



RESEARCH REPORT

Experiences and Impacts from the 2020 Meals-to-You Program

Mailing Food Boxes to Rural Children and Families during a Global Pandemic

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Executive Summary

This report shares Year 2 (2020) findings from an ongoing evaluation of the Meals-to-You (MTY) program, a pilot program administered by the Baylor Collaborative on Hunger and Poverty (BCHP) and funded by the US Department of Agriculture (USDA). The original aim of the MTY pilot was to provide a stable and reliable source of food through home delivery to children in rural areas who lack access to Summer Food Service Program sites. The first year of the program in 2019 tested the model in multiple school districts in Texas and was known as Summer Meals-to-You (sMTY). In 2020, BCHP had planned to expand the summer pilot program beyond Texas to include children in parts of Alaska and New Mexico. However, in spring 2020, as part of the emergency response to reductions in school meal access due to school closures in the early months of the COVID-19 pandemic, USDA funded a dramatic expansion of the program called Emergency Meals-to-You (eMTY). This report covers the 2020 sMTY program in Texas, New Mexico, and Alaska and the eMTY program.

How Data Were Collected

Insights in this report were developed through a mixed-methods approach to data collection and included survey data and interviews with school districts who were responsible for outreach and enrollment, survey data and interviews with participating households, interviews with food package vendors and shipping partners, and analysis of administrative data, including shipping information.

Program Reach In 2020

Households were eligible for sMTY or eMTY if they had children enrolled in public schools in a district participating in one of the two programs, qualified for free or reduced-price school meals, and signed up for the program during their district's enrollment window. If a household had one child who qualified them for the program, all minor children in the household could receive an allotment of meals regardless of age or school enrollment status.

The eMTY and sMTY programs reached households across the country, serving 129,016 households and 272,527 participants across 42 states and Puerto Rico (figure 5) in summer 2020. The overwhelming majority of households served were in the South and, in particular, in Louisiana (33 percent) and Texas (10 percent). The eMTY program was the larger component of MTY in 2020,

where 98.6 percent of households served participated in eMTY only, 1.1 percent of households participated in sMTY only, and a very small percentage of households (0.3 percent) transitioned from eMTY to sMTY. The eMTY box shipments began in late March 2020 and sMTY box shipments began in May 2020, with both programs slated to end on August 15, 2020. The program successfully delivered 38,028,768 meals and about 1,923,000 boxes.¹ This included 37,599,408 eMTY meals and 429,360 sMTY meals.

Key Findings on Program Implementation and Impact

School Districts

School districts reported that their families were facing many challenges during the 2020 period, which made the MTY program a welcome support. A majority of school district survey respondents (64 percent) reported that many or nearly all families (combining survey options “nearly all families” and “many families”) faced challenges in being able to afford food. District respondents also reported that many of their families were experiencing loss of income during the pandemic (53 percent) or had difficulty accessing food due to affordability (64 percent) or transportation challenges (50 percent).

Many school district respondents indicated that the MTY support team was a good partner to work with, and for the most part communication and support were timely and effective. Ninety-one percent of respondents who received help via email “strongly” or “somewhat” agreed that their questions and concerns were addressed appropriately.

Feedback from school district personnel, from both the survey and the in-depth interviews, suggested that school districts had varying experiences and challenges during the enrollment and verification process. Some of these difficulties stemmed from school districts and the families they served not having the right infrastructure for the process, such as stable internet, a valid shipping address, valid email, or working phone number. These factors complicated the enrollment and verification processes.

Some school district informants (in the survey and interviews) found the enrollment window to be too short. These respondents indicated that they could have enrolled more students in the program if the window had been longer or had been repeated.

Participant Experience and Program Impact on Food Security

Many households who received the MTY program were facing significant hardships. By the end of the summer, 56 percent of survey participants reported experiencing a negative COVID-19-related employment impact, and 83 percent reported a negative COVID-19-related economic hardship.

Participants generally had positive program experiences. Overall, they found the program convenient and were satisfied with the selection and amount of food. At the end of the summer, 87 percent of participants were satisfied with the selection of food provided, and 73 percent of participants thought the box had more than or just enough food (figure 20).

One common issue raised was about shipping damages to food items. Among participants reporting having received a box, at the end of the summer 40 percent reported experiencing damages at some point but no other negative experiences, while 13 percent reported damages plus an additional negative experience, such as not being able to eat a food item because of a food intolerance/allergy or cultural/religious consideration.

In interviews, participants differed in their perceptions of the box contents' variety, nutrition, and sufficiency. Shelf-stable milk was a high-value, well-liked component of the boxes, although some households experienced milk leakage due to shipping box damage. Almost all interviewees made suggestions for different types of foods they would have preferred to see in the boxes. Although this varied by personal preferences, the most common suggestion was to include fresh produce and/or canned vegetables like peas or green beans.

We analyzed how program dosage (i.e., number of meals received per program participant) related to food insecurity for MTY households. Overall, greater dosage of MTY meals was associated with a reduction in food insecurity. Receiving an additional 10 MTY meals (one week of program dosage) was associated with a reduction in household food insecurity of 0.94 to 0.95 percentage points across the two time points. This change was significant at $p < 0.001$. Similarly, receipt of a week of shelf-stable meals through MTY was associated with a reduction in the seven-point continuous food insecurity score of 0.029 to 0.035 points for the household. The reduction in food insecurity is a substantively large effect. By a rough estimate, the National School Lunch Program reduces food insecurity by approximately 0.115 percentage points for 10 meals delivered, based on work by Gundersen and colleagues (2012). The large impact of MTY may be partially influenced by the depth of need during the pandemic and associated recession in 2020.

The impact of participation in MTY on food insecurity status was larger for households living in more rural ZIP codes, though households in less rural areas also benefited. Receiving an additional week of meals reduced the rate of food insecurity by about twice as much in more rural areas relative to less rural areas

Results varied by race/ethnicity. We were able to disaggregate results by respondents who were white non-Hispanic, Black non-Hispanic, Alaska Native or Native American, and Hispanic or Latinx. By late summer, large impacts emerged for Alaska Native and Native American respondent households, with a 2.6 percentage-point decrease in the rate of food insecurity and a reduction of 0.12 points on the food insecurity scale for each additional week of meals, on average. Latinx respondent households also experienced large and significant decreases in food insecurity in late summer with higher program dosage. We do not see a similar pattern emerge for Black respondent households, who did not experience significant changes in their food insecurity when they received more MTY meals. White households also only experienced marginally significant effects, concentrated in the early summer.

Vendor Experience

Vendors faced many logistical challenges in sourcing food, packaging, and shipping meals to families during 2020. Food sourcing to meet USDA's requirements was also difficult, especially during a pandemic when shelf-stable food was in high demand across the country. Vendors faced shortages and competition due to supply chain disruptions, triggering the need for substitutes and workarounds to comply with USDA's nutritional requirements.

Shipping was far more challenging in 2020. The vendors contracted with shipping carriers to deliver food boxes, most commonly with the United Parcel Service and the United States Postal Service for rural deliveries or to PO Boxes, with FedEx as an alternative shipper. The number of stakeholders involved, paired with the rapid scale-up of the program, led to challenges in accurately and quickly coordinating to meet the needs of a program on this scale and time frame. In interviews, vendors reported it was difficult to estimate ahead of time how many boxes were expected to ship and where boxes were going, and they often ended up guessing incorrectly. These challenges especially affected their ability to work with shipping carriers, as the carriers' origin, intermediate, and destination distribution centers were not adequately prepared for the influx of boxes and did not always have the necessary capacity for storage, particularly in rural areas.

In contrast to 2019, damaged boxes posed one of the biggest challenges to the 2020 program, and vendors were tasked with resolving this shipping challenge rapidly. One vendor estimated their

shrinkage was approximately twice their predictions because of shipping issues. Reports of damaged boxes came both to the BCHP customer service line and directly to vendors. The eMTY program shipped boxes biweekly (as opposed to the sMTY model, which was designed for weekly shipping), meaning each box contained 10 days' worth of meals and large quantities of liquids. These heavy boxes were often stacked in shipping distribution centers and on carrier trucks, creating pressure and damage to both the outside and internal contents of the boxes.

Vendors were able to reship boxes whenever damages were reported, but due to the underreporting that we uncovered in participant surveys and interviews, not all participants received replacement boxes.

Key Recommendations

The report contains several recommendations based on issues observed during the 2020 program year, addressing school district enrollment, family engagement, vendor food sourcing and shipping issues. Overall, the MTY program was an important resource for families during a tumultuous year that exacerbated food insecurity and material hardship, particularly among families with children. Program effectiveness can be strengthened in future iterations based on lessons learned during the 2020 MTY implementation. Given the persistent challenges that rural families face in accessing food and engaging in on-site programming, MTY offers a promising strategy for adapting existing nutrition program responses to better serve children in all types of communities in the US.

Introduction

This report shares findings from an evaluation of the 2020 Meals-to-You (MTY) program, a pilot program administered by the Baylor Collaborative on Hunger and Poverty (BCHP) and funded by the US Department of Agriculture (USDA). The original aim of the MTY pilot was to provide a stable and reliable source of food through home delivery to children in rural areas who lack access to Summer Food Service Program sites. The first year of the program in 2019 tested the model in multiple school districts in Texas and was known as Summer Meals-to-You (sMTY). In 2020, BCHP had planned to expand the summer pilot program beyond Texas to include children in parts of Alaska and New Mexico. However, in spring 2020, as part of the emergency response to reductions in school meal access due to school closures in the early months of the COVID-19 pandemic, USDA funded a dramatic expansion of the program called Emergency Meals-to-You (eMTY).

The Urban Institute is the independent program evaluator of the original three-year pilot program and was contracted by BCHP to conduct an evaluation of eMTY. This report covers the 2020 sMTY program in Texas, New Mexico, and Alaska and the eMTY program. Because these programs faced similar barriers and challenges in summer 2020 and some households² participated in both programs, most discussion of program outcomes will refer to MTY as a whole unless otherwise specified. Box 1 describes how MTY terms are used in this report.

BOX 1

A Note on Terminology

Throughout this report, we use three terms to represent the summer and emergency MTY programs in 2020.

- **sMTY: TX** refers to the original three-year pilot program, Summer Meals-to-You, which served participants³ in Texas from May to August 2020.
 - **sMTY: AK/NM** refers to the two-year expansion program of Summer Meals-to-You in Alaska and New Mexico (2020 was the first year of the expansion). This program served participants from June to August 2020.
 - **eMTY** refers to the one-year nationwide expansion program, Emergency Meals-to-You, which operated only in 2020 from April to August 2020.
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The 2020 Meals-to-You Program

All MTY programs were designed to deliver shelf-stable boxes of food to eligible households. Households were eligible if they had children enrolled in public schools in a participating MTY district, qualified for free or reduced-price school meals, and signed up for the program during their district's enrollment window. If a household had one child who qualified them for the program, all minor children in the household could receive an allotment of meals regardless of age or school enrollment status.

Context of the MTY Program and the COVID-19 Pandemic

Originally, USDA and BCHP planned to continue the MTY pilot in the second year of the program by shipping food boxes to children in Texas, while an expansion program would replicate the pilot in Alaska and New Mexico. Food boxes in New Mexico would also reach Native American children attending schools on reservations or in nearby communities, and the Alaska program would reach Alaska Native communities. Most of the Texas school districts participating in the first year of the program had signed up to participate in the second year, and BCHP anticipated serving approximately the same number of sMTY: TX students as the first year and creating a waiting list if the demand was higher than expected. They also planned to launch sMTY: AK/NM, expecting to serve around 720 households in Alaska (including the Bering Strait and Lower Kuskokwim School Districts) and around 120 households in New Mexico (including the Mescalero Apache and Jicarilla Apache Reservations). Both programs were expected to begin shipping food boxes during the first week of June 2020, with McLane Global (McLane) as the program's incumbent and only vendor.

However, in early spring 2020 the COVID-19 pandemic upended in-person schooling, leaving many families and children without access to school meals as school districts began closing schools. During this time, there was also concern that families would face increased food insecurity due to the economic downturn. By mid-March 2020, USDA had funded BCHP to expand the original MTY concept nationwide through the newly created eMTY program. Enrollment in eMTY began in late March, and boxes began shipping throughout the US in April.

Due to the expansion of the emergency program, BCHP contracted with two new MTY vendors, PepsiCo Foundation's Food for Good (PepsiCo) and Chartwells, through a competitive process. Ultimately, McLane supplied boxes for MTY households in 34 states, PepsiCo in 32 states, and Chartwells in 25 states. Chartwells was the exclusive vendor to serve children with food allergies or intolerances.⁴

Emergency and Summer MTY

The eMTY and sMTY programs differed, and enrolled households had slightly different experiences. The eMTY program was intended to address food insecurity caused by pandemic-related school closures through the end of the 2019–20 school year. It was ultimately extended to the end of August 2020 to address continued hardship in the summer months. The sMTY program was a continuation of the year-1 pilot that focused on Texas, Alaska, and New Mexico, as described above. The eMTY program ultimately reached 42 states, mostly in the South and Southwest of the US,⁵ and Puerto Rico. Though both programs were supported by USDA awards, they were executed under separate contracts.

From a participant's perspective, the programs differed somewhat as well. The eMTY boxes were designed to be shipped biweekly, with a total of 10 days' worth of food per box, including 10 breakfasts and 10 lunches. The sMTY boxes, containing 5 days' worth of food per box, including 5 breakfasts, 5 lunches, and 5 additional snack items, were designed to be shipped weekly. In Texas, 365 households (0.3 percent) experienced both programs and transitioned from eMTY to sMTY; 1,435 households (1.1 percent) remained on sMTY for the summer; and 127,216 households (98.6 percent) remained on eMTY for the duration of the summer.

Enrollment through School Districts

In both eMTY and sMTY, BCHP conducted outreach to make potentially eligible school districts aware of the program. The sMTY: TX districts were largely the same as those that participated in 2019. School districts in sMTY: AK/NM were chosen based on two main eligibility criteria: whether the district was rural according to USDA's classification and whether more than 50 percent of the district's students received free or reduced-price lunch (FRPL). Given the more widespread nature of the eMTY program, the sign-up process for MTY looked a bit different. USDA regional office staff took ownership of setting up calls with child nutrition state agencies in their respective areas to engage in the MTY program. School districts that were interested would then sign up on the MTY website as long as they qualified based on the two main eligibility criteria, though ultimately, the rurality requirement was loosened as long as the state agency approved.

The enrollment process then began in partnership with interested school districts, which signed up with BCHP to offer the program to eligible households enrolled in their schools. School districts began enrolling in the eMTY program on a rolling basis in late March 2020, regardless of whether the school district was enrolled in sMTY. BCHP consulted with school districts on their preferred

enrollment window. Most districts offered an enrollment window for eligible households of about six to seven days, with the average enrollment window being 6.4 days. The eMTY program offered three enrollment methods that school districts could elect to offer eligible households: passive enrollment, hybrid enrollment, and active enrollment (table 1). The average sMTY enrollment window was five days.

A BCHP MTY case manager contacted school district personnel and collected eligibility information. The case manager followed up with an email to determine the school district's points of contact and preferred enrollment method. BCHP provided technical assistance with enrollment and determining eligibility, including frequently asked questions (FAQs) and other materials for school districts and for households that self-enrolled under hybrid or passive enrollment. Materials were provided in English and Spanish.

TABLE 1
Overview of MTY Enrollment Processes

Enrollment method	Description
Passive	Households enrolled into the program directly through the MTY online portal. Households were encouraged to contact the BCHP MTY customer service team for troubleshooting. School districts verified eligibility.
Hybrid	Households could choose to enroll directly through the MTY online portal or school districts could do outreach and enroll households directly. Households commonly contacted both the BCHP MTY customer service team and the school district to troubleshoot the enrollment process. School districts verified eligibility.
Active	The school district enrolled households into the program. Households could contact the school district or the BCHP MTY customer service team to report program issues.

Source: BCHP programmatic data.

Notes: The enrollment process for a school district may have followed any of the three pathways to connect eligible households with MTY. School districts indicated to BCHP the type of enrollment method preferred by the school district, though the data suggest this may have varied over time, especially for hybrid and active enrollment.

MTY = Meals-to-You; BCHP = Baylor Collaborative on Hunger and Poverty.

Outline of Main Findings

The results in this report are structured to look at outcomes across four components of MTY program evaluation:

1. **School district analysis**, which assesses the characteristics and experiences of participating school districts
2. **Program implementation analysis**, which assesses program processes, effectiveness, and challenges

3. **Program impact**, which outlines the impact of MTY on key program outcomes related to food insecurity
4. **Participant analysis**, which assesses program participants' experience, satisfaction, and hardship

We align our presentation of findings in the order the program was implemented. First, we detail the experience of school districts and enrollment of families into the program, as the program is structured to begin by working with states and school districts for enrollment of families. Second, we discuss program function and implementation challenges, as several of these occurred at the outset of the program and others occurred during implementation. Third, we present results about the impact of the program on food insecurity and how program participants compare to a national benchmark. Fourth, we discuss the experience of participants and outcomes related to material hardship. Fifth, we present future considerations to ensure the program is responding to cultural needs. We conclude with a set of key takeaways and recommendations.

Evaluation Methodology

Research Questions

For the 2020 program year, we identified a comprehensive set of research questions:

1. School district experience with enrollment
 - » How did school districts experience and support the enrollment process?
 - » Among enrolled districts, what share of eligible households participated? Did this participation rate vary by district type (e.g., Community Eligibility Provision [CEP] participation) or other observable district or student characteristics?

2. Program implementation

Program Function

- » Did the program successfully deliver food boxes as expected for enrolled households?
- » Did meals consistently reach households in a timely manner and in good condition?
- » Did households with students participating in the program regularly receive food resources through this program?
- » Did delivery and satisfaction differ by observable participant characteristics?

Program Satisfaction

- » How satisfied were households with the enrollment and food delivery process?
- » What was the program experience of participating households?

Program Implementation and Processes

- » **eMTY:** What implementation challenges did the eMTY program face? How were these challenges addressed, and how could they be addressed in future implementation?
- » **sMTY:** What process improvements did BCHP and its partners make following the first year that might affect enrollment, delivery, client satisfaction, or other key program metrics?

- » **sMTY:** What insights and learnings emerged for implementation next year?

3. Participant outcomes

- » Did the receipt of eMTY or sMTY boxes reduce household food insecurity and provide access to fruits and vegetables over the course of the intervention?
- » Did households experience other benefits from participation, such as changes in indicators of material hardship or household resources?
- » How do eMTY and sMTY household experiences compare to a national sample of families with children surveyed during the same time period?

4. Effect of COVID-19 pandemic on participating households

- » What has been the employment and financial impact of the COVID-19 pandemic on the households served by the program?
- » Is the program reaching households adversely impacted by the COVID-19 pandemic?

