFUSED ..... r

ALL

**BK5. What is your current marital status? Are you now married, divorced, separated, widowed, never married, or living with a partner?**

CODE ONE ONLY

MARRIED ..... 1
SEPARATED OR DIVORCED ..... 2
WIDOWED ..... 3
NEVER MARRIED ..... 4
LIVING WITH PARTNER ..... 5
DON'T KNOW ..... d
REFUSED ..... r

ALL

**BK6. What is your date of birth?**

PROGRAMMER: COLLECT DATE WITH SEPARATE FIELDS

|__|__| / |__|__| / |__|__|__|__|
MONTH DAY YEAR
(1-12) (1-31) (1916-2001)

DON'T KNOW ..... d
REFUSED ..... r

BK6 = D OR R

**BK6a. I can record your age instead if you would like. How many years old are you?**

|___|___| YEARS

(18-99)

DON'T KNOW ..... d

REFUSED ..... r

ALL

**BK7. What is the highest grade or level of school you have completed or the highest degree you have received?**

**[ENTER HIGHEST LEVEL OF SCHOOL.]**

NEVER ATTENDED/KINDERGARTEN ONLY ..... 0

1ST GRADE ..... 1

2ND GRADE ..... 2

3RD GRADE ..... 3

4TH GRADE ..... 4

5TH GRADE ..... 5

6TH GRADE ..... 6

7TH GRADE ..... 7

8TH GRADE ..... 8

9TH GRADE ..... 9

10TH GRADE ..... 10

11TH GRADE ..... 11

12TH GRADE, NO DIPLOMA ..... 12

HIGH SCHOOL GRADUATE ..... 13

GED OR EQUIVALENT ..... 14

SOME COLLEGE, NO DEGREE ..... 15

ASSOCIATE DEGREE: OCCUPATIONAL, TECHNICAL, OR VOCATIONAL PROGRAM ..... 16

ASSOCIATE DEGREE: ACADEMIC PROGRAM ..... 17

BACHELOR'S DEGREE (EXAMPLE: BA, AB, BS, BBA) ..... 18

MASTER'S DEGREE (EXAMPLE: MA, MS, MEng, MEd, MBA) ..... 19

PROFESSIONAL SCHOOL DEGREE (EXAMPLE: MD, DDS, DVM, JD) ..... 20

DOCTORAL DEGREE (EXAMPLE: PhD, EdD) ..... 21

DON'T KNOW ..... d

REFUSED ..... r

ALL

**BK8. In general, would you say your health is excellent, very good, good, fair or poor?**

CODE ONE ONLY

EXCELLENT ..... 1
VERY GOOD ..... 2
GOOD ..... 3
FAIR ..... 4
POOR ..... 5
DON'T KNOW ..... d
REFUSED ..... r

## L. Closing Information

ALL

**BL1. Thank you very much for your time. You have really helped us with this study. I'd like to confirm your address so we can send you a $30 gift card within the next few weeks.**

**According to our records we have…**

**[FILL NAME FROM SAMPLE FRAME OR SCREENER]**

**[FILL STREET ADDRESS FROM SAMPLE FRAME]**

**[FILL CITY, STATE, ZIP CODE FROM SAMPLE FRAME]**

**[IF SECOND FOLLOW-UP FILL EMAIL ADDRESS]**

**[IF SECOND FOLLOW-UP FILL PHONE NUMBER]**

CONTACT INFORMATION IS CORRECT ..... 1 GO TO BL2

CONTACT INFORMATION NEEDS UPDATING ..... 0

UPDATE: NAME

UPDATE: STREET ADDRESS:

_____

STREET 1

_____

STREET 2

_____

STREET 3

_____

CITY

_____

STATE

_____

ZIP

|___|___|___| - |___|___|___| - |___|___|___| - |___|___|___|___|

_____

EMAIL

DON'T KNOW ..... d

REFUSED ..... r

ALL

**BL2. [We would also like to do a second telephone interview 12 months from now to see how you are doing. You will get another prepaid card for participating in that interview.]**

**In case we can't reach you at this number, is there another number we should try?**

CODE ONE ONLY

| | | |
|---|---|---|
| YES | 1 | |
| NO ADDITIONAL PHONE AVAILABLE | 2 | GO TO BL2C |
| REFUSED TO GIVE PHONE NUMBER | 3 | GO TO BL2C |
| REFUSED TO PARTICIPATE IN SECOND INTERVIEW | 9 | STATUS REFUSAL, GO TO END |
| DON'T KNOW | d | GO TO BL2C |
| REFUSED | r | GO TO BL2C |

BL2 = 1

**BL2a. What is the telephone number we should try?**

|___|___|___| - |___|___|___| - |___|___|___| - |___|___|___|___|

| | | |
|---|---|---|
| DON'T KNOW | d | GO TO BL2C |
| REFUSED | r | GO TO BL2C |

IF BL2A = ANSWERED

**BL2b. What type of phone number is this?**

CODE ONE ONLY

| | |
|---|---|
| HOME PHONE | 1 |
| OFFICE PHONE | 2 |
| HOME AND OFFICE PHONE | 3 |
| CELL PHONE | 4 |
| PAGER | 5 |
| COMPUTER/FAX LINE | 6 |
| OTHER | 7 |
| DON'T KNOW | d |
| REFUSED | r |

[IF BL2B = 2] AND [DEMONSTRATION = KENTUCKY, NEVADA, OR VIRGINIA]

**BL2c. May we send text messages to your cell phone regarding the second interview?**

YES ..... 1
NO ..... 0
DON'T KNOW ..... d
REFUSED ..... r

[BL2 =1, 2, 3, D OR R] OR [BL2A = D OR R]

**BL2d. Do you have an email address where we can try to reach you?**

YES ..... 1
NO ..... 0 GO TO BL3
DON'T KNOW ..... d GO TO BL3
REFUSED ..... r GO TO BL3

BL2D = 1

**BL2e. What is the email address where we can reach you?**

_____
EMAIL ADDRESS
DON'T KNOW ..... d
REFUSED ..... r

BL2E = ANSWERED

**BL2f. What type of email address is this? Is this a home email, office email, or something else?**

CODE ONE ONLY

HOME EMAIL ..... 1
OFFICE EMAIL ..... 2
HOME AND OFFICE EMAIL ..... 3
OTHER ..... 4

ALL

**BL3. In case we have trouble reaching you in 12 months, please give me the names and telephone numbers of two relatives or friends who would know where you could be reached. These should be relatives or friends not currently living in your household. Let's start with one friend or relative. What is his or her name?**

[BE SURE TO VERIFY SPELLING]

_____
FIRST NAME

_____
LAST NAME

DON'T KNOW ..... d GO TO END

REFUSED ..... r GO TO END

IF BL3 FIRST NAME = ANSWERED OR
IF BL3 LAST NAME = ANSWERED

**BL3a. What is the telephone number we should try?**

|___|___|___| - |___|___|___| - |___|___|___| - |___|___|___|___|

DON'T KNOW ..... d

REFUSED ..... r

IF BL3 FIRST NAME = ANSWERED OR
IF BL3 LAST NAME = ANSWERED

FILL = FIRST NAME FROM BL3
IF BL3 = D, FILL "this person"

**BL3b. And what is [FIRST NAME FROM BL3/this person]'s relationship to you?**

_____
RELATIONSHIP

DON'T KNOW ..... d

REFUSED ..... r

BL2 = 1, 2, 3, OR BL3A PHONE NUMBER ANSWERED

**BL4. How about a second friend or relative? What is his or her name?**

**[BE SURE TO VERIFY SPELLING]**

_____
FIRST NAME

_____
LAST NAME

DON'T KNOW .....d

REFUSED .....r GO TO END

BL4 FIRST NAME = ANSWERED
BL4 LAST NAME = ANSWERED

**BL4a. What is this person's telephone number, beginning with the area code?**

|___|___|___| - |___|___|___|___| - |___|___|___|___| - |___|___|___|___|

DON'T KNOW .....d

REFUSED .....r

BL4 FIRST NAME = ANSWERED
BL4 LAST NAME = ANSWERED

FILL= FIRST NAME FROM BL4
IF BL4 = D, FILL "this person"

**BL4b. And what is [FIRST NAME FROM BL4/this person]'s relationship to you?**

_____
RELATIONSHIP

DON'T KNOW .....d

REFUSED .....r

ALL

IF BL2 NE 9: We look forward to speaking with you again in 12 months.

**END. Thank you again for your help and have a good day/evening. [We look forward to speaking with you again in 12 months.]**

## B.3. FOLLOW-UP SURVEY INSTRUMENT

The final follow-up questionnaire for households is shown in Appendix B.3.

OMB Clearance Number: 0584-0603
Expiration Date: 08/31/2018

# Evaluation of Demonstration Projects to End Childhood Hunger

## Follow-Up Questionnaire for Households

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection will be entered after clearance. The time required to complete this information collection is estimated to average 30 to 35 minutes per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection.

## A. Introduction

| DEMONSTRATION = CHICKASAW NATION AND BASELINE NON-RESPONDENT |
|---|
| IF FIELD LOCATOR PRESENT, FILL= ”give”<br>ELSE FILL= “send” |

**SampMembA.**

**For quality assurance purposes, this call may be monitored or recorded.**

**The interview will take approximately 30 minutes. It has questions about your children’s food choices as well as general questions about you and your household. Your answers will help the government make its child nutrition programs better. As a way of saying thank you, we will [send/give] you $30 for helping us. We will also follow up 6 months from now for a final interview that will also take approximately 30 minutes to complete. Will give you another prepaid card at that time for helping us.**

**Your participation in this interview is voluntary and you may stop at any time. You may also refuse to answer any question. Your benefits will not be affected by any answers to questions or if you choose not to participate.**

**All the information you give us will be kept private to the extent allowed by law. There is a small risk of the loss of confidentiality of your data, but procedures are in place to minimize this risk. Your name will not be attached to any of your answers. Your information will be used only in combination with information from other households for research purposes.**

**Do you have any questions about the interview before I begin?**

| | CODE ONE ONLY | |
|---|---|---|
| YES | 1 | GO TO FAQ |
| NO | 0 | GO TO TB2 |
| DON’T KNOW | d | |
| REFUSED | r | |

| CASES NOT ROUTED TO SAMPMEMBA |
|---|
| IF FIELD LOCATOR PRESENT, FILL1 = “give”<br>ELSE, FILL1 = “send”<br>IF DEMONSTRATION=CHICKASAW NATION FILL2= “We will also follow up 6 months from now for a final interview that will also take approximately 30 minutes to complete. Will give you another prepaid card at that time for helping us.” |

**SampMembB.**

**For quality assurance purposes, this call may be monitored or recorded.**

**The interview will take approximately 30 minutes. It has questions about your children’s food choices as well as general questions about you and your household. As a way of saying thank you, we will [give/send] you $30 for helping us. [We will also follow up 6 months from now for a final interview that will also take approximately 30 minutes to complete. We will give you another prepaid card at that time for helping us.]**

**Do you have any questions before I begin?**

CODE ONE ONLY

| | | |
|---|---|---|
| YES | 1 | GO TO FAQ |
| NO | 0 | GO TO TB1 |
| DON’T KNOW | d | |
| REFUSED | r | |

## B. Household Size and Composition

BASELINE RESPONDENT

FILL HHNUMB FROM BASELINE SURVEY

**TB1. Let's start by updating our information from last year. According to my records from our last interview, there were [HHNUMB] people in your household that share their food together. Is that still correct?**

| | | |
|---|---|---|
| YES | 1 | GO TO TB4 |
| NO | 0 | GO TO TB2 |
| DON'T KNOW | d | GO TO TB2 |
| REFUSED | r | GO TO TB2 |

BASELINE NON-RESPONDENT OR [TB1=0, D, OR R]

**TB2. Including yourself, how many people live in your household? Don't forget to include non-relatives who live in your household and, of course, babies, small children and foster children. Also include people who usually live in your household but may have been away within the last 30 days for reasons such as: vacation, traveling for work, or in the hospital. Do not include children living away at school or anyone who is now incarcerated.**

**PROBE: By temporarily away we mean away within the last 30 days.**

|___|___| NUMBER OF PEOPLE
(1-20)

| | | |
|---|---|---|
| DON'T KNOW | d | GO TO TB9A |
| REFUSED | r | GO TO TB9A |

TB2=1

**TB2a. Just to confirm, you are the only person living in the household. There are no children, non-relatives, or people who usually live there but are currently away?**

| | | |
|---|---|---|
| YES | 1 | GO TO TB9 |
| NO | 0 | REPEAT TB2 |
| DON'T KNOW | d | REPEAT TB2 |
| REFUSED | r | GO TO TB9A |

TB2 GT 1

**TB3. Do all the people who live with you share the food that is bought for the household?**

| | | |
|---|---|---|
| YES | 1 | GO TO BOX TB3 |
| NO | 0 | GO TO TB3A |
| DON'T KNOW | d | GO TO TB3A |
| REFUSED | r | GO TO TB3A |

PROGRAMMER BOX TB3

IF TB3=1 AND BASELINE RESPONDENT, GO TO TB4. IF TB3=1 AND BASELINE NON-RESPONDENT, GO TO TB5.

TB3 NE 1

**TB3a. Including yourself, how many people in your household share the food that is bought for the household?**

|___|___| NUMBER OF PEOPLE
(1-20)

| | |
|---|---|
| DON'T KNOW | d |
| REFUSED | r |

HARD CHECK: IF TB3A GT TB2; **The number of people in your household who share food is greater than the total number of people in your household. Did I make a mistake?**

PROGRAMMER BOX TB3A

IF BASELINE NON-RESPONDENT, GO TO TB5. OTHERWISE, GO TO TB4.

(TB1=1 OR TB2>1) AND BASELINE RESPONDENT

IF TB4a_DOB1 = ANSWERED, FILL1 = "date of birth"
ELSE, FILL1 = "age"
IF TB4_1 = ANSWERED AND NE D OR R, FILL2 = [NAME1]
ELSE, FILL2 = "a child"
IF TB4a_DOB1 = ANSWERED, FILL3 = "a date of birth [DOB1]"
ELSE, FILL3 = "an age of [AGE1]
IF TB4_1 = ANSWERED AND NE D OR R, FILL4 = [NAME1]
ELSE, FILL4 = "this child"
For first child in HH, fill: We would now like to confirm… still live in your household?
For additional children in HH, fill: Now I'd like to ask about the next child…still live in your household?