Evaluation Activities

Participant Data Collection

We surveyed a sample of 6,537 households in May and June 2020⁶ and 6,232 households in September and October 2020 to assess program implementation and client experience. This sample is representative of the 134,589 households (81.5 percent) that participated in the program and agreed to be contacted during enrollment. Some households that opted out of the MTY program partway through the summer were not invited to take the second round of the survey. Of those invited to take the survey, 4,093 responded to the first round (62.6 percent response rate), and 3,342 responded to the second round (53.6 percent response rate). One adult per household responded to either an online or paper survey, answering questions about their household's characteristics, how satisfied the family was with the program (enrollment, delivery, food, and customer service), and any material or food hardship faced in the household.

Most respondents completed the surveys online through the survey platform Qualtrics. The research team conducted outreach and shared the link through text message, email, and a folded

mailer. Surveys were available in both English and Spanish, and respondents received either a \$10 or \$20 (in Alaska and Hawaii) Amazon or prepaid VISA gift card for participation.

A small number of surveys were completed by paper. The research team mailed surveys (in both English and Spanish) upon participant request for the first survey. After noting a relatively low response rate from Alaska and South Dakota during the first survey, we sent paper surveys to all nonrespondents to increase our response rate in the first round, and then preemptively to all participating households in those states in the second round to increase the participation rate.

Analyses of participant data included a series of weights to ensure our population was statistically similar to the overall service population by race/ethnicity, program type, state, and school district. For more information about weighting and methodology, please see appendix A.

To capture more detail on program experiences, we conducted phone interviews with 35 participants in August 2020 who had indicated in their program survey that they would be willing to participate in a follow-up phone interview about their experiences (75 percent of respondents in round 1 and 74 percent in round 2 responded that they were interested in the follow-up interview). These participants were purposively sampled across program type (sMTY, eMTY, or both) and a range of geographic, demographic, household, and program experience-related characteristics.⁷ All interviews were recorded and transcribed for analysis purposes, and interviewees received a \$40 gift card for participating.

School District Data Collection

We administered a survey to 336 of the 351 participating school districts, surveying those with valid email addresses, in July and August. One district personnel member responded per district to the online survey, and paper surveys were available upon request. Our survey assessed the districts' experience with the program and any challenges or barriers in enrollment and implementation. Personnel from 144 districts responded (42.7 percent response rate); we expect that the back-to-school time period may have affected response rate. Surveys were available in both English and Spanish, and respondents received either a \$10 or \$20 (Alaska and Hawaii) Amazon or prepaid VISA gift card for completion.

We also conducted nine follow-up phone interviews with district personnel in August. These district personnel were purposively sampled across the districts' enrollment methods (active, passive, or hybrid), food service programs (CEP or FRPL),⁸ take-up rates of the program, and existence of

unique barriers (in Alaska, on a reservation, or district contacts with nonfood service roles). Respondents received a \$40 gift card for participating.

Additional Data Collection

For additional context around program implementation, we spoke with members of the BCHIP team in July 2020 about the process challenges in rolling out the program and overall program experiences. We conducted four interviews with administrative staff, financial and programmatic staff, data staff, and case managers involved with enrollment. We also conducted three separate interviews with contacts at each of the three participating vendors: McLane, PepsiCo, and Chartwells. BCHIP assisted with providing contacts at each of the vendors, and group interviews were conducted over the phone. In addition, we interviewed an accounts director from United Parcel Service (UPS) for additional clarity around shipping logistics and challenges.

To help guide our analysis of program implementation in Alaska, we conducted five interviews with key informants from Alaska using a semistructured protocol tailored to their respective areas of expertise. Our goal was to gather more insights into the food system environment in the state, especially issues important to Alaska Natives and remote villages (with a focus on western Alaska).

Finally, to guide our analysis of program impact and the cadence and dosage of boxes that participants in the program received, we analyzed shipping data. The BCHIP team created a consolidated set of administrative data that logged every box shipped to every participant in the program.⁹ Our team took these data and created a consolidated, household-level shipping dataset that included all eMTY and sMTY boxes households received. Counts of households and participants only represent those who had valid identification in the data. By using only those with valid, unique identification, seven eMTY households were dropped from analysis, and up to 129 eMTY participants were dropped. No sMTY households were dropped, and up to 1 sMTY participant was dropped. This dataset was the source for our final counts of meals and boxes delivered and participants and households in the program.

Impact Analysis

Because districts and households enrolled in the program at different times and received different numbers of meals due to delivery constraints and other program factors, we observed that the

number of meals per participating child varied widely. We were able to leverage this variation in program dosage to estimate the average impact of MTY participation on food insecurity.

OUTCOMES: FOOD INSECURITY MEASURES

We measured food insecurity using USDA's six-item food security module with each round of the survey (affirmative responses in italics):

- **"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?** *Often true, Sometimes true, Never true*
- **"We couldn't afford to eat balanced meals." Was that often, sometimes, or never true for your household in the last 30 days?** *Often true, Sometimes true, Never true*
- **In the last 30 days, 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, No*
 - » **In the last 30 days, how many days did this happen?** *Less than 3 days, 3 days or more*
- **In the last 30 days, did you ever eat less than you felt you should because there wasn't enough money for food?** *Yes, No*
- **In the last 30 days, were you ever hungry but didn't eat because there wasn't enough money for food?** *Yes, No*

Respondents were defined as food insecure if they responded affirmatively to at least two of the six questions.¹⁰ We also included a continuous food insecurity measure as an outcome based on the number of affirmative responses, meaning respondents could have a score of 0 (no affirmative responses) to 6 (affirmative responses to all six questions). Consistent with the framing of the questions, the unit of analysis was the household. We collected two food security time points for each participating household, one in early summer 2020 and one in late summer 2020.

TREATMENT VARIABLE: DOSAGE

One approach to analyzing the impact of MTY would be to have a comparison group of nonparticipants, but we were unable to identify a reasonable comparison group. We explored constructing a synthetic comparison group of nonparticipants using national survey data from the Health Reform Monitoring Survey (HRMS), discussed below, but the survey did not have enough cases

of rural families with children in the geographic areas where the MTY program focused to confidently construct a comparison sample. We explored leveraging variations in timing of eMTY and the two sMTY programs to understand program impact, but the timing of these various programs did not differ enough to allow for this type of comparison. We also thought we might be able to conduct a pre-post comparison if we could capture food insecurity at the beginning of the program, to reflect on the time immediately before program receipt, and compare that with food security at the end of the program period. However, with the rapid start-up of eMTY and the challenges of gathering survey responses for participants in remote rural areas, the first survey was frequently completed well into the program administration period, and the second survey was often completed after the program had completely ended and families had turned to other school-year programs to help with food needs.

Consequently, instead of using a comparison group for our identification strategy in this analysis, we used the cumulative number of meals each household received, adjusted for the number of participating children. We chose cumulative dosage because the meals were shelf stable, meaning they could theoretically accumulate, and because money saved on food earlier in the program could translate into more food access later.¹¹ We measured dosage from the participant-level shipping data that BCHP shared with the research team after reconciling shipments with the vendors.

The histograms in appendix B, which show the distribution of the number of meals received by each survey time point, demonstrate that the range of treatment dosage was broad. This analysis allowed us to estimate the marginal impact of each additional meal received on household food insecurity. For ease of interpretation, we report the results in the Program Impact section in units of 10 meals, showing the changes in food insecurity associated with one week of program dosage.

CONTROL VARIABLES

We ran two specifications of the models: bivariate, with only the treatment and outcome variables, and with a set of control variables. The set of control variables we included are standard in the food insecurity literature (Gundersen and Ziliak 2018):

- **program:** indicator for ever participating in sMTY and ever participating in eMTY (some households had both)
- **state:** indicators for state at time of survey response—unique indicators only for states with at least 40 survey respondents; states with smaller sample sizes were pooled together
- **survey response date**

- **race/ethnicity:** white non-Hispanic, Black non-Hispanic, Asian, Alaska Native or Native American, Hispanic or Latinx,¹² other or mixed, and unknown (asked at earliest survey response)
- **household size:** at time of survey response
- **income as a percentage of the federal poverty level (FPL) in 2019:** 0–138 percent, 138–250 percent, 250–400 percent, and 400 percent or higher
- **negative job impact from COVID-19 pandemic:** affirmative response to questions about job loss, reduced hours, or reduced wages for anyone in the household as of the survey response date
- **any damaged boxes received**

Appendix C shows the descriptive statistics for the control variables overall and for each subgroup. We chose not to impute for item nonresponse. The one exception was race and ethnicity, for which we either filled in race based on what households reported on the enrollment form as the child's race or imputed race and ethnicity information if the household lived in a school district where 70 percent or more of the school-age children were Black, Hispanic or Latinx, or Native American. For school districts that did not use Common Core of Data, no race was imputed, and the variable was left blank.

Formally, the regression specification for our ordinary least squares and linear probability models was as follows:

$$F_h = \beta_0 + \beta_1 D_h + \gamma_h + \varepsilon_{ht}$$

where F is the measure of food insecurity (food insecure or not; continuous), referencing the 30-day lookback prior to each wave of the survey; D is the indicator of cumulative dosage, measured in meals received, adjusted for the number of participating children; γ is the vector of control variables; ε is the stochastic error term, clustered by state; and β_1 is the coefficient of interest. In our reporting, we multiplied this coefficient by 10 to represent the impact of 10 meals received (one week of full program dosage) on the food insecurity outcomes. As noted, some control variables could have different values over survey waves, while others were consistent for a household across waves.

SUBGROUP ANALYSES

We conducted subgroup analyses for the following populations:

- **program:** eMTY and sMTY
- **rurality:**¹³ less than 80 percent of the ZIP code coded as rural versus 80 percent or greater
- **race/ethnicity of survey respondent:** white non-Hispanic, Black non-Hispanic, Alaska Native or Native American, and Hispanic or Latinx

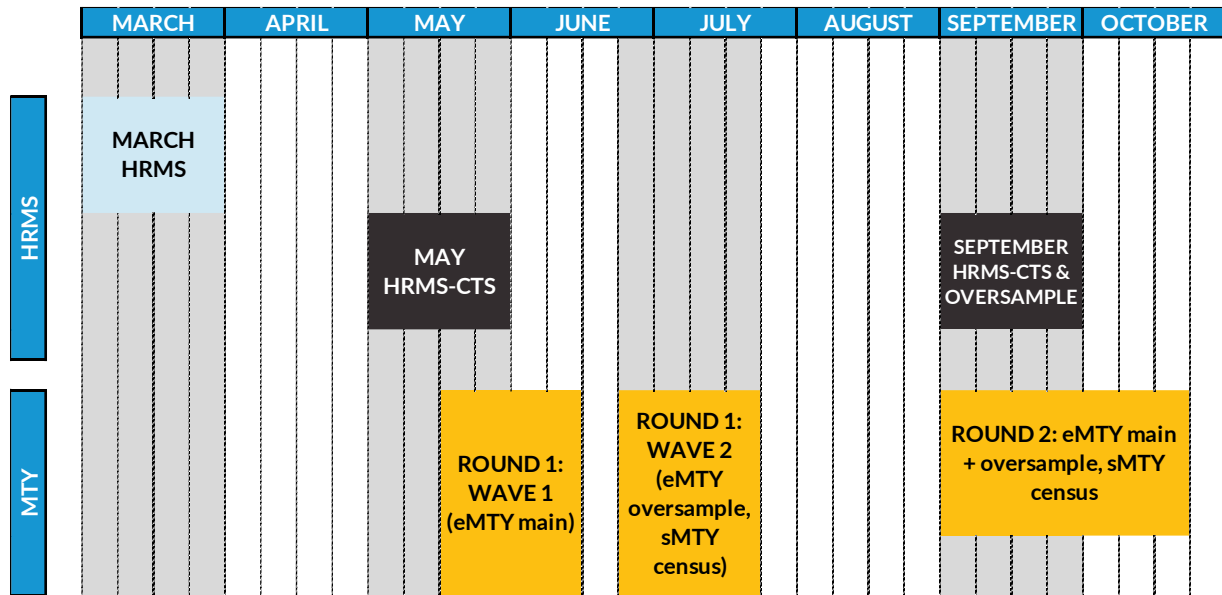
National Survey Benchmark

The concurrent HRMS is a useful national benchmark to understand the profile of MTY households compared to the country as a whole. The HRMS is a nationally representative survey of adults ages 16 to 64 with or without school-age children. It was originally designed to provide information on the implementation of the Affordable Care Act. Core questions relate to health insurance coverage and health care. In 2020, the main HRMS was collected in March. The HRMS team then administered two additional surveys, called the HRMS Coronavirus Tracking Survey (HRMS-CTS), in May and August to a subsample of families from the HRMS with school-age children. The HRMS-CTS explored the impacts on households of the COVID-19 pandemic, including how it affected employment, income, food security, economic hardship, participation in public programs, and health. Appendix D describes the HRMS in more detail. Figure 1 describes the timeline of the 2020 HRMS and HRMS-CTS, which aligned fairly well with the timing of the MTY surveys.

The March 2020 HRMS, which was fielded as an internet-based survey between March 25 and April 10, collected information on 9,032 adults, with or without children.¹⁴ The first round of the HRMS-CTS surveyed all families with school-age children from the March HRMS sample. It was fielded between May 14 and May 27, collecting information from 1,673 households with school-age children across the country. The second round of the HRMS-CTS was fielded between September 11 and September 28 to the same subsample of families with school-age children, as well as an additional sample of Black and Hispanic or Latinx families with school-age children who were not in the March HRMS sample. A total of 2,239 families with school-age children participated in the second round of the HRMS-CTS, which included an oversample of 503 Black families and 603 Hispanic or Latinx families with school-age children.

FIGURE 1

Timeline of the HRMS, HRMS-CTS, and MTY Surveys, 2020



Source: BCHP and HRMS programmatic data.

Note: HRMS = Health Reform Monitoring Survey; HRMS-CTS = HRMS-Coronavirus Tracking Survey; MTY = Meals-to-You.

School District Analysis

School district survey and in-depth interview respondents were MTY points of contact and navigators.¹⁵ These are persons who acted as liaisons with MTY throughout both the eMTY and sMTY programs.¹⁶ Respondents provided information on the challenges they and the families in their district faced due to the COVID-19 health emergency, their perception of the district families' experiences with MTY, their own experience and satisfaction with MTY enrollment and the BCHP MTY support team, and any other feedback.

The MTY school districts were primarily rural and served diverse student populations (table 2). The average participating school district contained 10 schools and served roughly 4,500 students.¹⁷ The MTY districts enrolled about 39 percent white students, 16 percent Black students, and 31 percent Hispanic or Latinx students. Three percent of students enrolled in MTY districts were Alaska Native or Native American students; 14 of these districts were located on legally designated tribal reservations, and 6 were located in Alaska. Nearly all of the students in these districts were Native Americans or Alaska Natives.¹⁸ Most MTY districts were in the Southeast (35.0 percent) and Southwest (43.3 percent) USDA regions, and almost 90 percent of districts were in town or rural areas (with over half located in distant and remote rural areas, the most rural designation).

The MTY school districts served large shares of low-income students. About two-thirds (65.9 percent) of students in MTY districts were eligible for FRPL meals. Almost all schools in MTY districts participated in the National School Lunch Program (NSLP); more than 40 percent of students were enrolled in schools that offered universal free meals under CEP or under other FRPL program flexibilities that reduced reporting and accounting burdens (Provision 2 or Provision 3).

TABLE 2

Characteristics of School Districts in the MTY Program

District characteristics	Mean	Minimum	Maximum
Number of schools	10	1	847
Enrollment	4,495	10	307,282
Demographics (%)			
White	39.4	0	100
Black	15.8	0	98.8
Hispanic or Latinx ^a	30.8	0	99.8
Asian	3.9	0	46.9
Native American or Alaska Native ^a	2.8	0	100
Native Hawaiian or Pacific Islander	3.3	0	27.8
Two or more races	4.0	0	39.0
NSLP participation (% of students)			

Free or reduced price eligible	65.9	21.6	100
NSLP participation (% of schools)			
Non-NSLP	4.6		
CEP/Provision 2 or 3	43.3		
Application-based NSLP	52.0		
USDA region			
Mid-Atlantic: DC, DE, MD, NJ, PA, PR, VA, WV	2.0		
Midwest: IL, IN, IA, MI, MN, OH, WI	5.4		
Mountain Plains: CO, KS, MO, MT, NE, ND, SD, WY	8.3		
Northeast: CT, ME, MA, NH, NY, RI, VT	2.8		
Southeast: AL, FL, GA, KY, MS, NC, SC, TN	35.0		
Southwest: AZ, AR, LA, NM, OK, TX, UT	43.3		
Western: AK, CA, HI, ID, NV, OR, WA	3.1		
District rurality			
City	3.7		
Suburb	5.1		
Town			
Fringe	2.3		
Distant	11.4		
Remote	10.6		
Rural			
Fringe	10.6		
Distant	26.0		
Remote	30.3		

Source: School and school district demographic and directory data from the Common Core of Data via the Urban Institute Education Data Portal and BCHP programmatic data.

Notes: MTY = Meals-to-You; NSLP = National School Lunch Program. Table 2 describes 2018–19 school year descriptive characteristics of 351 MTY districts; however, free or reduced price–eligible data are only available for 321 districts due to missing data. Demographic characteristics are weighted by district enrollment. The following National Center for Education Statistics definitions apply to district rurality designations. Cities include territories inside both an urbanized area and a principal city; suburbs include territories inside urbanized areas but outside principal cities. Towns are territories inside urban clusters; rural describes territories outside of urban clusters. For other rurality definitions, see “NCES Locale Classifications and Criteria,” National Center for Education Statistics, accessed October 11, 2021, https://nces.ed.gov/programs/edge/docs/locale_classifications.pdf.

^a The data source uses *Hispanic* and *American Indian/Alaska Native*, but we use the preferred terms *Hispanic or Latinx* and *Native American or Alaska Native* to reflect the different ways people self-identify.

Learning about MTY and Informing Families about the Program

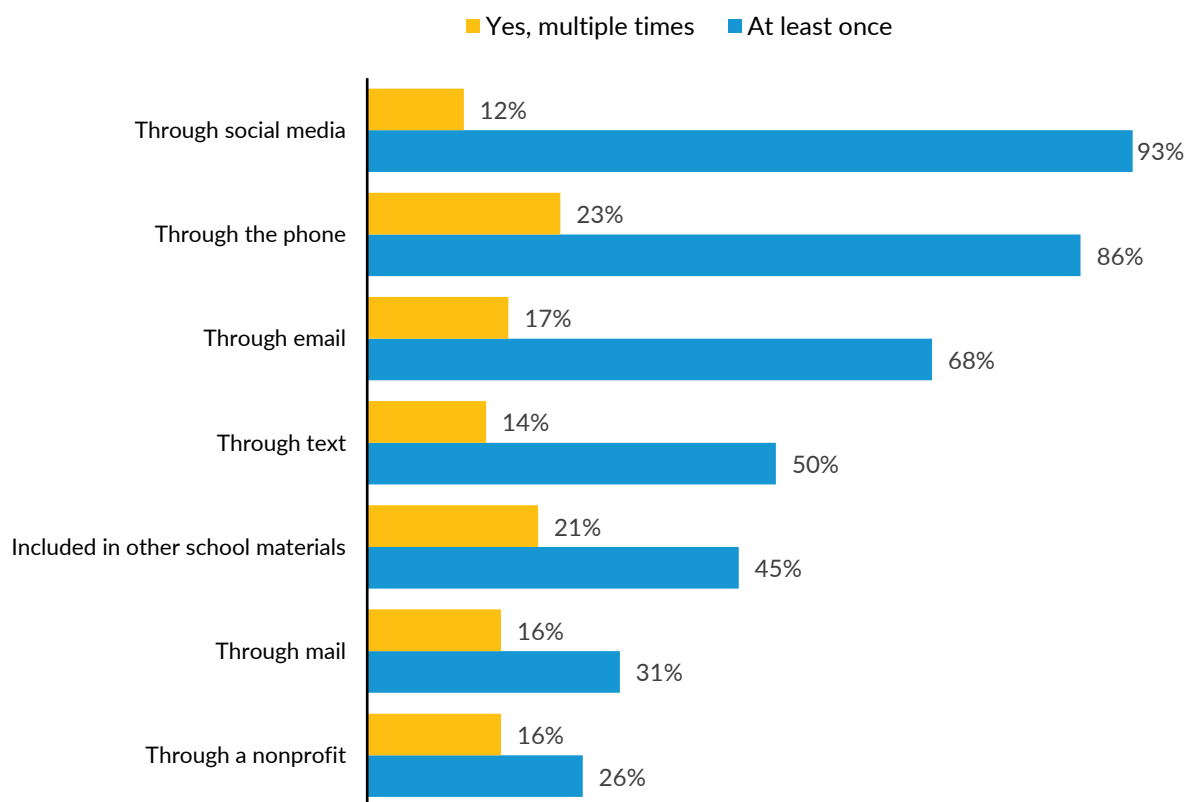
School district survey and in-depth interview respondents were MTY points of contact and navigators.¹⁹ These are people who acted as liaisons with MTY throughout both the eMTY and sMTY programs.²⁰ Respondents provided information on the challenges they and the families in their district faced due to the COVID-19 health emergency, their perception of the district families’ experiences

with MTY, their own experience and satisfaction with Meals-to-You enrollment and the BCHP MTY Support Team, and any other feedback.

The majority of school districts that were offered MTY opted into participation, though this varied by state. Most (81 percent) school district respondents reported learning about MTY from their state education agency. Fewer respondents reported learning about MTY from other state agencies (15 percent), including state health departments and state child nutrition agencies; from media or press releases (13 percent); from local leaders (8 percent); or from students' families (3 percent).

School districts had at least some families enroll directly through the MTY website, and staff used multiple methods to share information with potential participants. Most (93 percent) district respondents reporting using social media at least once to notify families about their ability to sign up for the program (figure 2). School districts also relied on directly phoning (86 percent), emailing (68 percent), or texting (50 percent) eligible families during the enrollment period.

FIGURE 2
How Did School Districts Communicate with Families?



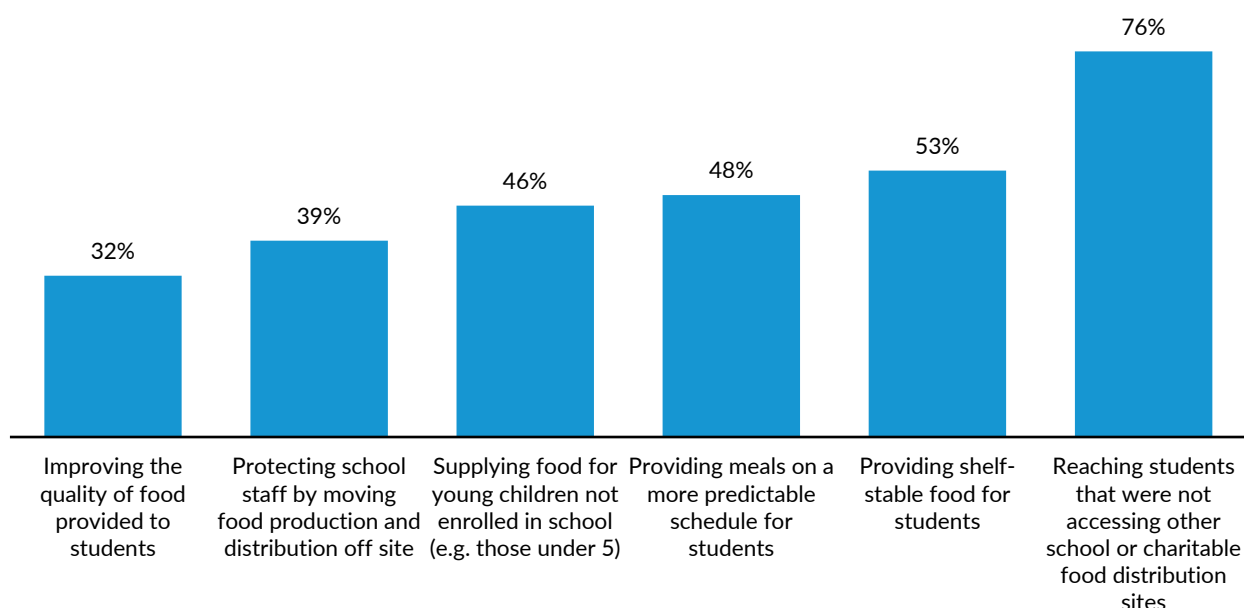
Source: School district survey conducted July 29 to August 31, 2020.

Program Goals

School district personnel were asked to categorize a list of goals when implementing MTY from low priority to high priority on a five-point scale. Figure 3 illustrates the share of respondents that ranked as highest priority each goal asked on the survey. School district personnel identified the goal of providing food to children who may not have access to other food programs most often, and about half the respondents also ranked as high the goal of providing shelf-stable foods. In interviews, some personnel indicated that families thought shelf-stable food was useful in the context of the food shortages and supply uncertainty prevalent during the pandemic.

FIGURE 3

What Were the Highest-Ranking Goals for MTY among School Districts?



Source: School district survey conducted July 29 to August 31, 2020.

Notes: Each respondent chose to rank each goal provided in the survey from low to high (1–5). Figure 3 presents percentage of survey respondents that ranked each option as “5,” or highest priority. Respondents chose from a set of goals provided in the survey. MTY = Meals-to-You.

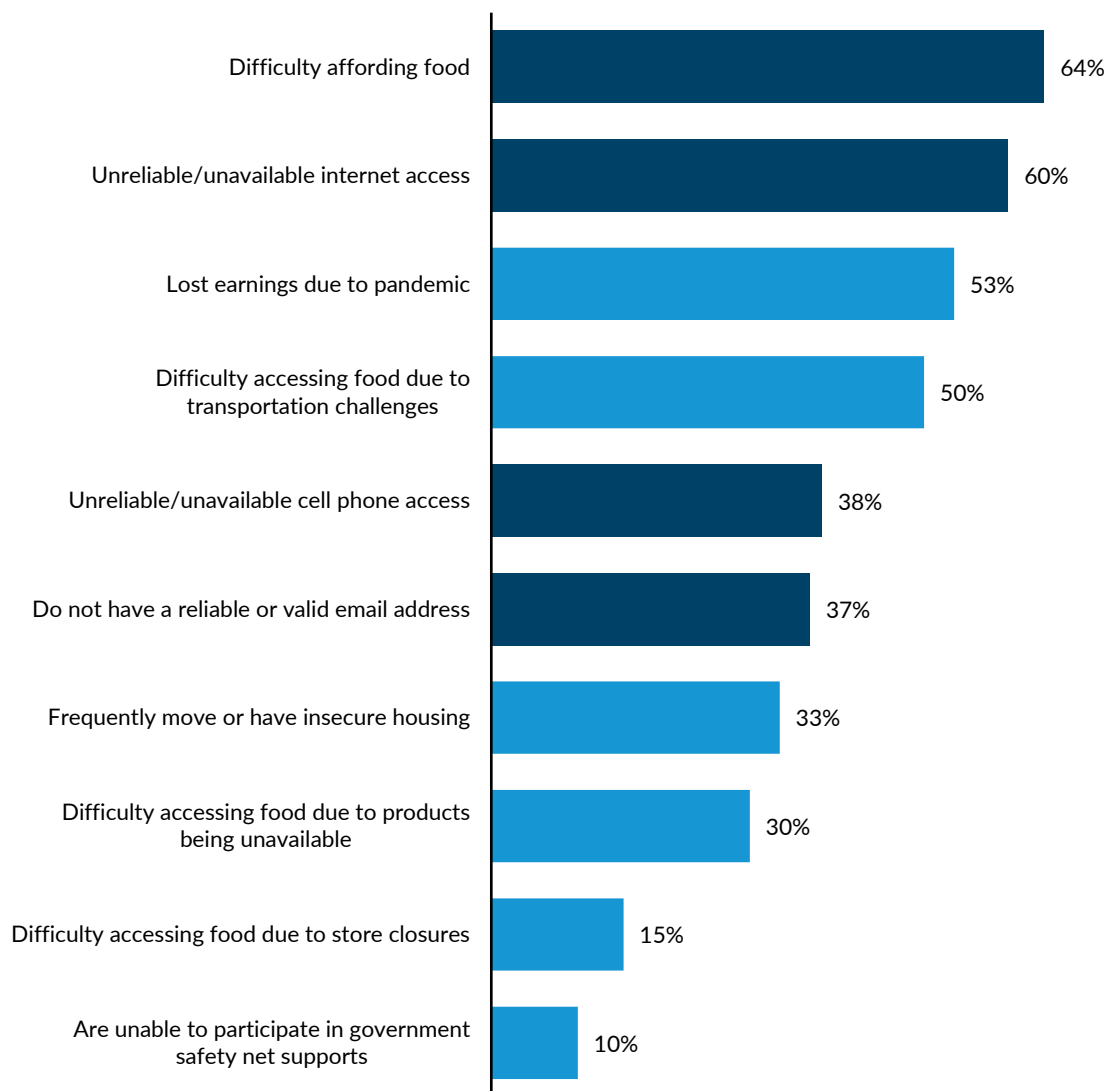
Challenges Faced by Families

School districts reported on the challenges that families with students enrolled in their schools faced during the pandemic (figure 4). A majority of respondents (64 percent) reported that nearly all or many families (combining survey options “nearly all families” and “many families”) faced challenges in being

able to afford food. Many school districts (60 percent) reported that nearly all or many families in their district lacked internet access, and smaller shares of respondents reported that nearly all or many families lacked access to a cell phone (38 percent) or email address (37 percent). District respondents also reported that many of their families were experiencing loss of income during the pandemic (53 percent) or had difficulty accessing food due to affordability (64 percent) or transportation challenges (50 percent).

FIGURE 4

Challenges School Districts Reported among at Least Some Families Participating in MTY



Source: School district survey conducted July 29–August 31, 2020.

Notes: “At least some families” combines the categories “some eligible families” and “many eligible families.” MTY = Meals-to-You.

Enrollment and Verification Challenges

The MTY program required a two-stage enrollment and verification process. School districts were initially asked to nominate program navigators. These navigators acted as program coordinators between the MTY support team and the school district during the enrollment and subsequent verification process. Each school district was assigned to a member of the MTY case management team to walk them through the enrollment process. Program navigators then chose whether to reach out to families directly to enroll them in the program, to have families enroll directly through the MTY portal, or to provide some mix of support and self-enrollment to families in a specified enrollment window. After the enrollment window closed, each school district was required to verify that each enrolled student was eligible for FRPL through a spreadsheet form provided by the MTY support team.

Feedback from school district personnel, from both the survey and the in-depth interviews, suggested that school districts had varying experiences and challenges during the enrollment and verification process. Some of these difficulties stemmed from school districts and the families they served not having the right infrastructure for the process, including lacking stable internet, a valid shipping address, valid email, or working phone number. These factors complicated the enrollment and verification process. A few respondents explicitly mentioned in the survey that rurality complicated verifying addresses or communicating with families.

Some school districts found the enrollment process to be cumbersome or puzzling. In the in-depth interviews, some school district personnel indicated that the spreadsheet provided by BHP used to collect enrollment and verification information was confusing, including filling in the students' FRPL status and verifying their CEP status. Confusion during the enrollment and verification process led to some families being left off the program, according to district personnel. Other school districts found the entire enrollment process simple.

Some school district informants (in the survey and interviews) found the enrollment window to be too short. These respondents indicated that they could have enrolled more students in the program if the window had been longer or had been repeated. Administrative data from MTY shows that sMTY had an average enrollment window of 5 days, ranging from 3 to 7 days, while eMTY averaged 6.4 days, ranging from 1 to 23 days.

Among districts that were already approved to use CEP to deliver universal free meals to students at some or all of their schools, few respondents (3 percent) reported verification issues. Among those using FRPL applications, a slightly larger share (6 percent) reported issues with verification.

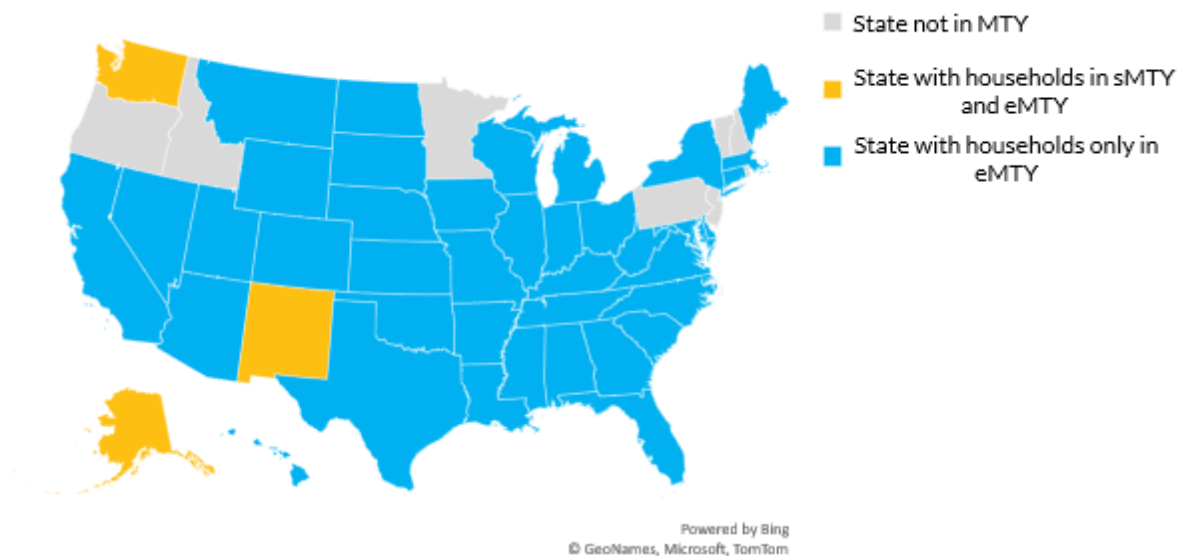
Program Implementation

Program Implementation Successes

The eMTY and sMTY programs reached households across the country,²¹ serving 129,016 households and 272,527 participants across 42 states and Puerto Rico (figure 5) in summer 2020. The overwhelming majority of households served were in the South and, in particular, in Texas (10 percent) and Louisiana (33 percent). The eMTY program was the larger component of MTY in 2020, with 98.6 percent of households served participating in eMTY only; 1.1 percent of households participated in sMTY only, and a very small percentage of households (0.3 percent) transitioned from eMTY to sMTY. The sMTY-only households were in Alaska or New Mexico (44.5 percent), and the other 55.6 percent were in Texas. One household that participated in sMTY was located in Washington.

FIGURE 5

Map of Households Served by MTY, 2020



Source: Author's analysis of programmatic shipping data.

Notes: State participation was based on addresses of households in the final shipping list. Puerto Rico participated only in eMTY (not shown). Washington, DC, did not participate in MTY. MTY = Meals-to-You; eMTY = emergency MTY; sMTY = summer MTY.

The eMTY box shipments began in late March and sMTY box shipments began in May, with both programs slated to end on August 15, 2020. The program successfully delivered 38,028,768 meals and about 1,923,000 boxes.²² This included 37,599,408 eMTY meals and 429,360 sMTY meals (table 3).

TABLE 3
Key MTY Program Metrics, 2020

Program metric	Total number
Number of households served	129,016
eMTY only	127,216
sMTY: TX	796
sMTY: AK/NM	638
Both eMTY and sMTY	365
Number of participants served	272,527
Number of meals delivered	38,028,768
eMTY	37,599,408
sMTY: TX	283,030
sMTY: AK/NM	146,300

Source: Consolidated shipping data based on final shipping list.

Notes: Meal totals represent number of meals marked as delivered. One household participated in the sMTY program in Washington and received 30 meals.

MTY = Meals-to-You; eMTY = emergency MTY; sMTY = summer MTY.

Table 4 summarizes characteristics of program participants and households.²³ Participants resided in households with 2.6 children on average, and nearly a quarter of households were headed by a single adult. About half of participants were white, about 18 percent were Black, 9 percent were Alaska Native or Native American, and about 15 percent were Hispanic or Latinx. Nine in 10 participants lived in households with annual incomes below 250 percent of FPL, based on their household size at the time of the survey.

TABLE 4
Demographic and Social Characteristics of MTY Participants, Beginning of Summer 2020

Characteristic	Weighted N = 272,527
MTY program type (%)	
Emergency	81.6
Summer: TX	13.6
Summer: AK/NM	4.9
Household characteristics	
Number of children (mean)	2.6
Number of people (mean)	4.6
Single-adult household (%)	23.9
Race or ethnicity (%)	
White	49.0

Characteristic	Weighted N = 272,527
Black	18.4
Hispanic or Latinx	14.7
Alaska Native or Native American	8.6
Other or mixed	9.3
Geography (%)	
West, except Alaska	4.5
Alaska	4.4
Midwest	4.6
Northeast	0.4
South	84.8
Puerto Rico	1.4
Annual household income (%)	
Above 138% of FPL	65.6
138–250% of FPL	22.7
250–400% of FPL	9.2
Above 400% of FPL	2.4

Source: MTY survey, round 1, conducted May 26–July 15, 2020.

Notes: The FPL is based on household composition at the time of the survey, which may have changed since the household qualified for the free or reduced-price lunch program. “Other/mixed” includes other reported races or those reported as more than one race. Unweighted sample size in round 1 was 4,093. Geography represents census regions, aside from Alaska and Puerto Rico. We defined poverty levels based on the thresholds set for the contiguous United States, though the thresholds are higher for Alaska and Hawaii.

MTY = Meals-to-You; FPL = federal poverty level.