**TB4.** FIRST CHILD: **We would now like to confirm the information we collected 12 months ago regarding the children living in your household. I am going to read you the name or initials for each child that we have from last year's interview. I will also read each child's [date of birth/age] and gender. I would like for you to confirm whether the child still lives in your household and if his or her information is correct. I have [[NAME1]/a child] with [a date of birth of [DOB1]/an age of [AGE1] and [GENDER1]. Does ([NAME1]/this child) still live in your household?**

ADDITIONAL CHILD: **Now I'd like to ask about the next child we learned about in last year's interview. I have [[NAME2]/this child] with [a date of birth of [DOB2]/an age of [AGE2]] and [GENDER2]. Does [[NAME2]/this child] still live in your household?**

INTERVIEWER: IF CHILD IS DECEASED: **I'm very sorry for your loss.** CODE "3."

**CODE ONE ONLY**

| | | |
|---|---|---|
| CHILD STILL LIVES IN HOUSEHOLD | 1 | GO TO BOX TB4 |
| CHILD INFORMATION IS INCORRECT | 2 | GO TO BOX TB4 |
| CHILD NO LONGER LIVES IN HOUSEHOLD OR IS DECEASED | 3 | GO TO BOX TB4 |
| DON'T KNOW | d | GO TO BOX TB4 |
| REFUSED | r | GO TO BOX TB4 |

PROGRAMMER BOX TB4

IF TB4=1 AND DOB1=.M AND AGE1=.M, GO TO TB4B.
ELSE IF TB4=1 AND GENDER1=.M, GO TO TB4C.
ELSE IF TB4=1 AND DEMONSTRATION = CHICKASAW NATION OR VIRGINIA, GO TO TB4_1.
ELSE IF TB4=2, GO TO TB4A.
ELSE, GO TO TB4D.

| TB4=2 |
|---|
| IF TB4_1 = ANSWERED AND NE D OR R, FILL = [NAME1]<br>ELSE, FILL = “this child” |

**TB4a. What is ([NAME1]/this child)’s date of birth?**

PROGRAMMER: COLLECT DATE WITH SEPARATE FIELDS

|__|__| / |__|__| / |__|__|__|__|
MONTH DAY YEAR
(1-12) (1-31) (1996-2016) GO TO TB4C

DON’T KNOW ..... d GO TO TB4B

REFUSED ..... r GO TO TB4B

| (TB4=1 AND DOB1=.M AND AGE1=.M) OR TB4A=D OR R |
|---|
| IF TB4A=D OR R FILL1=Some people find it easier to select an age group.<br>IF TB4_1 = ANSWERED AND NE D OR R, FILL2 = [NAME1]<br>ELSE, FILL2 = “this child” |

**TB4b. [Some people find it easier to select an age group.] Please stop me when I reach ([NAME1]/this child)’s age group. Is it…**

**CODE ONE ONLY**

**Under 2 years old,** ..... 1 GO TO TB4C

**Age 2 to 5 years,** ..... 2 GO TO TB4C

**Age 6 to 11 years,** ..... 3 GO TO TB4C

**Age 12 to 17 years, or** ..... 4 GO TO TB4C

**Age 18 or older and still in school?** ..... 5 GO TO TB4C

DON’T KNOW ..... d GO TO TB4C

REFUSED ..... r GO TO TB4C

| (TB4=1 AND GENDER1=.M) OR TB4A=ANSWERED OR TB4B = ANSWERED |
|---|
| IF TB4_1 = ANSWERED AND NE D OR R, FILL = [NAME1]<br>ELSE, FILL = “this child” |

**TB4c. Is ([NAME1]/this child) a boy or girl?**

INTERVIEWER: ASK IF RESPONDENT HAS NOT ALREADY MENTIONED CHILD’S SEX.

**CODE ONE ONLY**

BOY ..... 1
GIRL ..... 2
DON’T KNOW ..... d
REFUSED ..... r

| (DEMONSTRATION=CHICKASAW NATION OR VIRGINIA) AND ((BASELINE DOB YEAR <2015) OR (TB4A YEAR <2015) OR (TB4B=2, 3, 4, OR 5)) |
|---|
| IF TB4_1 = ANSWERED AND NE D OR R, FILL = [NAME1]<br>ELSE, FILL = “THIS CHILD” |

**TB4_1. Is ([NAME1]/this child) in grades pre-K through 12 in your local school system?**

YES ..... 1 GO TO TB4_2
NO ..... 0
DON’T KNOW ..... d
REFUSED ..... r

| TB4_1=1 |
|---|
| IF TB4_1 = ANSWERED AND NE D OR R, FILL = [NAME1]<br>ELSE, FILL = “THIS CHILD” |

**TB4_2. What school does ([NAME1]/this child) attend?**

**[List of schools + “other” option]**

DON’T KNOW ..... d
REFUSED ..... r

PROGRAMMER BOX TB4_4

IF [(TB1=1 OR TB2>1)] AND [NUMCHILDBL > 1], LOOP OVER TB4 THROUGH TB4_2 FOR ALL CHILDREN ON BASELINE HOUSEHOLD ROSTER THEN GO TO TB4H.

BASELINE RESPONDENT

**TB4h. Are there any other children, age 18 or younger, or over 18 but still in high school, in your household that I have not asked about yet?**

| | | |
|---|---|---|
| YES | 1 | GO TO TB4I |
| NO | 0 | GO TO SECTION TC |
| DON'T KNOW | d | GO TO SECTION TC |
| REFUSED | r | GO TO SECTION TC |

TB4H=1

**TB4i. How many additional children age 18 or younger, or over 18 but still in high school, are in your household that I have not asked about yet?**

|___|___| NUMBER OF CHILDREN
(1-20)

DON'T KNOW ..... d

REFUSED ..... r

PROGRAMMER BOX TB4I

IF TB4I = 1-20, GO TO TB7. IF D OR R, GO TO SECTION TC.

BASELINE NON-RESPONDENT

**TB5. How many children are currently living in your household that were age 18 or younger or over 18 but were still in high school during the most recently completed school year?**

|__|__| NUMBER OF CHILDREN
(0-20) GO TO SECTION B PROGRAMMER BOX

DON'T KNOW ..... d

REFUSED ..... r

HARD CHECK: IF TB5 GT TB2; **The number of children living in your household is greater than the total number of people living in your household. Did I make a mistake?**

HARD CHECK: IF TB5 GT TB3a; **The number of children living in your household is greater than the total number of people sharing food in your household. Did I make a mistake?**

TB5=0 OR D OR R

**TB6. Is there at least one child living in your household?**

| | | |
|---|---|---|
| YES | 1 | REPEAT TB5 |
| NO | 0 | GO TO SECTION B PROGRAMMER BOX |
| DON'T KNOW | d | GO TO SECTION B PROGRAMMER BOX |
| REFUSED | r | GO TO SECTION B PROGRAMMER BOX |

| (TB4I GTE 1) OR (TB5 GTE 1) |
|---|
| IF TB4I=1 TO 20: For the children we haven't discussed already,<br>IF TB4I GT 1 OR TB5 GT 1: first<br>For additional children, fill: What is the name of the next child? |

**TB7. [For the children we haven't discussed already,] I'd like to make a list of the first names or initials of the children in your household. This will help me with asking some questions later. What is the name of the [first] child?**

ADDITIONAL CHILD: **What is the name of the next child?**

**IF NEEDED: You can give me the child's initials or some other way to refer to the child.**

_____ (STRING 25)
NAME

DON'T KNOW .....d

REFUSED .....r

| (TB4I GTE 1) OR (TB5 GTE 1) |
|---|
| IF TB7 = ANSWERED AND NE D OR R, FILL = ANSWER FROM TB7<br>ELSE, FILL = "THIS CHILD" |

**TB7a. What is ([ANSWER FROM TB7]/this child)'s date of birth?**

PROGRAMMER: COLLECT DATE WITH SEPARATE FIELDS

|__|__| / |__|__| / |__|__|__|__|
MONTH DAY YEAR
(1-12) (1-31) (1996-2016) GO TO TB7C

DON'T KNOW .....d GO TO TB7B

REFUSED .....r GO TO TB7B

| TB7A=D OR R |
|---|
| IF TB7 = ANSWERED AND NE D OR R, FILL = ANSWER FROM TB7<br>ELSE, FILL = "THIS CHILD" |

**TB7b. Some people find it easier to select an age group. This information will help me with asking some questions later. Please stop me when I reach ([ANSWER FROM TB7]/this child)'s age group. Is it…**

**CODE ONE ONLY**

| | | |
|---|---|---|
| **Under 2 years old,** | 1 | GO TO TB7C |
| **Age 2 to 5 years,** | 2 | GO TO TB7C |
| **Age 6 to 11 years,** | 3 | GO TO TB7C |
| **Age 12 to 17 years, or** | 4 | GO TO TB7C |
| **Age 18 or older and still in school?** | 5 | GO TO TB7C |
| DON'T KNOW | d | GO TO TB7C |
| REFUSED | r | GO TO TB7C |

| (TB4I GTE 1) OR (TB5 GTE 1) OR (TB7B = RESPONSE OR D OR R) |
|---|
| IF TB7 = ANSWERED AND NE D OR R, FILL = ANSWER FROM TB7<br>ELSE, FILL = "THIS CHILD" |

**TB7c. Is ([ANSWER FROM TB7]/this child) a boy or girl?**

INTERVIEWER: ASK IF RESPONDENT HAS NOT ALREADY MENTIONED CHILD'S SEX.

**CODE ONE ONLY**

| | |
|---|---|
| BOY | 1 |
| GIRL | 2 |
| DON'T KNOW | d |
| REFUSED | r |

| (TB4I GTE 1) OR (TB5 GTE 1) AND [TB7A GTE 3 YEARS OR TB7B = 2,3,4, OR 5] AND DEMONSTRATION=CHICKASAW NATION OR VIRGINIA |
|---|
| IF TB7 = ANSWERED AND NE D OR R, FILL = ANSWER FROM TB7<br>ELSE, FILL = "THIS CHILD" |

**TB7d. Is ([ANSWER FROM TB7]/this child) in grades pre-K through 12 in your local school system?**

YES ..... 1
NO ..... 0
DON'T KNOW ..... d
REFUSED ..... r

| TB7D=1 AND [DEMONSTRATION=CHICKASAW NATION OR VIRGINIA] |
|---|
| IF TB7 = ANSWERED AND NE D OR R, FILL = ANSWER FROM TB7<br>ELSE, FILL = "THIS CHILD" |

**TB7e. What school does ([ANSWER FROM TB7]/this child) attend?**

**[List of schools + "other" option]**

DON'T KNOW ..... d
REFUSED ..... r

PROGRAMMER BOX TB8G

IF TB4I GT1 OR TB5 GT 1, LOOP OVER TB8 THROUGH TB8G FOR ALL CHILDREN IN TB4I OR TB5.

PROGRAMMER BOX SECTION B:

CREATE PROGRAMMED VARIABLES FOR NUMBER OF CHILDREN IN HOUSEHOLD (NUMCHILDFU1), TOTAL HOUSEHOLD SIZE (HHNUMBFU1), A FLAG FOR CHICKASAW NATION CHILDREN AGE 2 YEARS OR OLDER (CNAGEFLAGFU1), AND NUMBER OF CHILDREN IN CHICKASAW NATION HOUSEHOLDS AGE 2 YEARS OR OLDER (TOTCNAgeFU1).

IF (TB5=0) OR (TB6=0, D, OR R) THEN NUMCHILDFU1=0. IF (TB5=D OR R) AND (TB6=0, D, OR R) THEN NUMCHILDFU1=0.

IF NUMCHILDFU1=0 GO TO SECTION D. ELSE GO TO TC1.

IF [TB2 = DK OR R] OR [TB2A = R]

**TB9a. I apologize, this survey is for individuals with at least one child under the age of 18 in the house.**

Status refusal. Go to END.

## C. Children's Program Participation

**For the next series of questions we'll be asking about meals and snacks the children in your household may have had during the last 30 days, that is, since [DATE OF INTERVIEW-30].**

[KIDSGTE3FU1] GTE 1

**TC1. On school days during the last 30 days, how many children in your household usually ate breakfast at school?**

|___|___| NUMBER OF CHILDREN
(0- 20)

DON'T KNOW ..... d GO TO TC1A

REFUSED ..... r GO TO TC1A

TC1 NE 0

**TC1a. On school days during the last 30 days, how many children in your household got free or reduced-price breakfasts at school?**

|___|___| NUMBER OF CHILDREN
(0- 20)

DON'T KNOW ..... d

REFUSED ..... r

[KIDSGTE3FU1] GTE 1

**TC1b. On school days during the last 30 days, how many children in your household usually ate a school lunch?**

|___|___| NUMBER OF CHILDREN
(0- 20)

DON'T KNOW ..... d GO TO TC1C

REFUSED ..... r GO TO TC1C

TC1B NE 0

**TC1c. On school days during the last 30 days, how many children in your household got free or reduced-price lunches at school?**

|___|___| NUMBER OF CHILDREN
(0- 20)

DON'T KNOW ..... d

REFUSED ..... r

[KIDSGTE3FU1] GTE 1

IF DEMONSTRATION = VIRGINIA FILL "in school or"

**TC1d. During the last 30 days, how many children in your household got free supper meals [in school or] at an after school program held in their school building?**

|___|___| NUMBER OF CHILDREN
(0- 20)

DON'T KNOW ..... d

REFUSED ..... r

[KIDSGTE3FU1] GTE 1

**TC1e. During the last 30 days, how many children in your household participated in any other after school program where meals or snacks are served?**

|___|___| NUMBER OF CHILDREN
(0- 20)

DON'T KNOW ..... d

REFUSED ..... r

DEMONSTRATION = KENTUCKY [Asked only for period when the last 30-day period included summer.]