Program Implementation Challenges

The rapid scale-up of the MTY program due to the pandemic led to several program implementation challenges, beginning with some confusion around the eligibility and enrollment process. For example, there was an initial misunderstanding between USDA and the state agency in Louisiana regarding eligibility criteria for MTY, namely that the program was targeted to rural children based on specific rural district criteria. Louisiana moved quickly to enroll large numbers of students, including many in urban areas that were located in the same parish (district) as rural schools. Ultimately, the BCHP team had to limit the number of households that could sign up from Louisiana, leading to frustration among all stakeholders.

During the enrollment process, low-resourced districts had difficulty correctly filling out PDF or Excel enrollment files. Often staff who were not experts in school nutrition programs and who did not understand specific eligibility terminology, such as CEP and FRPL, would fill out forms. During the pandemic, district staff did not have access to their regular offices and may not have had access to Excel or other necessary programs on their computers at home, if they had computers or internet at home at all (which was not true for all staff, especially in low-resourced school districts). BCHP case

management staff spent a substantial amount of time interacting with districts and district representatives individually to walk through the process and solve problems on a case-by-case basis. In fact, in the school district survey, 88 percent of district personnel reported asking the MTY team for enrollment help. The time required to resolve these issues meant that some districts enrolled in the program later than others, leading to varying levels of program receipt by families.

These challenges also led to data that were difficult to clean, as many districts signed families up under the same email address or listed multiple families at the same household address. This confusion caused delays in beginning shipments in some cases and led to substantial delays in confirming the final data on participants and shipments after the program year ended.

Many school district respondents indicated in both open-ended questions on the survey and in later in-depth interviews that the MTY support team was a good partner to work with, and for the most part communication and support were timely and effective. BCHP used an FAQ resource to help resolve common concerns with enrollment, shipment, and other issues. Ninety-one percent of respondents who received help via email “strongly” or “somewhat” agreed that their questions and concerns were addressed appropriately.

Vendors also faced many logistical challenges in sourcing food, packaging, and shipping meals to families. USDA contracted with BCHP to field this program in 2019, and BCHP initially contracted with McLane as the sole vendor. When eMTY was initiated, BCHP recruited additional vendors to accommodate the need for rapid scaling across large portions of the country. The vendors themselves contracted with shipping carriers, most commonly with UPS and the United States Postal Service for rural deliveries or to PO Boxes, with FedEx as an alternative shipper. The number of stakeholders involved, paired with the rapid scale-up of the program, led to challenges in accurately and quickly coordinating to meet the needs of a program on this scale and time frame. In interviews, vendors reported it was difficult to estimate how many boxes were expected to ship and where boxes were going, and they often ended up guessing incorrectly. These challenges especially affected their ability to work with shipping carriers, as the carriers’ origin and destination distribution centers were not adequately prepared for the influx of boxes and did not always have the necessary capacity for storage, particularly in rural areas.

Food sourcing to meet USDA’s requirements was also difficult, especially during a pandemic when shelf-stable food was in high demand across the country. Vendors faced shortages and competition due to supply chain disruptions, triggering the need for substitutes and workarounds to comply with USDA’s nutritional requirements. A subsequent analysis has been undertaken by an outside entity to

conduct a nutritional analysis of box contents. A vendor commented that there could have been more support from USDA and coordination with food producers to supply food to vendors at reasonable prices and assist in navigating shortages of shelf-stable foods. Similarly, vendor respondents commented that assistance from the federal government to help navigate shipping issues, especially with the United States Postal Service as a federal agency, could have smoothed the process.

Finally, in contrast to 2019, damaged boxes posed one of the biggest challenges to the 2020 program, and vendors were tasked with resolving this shipping challenge rapidly. Reports of damaged boxes came both to the BCHP customer service line and directly to vendors. The eMTY program shipped boxes biweekly (as opposed to the sMTY model, which was designed for weekly shipping), meaning each box contained 10 days' worth of meals and large quantities of liquids. These heavy boxes were often stacked in shipping distribution centers and on carrier trucks, creating pressure and damage to both the outside and internal contents of the boxes. Participants in interviews and vendors noted that carriers along every step of the shipping route to the remote destinations may not have handled the boxes with care, leading to additional dents and damage. Vendors were able to reship boxes whenever damages were reported, but due to the underreporting that we uncovered in participant surveys and interviews, not all participants received replacement boxes. One vendor estimated their shrinkage was approximately twice their predictions, due to shipping issues. Even taking into account the larger scope of the program, the rate of damage experienced was much higher in 2020 than in 2019.

Milk was the most difficult product to ship, as spillage led to spoiled box contents. Spilled and rotten milk in the box was most commonly noted by participants interviewed in Alaska. Alaska and Puerto Rico posed unique challenges for shipping due to distance. Shipments reached the state and territory via plane, and destinations took longer to reach than in the continental US. In addition, because most MTY participants lived in rural areas, PO Boxes or General Delivery were common, and so boxes in some areas were left at the local post office for participants to pick up. This practice led to boxes piling up at small, underresourced post offices and additional spoilage from spilled milk or other box contents. One vendor switched to powdered milk for this reason. For more information on the logistical difficulties of program implementation in Alaska and Puerto Rico, see Subanalyses and Case Studies.

From our conversations with the BCHP team, we gained additional insights into the administrative challenges that arose when coordinating and implementing a program of this scale and came away with key recommendations for how related future efforts can be better prepared. Predominantly, challenges arose due to an initial lack of understanding as to what the eMTY program scale-up

required. BCHP did not have the staffing capacity needed to cover data management, program management, university relations, finance, customer service, and the other day-to-day logistics this program required almost immediately. Consequently, many staff members were taking on multiple roles and becoming understandably fatigued. Although BCHP had coordinated invoices and receipts during 2019, the size of the 2020 program elevated the importance of Baylor University's serving as the fiscal agent of MTY. BCHP staff had to quickly bring other university officials up to speed and navigate difficult hurdles in quickly approving million-dollar invoices with university legal and accounting departments.

In addition to limited staff capacity, the scale of data infrastructure needed was not known before launching the program, creating unforeseen challenges in data sharing between BCHP and vendors. BCHP staff devoted significant time to cleaning and formatting shipping lists from vendors. Nonetheless, because shipment tracking information was not consistently provided in a uniform way that the customer service team could access, BCHP often could not quickly update participating households about the status of their shipments. Vendors were also unaware, especially at the outset, how many shipments they would need to prepare for. The number of shipments could range between 100 and 100,000. This wide variation was a result of constantly changing enrollment numbers as more school districts joined the program. BCHP learned over time how to better project estimates and ensure rural distribution centers were aware of large upcoming shipments.

Despite these significant challenges, the BCHP team got the program off the ground quickly and came away with lessons for the following year of the program. We describe lessons and recommendations at the end of this report. Hawaii found this program so valuable that the state government forged a partnership with private and community partners to continue the program, now called Kaukau 4 Keiki, in summer 2021.²⁴

Comparison of MTY to a National Sample

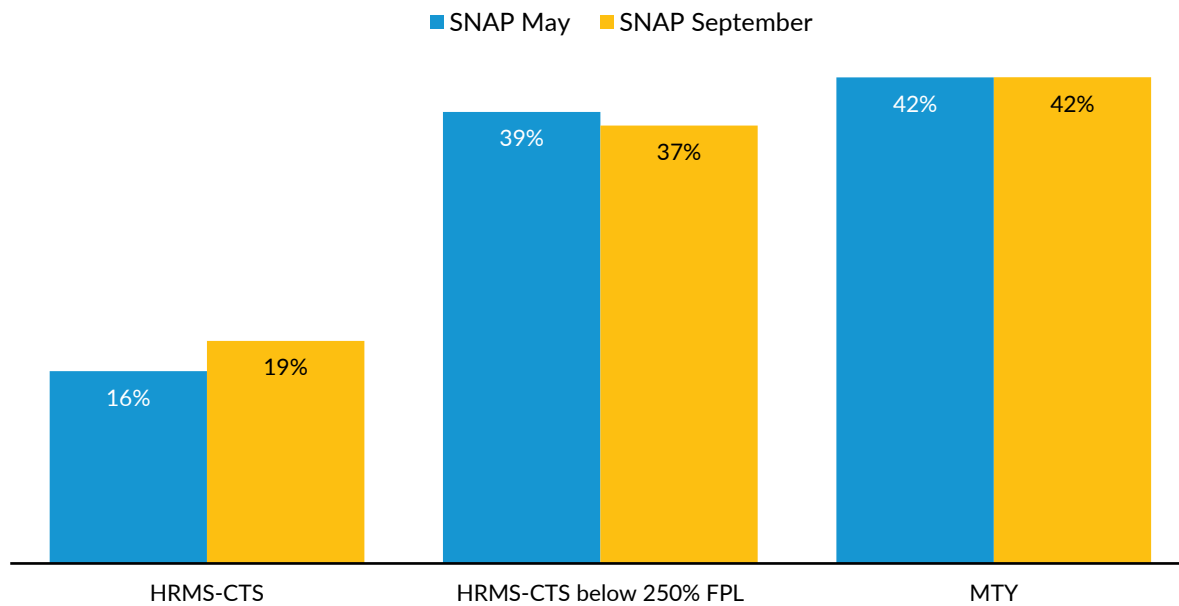
For this report, we used the HRMS-CTS to characterize a national sample of families with school-age children against which we could compare the experiences of MTY participants. The HRMS-CTS surveys households across the income spectrum. For this analysis, we focused on the sample of households with incomes below 250 percent of FPL to better reflect the population likely to enroll in MTY. Using this subsample still did not provide a true comparison for examining the experiences of MTY participants. For example, the MTY population is more rural, by design, and we were unable to fully align the lower income ranges among the two groups. But it does provide a general economic context for the experiences of MTY participants in light of the broader challenges facing households with school-age children, particularly those with more modest incomes, during the first several months of the pandemic.

In this section, we examine indicators of economic hardship and coping strategies, including self-reported Supplemental Nutrition Assistance Program (SNAP) participation, use of school meal pickup sites, employment and financial impacts of the COVID-19 pandemic, and food insecurity.

As shown in Figure 6, self-reported receipt of SNAP benefits in the last 30 days in each sample was similar in May and September, although participation among HRMS-CTS respondents with incomes below 250 percent of FPL was modestly lower in September (37 percent) than in the MTY sample (42 percent). The MTY participants may have had lower incomes and thus were more likely to qualify for SNAP, given that the MTY program is targeted to households that meet FRPL guidelines (185 percent of FPL) unless they are in a school or school district that participates in CEP for all students because of a high percentage of low-income households. It is important to note that estimating SNAP receipt is complex and likely underreported in surveys, so these figures must be interpreted with caution.

FIGURE 6

Self-Reported SNAP Receipt from HRMS-CTS and MTY Surveys, May and September 2020



Source: Constructed using the May 2020 and September 2020 HRMS-CTS and the MTY May/June 2020 and September/October 2020 surveys.

Notes: SNAP receipt was based on respondents answering “yes” to receiving SNAP benefits in the last 30 days from the survey. Estimates for the MTY sample encompass all programs, including the emergency MTY program and summer MTY programs in Texas, Alaska, and New Mexico. The HRMS-CTS collected information from 868 households in May and 820 households in September that were at or below 250 percent of FPL, which is based on household income, number of children and older adults in the household, and total household size. The MTY survey collected 4,093 participant responses in May and June and 3,342 responses in September and October.

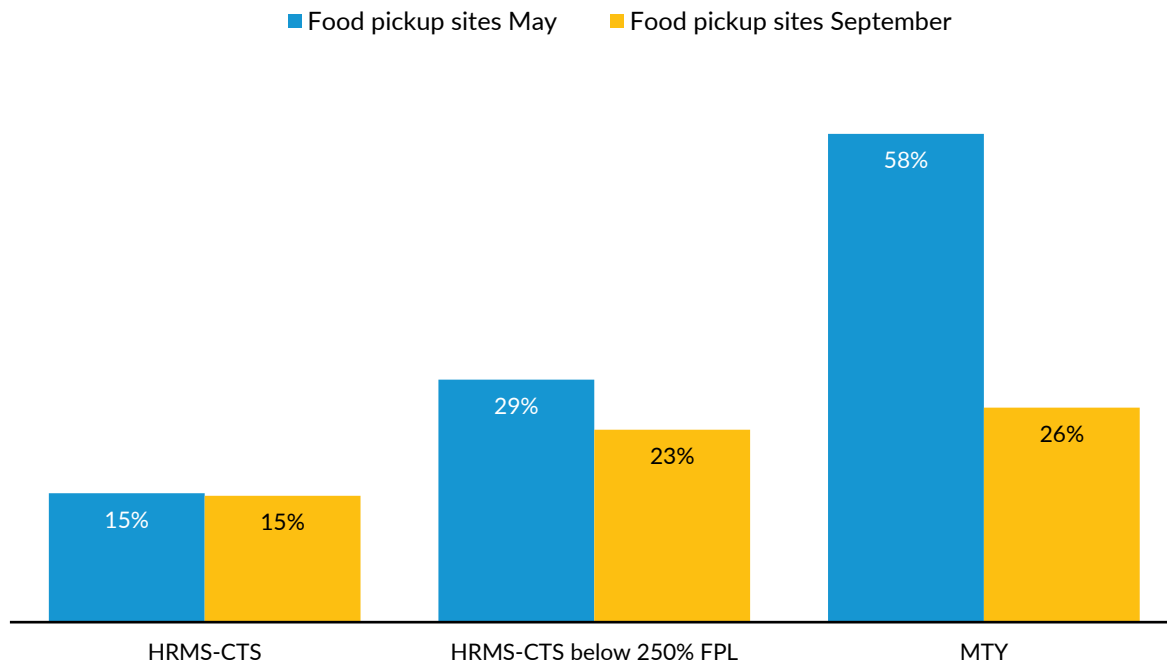
SNAP = Supplemental Nutrition Assistance Program; HRMS-CTS = Health Reform Monitoring Survey–Coronavirus Tracking Survey; MTY = Meals-to-You; FPL = federal poverty level.

** Estimate differs significantly between May and September 2020 samples at the 0.05 level, using two-tailed tests.

In both surveys, we asked participants if they received any food from emergency food pickup sites at schools or from a bus stop distribution site at any time since the beginning of the pandemic–related school closures. Use of food pickup sites was significantly more prevalent for MTY households in May 2020 than for the HRMS-CTS respondents with incomes below 250 percent of FPL (figure 7). In September 2020, MTY families reported significantly lower use than in May, declining from 58 to 26 percent, a rate similar to that in the HRMS-CTS below 250 percent FPL sample. Use of grab-and-go meals overall may have been influenced by a number of factors, including choices at the school level about how and when to make meal pickups or deliveries available and barriers to accessing grab-and-go meals, such as transportation issues, which may have been more significant in some rural areas. In September, use may have been influenced by local school attendance patterns.

FIGURE 7

Use of Food Pickup Sites Reported in HRMS-CTS and MTY Surveys, May and September 2020



Source: Constructed using the May 2020 and September 2020 HRMS-CTS and the MTY May/June 2020 and September/October 2020 surveys.

Notes: MTY encompasses all programs, including the emergency MTY program and summer MTY programs in Texas, Alaska, and New Mexico. The HRMS-CTS collected information from 868 households in May and 820 households in September that were at or below 250 percent of FPL, which is based on household income, number of children and older adults in the household, and total household size. The MTY survey collected 4,093 participant responses in May and June and 3,342 responses in September and October.

HRMS-CTS = Health Reform Monitoring Survey–Coronavirus Tracking Survey; MTY = Meals-to-You; FPL = federal poverty level.

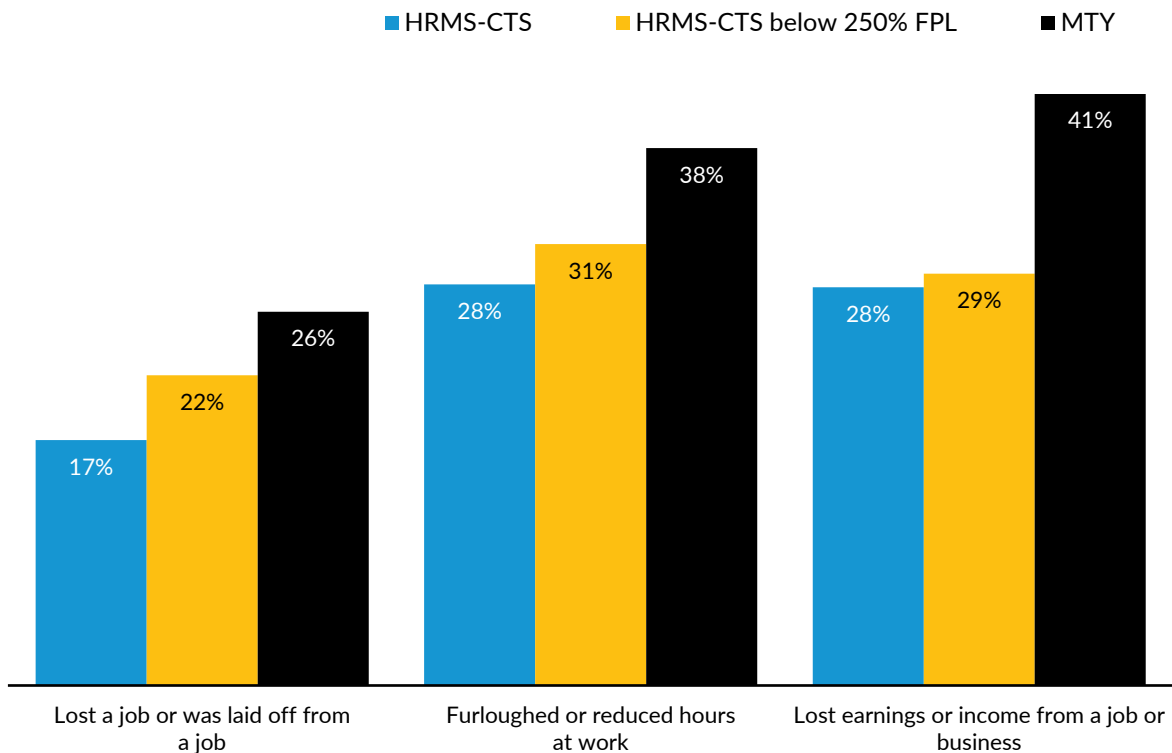
** Estimate differs significantly from the HRMS-CTS <250 percent of FPL sample in May 2020 at the 0.05 level, using two-tailed tests.

^^ Estimate differs significantly between May and September 2020 MTY samples at the 0.05 level, using two-tailed tests.

We examined self-reported impacts of the COVID-19 pandemic on employment and work-related income in both samples in the September surveys (figure 8). The MTY participants were more likely to report having had a negative employment impact in their household due to the pandemic on all three measures (unemployment, reduced work hours or furloughs, and lost work-related income) examined. Nearly 4 in 10 MTY participants had experienced reduced work hours or furloughs (38 percent) or lost work-related income (41 percent), compared to less than 1 in 3 HRMS-CTS respondents with incomes below 250 percent of FPL (31 percent with reduced hours or furloughs and 29 percent with lost work-related income). Job loss was also more prevalent in the MTY group than the HRMS-CTS low-income group (26 and 22 percent, respectively).

FIGURE 8

Employment Impacts of COVID-19 Reported in HRMS-CTS and MTY Survey, September 2020



Source: Constructed using the September 2020 HRMS-CTS and the MTY September/October 2020 survey.

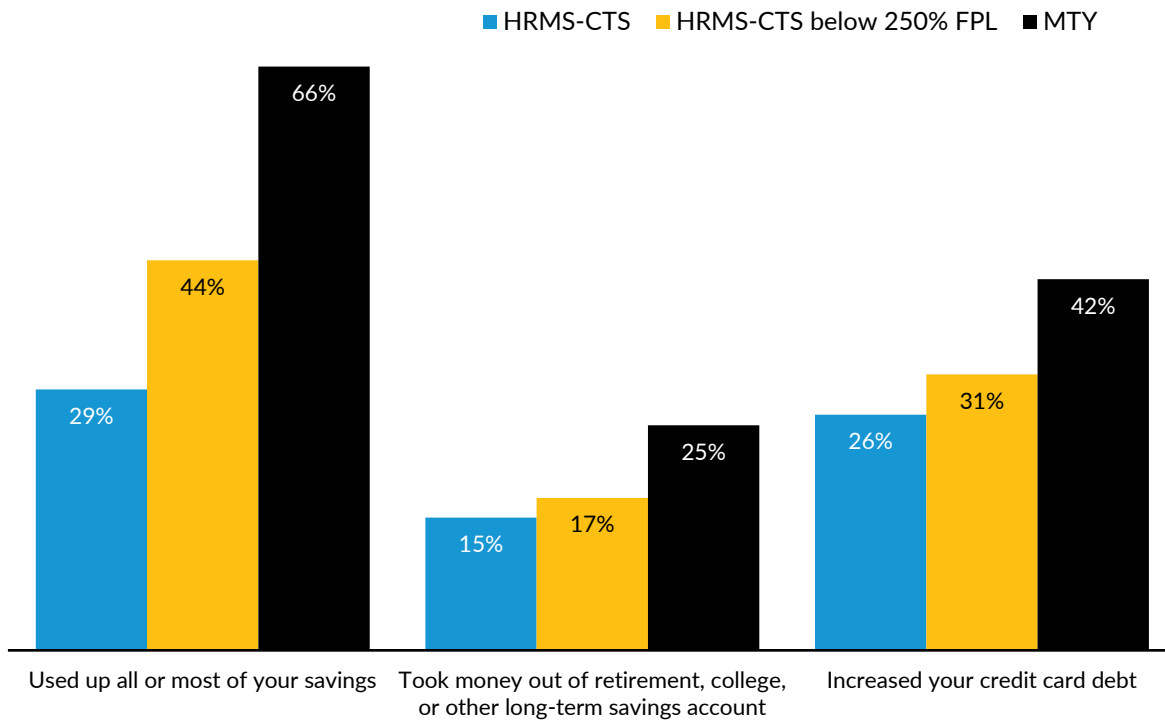
Notes: MTY encompasses all programs, including the emergency MTY program and summer MTY programs in Texas, Alaska, and New Mexico. The HRMS-CTS collected information from 820 households in September that were at or below 250 percent of FPL, which is based on household income, number of children and older adults in the household, and total household size. The MTY survey collected 3,342 participant responses in September and October. HRMS-CTS = Health Reform Monitoring Survey–Coronavirus Tracking Survey; MTY = Meals-to-You; FPL = federal poverty level.

**Estimate differs significantly from HRMS-CTS <250 percent of FPL sample at the 0.05 level, using two-tailed tests.

Additionally, financial impacts were more common in the MTY sample than in the HRMS-CTS below 250 percent FPL sample (figure 9Error! Not a valid bookmark self-reference.). For example, 66 percent of MTY households reported using up all or most of their savings during the pandemic, compared to 44 percent of HRMS-CTS respondents with incomes below 250 percent FPL. Other financial coping strategies were also more common among MTY participants than among low-income HRMS-CTS respondents, such as taking out funds from retirement or college savings accounts (25 and 17 percent, respectively) and increasing credit card debt (42 and 31 percent, respectively).

FIGURE 9

Financial Impacts of COVID-19 Reported in HRMS-CTS and MTY Survey, September 2020



Source: Constructed using the September 2020 HRMS-CTS and the MTY September/October 2020 survey.

Notes: MTY encompasses all programs, including the emergency MTY program and summer MTY programs in Texas, Alaska, and New Mexico. The HRMS-CTS collected information from 820 households in September that were at or below 250 percent of FPL, which is based on household income, number of children and older adults in the household, and total household size. The MTY survey collected 3,342 participant responses in September and October.

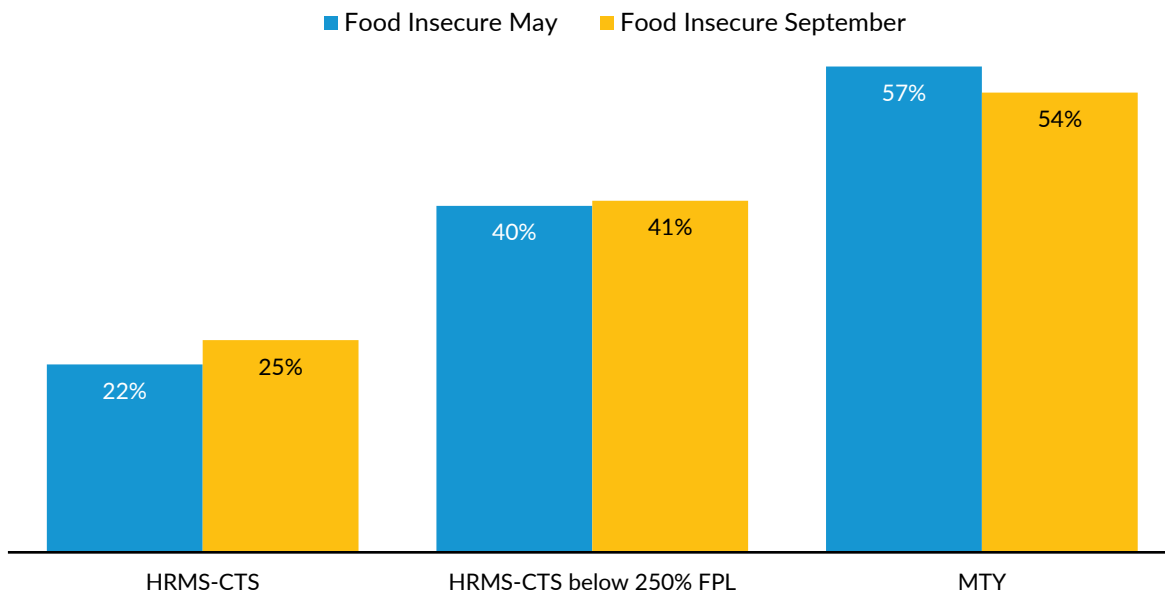
HRMS-CTS = Health Reform Monitoring Survey–Coronavirus Tracking Survey; MTY = Meals-to-You; FPL = federal poverty level.

** Estimate differs significantly from HRMS-CTS <250 percent of FPL sample at the 0.05 level, using two-tailed tests.

Food insecurity outcomes among the MTY population are discussed in more detail in the section on program impact, but we briefly present comparative data here. As shown in figure 10, food insecurity was significantly higher in the MTY sample at both the beginning and the end of the summer, reflecting an overall trend of higher material hardship in the populations enrolled in the MTY program. There was, however, a statistically significant downward trend in MTY food insecurity between May and September, while there was a slight but statistically significant uptick in the September food insecurity rate for the HRMS-CTS sample of respondents with incomes below 250 percent of FPL. In the next section, we discuss additional data on how receipt of MTY program meals was associated with changes in food insecurity based on incremental meals received.

FIGURE 10

Food Insecurity Reported in HRMS-CTS and MTY Surveys, May and September 2020



Source: Constructed using the May 2020 and September 2020 HRMS-CTS and the MTY May/June 2020 and September/October 2020 surveys.

Notes: MTY encompasses all programs, including the emergency MTY program and summer MTY programs in Texas, Alaska, and New Mexico. The HRMS-CTS collected information from 868 households in May and 820 households in September that were at or below 250 percent of FPL, which is based on household income, number of children and older adults in the household, and total household size. The MTY survey collected 4,093 participant responses in May and June and 3,342 responses in September and October.

HRMS-CTS = Health Reform Monitoring Survey–Coronavirus Tracking Survey; MTY = Meals-to-You; FPL = federal poverty level.

** Estimate differs significantly from HRMS-CTS <250 percent of FPL at the 0.05 level, using two-tailed tests.

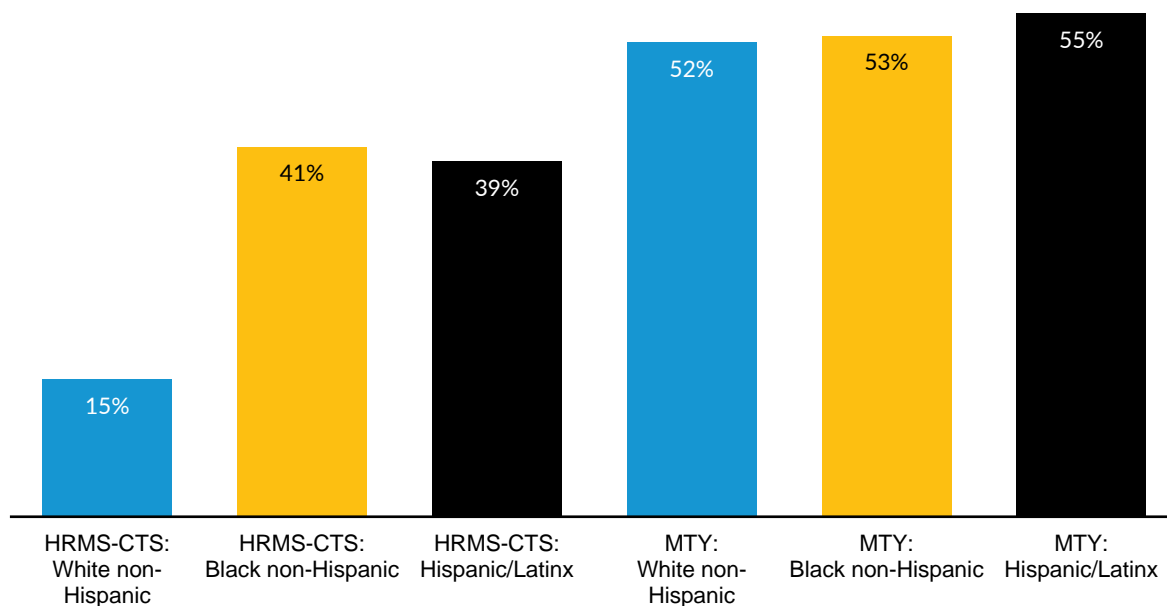
^^ Estimate differs significantly between May and September 2020 samples at the 0.05 level, using two-tailed tests.

We also examined the differences in food insecurity between the samples based on race/ethnicity. Black and Hispanic or Latinx families with children historically experience higher rates of food insecurity than white households. To improve the sample size available to examine potential differences among groups, both the HRMS-CTS and the MTY surveys collected additional samples from Black and Hispanic/Latinx populations; the MTY survey collected this additional sample in both survey rounds, and the HRMS-CTS collected this additional sample during the September round. We were unable to examine the HRMS-CTS sample only for those with incomes below 250 percent FPL, as we have done throughout this section, because of sample size limitations. Because the overall HRMS-CTS population fared better on all measures, the comparison is primarily presented to illustrate the disparities in food insecurity rates typically observed in the general population.

In the overall HRMS-CTS, white respondents were significantly less likely to report food insecurity than Black and Hispanic or Latinx respondents (figure 11). However, we did not detect significant differences by race or ethnicity in the MTY sample. In part, this observation may reflect the targeting of MTY to high-need rural populations overall. We were not able to examine the experiences of other communities, such as Asian American, Pacific Islander, Native American and Alaska Native, because of data limitations in the HRMS-CTS sample.

FIGURE 11

Food Insecurity Reported in HRMS-CTS and MTY Survey by Race or Ethnicity, September 2020



Source: Constructed using the September 2020 HRMS-CTS and the MTY September/October 2020 survey.

Notes: MTY encompasses all programs, including the emergency MTY program and summer MTY programs in Texas, Alaska, and New Mexico. The HRMS-CTS Black (530 households) and Latinx (603 households) and the MTY Black (545 households) and Latinx (769 households) base and oversample surveys were conducted only in September 2020. The MTY survey collected 3,342 participant responses in September and October.

HRMS-CTS = Health Reform Monitoring Survey–Coronavirus Tracking Survey; MTY = Meals-to-You.

** Estimate for white non-Hispanic HRMS-CTS respondents differs significantly from Black non-Hispanic and Hispanic HRMS-CTS respondents at the 0.05 level, using two-tailed tests.

Program Impact

As described in the methodology section, we analyzed how program dosage (i.e., number of meals received per program participant) related to food insecurity for MTY households. We created two versions of the food insecurity outcome: a binary indicator of food insecurity (a score of two or higher on the six-item food security module) and a continuous 0–6 score based on that same set of questions. We looked at the bivariate relationship between program dosage and food insecurity and developed a preferred specification with a limited number of control variables. Detailed results in table form, along with the bivariate regression estimates, appear in appendix E.

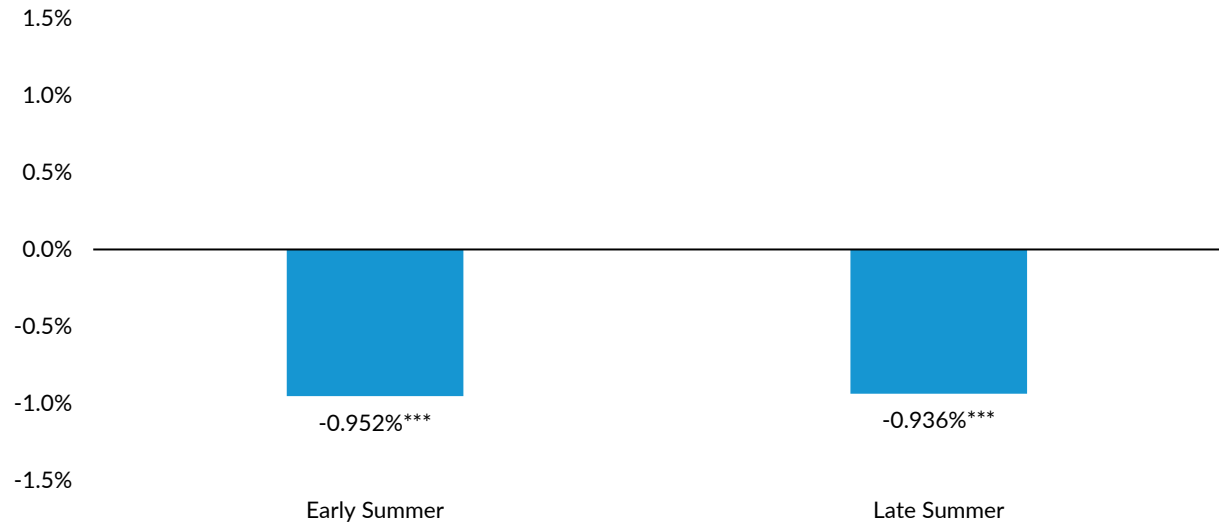
Impacts across All Program Participants

Overall, greater dosage of MTY meals was associated with a reduction in food insecurity. As shown in figure 12, receiving an additional 10 MTY meals (one week of program dosage) was associated with a reduction in household food insecurity of 0.94 to 0.95 percentage points across the two time points. This change was significant at $p < 0.001$. Similarly, receipt of a week of shelf-stable meals through MTY was associated with a reduction in the food insecurity score of 0.029 to 0.035 points for the household (figure 13).

The reduction in food insecurity is a substantively large effect. By a rough estimate, NSLP reduces food insecurity by approximately 0.115 percentage points for 10 meals delivered, based on work by Gundersen, Kreider, and Pepper (2012).²⁵ Thus, a 0.952 percentage point decline in food insecurity for 10 meals delivered through MTY is quite large.²⁶ This large impact may be partially influenced by the depth of need during the pandemic and associated recession in 2020.

FIGURE 12

Impact of Receiving 10 Additional MTY Meals on Households' Probability of Being Food Insecure in Early and Late Summer 2020 for All Program Participants



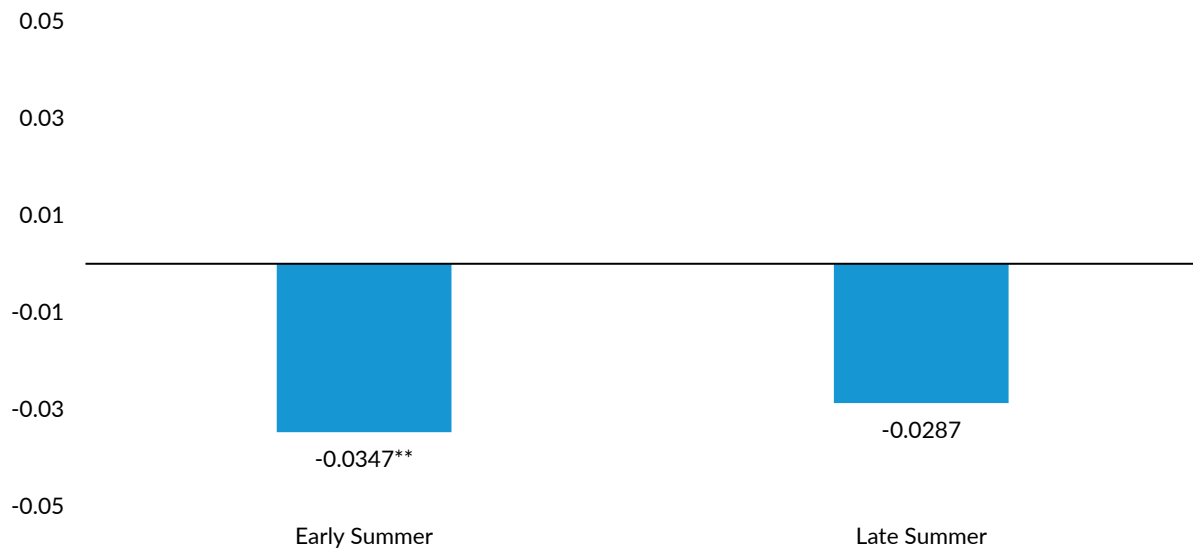
Source: Authors' analysis of programmatic shipping data and MTY participants' responses to food insecurity survey questions.

Notes: Food insecurity was defined as responding affirmatively to at least two items on a six-item food security module. See Evaluation Methodology section for details. Coefficients represent percentage point changes. MTY = Meals-to-You.