**TC1f. During the last 30 days, how many children in your household received free meals or snacks at places such as summer school, a community center, day camp or park?**

|___|___| NUMBER OF CHILDREN
(0- 20)

DON'T KNOW ..... d

REFUSED ..... r

[KIDSLTE5FU1] GTE1

**TC1g. During the last 30 days, how many children in your household received meals or snacks at a daycare center, family or group daycare home, or Head Start center?**

**IF NEEDED: Please include children who received meals or snacks whether the meals or snacks were free, reduced-price, or paid. Please also include meals and snacks that were included in any payment you made to the center or home.**

|___|___| NUMBER OF CHILDREN
(0- 20)

DON'T KNOW ..... d

REFUSED ..... r

[KIDSGTE3FU1] GTE1

**TC2. During the last 30 days, how many children in your household got food through a school backpack food program for children?**

**PROBE IF NEEDED: The Backpack Food Program provides food for children to take home from school over weekends and holidays.**

|___|___| NUMBER OF CHILDREN
(0- 20)

DON'T KNOW ..... d

REFUSED ..... r

TC2 GTE 1 AND DEMONSTRATION=VIRGINIA

TC2=1: child
TC2 GT 1: children

**TC2a. During the most recently completed school year, that is, school year 2015-2016, how often did your [child/children] usually take home a food backpack from school? Would you say…**

**Less often than once per month,** ..... 1

**Once per month,** ..... 2

**Two or three times per month, or** ..... 3

**Every week?** ..... 4

DON'T KNOW ..... d

REFUSED ..... r

DEMONSTRATION=CHICKASAW NATION AND KIDSGTE3FU1 GTE1

**TC3. How many children in your household received Summer EBT for Children benefits this past summer, that is, summer 2016?**

|___|___| NUMBER OF CHILDREN
(0- 20)

DON'T KNOW ..... d

REFUSED ..... r

## D. Food Purchase Behavior and Other Food Behavior

**These next questions are about where you shop for food for your household.**

DEMONSTRATION = CHICKASAW NATION OR KENTUCKY

**TD1. During the past 30 days, about how many times did you or someone in your household shop for food?**

|___|___| NUMBER OF TIMES
(0-30)

DON'T KNOW ..... d

REFUSED ..... r

DEMONSTRATION = CHICKASAW NATION OR KENTUCKY

**TD2. During the past 30 days, at what kind of store did you buy most of your groceries?**

INTERVIEWER: READ ONLY IF NECESSARY

INTERVIEWER: CODE "ALDI" AS A SUPERMARKET/GROCERY STORE

**CODE ONE ONLY**

SUPERMARKETS/GROCERY STORES SUCH AS ALDI OR SAVE-A-LOT ..... 1

DISCOUNT STORES SUCH AS WAL-MART, TARGET, OR KMART ..... 2

WAREHOUSE CLUBS, SUCH AS PRICE CLUB, COSTCO, PACE, SAM'S CLUB, OR BJ'S ..... 3

CONVENIENCE STORES SUCH AS 7-11, QUICK CHECK, QUICK STOP ..... 4

GAS STATIONS, SUCH AS SHELL, FLYING J, EXXON, MARATHON, OR AMACO ..... 5

ETHNIC FOOD STORES SUCH AS BODEGAS, ASIAN FOOD MARKETS, OR CARIBBEAN MARKETS ..... 6

FARMERS' MARKETS ..... 7

DOLLAR STORES ..... 8

SURPLUS/CLOSE-OUT RETAILERS SUCH AS BIG LOTS ..... 9

OTHER (SPECIFY) ..... 99

DON'T KNOW ..... d

REFUSED ..... r

TD2 = 99

**TD2_Specify.** INTERVIEWER: SPECIFY OTHER KIND OF STORE.

_____ (STRING 100)
DESCRIPTION

DON'T KNOW ..... d

REFUSED ..... r

DEMONSTRATION = KENTUCKY

**TD3. What is the <u>main</u> reason you shop at that store?**

**CODE ONE ONLY**

LOW PRICES ..... 1

SALES ..... 2

QUALITY OF FOOD ..... 3

VARIETY OF FOODS (GENERAL) ..... 4

VARIETY OF SPECIAL FOODS (SUCH AS GLUTEN FREE) ..... 5

CLOSE TO HOME/CONVENIENT ..... 6

EASY TO GET TO ..... 7

PRODUCE SELECTION ..... 8

MEAT DEPARTMENT ..... 9

LOYALTY/FREQUENT SHOPPER PROGRAM ..... 10

ONLY STORE IN AREA ..... 11

AVAILABILITY OF FOOD AND NON-FOOD ITEMS IN SAME STORE ..... 12

GAS OR OTHER DISCOUNTS ..... 13

OTHER (SPECIFY) ..... 99

DON'T KNOW ..... d

REFUSED ..... r

TD3 = 99

**TD3_Specify.** INTERVIEWER: SPECIFY OTHER REASON.

_____ (STRING 100)
DESCRIPTION

DON'T KNOW ..... d

REFUSED ..... r

DEMONSTRATION = KENTUCKY

**TD4. How do you usually get to the store where you bought most of your groceries in the past 30 days?**

**CODE ALL THAT APPLY**

DRIVE OWN CAR....1
DRIVE SOMEONE ELSE'S CAR....2
SOMEONE ELSE DRIVES ME....3
WALK....4
BUS, SUBWAY, OR OTHER PUBLIC TRANSIT....5
TAXI OR OTHER PAID DRIVER....6
RIDE BICYCLE....7
OTHER (SPECIFY)....8
DON'T KNOW....d
REFUSED....r

TD4 = 8

**TD4_Other.** INTERVIEWER: SPECIFY OTHER WAY.

_____ (STRING 100)
DESCRIPTION
DON'T KNOW....d
REFUSED....r

DEMONSTRATION = KENTUCKY

**TD4a. About how many minutes does it take to go one way from home to that store?**

INTERVIEWER: ENTER MIDPOINT IF RANGE IS GIVEN

|__|__|__| NUMBER OF MINUTES ONE WAY
(0-120)

DON'T KNOW....d
REFUSED....r

SOFT CHECK: IF GT 60; **I just want to make sure I recorded your answer correctly. Did you say [ANSWER FROM TD4A]?**

DEMONSTRATION = CHICKASAW NATION OR KENTUCKY

**TD4b. And approximately how many miles away is that store from your home – one way?**

INTERVIEWER: ENTER MIDPOINT IF RANGE IS GIVEN; IF LESS THAN ONE MILE ENTER "0"

|__|__| NUMBER OF MILES ONE WAY
(0-99)

DON'T KNOW ..... d

REFUSED ..... r

SOFT CHECK: IF GT 30; **I just want to make sure I recorded your answer correctly. Did you say [ANSWER FROM TD4B]?**

ALL

**TD5. How many nights a week does your family typically sit down together to have dinner as a family?**

**CODE ONE ONLY**

EVERY NIGHT ..... 1

5 OR 6 NIGHTS ..... 2

3 OR 4 NIGHTS ..... 3

1 OR 2 NIGHTS ..... 4

NEVER ..... 5

DON'T KNOW ..... d

REFUSED ..... r

DEMONSTRATION = NEVADA OR VIRGINIA

**TD6. During the past 7 days, how many times did you or someone else in your family prepare food for dinner or supper at home? Include times spent putting the ingredients together for dinner or supper, but do not include heating up leftovers.**

|___| NUMBER (0-7)

NEVER ..... 0

DON'T KNOW ..... d

REFUSED ..... r

DEMONSTRATION = NEVADA OR VIRGINIA

**TD7. How often do you shop with a grocery list? Would you say…**

**CODE ONE ONLY**

**Never,** ..... 1

**Rarely,** ..... 2

**Sometimes,** ..... 3

**Most of the time, or** ..... 4

**Always?** ..... 5

DON'T KNOW ..... d

REFUSED ..... r

DEMONSTRATION=NEVADA OR VIRGINIA

**TD8. In the past 12 months, about how many classes, lectures, or demonstrations about how to shop for or prepare nutritious food and meals did you or another adult in your household attend?**

|___|___| SESSIONS
(0-24)

DON'T KNOW ..... d

REFUSED ..... r

## E. Food Security

PROGRAMMER BOX SECTION E

SELECT APPROPRIATE FILLS DEPENDING ON NUMBER OF ADULTS [ADULTSFU1] AND CHILDREN IN THE HOUSEHOLD [NUMCHILDFU1]. DEFAULT TO MULTIPLE ADULTS AND MULTIPLE CHILDREN IN HOUSEHOLD.

ALL

FILL DATE = [DATE OF INTERVIEW-30]

**TE1. Now I'm going to read you several statements that people have made about their food situation. For these statements, please tell me whether the statement was often true, sometimes true, or never true for your household in the last 30 days, that is, since [DATE OF INTERVIEW-30].**

**The first statement is "We worried whether our food would run out before we got money to buy more." Was that often true, sometimes true, or never true for your household in the last 30 days?**

**CODE ONE ONLY**

OFTEN TRUE ..... 1
SOMETIMES TRUE ..... 2
NEVER TRUE ..... 3
DON'T KNOW ..... d
REFUSED ..... r

ALL

**TE2. "The food that we bought just didn't last, and we didn't have money to get more." Was that often, sometimes, or never true for your household in the last 30 days?**

**CODE ONE ONLY**

OFTEN TRUE ..... 1
SOMETIMES TRUE ..... 2
NEVER TRUE ..... 3
DON'T KNOW ..... d
REFUSED ..... r

ALL

**TE3. "We couldn't afford to eat balanced meals." Was that often, sometimes, or never true for your household in the last 30 days?**

**CODE ONE ONLY**

| | | |
|---|---|---|
| OFTEN TRUE | 1 | |
| SOMETIMES TRUE | 2 | |
| NEVER TRUE | 3 | |
| DON'T KNOW | d | |
| REFUSED | r | |

PROGRAMMER BOX TE3
IF TE1=1 OR 2 OR TE2=1 OR 2 OR TE3=1 OR 2, GO TO TE4;
OTHERWISE, SKIP TO TE9.

TE1=1 OR 2 OR TE2=1 OR 2 OR TE3=1 OR 2

IF [ADULTSFU1] > 1: "or other adults in your household"
FILL DATE = [DATE OF INTERVIEW -30]

**TE4. In the last 30 days, that is, since [DATE OF INTERVIEW-30], did you [or other adults in your household] ever cut the size of your meals or skip meals because there wasn't enough money for food?**

| | | |
|---|---|---|
| YES | 1 | GO TO TE4A |
| NO | 0 | GO TO TE5 |
| DON'T KNOW | d | GO TO TE5 |
| REFUSED | r | GO TO TE5 |

TE4=1

**TE4a. In the last 30 days, how many days did this happen?**

| | | |
|---|---|---|
| \|___\|___\| NUMBER OF DAYS (1-30) | | GO TO TE5 |
| DON'T KNOW | d | GO TO TE4B |
| REFUSED | r | GO TO TE5 |

TE4A=D

**TE4b. Do you think it was one or two days, or more than two days?**

**CODE ONE ONLY**

ONE OR TWO DAYS ..... 1
MORE THAN TWO DAYS ..... 2
DON'T KNOW ..... d
REFUSED ..... r

TE1=1 OR 2 OR TE2=1 OR 2 OR TE3=1 OR 2

**TE5. In the last 30 days, did you ever eat less than you felt you should because there wasn't enough money for food?**

YES ..... 1
NO ..... 0
DON'T KNOW ..... d
REFUSED ..... r

TE1=1 OR 2 OR TE2=1 OR 2 OR TE3=1 OR 2

**TE6. In the last 30 days, were you ever hungry but didn't eat because there wasn't enough money for food?**

YES ..... 1
NO ..... 0
DON'T KNOW ..... d
REFUSED ..... r

TE1=1 OR 2 OR TE2=1 OR 2 OR TE3=1 OR 2

**TE7. In the last 30 days, did you lose weight because there wasn't enough money for food?**

YES ..... 1
NO ..... 0
DON'T KNOW ..... d
REFUSED ..... r

PROGRAMMER BOX TE7

IF TE4=1 OR TE5=1 OR TE6=1 OR TE7=1, GO TO TE8; OTHERWISE, SKIP TO TE9.

TE4=1 OR TE5=1 OR TE6=1 OR TE7=1

IF [ADULTSFU1] > 1: "OR OTHER ADULTS IN YOUR HOUSEHOLD"

**TE8. In the last 30 days, did you [or other adults in your household] ever not eat for a whole day because there wasn't enough money for food?**

| | | |
|---|---|---|
| YES | 1 | GO TO TE8A |
| NO | 0 | GO TO BOX TE8B |
| DON'T KNOW | d | GO TO PROG BOX TE8B |
| REFUSED | r | GO TO PROG BOX TE8B |

TE8=1

**TE8a. In the last 30 days, how many days did this happen?**

|___|___| NUMBER OF DAYS (1-30) GO TO PROG BOX TE8B

| | | |
|---|---|---|
| DON'T KNOW | d | GO TO TE8B |
| REFUSED | r | GO TO PROG BOX TE8B |

TE8A=D

**TE8b. Do you think it was one or two days, or more than two days?**

**CODE ONE ONLY**

ONE OR TWO DAYS ..... 1
MORE THAN TWO DAYS ..... 2
DON'T KNOW ..... d
REFUSED ..... r

PROGRAMMER BOX TE8B
IF NUMCHILDFU1= 0 SKIP TO TF1. OTHERWISE, GO TO TE9.

| [NUMCHILDFU1] GT 0 |
|---|
| IF [ADULTSFU1] = 1 AND [NUMCHILDFU1] = 1, FILL = "I RELIED ON ONLY A FEW KINDS OF LOW-COST FOOD TO FEED MY CHILD BECAUSE I WAS RUNNING OUT OF MONEY TO BUY FOOD."<br>IF [ADULTSFU1] = 1 AND [NUMCHILDFU1] >1, FILL = "I RELIED ON ONLY A FEW KINDS OF LOW-COST FOOD TO FEED MY CHILDREN BECAUSE I WAS RUNNING OUT OF MONEY TO BUY FOOD."<br>IF [ADULTSFU1]>1 AND [NUMCHILDFU1] =1, FILL = "WE RELIED ON ONLY A FEW KINDS OF LOW-COST FOOD TO FEED OUR CHILD BECAUSE WE WERE RUNNING OUT OF MONEY TO BUY FOOD"<br>IF [ADULTSFU1]>1 AND [NUMCHILDFU1]>1, FILL = "WE RELIED ON ONLY A FEW KINDS OF LOW-COST FOOD TO FEED OUR CHILDREN BECAUSE WE WERE RUNNING OUT OF MONEY TO BUY FOOD." |