*** $p < 0.001$.

FIGURE 13

Impact of Receiving 10 Additional MTY Meals on Households' Food Insecurity Score (0–6) in Early and Late Summer 2020 for All Program Participants, by Model Specification



Source: Authors' analysis of programmatic shipping data and MTY participants' responses to food insecurity survey questions.

Notes: The food insecurity score was based on a six-item food security module. Lower scores represent more food security. See Evaluation Methodology section for details. MTY = Meals-to-You.

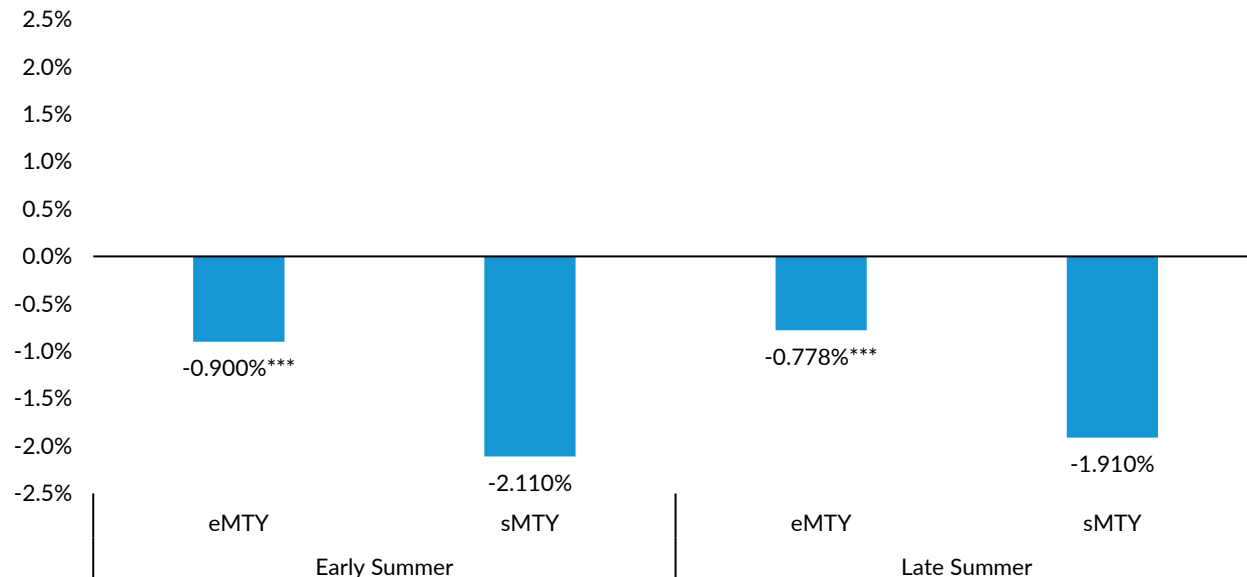
** $p < 0.01$.

Impacts for Summer and Emergency Program Participants

The impacts for the sMTY program were larger than for the eMTY program in magnitude, but the results for sMTY were not statistically significant in three of our four measures (it was only significant in reducing the average food insecurity score in early summer). This lack of significance may be due to the smaller unweighted sample size in the summer program (sMTY was about one-quarter the size of eMTY), which would mean sMTY had less statistical power to detect differences. However, the substantive results are large in magnitude. The receipt of an additional week of meals reduced food insecurity by 1.91 to 2.11 percentage points across the time points for sMTY households (figure 14). The impacts for the eMTY program were similar to the overall impacts, ranging from about 0.78 to 0.90 percentage points. One week of meals for a child reduced the household food insecurity score by 0.064 to 0.072 points on the 0–6 scale for sMTY participants and 0.018 to 0.029 points for eMTY participants (figure 15).

FIGURE 14

Impact of Receiving 10 Additional MTY Meals on Households' Probability of Being Food Insecure in Early and Late Summer 2020, by Program



Source: Authors' analysis of programmatic shipping data and MTY participants' responses to food insecurity survey questions.

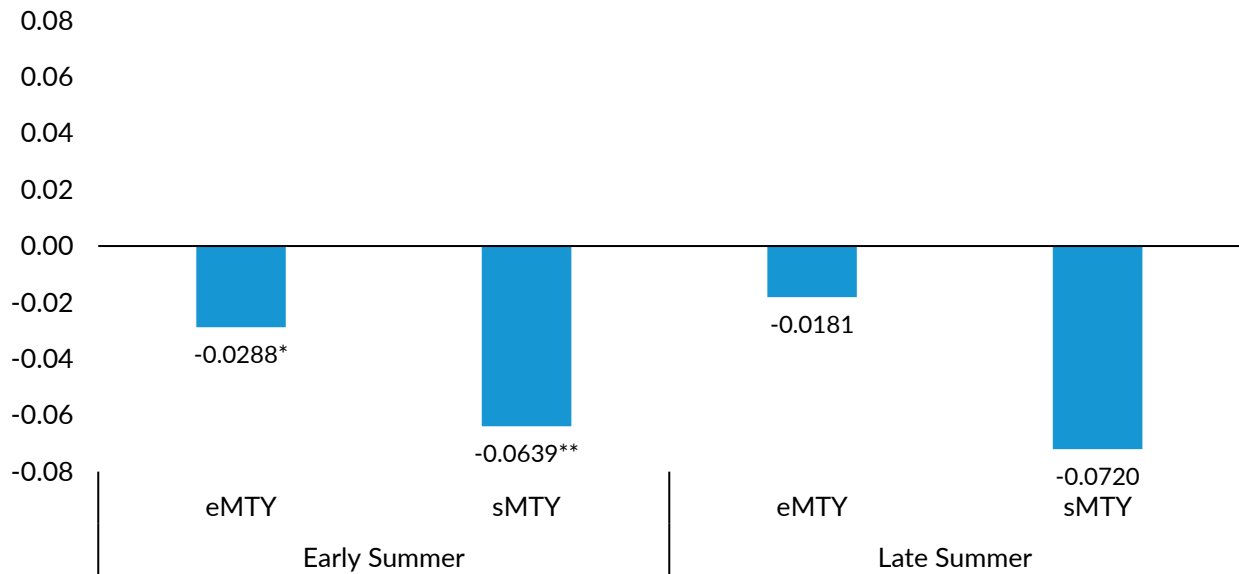
Notes: Food insecurity was defined as responding affirmatively to at least two items on a six-item food security module. See Evaluation Methodology section for details. Coefficients represent percentage point changes.

MTY = Meals-to-You; eMTY = emergency MTY; sMTY = summer MTY.

*** $p < 0.001$.

FIGURE 15

Impact of Receiving 10 Additional MTY Meals on Households' Food Insecurity Score (0–6) in Early and Late Summer 2020, by Program



Source: Authors' analysis of programmatic shipping data and MTY participants' responses to food insecurity survey questions.

Notes: The food insecurity score was based on a six-item food security module. Lower scores represent more food security. See Evaluation Methodology section for details.

MTY = Meals-to-You; eMTY = emergency MTY; sMTY = summer MTY.

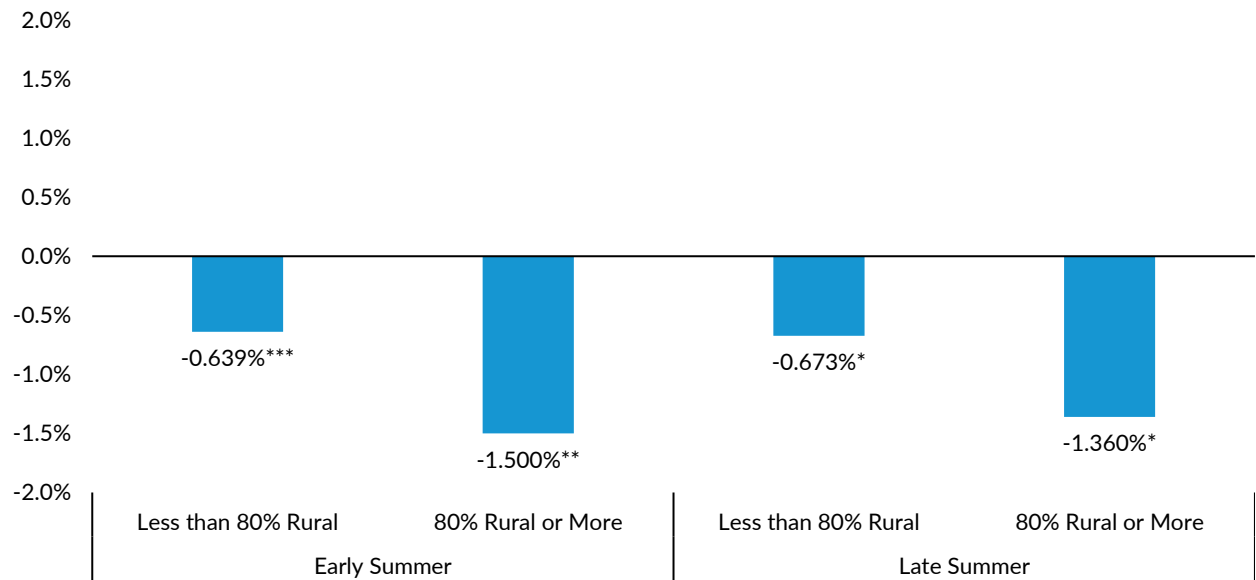
* $p < 0.05$; ** $p < 0.01$.

Impacts by Rurality of Household

The impact of participation in MTY on food insecurity status was larger for households living in more rural ZIP codes, though households in less rural areas also benefited. Receiving an additional week of meals reduced the rate of food insecurity by about twice as much in more rural areas relative to less rural areas (figure 16). The impacts on the food insecurity scores were more consistent across areas in magnitude, though the effects were only statistically significant in less rural areas in early summer (figure 17).

FIGURE 16

Impact of Receiving 10 Additional MTY Meals on Households' Probability of Being Food Insecure in Early and Late Summer 2020, by Rurality



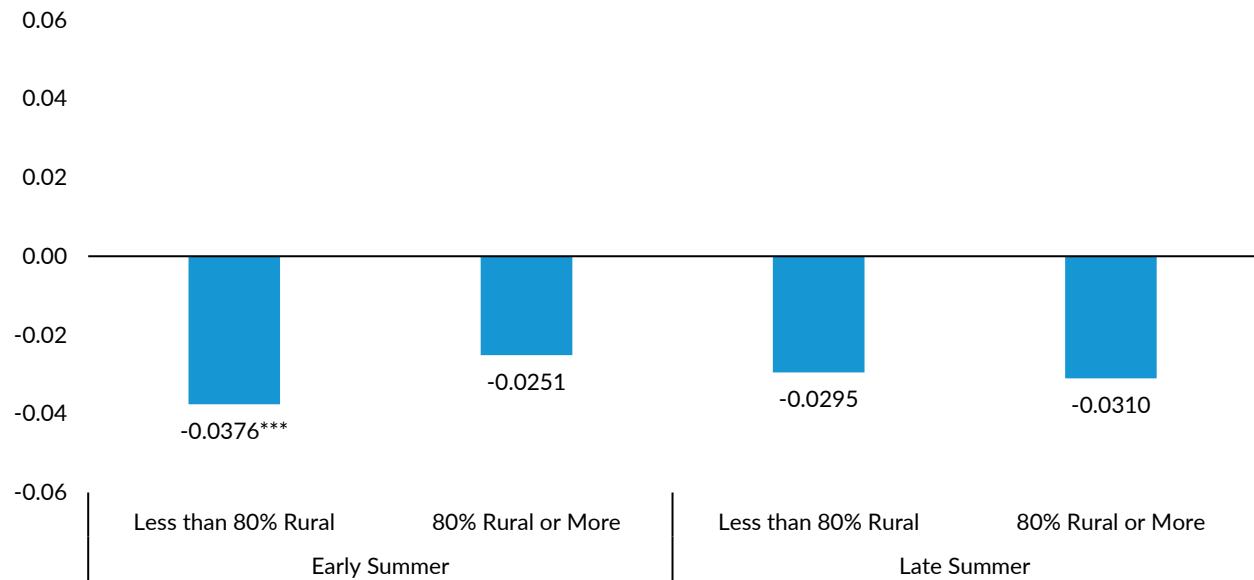
Source: Authors' analysis of programmatic shipping data and MTY participants' responses to food insecurity survey questions.

Notes: Food insecurity was defined as responding affirmatively to at least two items on a six-item food security module. See Evaluation Methodology section for details. Coefficients represent percentage point changes. MTY = Meals-to-You.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

FIGURE 17

Impact of Receiving 10 Additional MTY Meals on Households' Food Insecurity Score (0–6) in Early and Late Summer 2020, by Rurality



Source: Authors' analysis of programmatic shipping data and MTY participants' responses to food insecurity survey questions.

Notes: The food insecurity score was based on a six-item food security module. Lower scores represent more food security. See Evaluation Methodology section for details. MTY = Meals-to-You.

*** $p < 0.001$.

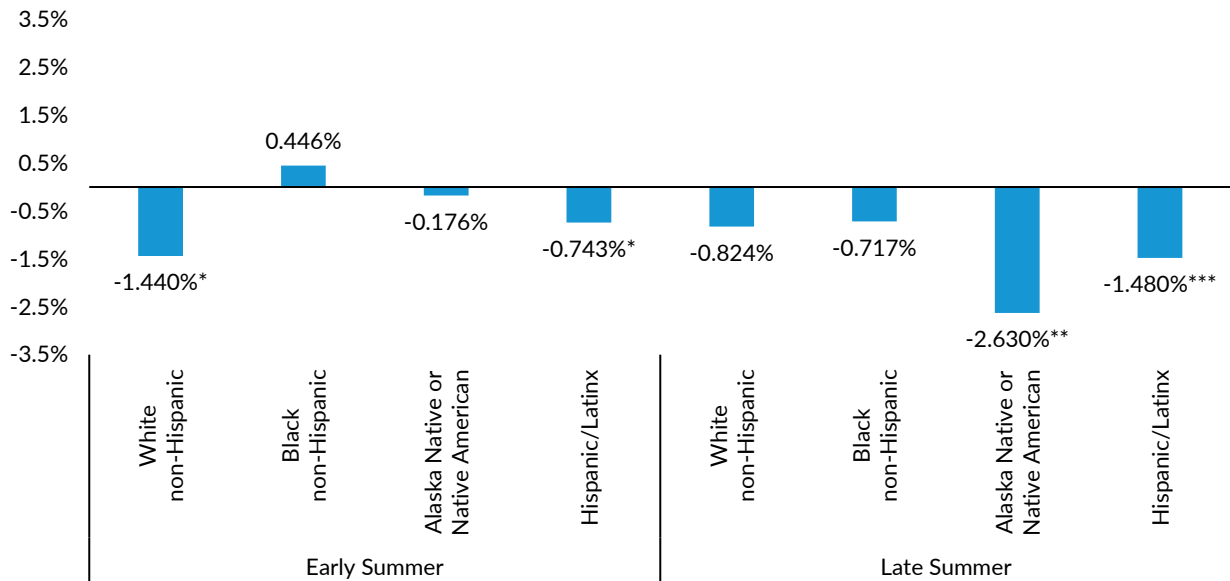
Impacts by Race or Ethnicity of Survey Respondent

We examined the impact of MTY participation on food insecurity status and scores by the race and ethnicity of the survey respondents (figure 18 and figure 19). We were able to disaggregate results by respondents who were white non-Hispanic, Black non-Hispanic, Alaska Native or Native American, and Hispanic or Latinx. In early summer, we see the largest desirable impacts among white and Latinx respondent households, with no significant impacts for Black or indigenous respondent households. By late summer, very large impacts emerged for indigenous respondent households, with a 2.6 percentage-point decrease in the rate of food insecurity and a reduction of 0.12 points on the food insecurity scale for each additional week of meals, on average. Latinx respondent households also experienced large and significant decreases in food insecurity in late summer with higher program dosage. However, we do not see a similar pattern emerge for Black respondent households, who actually saw higher rates of food insecurity with larger program dosage in the early summer, though

that effect was not statistically significant. The effect changed direction but was not statistically significant by late summer.

FIGURE 18

Impact of Receiving 10 Additional MTY Meals on Households' Probability of Being Food Insecure in Early and Late Summer 2020, by Race/Ethnicity



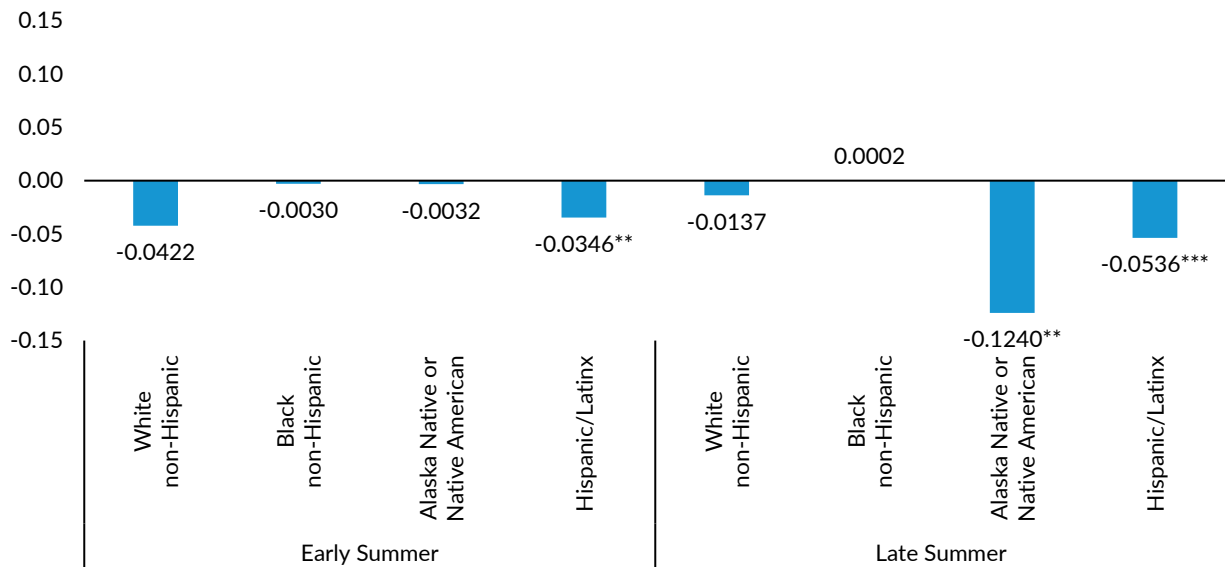
Source: Authors' analysis of programmatic shipping data and MTY participants' responses to food insecurity survey questions.

Notes: Food insecurity was defined as responding affirmatively to at least two items on a six-item food security module. See Evaluation Methodology section for details. Coefficients represent percentage point changes. MTY = Meals-to-You.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

FIGURE 19

Impact of Receiving 10 Additional MTY Meals on Households' Food Insecurity Score (0–6) in Early and Late Summer 2020, by Race/Ethnicity



Source: Authors' analysis of programmatic shipping data and MTY participants' responses to food insecurity survey questions.