**TE9. Now I'm going to read you several statements that people have made about the food situation of their children. For these statements, please tell me whether the statement was often true, sometimes true, or never true in the last 30 days for [your child/children living in the household who are under 18 years old or 18 or older but still in high school].**

**[IF SINGLE ADULT AND SINGLE CHILD:**

**"I relied on only a few kinds of low-cost food to feed my child because I was running out of money to buy food."**

**IF SINGLE ADULT AND MULTIPLE CHILDREN:**

**"I relied on only a few kinds of low-cost food to feed my children because I was running out of money to buy food."**

**IF MULTIPLE ADULTS AND SINGLE CHILD:**

**"We relied on only a few kinds of low-cost food to feed our child because we were running out of money to buy food."**

**IF MULTIPLE ADULTS AND MULTIPLE CHILDREN:**

**"We relied on only a few kinds of low-cost food to feed our children because we were running out of money to buy food."]**

**SHOW FOR ALL:**

Was that often, sometimes, or never true for your household in the last 30 days**?**

OFTEN TRUE ..... 1

SOMETIMES TRUE ..... 2

NEVER TRUE ..... 3

DON'T KNOW ..... d

REFUSED ..... r

| [NUMCHILDFU1] GT 0 |
|---|
| IF [ADULTSFU1] = 1 AND [NUMCHILDFU1] = 1, FILL = "I COULDN'T FEED MY CHILD A BALANCED MEAL, BECAUSE I COULDN'T AFFORD THAT."<br>IF [ADULTSFU1] = 1 AND [NUMCHILDFU1] >1, FILL = "I COULDN'T FEED MY CHILDREN A BALANCED MEAL, BECAUSE I COULDN'T AFFORD THAT."<br>IF [ADULTSFU1]>1 AND [NUMCHILDFU1] =1, FILL = "WE COULDN'T FEED OUR CHILD A BALANCED MEAL, BECAUSE WE COULDN'T AFFORD THAT."<br>IF [ADULTSFU1]>1 AND [NUMCHILDFU1]>1, FILL = "WE COULDN'T FEED OUR CHILDREN A BALANCED MEAL, BECAUSE WE COULDN'T AFFORD THAT." |

**TE10. IF SINGLE ADULT AND SINGLE CHILD:**

**"I couldn't feed my child a balanced meal, because I couldn't afford that."**

**IF SINGLE ADULT AND MULTIPLE CHILDREN:**

**"I couldn't feed my children a balanced meal, because I couldn't afford that."**

**IF MULTIPLE ADULTS AND SINGLE CHILD:**

**"We couldn't feed our child a balanced meal, because we couldn't afford that."**

**IF MULTIPLE ADULTS AND MULTIPLE CHILDREN:**

**"We couldn't feed our children a balanced meal, because we couldn't afford that."**

**SHOW FOR ALL:**

**Was that often, sometimes, or never true for your household in the last 30 days**?

OFTEN TRUE ..... 1

SOMETIMES TRUE ..... 2

NEVER TRUE ..... 3

DON'T KNOW ..... d

REFUSED ..... r

| [NUMCHILDFU1] GT 0 |
|---|
| IF [ADULTSFU1] = 1 AND [NUMCHILDFU1] = 1, FILL = "MY CHILD WAS NOT EATING ENOUGH BECAUSE I JUST COULDN'T AFFORD ENOUGH FOOD."<br>IF [ADULTSFU1] = 1 AND [NUMCHILDFU1] >1, FILL = "MY CHILDREN WERE NOT EATING ENOUGH BECAUSE I JUST COULDN'T AFFORD ENOUGH FOOD."<br>IF [ADULTSFU1]>1 AND [NUMCHILDFU1] =1, FILL = "OUR CHILD WAS NOT EATING ENOUGH BECAUSE WE JUST COULDN'T AFFORD ENOUGH FOOD."<br>IF [ADULTSFU1]>1 AND [NUMCHILDFU1]>1, FILL = "OUR CHILDREN WERE NOT EATING ENOUGH BECAUSE WE JUST COULDN'T AFFORD ENOUGH FOOD" |

**TE11. IF SINGLE ADULT AND SINGLE CHILD:**

**"My child was not eating enough because I just couldn't afford enough food."**

**IF SINGLE ADULT AND MULTIPLE CHILDREN:**

**"My children were not eating enough because I just couldn't afford enough food."**

**IF MULTIPLE ADULTS AND SINGLE CHILD:**

**"Our child was not eating enough because we just couldn't afford enough food."**

**IF MULTIPLE ADULTS AND MULTIPLE CHILDREN:**

**"Our children were not eating enough because we just couldn't afford enough food."**

**SHOW FOR ALL:**

**Was that often, sometimes, or never true for your household in the last 30 days**?

OFTEN TRUE ..... 1
SOMETIMES TRUE ..... 2
NEVER TRUE ..... 3
DON'T KNOW ..... d
REFUSED ..... r

PROGRAMMER BOX TE11

IF [TE9=1 OR 2 OR TE10=1 OR 2 OR TE11=1 OR 2] AND [NUMCHILDFU1] GT 0, GO TO TE12; OTHERWISE, SKIP TO TF1.

[NUMCHILDFU1] GT 0 AND (TE9=1 OR 2 OR TE10=1 OR 2 OR TE11=1 OR 2)

IF [NUMCHILDFU1] = 1, FILL = "your child's"
IF [NUMCHILDFU1] > 1, FILL = "any of your children's"
FILL DATE = [DATE OF INTERVIEW-30]

**TE12. In the last 30 days, that is, since [DATE OF INTERVIEW-30], did you ever cut the size of [your child's/any of your children's] meals because there wasn't enough money for food?**

YES ..... 1
NO ..... 0
DON'T KNOW ..... d
REFUSED ..... r

[NUMCHILDFU1] GT 0 AND (TE9=1 OR 2 OR TE10=1 OR 2 OR TE11=1 OR 2)

IF [NUMCHILDFU1] = 1, FILL = "your child"
IF [NUMCHILDFU1] > 1, FILL = "any of your children"

**TE13. In the last 30 days, did [your child/any of your children] ever skip meals because there wasn't enough money for food?**

| | | |
|---|---|---|
| YES ..... | 1 | GO TO TE13A |
| NO ..... | 2 | GO TO TE14 |
| DON'T KNOW ..... | d | GO TO TE14 |
| REFUSED ..... | r | GO TO TE14 |

[NUMCHILDFU1] GT 0 AND TE13=1

**TE13a. In the last 30 days, how many days did this happen?**

| | | |
|---|---|---|
| \|___\|___\| NUMBER OF DAYS (1-30) | | GO TO TE14 |
| DON'T KNOW ..... | d | GO TO TE13B |
| REFUSED ..... | r | GO TO TE14 |

[NUMCHILDFU1] GT 0 AND TE13A=D

**TE13b. Do you think it was one or two days, or more than two days?**

**CODE ONE ONLY**

ONE OR TWO DAYS ..... 1
MORE THAN TWO DAYS ..... 2
DON'T KNOW ..... d
REFUSED ..... r

[NUMCHILDFU1] GT 0 AND (TE9=1 OR 2 OR TE10=1 OR 2 OR TE11=1 OR 2)

IF [NUMCHILDFU1] = 1, FILL = "was your child"
IF [NUMCHILDFU1] > 1, FILL = "were your children"

**TE14. In the last 30 days, [was your child/were your children] ever hungry but you just couldn't afford more food?**

YES ..... 1
NO ..... 0
DON'T KNOW ..... d
REFUSED ..... r

[NUMCHILDFU1] GT 0 AND (TE9=1 OR 2 OR TE10=1 OR 2 OR TE11=1 OR 2)

IF [NUMCHILDFU1] = 1, FILL = "your child"
IF [NUMCHILDFU1] > 1, FILL = "any of your children"

**TE15. In the last 30 days, did [your child/any of your children] ever not eat for a whole day because there wasn't enough money for food?**

YES ..... 1
NO ..... 0
DON'T KNOW ..... d
REFUSED ..... r

## F. Food Expenditures

**Now, I'd like to ask some questions about shopping for food and eating at restaurants. These questions are about out-of-pocket spending on food. Later on I will ask you about purchases made with government benefits like SNAP, WIC, or FDPIR.**

| ALL |
|---|
| FILL DATE = [DATE OF INTERVIEW-30] |

**TF1. First I'll ask you about money spent on food at supermarkets and other stores. Then we will talk about money spent at fast food restaurants and other restaurants.**

**Excluding any government benefits like SNAP or WIC, since [DATE OF INTERVIEW–30] how much money did your family spend out of pocket at <u>supermarkets, grocery stores, and other stores</u>? Please do not include fast food restaurants and other types of restaurants.**

**PROBE: This includes stores such as Wal-Mart, Target, and Kmart, convenience stores like 7-11 or Mini Mart, stores like Costco or Sam's Club, dollar stores, bakeries, meat markets, vegetable stands, or farmer's markets.**

**PROBE: Please include the total amount spent in the past 30 days, since [DATE OF INTERVIEW–30].**

INTERVIEWER: RECORD "0" IF NO MONEY WAS SPENT

$ |___|___|___|___| MONEY SPENT ($0-$9,999)

DON'T KNOW ..... d GO TO TF4

REFUSED ..... r GO TO TF4

| TF1=1 TO 9,999 |
|---|
| FILL1=AMOUNT FROM TF1 |

**TF2. Was any of this $[AMOUNT FROM TF1] spent on <u>nonfood items</u> such as cleaning or paper products, pet food, cigarettes, or alcoholic beverages?**

YES ..... 1 GO TO TF3

NO ..... 0 GO TO TF4

DON'T KNOW ..... d GO TO TF4

REFUSED ..... r GO TO TF4

TF2=1

FILL=AMOUNT FROM TF1

**TF3. About how much of the $[AMOUNT FROM TF1] was spent on nonfood items?**

INTERVIEWER: RECORD "0" IF NO MONEY WAS SPENT

$ |__|__|__|__| MONEY SPENT ($0-$9,999) GO TO TF4

DON'T KNOW ..... d GO TO TF4

REFUSED ..... r GO TO TF4

HARD CHECK: IF [TF1 = $0-9,999] AND [TF3>TF1]; **The amount spent on nonfood items is greater than the total amount spent at supermarkets, grocery stores, or other stores. Did I make a mistake?**

ALL

**TF4. During the last 30 days, how many times did your family eat food from a fast food restaurant or other kinds of restaurants? Include restaurant meals at home, at fast food or other restaurants, carryout, or drive thru.**

**PROBE IF NEEDED: Please include the total number of visits in the past 30 days, since [DATE OF INTERVIEW–30].**

**PROBE IF NEEDED: Such as food you get at McDonald's, KFC, Panda Express, Taco Bell, Pizza Hut, food trucks, Applebee's, Chili's, TGI Fridays, etc.**

|__|__| TIMES (0-99)

DON'T KNOW ..... d GO TO SECTION TG

REFUSED ..... r GO TO SECTION TG

TF4 = 1-99

**TF5. About how much money did your family spend on food at all types of restaurants including fast food restaurants during the last 30 days?**

**PROBE: Please include the total amount spent in the past 30 days, since [DATE OF INTERVIEW–30].**

INTERVIEWER: RECORD "0" IF NO MONEY WAS SPENT

$ |__|__|__|__| MONEY SPENT ($0-$9,999)

DON'T KNOW ..... d

REFUSED ..... r

## G. Other Program Participation

**Next, I'm going to read the names of some programs that provide food or meals or other services to individuals or households.**

ALL

FILL DATE = [DATE OF INTERVIEW-30]

**TG1. In the last 30 days, that is, since [DATE OF INTERVIEW-30], did you or anyone in your household receive food or benefits from the Women, Infants and Children program called WIC?**

| | | |
|---|---|---|
| YES | 1 | GO TO TG1A |
| NO | 0 | GO TO TG2 |
| DON'T KNOW | d | GO TO TG2 |
| REFUSED | r | GO TO TG2 |

TG1=1

**TG1a. How many women, infants, or children in the household got WIC foods or benefits?**

|___|___| NUMBER OF WOMEN, INFANTS, OR CHILDREN
(1-20)

| | | |
|---|---|---|
| DON'T KNOW | d | GO TO TG2 |
| REFUSED | r | GO TO TG2 |

[NUMCHILDFU1] GT 0 AND TG1A=1-20 AND [KIDSLTE5FU1]>0

**TG1b. Of those, how many were infants or children up to age 5?**

|___|___| NUMBER OF INFANTS OR CHILDREN
(0-20)

| | |
|---|---|
| DON'T KNOW | d |
| REFUSED | r |

ALL

**TG2. In the last 30 days did you or anyone in your household receive food or meals from food pantries, food banks, local soup kitchens or emergency kitchens, community program, senior center, shelter, Meals on Wheels (or other programs delivering meals to your home), or church?**

| | |
|---|---|
| YES | 1 |
| NO | 0 |
| DON'T KNOW | d |
| REFUSED | r |

DEMONSTRATION = CHICKASAW NATION

**TG3. Do you or others in your household currently receive monthly commodity foods as part of the Food Distribution Program on Indian Reservations, also called FDPIR, *fi-dipper, or fid-purr*?**

YES ..... 1
NO ..... 0
DON'T KNOW ..... d
REFUSED ..... r

DEMONSTRATION = CHICKASAW NATION AND TREATMENT GROUP=T

**TG4. How often did you try the recipes included with each Packed Promise food delivery?**

| | | |
|---|---|---|
| **Every time or nearly every time,** ..... | 1 | GO TO TG4A |
| **Sometimes, or** ..... | 2 | GO TO TG4A |
| **None of the time or nearly none of the time?** ..... | 3 | GO TO TG4A |
| DID NOT ORDER/RECEIVE A FOOD DELIVERY (VOLUNTEERED) ..... | 4 | GO TO TH1 |
| DON'T KNOW ..... | d | GO TO TG4A |
| REFUSED ..... | r | GO TO TG4A |

TG4=1, 2, 3, D, OR R

**TG4a. About how much of the Packed Promise food delivery does your household eat each time you receive it? Would you say…**

**CODE ONE ONLY**

| | | |
|---|---|---|
| **All or most of the items,** ..... | 1 | GO TO TH1 |
| **Some of the items, or** ..... | 2 | |
| **None or nearly none of the items?** ..... | 3 | |
| DON'T KNOW ..... | d | GO TO TH1 |
| REFUSED ..... | r | GO TO TH1 |

TG4A=2 OR 3

**TG4b. What does your household do with the items that aren't used in the month they are delivered? Does your household…**

**CODE ALL THAT APPLY**

**Save the items for another time,** .....1

**Give the items to family or friends, or** .....2

**Throw the items away?**.....3

DON'T KNOW .....d

REFUSED .....r

## H. SNAP Enrollment

ALL

**TH1. In the last 12 months, has your household ever been enrolled in the Supplemental Nutrition Assistance Program (SNAP)?**

**PROBE IF NEEDED: SNAP is the program formerly known as 'Food Stamps.'**

| | | |
|---|---|---|
| YES | 1 | GO TO TH1A |
| NO | 0 | GO TO TH2 |
| DON'T KNOW | d | GO TO TH2 |
| REFUSED | r | GO TO TH2 |

TH1=1

**TH1a. In the last 12 months, how long did your household receive the Supplemental Nutrition Assistance Program (SNAP)? If your household received SNAP, stopped receiving it, and then started again, please include all of that time.**

|___|___|___| AMOUNT OF TIME

(1-365)

| | | |
|---|---|---|
| DON'T KNOW | d | GO TO TH2 |
| REFUSED | r | GO TO TH2 |

IF TH1A = 1-365

**TH1b. Is that days, weeks, or months?**

| | |
|---|---|
| DAYS | 1 |
| WEEKS | 2 |
| MONTHS | 3 |
| DON'T KNOW | d |
| REFUSED | r |

ALL

**TH2. In total, how long have you and your household ever received the Supplemental Nutrition Assistance Program (SNAP)?**

**IF NEEDED: Please include <u>all</u> of the time your household has received SNAP, even if your household has started and stopped receiving benefits more than once.**

INTERVIEWER: RECORD "0" IF NEVER ON SNAP

|___|___|___| AMOUNT OF TIME

(0-365)

DON'T KNOW ..... d

REFUSED ..... r

IF TH2 = 1-365

**TH2a. Is that days, weeks, months, or years?**

DAYS ..... 1

WEEKS ..... 2

MONTHS ..... 3

YEARS ..... 4

DON'T KNOW ..... d

REFUSED ..... r

TH1=1

**TH3. Are you or others in your household currently receiving SNAP?**

| | | |
|---|---|---|
| YES | 1 | GO TO TH4 |
| NO | 0 | GO TO TI1 |
| DON'T KNOW | d | GO TO TI1 |
| REFUSED | r | GO TO TI1 |

TH3=1

**TH4. What is the amount of the SNAP your household receives per month?**

$ |___|___|___|___| DOLLAR AMOUNT
($1 - $9999)

| | | |
|---|---|---|
| DON'T KNOW | d | GO TO TI1 |
| REFUSED | r | GO TO TI1 |

TH3=1

**TH5. In the last 12 months, did the amount of the benefit increase, decrease, or stay the same?**

**CODE ONE ONLY**

| | | |
|---|---|---|
| INCREASED | 1 | |
| DECREASED | 2 | |
| BOTH INCREASED AND DECREASED | 3 | |
| STAYED SAME | 4 | |
| DON'T KNOW | d | GO TO TI1 |
| REFUSED | r | GO TO TI1 |

TH3=1

**TH6. How many weeks do your SNAP benefits usually last?**

INTERVIEWER: CODE ANY ANSWER GREATER THAN 8 WEEKS AS 8

|___| NUMBER OF WEEKS
(0-8)

| | | |
|---|---|---|
| DON'T KNOW | d | GO TO TI1 |
| REFUSED | r | GO TO TI1 |

## I. Children's Food Consumption (Chickasaw Nation only)

PROGRAMMER BOX SECTION I

IF DEMONSTRATION = KENTUCKY, NEVADA, OR VIRGINIA, GO TO TJ1. IF TOTCNAGEFU1 = 0 GO TO TJ1.

ELSE IF DEMONSTRATION = CHICKASAW NATION AND TOTCNAGEFU1 GTE 1, USE RANDOM SELECTION TO CHOOSE FOCAL CHILD FROM AMONG ROSTERED CHILDREN WITH CNAGEFLAGFU1=1.

## J. Household Resources

| ALL |
|---|
| FILL DATE = [DATE OF INTERVIEW-30] |

**TJ1. The next questions are about working or jobs. Were you or any other adult in your household working for pay in the last 30 days, that is, since [DATE OF INTERVIEW-30]?**

YES ..... 1
NO ..... 0
DON'T KNOW ..... d
REFUSED ..... r

| DEMONSTRATION=KENTUCKY AND TJ1 NE 0 |
|---|

**TJ2. And what was your household's total <u>earnings</u> before taxes last month? Please include earnings from wages and salaries from a job or self-employment, or income from a rental property. Do not include income from Social Security, pensions, child support, or cash welfare benefits, or the value of SNAP benefits or food stamps, WIC, Medicaid, or public housing.**

$ |___|___|___|___|___| DOLLAR AMOUNT ($0 – 99,999)

DON'T KNOW ..... d GO TO TJ2B
REFUSED ..... r GO TO TJ2B

| TJ2=D OR R |
|---|

**TJ2b. Some people find it easier to select earnings from a range. Please stop me when I reach your household's total earnings for <u>last month</u>. Was it…**

**CODE ONE ONLY**

**Less than $500,** ..... 1
**$500 to less than $1,000,** ..... 2
**$1,000 to less than $1,500,** ..... 3
**$1,500 to less than $2,000,** ..... 4
**$2,000 to less than $2,500,** ..... 5
**$2,500 to less than $3,000, or** ..... 6
**$3,000 or more?** ..... 7
DON'T KNOW ..... d
REFUSED ..... r

ALL

FILL [LAST MONTH]

**TJ3. What was your household's total income last month, during [LAST MONTH] before taxes? Please include all types of income received by all household members last month, including all earnings, Social Security, pensions, Veteran's Benefits, Unemployment Insurance, worker's compensation benefits, child support, payments from roomers or boarders, and cash welfare benefits such as TANF (*TAH-nif*) and SSI. Do not include the value of SNAP benefits or food stamps, WIC, Medicaid, or public housing.**

$ |__|__|__|__|__| DOLLAR AMOUNT ($0 – 99,999)

DON'T KNOW ..... d GO TO TJ3B

REFUSED ..... r GO TO TJ3B

TJ3=D OR R

**TJ3b. Some people find it easier to select an income range. Please stop me when I reach your household's total income for last month. Was it…**

**CODE ONE ONLY**

**Less than $500,** ..... 1

**$500 to less than $1,000,** ..... 2

**$1,000 to less than $1,500,** ..... 3

**$1,500 to less than $2,000,** ..... 4

**$2,000 to less than $2,500,** ..... 5

**$2,500 to less than $3,000, or** ..... 6

**$3,000 or more?** ..... 7

DON'T KNOW ..... d

REFUSED ..... r

ALL

**TJ4. And, what was your household's total income last year before taxes?**

PROBE IF NEEDED: **Please include all types of income received by all household members last year, including all earnings, Social Security, pensions, Veteran's Benefits, Unemployment Insurance, worker's compensation benefits, child support, payments from roomers or boarders, and cash welfare benefits such as TANF (*TAH-nif*) and SSI. Do not include the value of SNAP benefits or food stamps, WIC, Medicaid, or public housing.**

INTERVIEWER: "LAST YEAR," MEANING 2016.

$ |__|__|__|,|__|__|__| DOLLAR AMOUNT ($0 – 150,000)

DON'T KNOW ..... d GO TO TJ4a

REFUSED ..... r GO TO TJ4a

TJ4=D OR R

**TJ4A. Some people find it easier to select an income range. Please stop me when I reach your household's total income for last year. Was it…**

**CODE ONE ONLY**

**Less than $10,000,** ..... 1
**$10,000 to less than $20,000,** ..... 2
**$20,000 to less than $35,000,** ..... 3
**$35,000 to less than $50,000,** ..... 4
**$50,000 to less than $75,000,** ..... 5
**$75,000 to less than $100,000,** ..... 6
**$100,000 to less than $150,000, or** ..... 7
**$150,000 or more?** ..... 8
DON'T KNOW ..... d
REFUSED ..... r

ALL

FILL DATE = [DATE OF INTERVIEW-30]

**TJ5. The next questions are about sources of income. The answers to these and all other questions on this survey will be kept private and will never be associated with your name. During the last 30 days, that is, since [DATE OF INTERVIEW-30], did you or anyone in your household receive…**

CODE ONE PER ROW

| | YES | NO | DON'T KNOW | REFUSED |
|---|---|---|---|---|
| a. TANF or Temporary Assistance to Needy Families, or other welfare such as General Assistance? | 1 | 0 | d | r |
| b. Social Security from the government for retirement, disability, or survivors' benefits, or other retirement benefits such as a government or private pension or annuity? | 1 | 0 | d | r |
| c. SSI or Supplemental Security Income from the federal, state, or local government? | 1 | 0 | d | r |
| d. Veteran's Benefits? | 1 | 0 | d | r |
| e. Unemployment Insurance or worker's compensation benefits? | 1 | 0 | d | r |
| f. Child support payments or payments from roomers or boarders? | 1 | 0 | d | r |
| g. Financial support from friends or family? | 1 | 0 | d | r |
| h. Any other income besides earnings? | 1 | 0 | d | r |

TJ5H=1

**TJ5h_Specify. What is that other income?**

_____ (STRING 50)
DESCRIPTION

DON'T KNOW .....d

REFUSED .....r

[TJ6 on household limitations deleted per OMB on August 10, 2015.]

ALL

**TJ7. Now I'd like to ask you about how much help you would expect to get from different sources if your household had a problem with which you needed help, for example, sickness or moving. After I read each source, please tell me if you would expect to get all of the help needed, most of the help needed, very little of the help needed, or no help?**

INTERVIEWER: REPEAT ANSWER CHOICES AS NEEDED.

CODE ONE PER ROW

| | | ALL OF THE HELP NEEDED | MOST OF THE HELP NEEDED | VERY LITTLE OF THE HELP NEEDED | NO HELP | DON'T KNOW | REFUSED |
|---|---|---|---|---|---|---|---|
| a. | Family living nearby? | 1 | 2 | 3 | 4 | d | r |
| b. | Friends? | 1 | 2 | 3 | 4 | d | r |
| c. | Other people in the community besides family and friends, such as a social service agency or a church? | 1 | 2 | 3 | 4 | d | r |

## K. Trigger Events

**The next few questions are about changes that may have occurred in your household in the past 6 months.**

ALL

**TK1. Has there been a change in the number of people living in your household over the past 6 months?**

| | | |
|---|---|---|
| YES | 1 | GO TO TK2 |
| NO | 0 | GO TO TK3 |
| DON'T KNOW | d | GO TO TK3 |
| REFUSED | r | GO TO TK3 |

TK1=1

**TK2. What caused that change?**

**CODE ALL THAT APPLY**

| | |
|---|---|
| BIRTH OF CHILD | 1 |
| NEW STEP, FOSTER OR ADOPTED CHILD | 2 |
| MARRIAGE/ROMANTIC PARTNER | 3 |
| SEPARATION OR DIVORCE | 4 |
| DEATH OF HOUSEHOLD MEMBER | 5 |
| FAMILY, BOARDER, OR OTHER ADULT MOVED IN | 6 |
| FAMILY, BOARDER, OR OTHER ADULT MOVED OUT | 7 |
| HOUSEHOLD MEMBER INCARCERATED | 8 |
| SAMPLE MEMBER MOVED | 9 |
| OTHER (SPECIFY) | 10 |
| DON'T KNOW | d |
| REFUSED | r |

TK2 = 10

TK2_Specify. INTERVIEWER: SPECIFY OTHER CHANGE.

_____ (STRING 50)
DESCRIPTION

| | |
|---|---|
| DON'T KNOW | d |
| REFUSED | r |

ALL

**TK3. At any time in the past 6 months was your household evicted from your house or apartment?**

YES ..... 1
NO ..... 0
DON'T KNOW ..... d
REFUSED ..... r

ALL

**TK4. Have you or anyone in your household had a change in employment or a change in pay or hours worked from a job in the past 6 months?**

YES ..... 1 GO TO TK4A
NO ..... 0 GO TO TL1
DON'T KNOW ..... d GO TO TL1
REFUSED ..... r GO TO TL1

TK4=1

**TK4a. What was that change in employment or a change in pay or hours worked from a job that you or someone in your household experienced in the past 6 months?**

CODE ALL THAT APPLY

OBTAINED A JOB ..... 1
LOST JOB ..... 2
INCREASE IN PAY OR HOURS ..... 3
DECREASE IN PAY OR HOURS ..... 4
QUIT A JOB ..... 5
CHANGED JOBS ..... 6
TEMPORARY LEAVE (MATERNITY, DISABILITY, OR WORKMAN'S COMPENSATION) ..... 7
SEASONAL WORK ..... 8
OTHER ..... 9
DON'T KNOW ..... d
REFUSED ..... r

TK4A = 9

TK4a_Specify. INTERVIEWER: SPECIFY OTHER CHANGE.