Notes: The food insecurity score was based on a six-item food security module. Lower scores represent more food security. See Evaluation Methodology section for details. MTY = Meals-to-You.

** $p < 0.01$; *** $p < 0.001$.

Participant Analysis

This section discusses program experience and participant outcomes as reported by the household respondents both through survey data and from a series of in-depth interviews. One parent or caregiver per household responded to either an online or paper survey. Respondents answered questions about their household characteristics, how satisfied they were with the program (enrollment, delivery, food, and customer service), and any material or food hardship experienced.²⁷ A total of 4,093 participants responded to the first-round survey (63 percent response rate), and 3,342 responded to the second-round survey (54 percent response rate). See appendix F for a breakdown of survey respondents by key demographics. We also conducted 35 in-depth interviews with respondents who were purposively sampled to represent a broad range of characteristics (table 5). The majority of interviewees received their boxes from McLane, reflecting that vendor's significantly larger share of households enrolled in the program.

TABLE 5

Demographic and Social Characteristics of Interview Respondents

Characteristic	Number of interviewees
Program type	
Emergency	15
Summer: TX, AK, NM	14
Both	6
Race or ethnicity	
White	12
Black	7
Hispanic or Latinx	11
Alaska Native or Native American	3
Other or mixed	2
Geography	
West, except Alaska	1
Alaska	2
Midwest	1
South, except Puerto Rico	30
Puerto Rico	1
Vendor	
Chartwells	1
PepsiCo	2
McLane	32

Source: Author's analysis of programmatic shipping data; race and ethnicity taken from self-reported survey data.

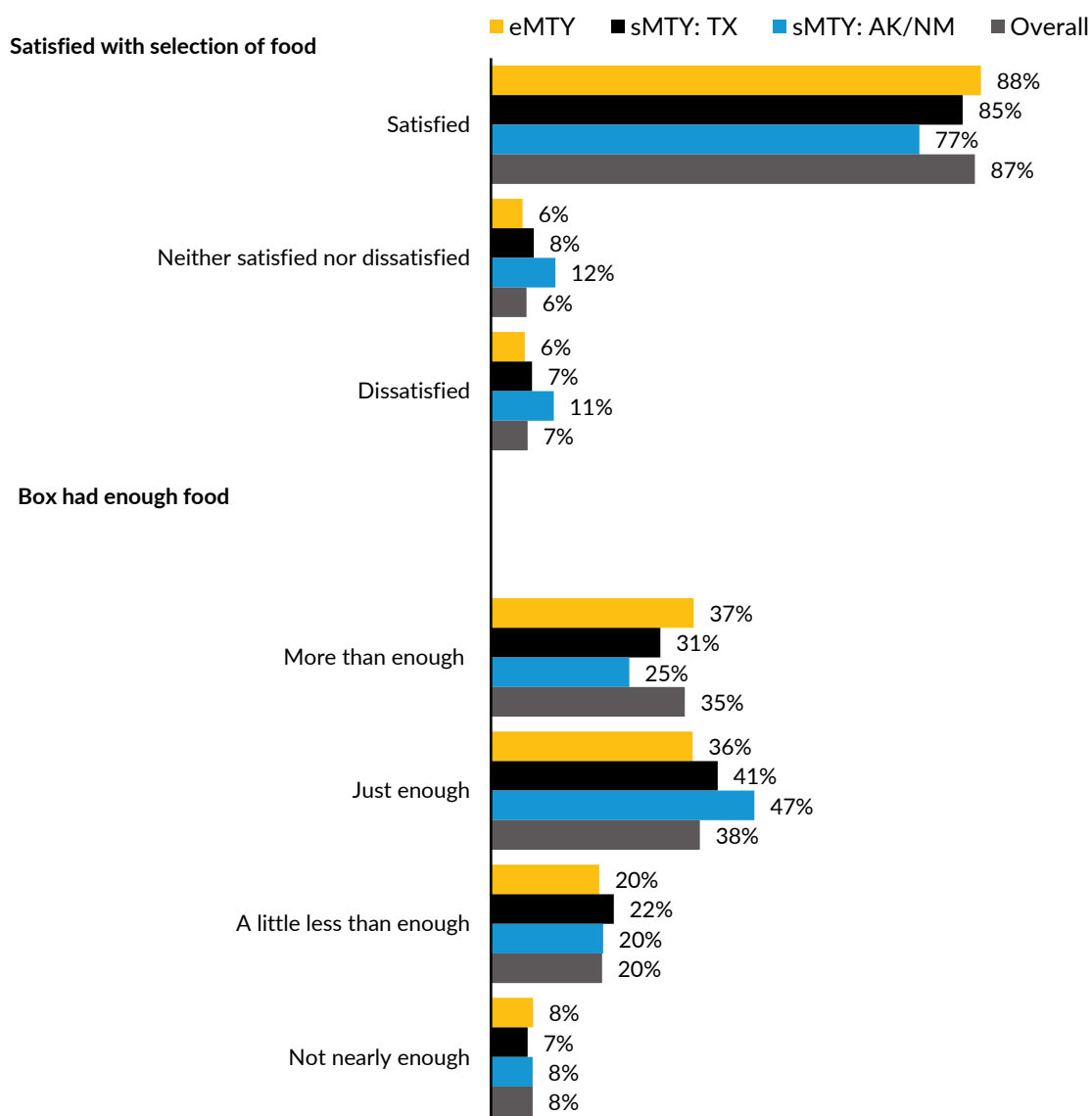
Program Experience

Participants generally had positive program experiences. Overall, they found the program convenient. All interviewees commented that signing up for the program was relatively easy, with only a few noting that it was difficult to sign up each child if there were multiple children in the household. These comments contrasted with comments from district personnel, who noted challenges managing the eligibility, data, and verification on the back end (described previously). Especially during the pandemic, when access to school meals was cut off and traveling outside the home increased the risk of COVID-19 exposure, participants appreciated not having to leave their home to get some food. A mother from Alaska commented, "We live in a place where food is only accessible by air, so I have to pay somebody to go and get my food. It's like 15 to 20 percent of my total bill ... and like 90 cents per pound to get it shipped to me. So, when the school's going, the kids get lunches, and that is super helpful. But when school closed down, all that went away. And I didn't have stuff on hand ... So it's actually super handy to have that stuff start coming straight away and just have meals available for him." Several interviewees also appreciated the shelf stability of food items. A mother from Texas commented that when Hurricane Hanna hit and they lost power, having shelf-stable milk in the pantry

was helpful. Overall, at the end of the summer, 87 percent of participants were satisfied with the selection of food provided, and 73 percent of participants thought the box had more than or just enough food (figure 20).

FIGURE 20

Participants' Perceptions of MTY Boxes, by Program Type, Late Summer Survey, 2020



Source: MTY survey, round 2, conducted September 1 to October 20, 2020.

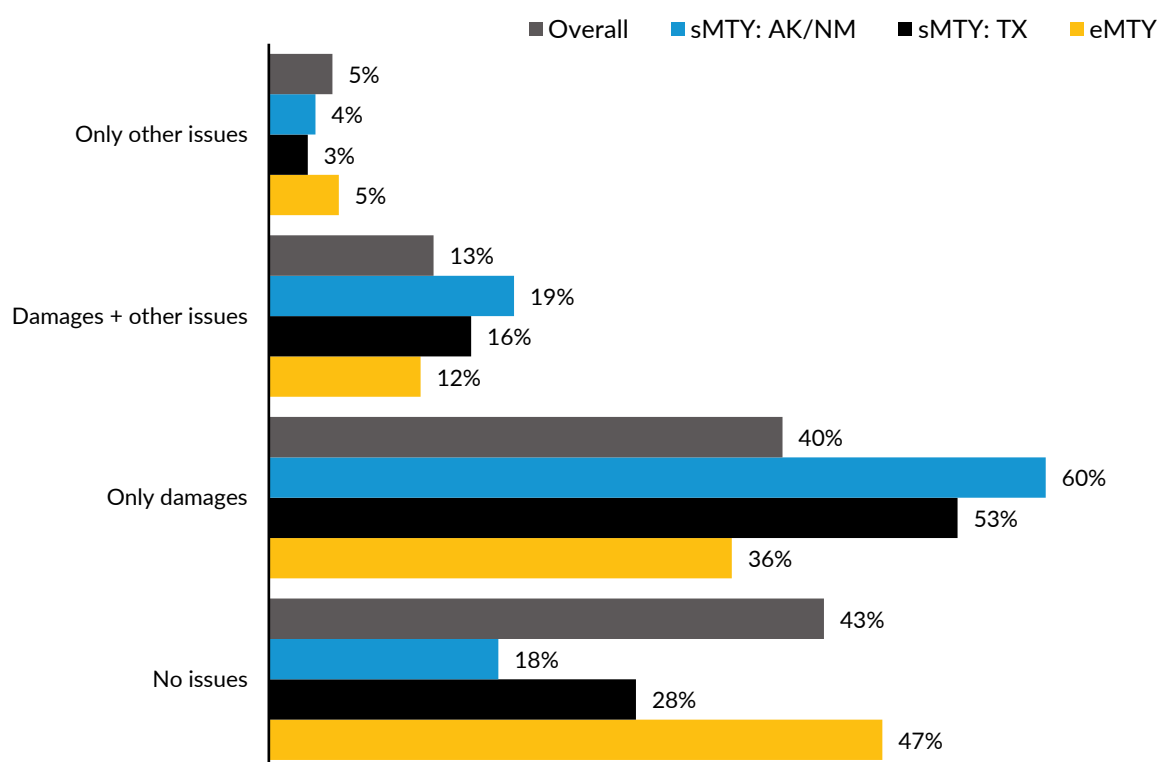
Notes: We consolidated measure of satisfaction answer choices “very satisfied” and “somewhat satisfied” into “satisfied” and “somewhat dissatisfied” and “very dissatisfied” into “dissatisfied” for ease of interpretation. Of the 3,341 households that responded to the survey in the second round, 97.5 percent reported receiving a box.

MTY = Meals-to-You; eMTY = emergency MTY; sMTY = summer MTY.

One common issue raised was about shipping damages to food items. Among participants reporting having received a box, at the end of the summer 43 percent reported no negative program experiences; 40 percent reported damages but no other negative experiences; 13 percent reported damages plus an additional negative experience; and 5 percent reported only other negative experiences.²⁸ Figure 21 summarizes the program experiences of respondents to the survey fielded in September and October.

FIGURE 21

Program Experience of MTY Participants, by Program Type, Late Summer Survey, 2020



Source: MTY survey, round 2, conducted September 1 to October 20.

Notes: Of the 3,341 households that responded to the survey in the second round, 97.5 percent reported receiving a box. MTY = Meals-to-You; eMTY = emergency MTY; sMTY = summer MTY.

Consistent with the survey findings, the majority (23 of 35) of interviewed participants reported damages related to burst milk, fruit cups, or other liquids. Both interviewees from Alaska reported severe damages at least some of the time and mold growing in the boxes, which limited their ability to consume some if not all of the box contents. This damage may have been a result of unique shipping challenges to Alaska, which we discuss further in the Subanalyses and Case Studies section. Some participants from the mainland US also commented on the packaging, saying that box contents were

poorly packed; for example, one mother in Texas commented that fruit cups were placed in the boxes freely and foil tops were easily punctured, leaving items sticky. Others acknowledged that it was likely the way the boxes were delivered to them that caused the damages rather than issues in packaging of contents. Some participants with minimal damages were still able to eat the box contents, with one mother commenting that she repurposed crushed cereal as an ice cream topping for her kids.

Damages were likely underreported through formal mechanisms (either through the participant survey or to the BCHP team), as many interviewed families commented that they did not feel a need to report damages as it was a free program. One stated, “I’m not going to complain over something that’s given to you.” Only 6.1 percent of families responding to the survey reported contacting customer service, with the main reason being to report a damage (data not shown).

Shipping times and the regularity of box receipt varied. Several participants stated they would sometimes not get boxes for a few weeks, then receive a large number all at the same time, creating gaps in coverage. Shipping and mailing delays were widespread during the pandemic,²⁹ a problem that was exacerbated in areas like western Alaska, where shipping before the pandemic was especially difficult. A respondent from Alaska mentioned, “With mail service up here, we get them every so many weeks. And we get multiple boxes all at once. One day, we brought home eight boxes from the post office.”

Participants’ Perception of MTY Boxes

Participants differed in their perceptions of the box contents’ variety, nutrition, and sufficiency. Almost all interviewees made suggestions for different types of foods they would prefer to see in the boxes. Although this varied by personal preferences, the most common suggestion was to include fresh produce or canned vegetables like peas or green beans. The shelf-stable milk was a high-value, well-liked component of the boxes, despite the risk of leakage. Both interviewees from Alaska recommended including powdered eggs, as their local grocery stores experienced food shortages of certain staples during the pandemic. About half the parents commented that they were not used to buying some food items in the boxes or were unfamiliar with certain foods or flavorings, such as flavored carrots.

An even mix of participants thought the food was healthy and unhealthy. Participants concerned about the healthiness of the food commented that they thought the food did not have enough nutrients, the juices or cereals were too sugary, and food items were high in carbohydrates. Regardless of their assessment of the health of the food, most participants characterized the food items as

“snacky” and mostly breakfast foods rather than full meals. One mother commented that she would keep most of the items in a snack bowl for children to take when they were hungry during the long days at home during the pandemic, then feed them other food at mealtimes. Additionally, some participants suggested that the boxes could benefit from having more variety from week to week.

Several participants remarked that the boxes did not contain sufficient food, especially for older children, and that they would often combine box items with their own meal items. One participant recommended providing different food “for younger children and older children, because some of those things that they put in those boxes are more for little kids and little kid appetite, not for bigger kids.” These perceptions aligned with the overall survey findings, in which 28 percent of respondents indicated the boxes did not contain enough food to feed their participating children 10 meals a week.

When asked about the children’s perceptions of the boxes, almost all participants commented that their kids loved the cereals, juices, and other snack items. The most common disliked foods among children were soy nuts. Though most participants did not notice any changes in their children’s overall health or behavior after having meals delivered, many did comment that the children looked forward to receiving the boxes and were excited to sort out which items they received.

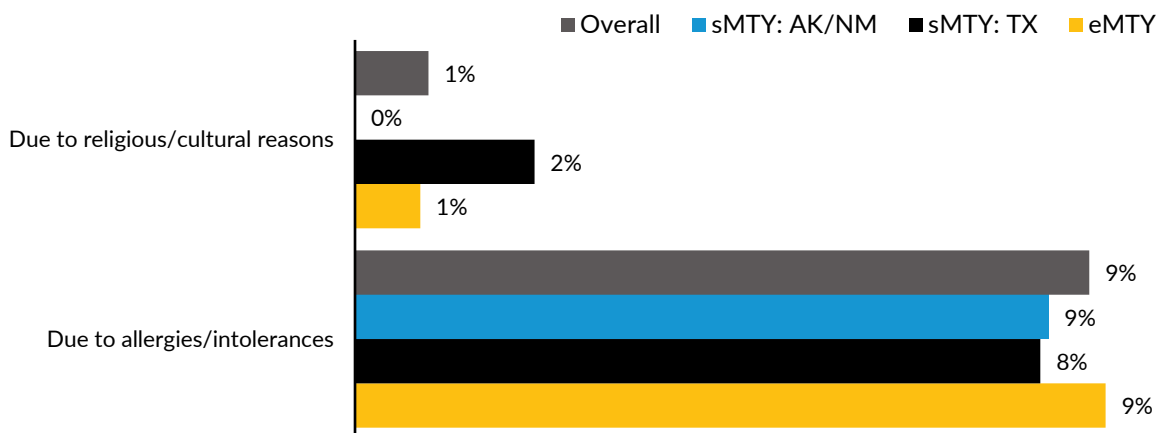
Some participants mentioned that their children could not eat all the foods in the boxes due to allergies or intolerances to dairy (sensitivities to wheat and berries also came up) and health conditions like diabetes. One participant cited religious and cultural reasons for not being able to eat pork. In addition, a school district representative in a tribal area indicated that Native American students could not consume specific grain-based foods because of community health concerns such as issues digesting grains and high rates of diabetes. These qualitative insights align with survey findings of 9 percent of participants reporting inability to eat food in the boxes due to allergies or intolerances (about one-third of interviewees mentioned sharing food items with friends, family members, or neighbors who did not get the program, especially if there were food items they would not otherwise eat. within the household, participants said they would eat the items their children did not like and children traded food with each other and with friends as well.

figure 22).

About one-third of interviewees mentioned sharing food items with friends, family members, or neighbors who did not get the program, especially if there were food items they would not otherwise eat. Within the household, participants said they would eat the items their children did not like and children traded food with each other and with friends as well.

FIGURE 22

Inability to Eat Box Contents, by MTY Program Type, Late Summer Survey, 2020



Source: Meals-to-You survey, round 2, conducted September 1 to October 20.

Notes: Of the 3,341 households that responded to the survey in the second round, 97.5 percent reported receiving a box. MTY = Meals-to-You; eMTY = emergency MTY; sMTY = summer MTY.

COVID-19 Pandemic Hardship and Value of MTY

Interviewees expressed gratitude for the program, especially given their pandemic-related hardship. Many were not able to work, lost their jobs, or experienced layoffs, and even participants who were working were facing limited hours, small businesses not attracting enough customers, and unsteady income. Parents described additional stress in paying for food and other household expenses. Several had family members experience illness or other health conditions. At the end of the summer, 56 percent of survey participants reported experiencing a negative pandemic-related employment impact, and 83 percent reported a negative pandemic-related economic hardship.³⁰

"I am behind on some of my bills ... [When] the kids [were] having breakfast and lunch at school Monday through Friday, I would budget our food stamps and I was able to have their dinner and then the weekend food. Going from having [to provide] just a dinner and snacks to going three meals plus snacks seven days a week kind of hit hard."

—MTY program participant in Texas

Grocery store shortages were common across the country, especially in Alaska. One participant described the dire situation there: when villages and air taxis shut down, food did not come in.

“Between the grocery stores having nothing ... and then the air taxis just not flying as much ... there was no way to guarantee that we were going to have food. But the [United States Postal Service] mail planes are always going to fly. They’re a necessity. They’re essential. So we knew that there was going to be boxes of food coming no matter what else happened. Those boxes of food were going to come.”

—MTY program participant in Alaska

Nearly all interviewees stated that the food boxes decreased the number of trips required to the grocery store and limited the amount of milk, juice, and snacks they had to buy or alleviated financial pressure in some other way. However, most reported needing to buy about the same amount of meal or entrée groceries for the family to supplement items children ate from the boxes. These food purchases may reflect that some participants were not able to get enough food for their families prior to the pandemic or that, as noted above, some families didn’t find the meal replacements sufficient for their needs when children were home all the time. Some interviewed parents mentioned using other meal support resources in the community such as food pantries, churches, and grab-and-go meal pickup from schools.