_____ (STRING 50)
DESCRIPTION

DON'T KNOW ..... d
REFUSED ..... r

## L. Respondent Demographics and Health Status

ALL

**TL1. Now, I have a few questions about you.**

**[RECORD GENDER FROM OBSERVATION.]**

**[PROBE ONLY IF NECESSARY: Because it is sometimes difficult to determine over the phone, I am asked to confirm with everyone…Are you male or female?]**

INTERVIEWER: CODE DON'T KNOW IF RESPONDENT DOES NOT WANT TO IDENTIFY AS MALE OR FEMALE

MALE ..... 1
FEMALE ..... 2
DON'T KNOW ..... d
REFUSED ..... r

IF [NUMCHILDFU1] GT 0

**TL2. What is your relationship to the children living in the household?**

INTERVIEWER: READ ONLY IF NECESSARY

**CODE ALL THAT APPLY**

BIOLOGICAL/ADOPTIVE PARENT ..... 1
STEP-PARENT ..... 2
GRANDPARENT ..... 3
GREAT GRANDPARENT ..... 4
SIBLING/STEPSIBLING ..... 5
OTHER RELATIVE OR IN LAW ..... 6
FOSTER PARENT ..... 7
OTHER NON-RELATIVE ..... 8
PARENT'S PARTNER ..... 9
DON'T KNOW ..... d
REFUSED ..... r

ALL

**TL3. Are you of Hispanic or Latino origin?**

HISPANIC OR LATINO ..... 1
NOT HISPANIC OR LATINO ..... 0
DON'T KNOW ..... d
REFUSED ..... r

ALL

**TL4. I am going to read a list of five race categories. Please choose one or more races that you consider yourself to be. American Indian or Alaska Native; Asian; Black or African American; Native Hawaiian or other Pacific Islander; White?**

**CODE ALL THAT APPLY**

AMERICAN INDIAN OR ALASKA NATIVE ..... 1
ASIAN ..... 2
BLACK OR AFRICAN AMERICAN ..... 3
NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER ..... 4
WHITE ..... 5
DON'T KNOW ..... d
REFUSED ..... r

ALL

**TL5. What is your current marital status? Are you now married, divorced, separated, widowed, never married, or living with a partner?**

**CODE ONE ONLY**

MARRIED ..... 1
SEPARATED OR DIVORCED ..... 2
WIDOWED ..... 3
NEVER MARRIED ..... 4
LIVING WITH PARTNER ..... 5
DON'T KNOW ..... d
REFUSED ..... r

ALL

**TL6. What is your date of birth?**

PROGRAMMER: COLLECT DATE WITH SEPARATE FIELDS

|__|__| / |__|__| / |__|__|__|__|
MONTH DAY YEAR
(1-12) (1-31) (1916-2001)

DON'T KNOW ..... d GO TO TL6A

REFUSED ..... r GO TO TL6A

TL6 = D OR R

**TL6a. I can record your age instead if you would like. How many years old are you?**

|__|__| YEARS

(18-99)

DON'T KNOW ..... d

REFUSED ..... r

ALL

**TL7. What is the highest grade or level of school you have completed or the highest degree you have received?**

**[ENTER HIGHEST LEVEL OF SCHOOL.]**

NEVER ATTENDED/KINDERGARTEN ONLY....0
1ST GRADE....1
2ND GRADE....2
3RD GRADE....3
4TH GRADE....4
5TH GRADE....5
6TH GRADE....6
7TH GRADE....7
8TH GRADE....8
9TH GRADE....9
10TH GRADE....10
11TH GRADE....11
12TH GRADE, NO DIPLOMA....12
HIGH SCHOOL GRADUATE....13
GED OR EQUIVALENT....14
SOME COLLEGE, NO DEGREE....15
ASSOCIATE DEGREE: OCCUPATIONAL, TECHNICAL, OR VOCATIONAL PROGRAM....16
ASSOCIATE DEGREE: ACADEMIC PROGRAM....17
BACHELOR'S DEGREE (EXAMPLE: BA, AB, BS, BBA)....18
MASTER'S DEGREE (EXAMPLE: MA, MS, MEng, MEd, MBA)....19
PROFESSIONAL SCHOOL DEGREE (EXAMPLE: MD, DDS, DVM, JD)....20
DOCTORAL DEGREE (EXAMPLE: PhD, EdD)....21
DON'T KNOW....d
REFUSED....r

ALL

**TL8. In general, would say your health is excellent, very good, good, fair or poor?**

**CODE ONE ONLY**

EXCELLENT ..... 1
VERY GOOD ..... 2
GOOD ..... 3
FAIR ..... 4
POOR ..... 5
DON'T KNOW ..... d
REFUSED ..... r

## M. Closing Information

| DEMONSTRATION = ALL AND TREATMENT GROUP=T, T1, OR T2 |
|---|
| FILL1=DEMONSTRATION PROJECT NAME |

**TM1. Thank you very much for your time. You have really helped us with this study. We are also conducting in-person interviews to learn more about some families' experiences with [DEMONSTRATION PROJECT] and your household's access to healthy food. Those who are selected for the in-person interview will get $50 in addition to the gift card for this telephone interview. If you agree to take part, one of my colleagues may contact you in the next few weeks with more information and to schedule an interview.**

**Are you willing to be contacted about taking part in an in-person interview? You can change your mind about participating at a later time.**

YES ..... 1

NO ..... 0

DON'T KNOW ..... d

REFUSED ..... r

ALL

**TM2. Thank you very much for your time. You have really helped us with this study. I'd like to confirm your address so we can send you a $30 gift card within the next few weeks.**

**Field: [To thank you for completing the survey, your field interviewer will give you a $30 gift card. We would just like to confirm your contact information.]**

**[ASK ALL:] According to our records we have…**

**[FILL FIRSTNAME LASTNAME FROM SMS]**

**[FILL STREET ADDRESS FROM SMS]**

**[FILL CITY, STATE, ZIP CODE FROM SMS]**

**[IF DEMONSTRATION=CHICKASAW NATION FILL EMAIL ADDRESS FROM SMS]**

**[IF DEMONSTRATION=CHICKASAW NATION FILL PHONE NUMBER FROM SMS]**

CONTACT INFORMATION IS CORRECT .....1 GO TO TM3

CONTACT INFORMATION NEEDS UPDATING .....0

UPDATE: NAME

UPDATE: STREET ADDRESS:

_____
STREET 1

_____
STREET 2

_____
STREET 3

_____
CITY

_____
STATE

_____
ZIP

|___|___|___| - |___|___|___| - |___|___|___|___|
PHONE

_____
EMAIL

DON'T KNOW .....d

REFUSED .....r

DEMONSTRATION=CHICKASAW NATION

IF FIRST TIME THROUGH LOOP: INCLUDE FILL 1: "WE WOULD ALSO LIKE TO DO A THIRD TELEPHONE SURVEY SIX MONTHS FROM NOW TO SEE HOW YOU ARE DOING. YOU WILL GET ANOTHER PREPAID CARD FOR PARTICIPATING IN THAT INTERVIEW."

AFTER FIRST TIME THROUGH LOOP, DO NOT INCLUDE FILL1

**TM3. [We would also like to do a third telephone survey six months from now to see how you are doing. You will get another prepaid card for participating in that interview.]**

**In case we can't reach you at this number, is there another number we should try?**

|___|___|___| - |___|___|___| - |___|___|___|___|

| | | |
|---|---|---|
| YES | 1 | GO TO TM3.1 |
| NO ADDITIONAL PHONE AVAILABLE | 2 | GO TO TM3B |
| REFUSED TO GIVE PHONE NUMBER | 3 | GO TO TM3B |
| REFUSED TO PARTICIPATE IN THIRD INTERVIEW | 9 | GO TO END |
| DON'T KNOW | d | GO TO END |
| REFUSED | r | GO TO END |

TM3 = 1

**TM3.1 What is the telephone number we should try?**

|___|___|___| - |___|___|___| - |___|___|___| - |___|___|___|___|

| | |
|---|---|
| DON'T KNOW | d |
| REFUSED | r |

TM3.1 PHONE NUMBER PROVIDED

**TM3a. What type of phone number is this?**

SELECT CODING TYPE

HOME PHONE.....1
OFFICE PHONE.....2
HOME AND OFFICE PHONE.....3
CELL PHONE.....4
PAGER.....5
COMPUTER/FAX LINE.....6
OTHER.....7
DON'T KNOW.....d
REFUSED.....r

PROGRAMMER BOX

IF TM3 = ANSWERED LOOP OVER TM3 THROUGH TM3A UNTIL TM3 DOES NOT EQUAL 1. MAX 3 LOOPS.

TM3=1, 2, 3, OR PHONE NUMBER PROVIDED

**TM3b. What is the email address where we can reach you?**

_____ (STRING 100)
EMAIL ADDRESS

NO EMAIL ADDRESS AVAILABLE.....0
DON'T KNOW.....d
REFUSED.....r

TM3=1, 2, 3, OR PHONE NUMBER PROVIDED

**TM4. In case we have trouble reaching you in 6 months, please give me the names and telephone numbers of two relatives or friends who would know where you could be reached. These should be friends or relatives not currently living in your household. Let's start with one friend or relative. What is his or her name?**

[BE SURE TO VERIFY SPELLING]

_____ (STRING 25) GO TO TM4A
FIRST NAME

_____ (STRING 25)
LAST NAME

DON'T KNOW ..... d GO TO TM4A

REFUSED ..... r GO TO END

TM4 NE R

**TM4a. What is this person's telephone number, beginning with the area code?**

|___|___|___| - |___|___|___| - |___|___|___|___|

(VOL) GAVE INTERNATIONAL PHONE NUMBER ..... 2

DON'T KNOW ..... d

REFUSED ..... r

TM4A NE 2, D, OR R

FILL= TM4 FIRST NAME

**TM4b. And what is [FIRST NAME]'s relationship to you?**

_____ (STRING 25)
RELATIONSHIP

DON'T KNOW ..... d

REFUSED ..... r

TM3=1, 2, 3, OR PHONE NUMBER PROVIDED

**TM5. How about a second friend or relative? What is his or her name?**

[BE SURE TO VERIFY SPELLING]

_____ (STRING 25) GO TO TM5A
FIRST NAME

_____ (STRING 25)
LAST NAME

DON'T KNOW ..... d GO TO TM5A

REFUSED ..... r GO TO END

TM5 NE R

**TM5a. What is this person's telephone number, beginning with the area code?**

|___|___|___| - |___|___|___| - |___|___|___|___|

(VOL) GAVE INTERNATIONAL PHONE NUMBER ..... 2

DON'T KNOW ..... d

REFUSED ..... r

TM5 NE 2, D, OR R

FILL= TM5 FIRST NAME

**TM5b. And what is [FIRST NAME]'s relationship to you?**

_____ (STRING 25)
RELATIONSHIP

DON'T KNOW ..... d

REFUSED ..... r

ALL

IF DEMONSTRATION = CHICKASAW NATION AND TM3 NE 9: **We look forward to speaking with you again in six months.**

**END. Thank you again for your help and have a good day/evening. [We look forward to speaking with you again in six months.]**

**This page has been left blank for double-sided copying.**

## B.4. QUALITATIVE DATA COLLECTION METHODS

Several qualitative data collection methods were used to describe the Kentucky TTHF demonstration project and how it was implemented. The main sources of information to support the implementation analyses were: (1) site visits, including interviews with project staff and observations of project activities; (2) focus groups with project participants; and (3) reviews of grantee documents including the proposal, quarterly progress reports to FNS, and operational materials (such as notification letters to project participants). Exhibit B.3 identifies the objectives that each of the data sources helped to address. The remainder of this section details the data collection methods for the site visit interviews and focus groups. Section B.5, on quantitative data, describes the administrative and cost data collection methods.

### Exhibit B.3. Implementation analysis objectives and data sources

| | Data sources | | | |
|---|---|---|---|---|
| | Site visits | | | |
| | Staff interviews | Observations | Participant focus groups | Project documents |
| **Project vision/description** | | | | |
| Intervention components | X | | X | X |
| Logic model | X | | | X |
| Target population | X | X | X | X |
| Partners | X | | | X |
| **Implementation processes** | | | | |
| Outreach/enrollment/retention | X | | X | X |
| Service structure and provision | X | X | X | X |
| Staffing structure | X | X | | X |
| Role of partners | X | X | | X |
| Challenges | X | X | X | |
| Perceptions | X | | X | |
| **Interpretation of project impacts** | | | | |
| Influence of project design | X | | X | |
| Influence of implementation | X | | X | |

### A. Interviews with project staff

Two site visits were conducted in Kentucky. The first visit occurred at the end of the planning period to coincide with the initial efforts to launch the intervention to (1) document planning processes, (2) describe the selected intervention model and vision, and (3) understand the project's cost components. The first site visit took place over two days, on October 12th and 13th, 2016, in Frankfort and Lexington. It included 9 semi-structured interviews with 13 key project staff representing the State SNAP office, SNAP eligibility system State technology staff and consultants, and an academic partner involved in designing and planning the intervention. Interview topics included the vision and logic model for the project, planned project design and staffing structure, implementation plans and timelines, changes to information technology systems and data infrastructure, staff hiring and training, community context, and the planning process itself.

The second site visit occurred 12 months into full project operations, October 10-12, 2017, in Frankfort, Corbin, and Paintsville, Kentucky. The goal of the second site visit was to describe operations at a steady-state level. The semi-structured interviews covered the same topics as the first site visit but with a focus on activities and experiences during the implementation period. The interviews probed about leadership and partner roles, staffing structures, recruitment and engagement strategies, specific services offered and received, deviations from plans, and interviewees' perceptions of challenges and successes. Interviewees included staff from the State SNAP office, a local SNAP office, SNAP eligibility system State staff and consultants, the EBT vendor, and a community partner. State staff interviewees included the project manager, information systems and EBT systems staff, and senior staff responsible for SNAP. In total, 10 interviews were conducted with 15 staff. The semi-structured interviews were scheduled for up to 60 minutes.

Two members of the research team conducted the visits. Site visitors completed a training before the first visit, with a refresher training before the second visit, to ensure they understood the data collection goals and tools, could capture the necessary data, and could lead interviews with appropriate cultural sensitivity.

Regular telephone calls with project staff were conducted during the planning and implementation phases to supplement the staff interviews. The purpose of the calls was to obtain regular updates on both accomplishments and challenges encountered and how they were addressed. The calls were also an opportunity to provide Kentucky with ongoing evaluation technical assistance to support and monitor all data collection activities (including survey outreach and consent activities, and administrative data collection). The same members of the evaluation team conducted both the telephone calls and the site visits.

## B. Focus groups with project participants

In addition to interviews with key project staff, the second site visit included focus groups with TTHF participants. Two 90-minute focus groups were conducted with the parents or guardians from families assigned to the treatment groups. They were recruited from the pool of households that completed the follow-up survey, indicated they would be willing to be contacted for an interview, and resided in zip codes near the focus group locations. Participants provided a firsthand account of the SNAP benefits offered and received. Although the participants were not intended to be representative of the whole treatment group, their experiences complemented data collected from project staff to provide a holistic view of project implementation and help interpret project impacts. Guided by a semi-structured protocol, discussions covered how participants learned of the project, their motivation to participate, the services they received, their experiences interacting with project staff and the online system for checking SNAP benefits, their perceptions on the usefulness of the project for feeding their children, thoughts on the project's successes and challenges, and their suggestions for project improvement.

Focus groups were held in the evening at convenient locations (two centers in two different communities). A total of 22 parents or caregivers attended the focus groups. Attendees provided active consent before participating in the discussion and were offered a $50 gift card afterward. The telephone interviewers who administered the household surveys were trained to recruit focus group participants. The site visitors were trained to lead the focus group discussions and take detailed notes.

**This page has been left blank for double-sided copying.**

## B.5. QUANTITATIVE DATA COLLECTION METHODS

The impact and implementation analyses drew on two main quantitative data sources in addition to data from the baseline and follow-up surveys described previously: (1) administrative data from Kentucky's SNAP caseload and EBT transaction records, and (2) records of costs incurred.

### A. Administrative data

SNAP administrative data were used for sampling, descriptive analysis of benefits issued and redeemed in the treatment households and the evaluation sample, and as outcomes in the impact analysis for the evaluation sample. SNAP caseload files included monthly records of households participating in SNAP as well as monthly benefit levels, income levels, and other measures related to SNAP participation and benefit levels. These files provided the frame for sampling households for the evaluation and randomizing households to the treatment group or control group. Caseload files received in November and December 2016 also provided baseline measures that were used as regression covariates and to define some subgroups for impact analysis. Caseload files covering January 2017 through March 2018 provided measures of benefits received during the operational period, which were used as outcomes in impact analyses. SNAP EBT transaction data were available for the months during the period December 2016 through March 2018. The SNAP EBT data had a record for every transaction (debits and credits) households made with their EBT cards.

The SNAP administrative data were cleaned and screened for duplicate observations, illogical values, and outliers. Variables were constructed for the descriptive analysis of SNAP benefits issued and redeemed and the impact analysis of monthly food spending.

### B. Cost data

The resource cost method was used to collect and analyze the costs of the Kentucky TTHF project. The resource cost method identifies a set of resources used for the project, collects data on the costs of each resource, and then calculates (or "builds up") an estimate of the total cost (Ohls and Rosenberg 1999; Ponza et al. 1996). For this study, data on labor costs, other direct costs, and vendor or partner costs were requested, and administrative data were obtained to assess the cost of extra SNAP benefits. Exhibit B.4 describes each resource category.

**Exhibit B.4. Description of resource categories and collected costs**

| Resource | Description |
|---|---|
| **Labor** | Wages and value of fringe benefits for staff that contributed to the intervention. For volunteer or donated labor, data on the wages that would have been paid if the work performed by the volunteer had been performed by paid staff was requested, but the project reported no volunteer labor. |
| **Other direct costs**[a] | Other direct costs (ODCs) include any costs that are not considered direct material costs or direct labor costs. ODCs include items such as travel, printing, postage, shipping, and computer equipment. Initially the project reported no ODCs, but after the cost analysis was complete Mathematica was notified of $15,067 in unreported ODCs for mailings. These ODCs will be added to the revised version of this report. |

| Resource | Description |
|---|---|
| **Partner or contractor costs** | Partner and contractor costs associated with the intervention. Partners and contractors whose costs accounted for 10% or more of the project's total cost were asked to provide detailed labor costs and ODCs by completing individual cost workbooks. Costs for partners and contractors whose costs accounted for 10% of the project's total cost were to be reported as a line item on the grantee's cost forms. The project reported costs for two partner organizations, and although only one partner accounted for more than 10% of the total costs, both partner's costs were reported as line items of the grantee's cost forms. This was done because the grantee could rely on partner invoices to accurately calculate the partner costs. |
| **Extra SNAP benefits** | The Kentucky TTHF project provided extra SNAP benefits to participating treatment households. The cost of the extra SNAP benefits per month were calculated from administrative data by taking the difference between benefits distributed to households during the demonstration and the benefits remaining at the end of the study period, and dividing that difference by the number of months in the study period.. |

[a] Data on indirect costs were not collected because they were not always tracked, and requesting information on the costs for space, utilities, et cetera would have been both overly burdensome and unlikely to be affected by the intervention.

ODC = other direct costs; SNAP = Supplemental Nutrition Assistance Program; TTHF = Ticket to Healthy Food.

Data on labor costs, other direct costs, and vendor or partner costs were requested on a quarterly basis using Excel workbooks. The Kentucky TTHF project designated a cost data liaison, who coordinated completion of the workbooks. As the workbooks were distributed, a webinar was held to train the grantee's cost data liaisons on how to complete the forms. The cost study team was available to respond to questions throughout the study period. In addition, all cost forms were reviewed by Mathematica project liaisons, who alerted the cost team to any missing information, issues, or questions on the forms. The cost team worked with the project liaisons to communicate questions back to the grantee cost data contact.

The report differentiates between start-up costs (costs associated with preparations for the provision of project benefits incurred during the project start-up period of March 1, 2015 to December 31, 2016) and implementation costs (the ongoing costs associated with providing additional SNAP benefits during the implementation period of January 1, 2017 to March 31, 2018).

Component costs (that is, labor costs, other direct costs, and vendor or partner costs) were estimated by summing the cost of resources used for each component. Once component costs were estimated, these costs were summed across components to estimate the total cost of the intervention. Finally, the cost per household was estimated by dividing the total and component costs by the total number of consenting treatment households (n = 2,820).

# APPENDIX C

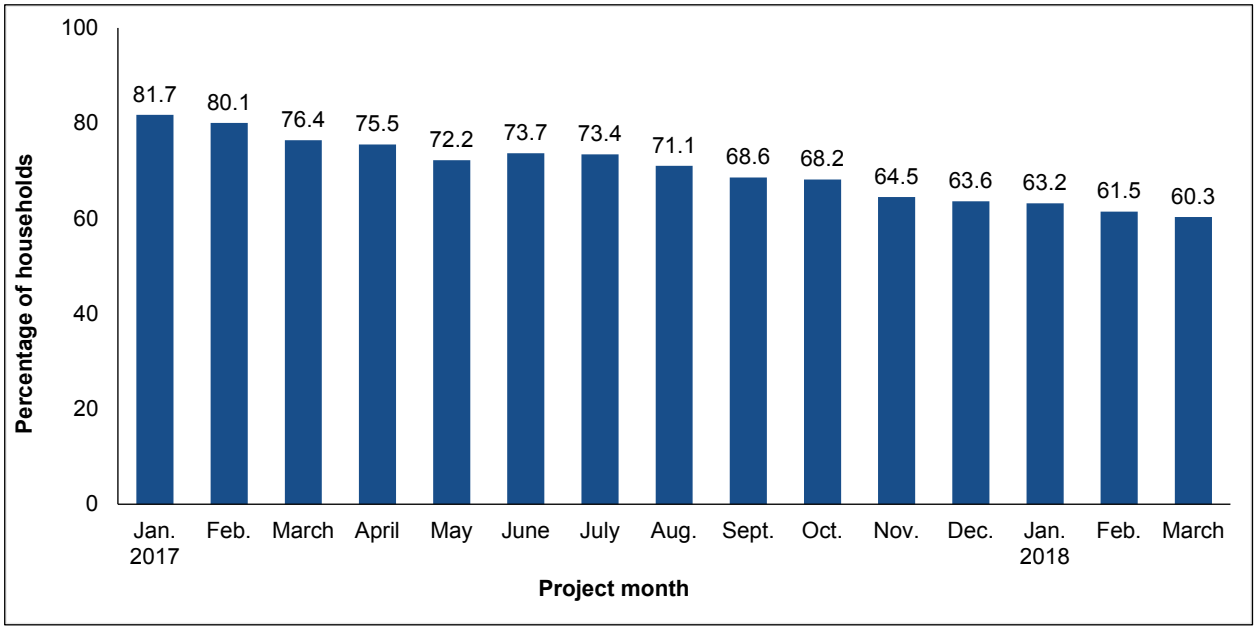
# SUPPLEMENTAL EXHIBITS ON PROJECT IMPLEMENTATION AND COSTS

**This page has been left blank for double-sided copying.**

Appendix C contains supplemental exhibits on implementation and cost information to complement Chapter II. Section C.1 includes an exhibit on the monthly receipt of the extra SNAP benefits. Section C.2 includes an exhibit detailing the project costs.

## C.1. SUPPLEMENTAL IMPLEMENTATION EXHIBITS

### Exhibit C.1. Percentage of households that received the TTHF benefit, by month




Source: Evaluation of Demonstration Projects to End Childhood Hunger, Kentucky SNAP EBT database, 2016–2018 (n = 2,820). Tabulations were prepared by Mathematica Policy Research.

Note: This figure shows the percentage of households that had an extra SNAP benefit loaded onto their EBT cards each month. The decline in receipt of the extra benefits is due to loss of eligibility for the TTHF project (such as because a household lost SNAP eligibility).

EBT = Electronic benefits transfer; SNAP = Supplemental Nutrition Assistance Program; TTHF = Ticket to Healthy Food.

## C.2. SUPPLEMENTAL COST EXHIBITS

### Exhibit C.2. Kentucky TTHF project costs

| Component | Start-up costs | Implementation costs[a] | | | Total cost |
|---|---|---|---|---|---|
| | | First two quarters | Average per quarter | Total | |
| **Labor costs (wages plus fringe)** | | | | | |
| KY DCBS | $101,125 | $16,772 | $5,717 | $28,585 | $129,710 |
| Total labor costs | $101,125 | $16,772 | $5,717 | $28,585 | $129,710 |
| **Nonlabor resources[b]** | | | | | |
| KY DCBS | $0 | $15,067 | $3,013 | $15,067 | $15,067 |
| Total nonlabor resources | $0 | $15,067 | $3,013 | $15,067 | $15,067 |
| **Vendor and contractor costs** | | | | | |
| SNAP EBT Contractor | $45,776 | $4,373 | $2,821 | $14,105 | $59,881 |
| SNAP Eligibility System Contractor | $448,948 | $0 | $0 | $0 | $448,948 |
| Total vendor and contractor costs | $494,724 | $4,373 | $2,821 | $14,105 | $508,829 |
| **Extra SNAP benefits** | $0 | $356,746 | $162,118 | $810,591 | $810,591 |
| **Total cost** | **$595,849** | **$392,959** | **$173,670** | **$868,348** | **$1,464,197** |

Source: The Kentucky TTHF project cost data-collection instruments. Start-up costs cover March 1, 2015 to December 31, 2016. Implementation costs cover January 1, 2017 to March 31, 2018. The grantee continued to provide services after the evaluation period ended on March 31, 2018, so the costs reported here do not include costs for closing out operations. Costs per household can be calculated by dividing the amounts here by the total number of consenting treatment households (n=2,820).

[a] Quarters represent calendar quarters; each quarter includes three months of costs.

[b] All reported nonlabor resources were provided in-kind.

EBT = Electronic benefits transfer; Extra SNAP benefits = the extra SNAP benefits provided through the Kentucky TTHF project; KY DCBS = Kentucky Department of Community Based Services; SNAP = Supplemental Nutrition Assistance Program; TTHF = Ticket to Healthy Food.

# APPENDIX D

# SUPPLEMENTAL EXHIBITS ON PROJECT IMPACTS

**This page has been left blank for double-sided copying.**

Appendix D contains supplemental exhibits on impacts to complement Chapter III. Exhibit D.1 compares the level of food insecurity among children at follow-up in treatment and control households with different levels of support available at follow-up from friends, family and others in the community. Exhibit D.2 presents the results of sensitivity analyses that assess whether different approaches to impact estimation lead to substantive differences in estimated impacts on the main outcome of interest, child food insecurity.

## Exhibit D.1. Rate of child food insecurity, by study group and level of help available from family, friends, or others in the community

| | FI-C, Treatment | FI-C, Control | Difference |
|---|---|---|---|
| **Level of help available from family** | | | |
| Most or all help needed | 28.6 | 31.5 | -2.9 |
| Very little or none of help needed | 42.3 | 38.6 | 3.7 |
| **Level of help available from friends** | | | |
| Most or all help needed | 23.2 | 21.1 | 2.1 |
| Very little or none of help needed | 39.3 | 38.8 | 0.4 |
| **Level of help available from others** | | | |
| Most or all help needed | 24.9 | 29.1 | -4.2 |
| Very little or none of help needed | 38.6 | 36.7 | 1.9 |
| Sample size | 820 | 797 | |

Source: Evaluation of Demonstration Projects to End Childhood Hunger, 2017 follow-up survey. Tabulations are weighted to be representative of all eligible households in the Kentucky TTHF demonstration and prepared by Mathematica Policy Research.

Note: Food security was measured using the 30-day survey module. P-values from the comparison of treatment and control households are not presented because this is descriptive information rather than a formal test of impact. In particular, the level of help available is measured at follow-up rather than at baseline, so the measured rates of food insecurity among children could be influenced by any effect the project had on the composition of households in each group defined by level of help available.

FI-C = food insecurity among children; TTHF = Ticket to Healthy Food.

## Exhibit D.2. Alternative estimates of the impact of the Kentucky TTHF project on child food insecurity

| | Treatment | Control | Difference | p-value | Sample size |
|---|---|---|---|---|---|
| **Main impact model** | | | | | 1,623 |
| Secure | 62.9 | 64.8 | -1.8 | 0.812 | |
| Insecure | 37.1 | 35.2 | 1.8 | 0.812 | |
| VLFS | 3.7 | 4.4 | -0.7 | 0.204 | |
| **Strata as only covariates** | | | | | 1,623 |
| Secure | 63.6 | 64.8 | -1.2 | 0.687 | |
| Insecure | 36.4 | 35.2 | 1.2 | 0.687 | |
| VLFS[a] | 3.3 | 4.4 | -1.2 | 0.114 | |
| **Listwise deletion sample** | | | | | 1,544 |
| Secure | 62.3 | 64.7 | -2.4 | 0.868 | |
| Insecure | 37.7 | 35.3 | 2.4 | 0.868 | |
| VLFS | 3.8 | 4.7 | -0.9 | 0.173 | |
| **Linear probability model** | | | | | 1,623 |
| Secure | 62.9 | 64.8 | -1.9 | 0.815 | |
| Insecure | 37.1 | 35.2 | 1.9 | 0.815 | |
| VLFS | 3.8 | 4.4 | -0.6 | 0.239 | |

Source: Evaluation of Demonstration Projects to End Childhood Hunger, 2017 follow-up survey. Tabulations are weighted to be representative of all eligible households in the Kentucky demonstration and prepared by Mathematica Policy Research.

Note: Food security was measured using the standard USDA 18-item survey module and a 30-day reference period. VLFS is a subcategory within the food insecure category. The p-value associated with each impact estimate is from a one-tailed test of statistical significance.

[a] The analysis of VLFS excludes random assignment strata fixed effects from the analysis model, because within several strata, there is no variation in VLFS status.

TTHF = Ticket to Healthy Food; USDA = U.S. Department of Agriculture; VLFS = very low food security.

## Exhibit D.3. Impact of the Kentucky TTHF project on food insecurity among children, by subgroup

| | Treatment | | Control | | | | | |
|---|---|---|---|---|---|---|---|---|
| Characteristic | Sample size | FI-C | Sample size | FI-C | Difference[a] | 95% Confidence Interval | Difference within subgroup: p-value | Difference between subgroups: p-value[b] |
| **Presence of earned income** | | | | | | | | 0.701 |
| Received earned income | 297 | 30.8 | 286 | 28.1 | 2.7 | [-3.8, 9.1] | 0.792 | |
| Did not receive earned income | 525 | 41.1 | 515 | 39.8 | 1.3 | [-3.9, 6.5] | 0.688 | |
| **Expected demonstration benefits at baseline[c]** | | | | | | | | 0.189 |
| Quartile 1: $0–$12.60 | 209 | 43.6 | 202 | 37.1 | 6.5 | [-2.1, 15.0] | 0.929 | |
| Quartile 2: $12.70–$17.10 | 220 | 37.4 | 220 | 43.0 | -5.6 | [-13.2, 2.1] | 0.078 | |
| Quartile 3: $17.20–$44.60 | 187 | 39.9 | 177 | 36.0 | 3.9 | [-5.0, 12.8] | 0.805 | |

| Characteristic | Treatment | | Control | | Difference[a] | 95% Confidence Interval | Difference within subgroup: p-value | Difference between subgroups: p-value[b] |
|---|---|---|---|---|---|---|---|---|
| | Sample size | FI-C | Sample size | FI-C | | | | |
| Quartile 4: $44.70 and above | 206 | 27.0 | 202 | 25.2 | 1.8 | [-5.8, 9.3] | 0.677 | |
| **Baseline food security among children** | | | | | | | | 0.346 |
| Secure (FS-C) | 498 | 21.0 | 497 | 17.9 | 3.2 | [-1.6, 7.9] | 0.902 | |
| Insecure (FI-C) | 319 | 64.7 | 294 | 65.1 | -0.3 | [-7.8, 7.2] | 0.466 | |
| **Household composition** | | | | | | | | 0.639 |
| Single adult | 373 | 39.3 | 344 | 38.3 | 0.9 | [-5.4, 7.3] | 0.613 | |
| Two or more adults | 443 | 35.5 | 455 | 32.7 | 2.8 | [-2.5, 8.2] | 0.848 | |
| **Presence of a teenager in the household** | | | | | | | | 0.708 |
| Household has no teens | 455 | 32.0 | 413 | 30.9 | 1.1 | [-4.6, 6.8] | 0.644 | |
| Household has 1 or more teens | 367 | 42.8 | 388 | 40.0 | 2.8 | [-3.1, 8.6] | 0.824 | |
| **WIC participation** | | | | | | | | 0.329 |
| Participates in WIC | 211 | 33.0 | 223 | 28.0 | 5.0 | [-2.7, 12.7] | 0.899 | |
| Does not participate in WIC | 608 | 38.9 | 576 | 38.3 | 0.7 | [-4.2, 5.5] | 0.606 | |
| **Respondent level of education** | | | | | | | | 0.030 |
| Less than high school | 252 | 33.9 | 246 | 38.5 | -4.7 | [-11.8, 2.5] | 0.103 | |
| High school, GED | 342 | 34.6 | 308 | 33.1 | 1.5 | [-4.8, 7.8] | 0.681 | |
| Some college or higher | 220 | 44.2 | 239 | 34.4 | 9.8 | [2.1, 17.6] | 0.993 | |
| Sample size | 822 | | 801 | | | | | |

Source: Evaluation of Demonstration Projects to End Childhood Hunger, 2017 follow-up survey. Tabulations are weighted to be representative of all eligible households in the Kentucky TTHF demonstration and prepared by Mathematica Policy Research.

Note: Food security was measured using the 30-day survey module. The p-value associated with each impact estimate is from a one-tailed test of statistical significance, whereas the p-value associated with the test of differences in impacts across subgroups is from a two-tailed test. Of the 17 estimated impacts on FI-C among subgroups, only one—the estimated impact among those whose education included at least some college—would have been statistically significant at the 5% level using a two-tailed test. Regressions controlled for baseline measures of child and adult food insecurity and VLFS; household income and employment status; the survey respondent's age, race/ethnicity, health status, and primary language spoken; the number of children in the household and presence of a teenager; household participation in WIC or free or reduced-price breakfast and lunch; and duration of SNAP participation in the year before the baseline survey. Regressions also controlled for the month of survey response.

[a] Difference column may not match the (Treatment minus Control) calculation exactly due to rounding.

[b] p-value is from a chi-square test of significant difference between subgroup impacts.

[c] Subgroups are based on an estimate of the extra SNAP benefit a household would get if it were assigned to treatment, estimated using household county of residence, earned income, and maximum SNAP benefit size at the time of random assignment. The mean predicted benefit was $10.12 in the first quartile, $15.15 in the second quartile, $27.46 in the third quartile, and $63.44 in the fourth quartile. The mean observed demonstration benefit levels at follow-up among treatment households in these quartiles were approximately $10, $14, $21, and $43, respectively.

FI-C = food insecurity among children; FS-C = food security among children; GED = general educational development; TTHF = Ticket to Healthy Food; SNAP = Supplemental Nutrition Assistance Program; VLFS = very low food security; WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

## Exhibit D.4. Differences on individual items of the 30-day food security module, follow-up survey

| | | Percentage with an affirmative response | | | |
|---|---|---|---|---|---|
| | | Treatment | Control | Difference[a] | p-value |
| **Items measuring household and adult(s)' food security** | | | | | |
| 1 | Worried food would run out before (I/we) got money to buy more (often true or sometimes true) | 70.3 | 70.4 | -0.1 | 0.971 |
| 2 | Food bought didn't last and (I/we) didn't have money to get more (often true or sometimes true) | 56.7 | 57.7 | -1.0 | 0.665 |
| 3 | Couldn't afford to eat balanced meals (often true or sometimes true) | 53.0 | 52.5 | 0.5 | 0.822 |
| 4 | Adult(s) cut size of meals or skipped meals | 37.7 | 38.3 | -0.6 | 0.768 |
| 4a | Adult(s) cut size of meals or skipped meals in more than 2 of the last 30 days | 33.6 | 33.3 | 0.3 | 0.884 |
| 5 | Respondent ate less than felt he/she should | 42.5 | 41.3 | 1.2 | 0.589 |
| 6 | Respondent hungry but didn't eat because couldn't afford | 25.9 | 26.8 | -1.0 | 0.619 |
| 7 | Respondent lost weight | 18.4 | 17.5 | 1.0 | 0.564 |
| 8 | Adult(s) did not eat for whole day | 11.5 | 13.4 | -1.9 | 0.235 |
| 8a | Adult(s) did not eat for whole day in more than 2 of the last 30 days | 9.1 | 10.3 | -1.2 | 0.424 |
| **Items measuring children's food security** | | | | | |
| 9 | Relied on few kinds of low-cost food to feed child(ren) (often true or sometimes true) | 54.6 | 52.2 | 2.4 | 0.283 |
| 10 | Couldn't feed child(ren) balanced meals (often true or sometimes true) | 39.4 | 37.0 | 2.5 | 0.250 |
| 11 | Child(ren) were not eating enough (often true or sometimes true) | 15.7 | 15.0 | 0.7 | 0.663 |
| 12 | Cut size of child(ren)'s meals | 9.2 | 8.8 | 0.5 | 0.762 |
| 13 | Child(ren) skipped meals | 3.6 | 3.1 | 0.6 | 0.648 |
| 13a | Child(ren) skipped meals in more than 2 of the last 30 days | 2.1 | 2.3 | -0.2 | 0.835 |
| 14 | Child(ren) were hungry | 6.4 | 7.6 | -1.2 | 0.298 |
| 15 | Child(ren) did not eat for whole day | 3.3 | 0.8 | 2.5 | 0.238 |
| Sample size | | 830 | 809 | | |

Source: Evaluation of Demonstration Projects to End Childhood Hunger, 2017 first follow-up survey. Tabulations are weighted to be representative of all eligible households in the Kentucky demonstration and were prepared by Mathematica Policy Research.

Note: Food security items are from the standard USDA 18-item survey module and use a 30-day reference period. Food security is classified using items to measure household, adult, and children's food security using 3, 7, and 8 items, respectively. Items 4 through 8 are preceded by "You or other adults in your household," depending on whether there was one adult (the respondent) in the household or more than one. The wording for items 11 through 15 is based on the number of adults and children in the household. Item numbers align with the follow-up instrument in Appendix B.3.

Regressions controlled for baseline measures of child and adult food insecurity and VLFS; the presence of a single adult in the household versus more than one; ages of children in the household; household income and employment status; respondent age, health status, and race/ethnicity; baseline participation in SNAP, WIC, school-based meal programs, or food pantries; and indicator variables for the month of follow-up survey response.

[a] Values may not reflect exact differences between columns 3 and 4 due to rounding.

SNAP = Supplemental Nutrition Assistance Program; USDA = U.S. Department of Agriculture; WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

# APPENDIX E

# APPENDIX REFERENCES

**This page has been left blank for double-sided copying.**

## APPENDIX REFERENCES

American Association for Public Opinion Research. *Survey Outcome Rate Calculator 4.0.* 2016.

Briefel, Ronette, Micah Melia, Bonnie Harvey, Sarah Forrestal, Gregory Chojnacki, Pia Caronongan, Andrew Gothro, Charlotte Cabili, Rebecca Kleinman, Vivian Gabor, Nicholas Redel, and Philip Gleason. "Evaluation of Demonstration Projects to End Childhood Hunger (EDECH): Final Interim Evaluation Report." Report submitted to the U.S. Department of Agriculture, Food and Nutrition Service. Washington, DC: Mathematica Policy Research, February 2018. Available at https://www.fns.usda.gov/ops/research-and-analysis.

Collins, Ann M., Ronette Briefel, Jacob Alex Klerman, Anne Wolf, Gretchen Rowe, Chris Logan, Ayesha Enver, Syeda Fatima, Anne Gordon, and Julia Lyskawa. "Summer Electronic Benefit Transfer for Children (SEBTC) Demonstration: Summary Report." Report submitted to the U.S. Department of Agriculture, Food and Nutrition Service. Cambridge, MA: Abt Associates, May 2016.

Economic Research Service (ERS), U.S. Department of Agriculture. "Definitions of Food Security." 2017a. Available at https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/definitions-of-food-security/ .

Economic Research Service (ERS), U.S. Department of Agriculture. "Food Security in the U.S.: Survey Tools." 2017b. Available at https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/survey-tools.

Food and Nutrition Service. "Evaluation of Demonstration Projects to End Childhood Hunger. OMB Supporting Statement. Part A: Justification and Part B: Collections of Information Employing Statistical Methods." April 2015. Available at: https://www.reginfo.gov/public/do/DownloadDocument?objectID=55494400.

Kabbani, N.S., and M.Y. Kmeid. "The Role of Food Assistance in Helping Food Insecure Households Escape Hunger." *Review of Agricultural Economics,* vol. 27, 2005. pp. 439–45.

Mabli, James, Jim Ohls, Lisa Dragoset, Laura Castner, and Betsy Santos. "Measuring the Effect of Supplemental Nutrition Assistance Program (SNAP) Participation on Food Security." Prepared by Mathematica Policy Research for the U.S. Department of Agriculture, Food and Nutrition Service, August 2013.

Nord, Mark and Alisha Coleman-Jensen. "Food Insecurity After Leaving SNAP." *Journal of Hunger & Environmental Nutrition*, vol. 5, no. 4, 2010, pp. 434-453.

Nord, Mark, and Alisha Coleman-Jensen. "Improving Food Security Classification of Households With Children." *Journal of Hunger & Environmental Nutrition*, vol. 9, no. 3, 2014, pp.318-333.

Nord, Mark, and Mark Prell. "Food Security Improved Following the 2009 ARRA Increase in SNAP Benefits." ERR-116, U.S. Department of Agriculture, Economic Research Service, April 2011.

Ohls, James C., and Linda Rosenberg. "A 'Building-Up' Approach to Measuring Program Costs." *Journal of Policy Analysis and Management*, vol. 18, no. 3, 1999, pp. 473–480.

Ponza, Michael, James C. Ohls, Barbara E. Millen, Audrey M. McCool, Karen E. Needels, Linda Rosenberg, Dexter Chu, Catherine Daly, and Paula A. Quatromoni. "Serving Elders at Risk: The Older Americans Act Nutrition Programs, National Evaluation of the Elderly Nutrition Program, 1993–1995." Vols. I, II, and III. Washington, DC: U.S. Department of Health and Human Services, Administration on Aging, 1996.

Puma, Michael J., Robert B. Olsen, Stephen H. Bell, and Cristofer Price. "What to Do When Data Are Missing in Group Randomized Controlled Trials (NCEE 2009-0049)." Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education, 2009.

Schulz K.F., D.G. Altman, and D. Moher, and the CONSORT Group. "CONSORT 2010 Statement: Updated Guidelines for Reporting Parallel Group Randomized Trials." *Annals of Internal Medicine*, vol. 152, no. 11, 2010, pp.726-732. Available at http://annals.org/aim/fullarticle/745807/consort-2010-statement-updated-guidelines-reporting-parallel-group-randomized-trials.

Yen, Steven T., Margaret Andrews, Zhuo Chen, and David B. Eastwood. "Food Stamp Program Participation and Food Insecurity: An Instrumental Variables Approach." *American Journal of Agricultural Economics*, vol. 90, no. 1, 2008, pp. 117–32.

**This page has been left blank for double-sided copying.**

www.mathematica-mpr.com

**Improving public well-being by conducting high quality, objective research and data collection**

PRINCETON, NJ ■ ANN ARBOR, MI ■ CAMBRIDGE, MA ■ CHICAGO, IL ■ OAKLAND, CA ■ SEATTLE, WA ■ TUCSON, AZ ■ WASHINGTON, DC ■ WOODLAWN, MD


Mathematica® is a registered trademark of Mathematica Policy Research, Inc.