“Because the kids are home all the time, that doubles the food budget. I didn’t run out of what I bought so fast, and I had snacks and big meals ... the food boxes were a godsend, trust me ... this was something we were very grateful for.”

—MTY program participant in Tennessee

TABLE 6

Material and Economic Hardships of Participants in the MTY Program, Early and Late Summer Survey, 2020

	Early summer (%)	Late summer (%)
Reported any negative financial COVID-19–related economic hardship	82%	83%
Reported any negative COVID-19–related employment impact	58%	56%

Source: Meals-to-You survey, round 1, conducted May 26 to July 15, 2020 and round 2, conducted September 1–October 20, 2020.

Note: MTY = Meals-to-You.

Subanalyses and Case Studies

Several special topics emerged in the 2020 implementation of the sMTY and eMTY programs. One was the general challenge of shipping many boxes to rural areas. We completed an additional analysis of data from two large shipping companies and rurality indicators from the US Census Bureau to understand how the damages we documented related to shipping difficulties and rurality. We also completed case studies of issues unique to Alaska and Puerto Rico and identified recommendations for better serving these areas in future iterations of programs like MTY.

Shipping and Rurality Insights

Many participants noted damage to their boxes or substantial delays in delivery due to shipping difficulties. Because rural areas are more likely to have a weaker package shipping infrastructure, we undertook a substudy looking at data on shipping conditions. Although some of the shipping issues that participants reported may have been due to broader issues in supply chains during the pandemic, other shipping concerns may be endemic to the rural context. Our substudy aimed at understanding shipping conditions for program participants. We continue to develop a dataset that can provide additional context on shipping, food access, and food prices in rural school districts.

The nation's two leading private shipping companies, FedEx and UPS, publish a list of ZIP codes that designate delivery surcharges for certain rural areas. For our study, we used the extended area surcharge and remote area surcharge as proxies for areas that are difficult to ship to. In some cases, one shipping company reported a ZIP code differently than the other. To account for this, we built an index for each ZIP code location that is the average of the two shippers' designations. The index is highest (2) for ZIP codes that both FedEx and UPS designate as having a remote area surcharge and lowest (0) for ZIP codes where neither company has a surcharge. ZIP codes can fall in the middle of the index (i.e., 0.5, 1, or 1.5) if there are different surcharge designations (e.g., being designated extended on one carrier and remote on the other would yield an index value of 1.5). We created a separate index for Alaska and Hawaii, as the designations for these states are different from the contiguous US.

The census designation of rural does not completely align with designations of remote area surcharges for shipping (figure 23). Within the contiguous US, we estimated that 22 percent of school-age children who live in an area designated as nonrural on the Census³¹ have a shipping index of at

least 0.5 (i.e., at least one of the shipping carriers has designated their ZIP code as having an extended or remote area surcharge). However, not all children living in rural Census areas are in remote areas.

FIGURE 23

Share of School-Age Population, by Rural Shipping Index

	<i>Low index/less difficulty</i>				<i>High index/more difficulty</i>
	0	0.5	1	1.5	2
Census nonrural	78%	10%	9%	1%	2%
Census rural	2%	8%	32%	20%	39%

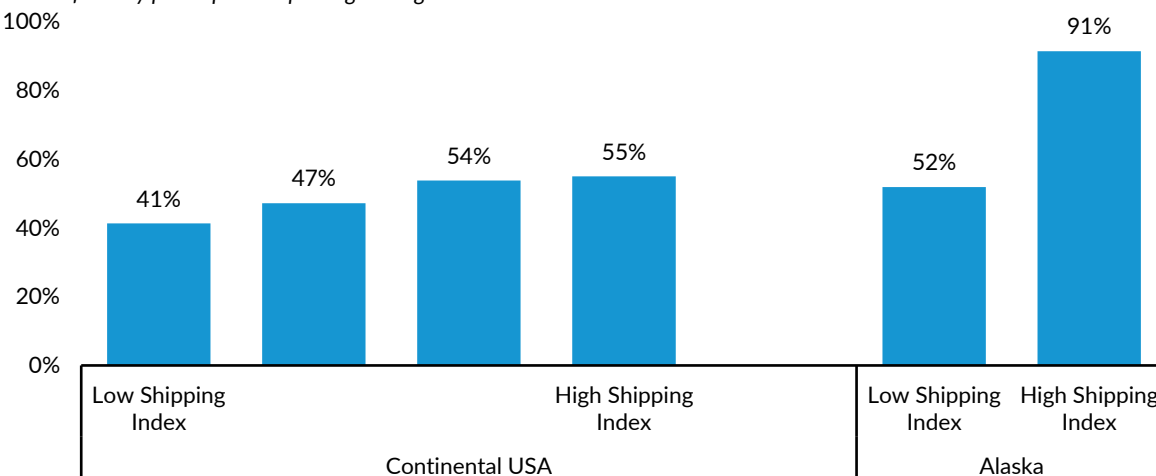
Source: Urban Institute analysis of United Parcel Service, FedEx, and US Census data.

To verify that our shipping index captured not only the additional charges for shipping but also the potential for damage along the way, we looked at reports of damages from survey participants relative to their shipping ZIP code (figure 24). The share of participants reporting damages steadily increased as the shipping index value increased, with shipping damage reports particularly high in Alaskan areas with shipping surcharges.

FIGURE 24

Participants in More Remote Shipping Locations Were More Likely to Report Damages

Share of survey participants reporting damage



Source: Urban Institute analysis of United Parcel Service and FedEx surcharge data and Meals-to-You survey, round 2, conducted September 1 to October 20, 2020.

These results indicate that shipping infrastructure can have a tangible impact on families' experiences with the MTY program. The existence of delivery surcharges in remote areas should not deter those who want to implement the program, but it should prompt additional questions for those

who are administering the program. For example, it may be important to know whether many families pick up packages at a local post office or tend to receive “last mile” (the final steps of transport) delivery from private carriers through the United States Postal Service. In these cases, boxes may be delayed and thus potentially more prone to damage from stacking and additional handling. Similarly, in particularly remote areas, such as Alaska, packages may travel via boat or ferry on an infrequent schedule.

In rare cases in which shipping may truly be infeasible, other types of programs, such as a summer electronic benefits transfer card or school-based deliveries, may fill the gap, although there may be other challenges with these strategies, such as limited retail food access, high prices, and transportation barriers. Data such as ZIP code shipping surcharges can act as a leading indicator for assessing local delivery conditions and supporting the most effective program.

MTY in Alaska

Implementation

In 2020, MTY expanded to Alaska and New Mexico in an effort to reach additional rural households during the demonstration project. Households in Alaska were also eligible to participate in eMTY during the pandemic. As noted in the Program Implementation section, the logistical difficulty of shipping and postal service in rural western Alaska proved challenging. As additional context, Alaska was particularly hard hit by the pandemic. As of November 2020, the state had lost more than 3,000 oil and gas jobs,³² and communities that rely on the cruise ship industry were hard hit as well due to restrictions on cruise travel.³³ Moreover, many of the MTY participants in Alaska live in areas such as Gambell that rely on subsistence hunting and farming, and fuel rations imposed on these residents during the pandemic impacted their ability to hunt and access food.³⁴

To gain insight into how a program like MTY can better serve residents of Alaska, we conducted five interviews with key informants from Alaska using a semistructured protocol tailored to their respective areas of expertise. Our goal was to gather more insights into the state’s food system, especially issues important to Alaska Natives and remote villages (with a focus on western Alaska). We learned the following:

- **The food system in western Alaska is changing.** It is particularly vulnerable to the impact of climate change and other disasters or disruptions. Native communities in western Alaska

historically and predominantly meet their food needs through subsistence strategies, including hunting, fishing, and plant gathering. However, this lifestyle is slowly eroding due to a combination of factors, including changing environmental conditions. In these areas, retail food outlets are not a reliable source of food, as fruits, vegetables, and milk are extremely expensive (e.g., a gallon of milk may cost \$9 to \$10), and produce often is not fresh by the time it reaches stores.

- **Lack of consistent potable water** is an additional barrier in some communities.
- **The shipping infrastructure of Alaska has been subject to budget cuts and is continuously impacted by climate change.** The majority of pain points and opportunities for delay in getting mail and packages to western Alaska occur in the “last mile”: getting packages to smaller villages. Bypass Mail is the current system used to transport packages to smaller communities, but it has been the subject of budget cuts and is very expensive to run.³⁵ For many of these areas, the only transportation route is via water or air due to the geography and limited road infrastructure. A freight company may rely on a single airplane, truck, or barge route. Trucks are also challenging. Those that make their way into the villages cannot drive if there is not a sufficient amount of ice on the route, which is a more common occurrence as the climate is changing.
- **MTY may not be covering some of the most vulnerable children in Alaska,** because some Alaskan school districts do not participate in NSLP. As the MTY program relies on NSLP for eligibility, it may not be reaching some areas in need. The Summer Food Service Program and Child and Adult Care Food Program are the strongest rural programs and have benefited greatly from eligibility waivers administered during the COVID-19 pandemic, but gaps still exist as certain children still do not qualify.
- **Efforts are underway to serve culturally appropriate food for Alaska Native communities in school lunch programs and through charitable food assistance,** but it can be costly and difficult to source. Examples of culturally appropriate food items mentioned are salmon, seafood, and berries, among others, but there are limited commodities available in bulk in the state at a reasonable price. The Farmers to Families Food Box Program was known to face challenges nationwide, but it worked very well in Alaska and was able to provide families with high-quality food. There is a large demand for this type of food in remote communities due to the access barriers mentioned above.
- **Communication should be tailored to the Alaska context,** keeping in mind limitations around connectivity due to the rurality of Alaskan communities. Phone calls are the most effective

mode of outreach, as data caps and a lack of internet make it hard for community members to log on to websites to complete administrative tasks. Also, programs that originate outside of the state are often not well attuned to the local context.

Future Considerations

1. Coordinate in advance with destination communities (e.g., school district representatives) to identify potential shipping pain points and determine how to avoid or mitigate them.
2. Coordinate with regional freight companies that ship between hub communities and villages to potentially cut out points of delay with the postal service.
3. To accommodate the high need for fresh food and produce in these communities, potentially combine MTY boxes with a (potentially less frequent) add-on box of fresh produce from local sources (e.g., Meyers Farm in Bethel).
4. If possible, try to include more fish (e.g., canned tuna), fruits, and vegetables in the MTY boxes, and possibly consider sending vitamin supplements or other ways to maximize vitamin- and nutrient-dense foods.
5. If powdered milk is to be included, it is important to consider potable water challenges in rural communities. One recommendation was to investigate sending a reusable water bottle with a filter in the first food box or some other affordable and portable water filtration device.
6. To contact participants, use phone rather than e-mail or other internet services.
7. Consider including local art or a picture of the state in communications and other critical program materials (e.g., menus).
8. Expand eligibility to MTY so that districts that do not participate in NSLP can still participate in the program.

This program may or may not be built *best* for western Alaska, but it is a value-add *overall*. Informants had varied opinions about the efficacy of MTY in Alaska and its ability to serve Native and rural Alaskan populations, but overall they agreed that bringing in nutritious food to these areas is beneficial. It helps families overcome limited food access due to scarcity of retail food outlets, high prices of goods such as milk and produce, and decreasing ability to rely on subsistence lifestyles. As described, the major drawbacks of this program model in Alaska are the difficulties in shipping and

logistical constraints, the difficulty in aligning box contents with cultural preferences, and the need for highly nutritious, shelf-stable food.

eMTY in Puerto Rico

Implementation

Many Puerto Rican families with school-age children were already struggling with hardship before the March 2020 pandemic shutdown. Schools were closed following the 6.4 magnitude earthquake the island experienced in early January 2020,³⁶ and some areas of Puerto Rico were still recovering from Hurricane Maria in 2017. A parent who received eMTY food boxes commented that they had been without regular access to school meals before the pandemic, so the program was particularly needed and appreciated.

Implementation of the eMTY program was challenging across locations due to the short time frame for response and the logistical issues that arose during the pandemic. However, the launch of the program was particularly challenging in Puerto Rico for several reasons:

- **There was initial confusion with school representatives over enrollment outreach and procedures.** In an effort to reach families quickly, representatives in Puerto Rico advertised the program widely over Facebook. Approximately 30,000 of the initial 45,000 applications had to be denied immediately because families were not connected to eligible schools. BCHP implemented denial emails that listed the participating schools so parents could verify that their child was enrolled in one of those school and had been incorrectly denied.
- **Address verification proved to be a persistent challenge.** Once children were verified as eligible, major challenges arose with address verification due to the way addresses were inputted by families. Large numbers of addresses could not be verified by SmartyStreets, a vendor Baylor contracted with to conduct address validation. The Baylor team undertook additional steps with school officials to verify addresses. School officials could cross-check the reports from SmartyStreets with the UPS address verifier, work with the local postmaster to document addresses, or reach out to families who could then send a picture of a delivered piece of mail. Delays and difficulty in the address validation process made it unclear how thorough Puerto Rico school personnel were able to be in completing address verification procedures. Ultimately, about 4,100 children were enrolled in the program, representing

nearly 2,400 households. One vendor sent boxes to municipal locations where families could be notified that they were available for pick up. Over time, more boxes were shipped to homes as families worked with UPS to validate addresses.

- **Shipping proved more challenging than vendors and carriers anticipated.** One vendor indicated that the shipping environment to Puerto Rico during this time period was confusing. In particular, they did not anticipate the full extent of the cost of shipping meal boxes to the island, which resulted in higher-than-expected costs given the reimbursement rate. A shipping carrier reported that flights were less frequent than expected, and space was limited for shipping a large quantity of boxes. They reflected that in the future, it would be important to space out the timing of box shipping and provide more notice to airlines of shipping needs.
- **Puerto Rico had a higher rate of missed box deliveries than any of the states participating in MTY programs in 2020.** Program data indicate that 39 percent of participating households missed at least one intended food box during the program duration. The state with the next highest rate of missed shipments was Alaska, with 24 percent.

Future Considerations

Puerto Rico has experienced an extraordinary series of disasters in the last few years, including hurricanes, earthquakes and ongoing aftershocks, and the pandemic, and the island is especially vulnerable to the impact of climate change. The need for food assistance is likely to be high on an ongoing basis, and the capacity to facilitate logistics on the ground may be limited. World Central Kitchen has had significant experience working on the ground in Puerto Rico, often in collaboration with local restaurants and chefs, and may be a good source of information about effective strategies and existing assets that can support future child nutrition programming.

Future initiatives can also build on lessons learned from the 2020 eMTY experience.

1. Enrollment materials were available in Spanish, which is essential for Puerto Rican households. The parent we interviewed indicated that she did not have any problems navigating the enrollment procedures but that she assisted another family who did. This participant commented that parents at their school were in close communication with each other during this challenging period and served as resources to each other. Identifying parents who are willing to serve as program advocates and navigators could be a useful strategy in the future.

2. Verification of addresses through established systems may prove challenging and will likely require more attention and coordination with representatives in Puerto Rico. School personnel with multiple responsibilities may not be best positioned to manage all the address validation logistics, although they can provide important insights about the living situations of their students.
3. Shipping to Puerto Rico, including availability of cargo space, timing of flights, and budgeting for shipping expenses, requires more advance planning and coordination than in the continental US.
4. Given the short time frame for implementation and disruptions to the supply chain for shelf-stable food during the pandemic, there was little opportunity for menu planning that would reflect the food culture in Puerto Rico. Among major staples in Puerto Rico are rice and legumes such as pigeon peas. A parent who participated in the program commented that rice would have been a welcome addition to the food box contents.
5. To date, Puerto Rico only participated in eMTY, and eMTY boxes did not include written materials (in contrast to summer programs in 2019 and 2021 that included menus). Bilingual materials will be essential for any Puerto Rican nutrition interventions.

Fostering Inclusive Approaches in MTY Programs

The MTY program is designed to reach high-need communities that are not well served by federal nutrition programs and other food security initiatives because of rurality and low access to food resources. Deploying inclusive strategies related to special nutritional needs, language accessibility, and culturally relevant foods can help strengthen the effectiveness of MTY. This section briefly reviews key considerations for improving inclusivity, discusses relevant strategies used by BCHP during 2020, and identifies issues for future consideration.

Accommodating Food Allergies and Intolerances

Developing a strategy to accommodate food allergies and intolerances is an important element of any nutrition intervention, especially those involving children. Nationally, the Centers for Disease Control and Prevention estimates that about 8 percent of children (approximately 1 in 13) are affected by food allergies.³⁷ Eight major types of foods account for the most common allergies and intolerances: milk, eggs, fish, crustacean shellfish, wheat, soy, peanuts, and tree nuts. Several of these foods (e.g., milk and wheat) are common ingredients in shelf-stable items and are typically included in child nutrition program offerings.

MTY survey participants in 2020 reported similar levels of food allergies and intolerances to those reported nationally, ranging from 7.5 to 9.2 percent across MTY survey rounds and program types. Among the eight families interviewed who said that specific dietary considerations limited their children's ability to consume all the foods provided, the issues included allergies or intolerance to dairy, wheat, and certain fruits, as well as health conditions like diabetes.

USDA requires programs receiving federal funding to provide for accommodations or substitutions when children are unable to consume food because of disabilities or medical considerations. These rules align with the federal government's responsibility to protect the rights of individuals who are living with a disability.³⁸ In programs that are typically delivered on site, such as school-based or summer meals, USDA generally requires documentation from a medical provider to make substitutions or accommodations. However, delivery of food to a home setting may require different considerations if, for example, another family member has a severe allergy that restricts the

presence of certain foods in the living environment. Moreover, the relatively short time frame for enrollment and administration of the sMTY and eMTY programs means that self-attestation of the need for accommodations may be the most feasible and least burdensome mechanism for notifying vendors of the need to plan for meal accommodations and ensuring responsiveness to family needs.

In 2020, BCHIP ultimately contracted with one vendor, Chartwells, to provide meal boxes that accommodated participants' food allergies and intolerances. The vendor had significant prior experience in providing customized meal options for dietary limitations. The MTY program plan was focused on managing the eight common allergens, as well as additional medical requests. Information about how to contact the program regarding a need for accommodations was included in the online FAQ at the MTY website. Families were directed to email requests to a specific address; they were not asked routinely about needed substitutions in the enrollment process. Shipping and handling of food boxes for children with allergies were managed in one vendor location to minimize the risk of mistakes in packing and shipping tailored boxes. Substitutions were evaluated by a dietitian.

Future Considerations

- Given that a small but not insignificant percentage of children in the US are affected by food allergies or intolerances, assessing these dietary needs systematically at the time of enrollment increases the likelihood that all families can benefit from the foods provided through the program and also supports advance planning for food purchasing requirements. BCHIP's new enrollment system for 2021 supports this early identification approach.
- Although milk allergies are not common, lactose intolerance is widely prevalent in the US. Lactose intolerance is relatively uncommon among people of European descent, but highly prevalent in many other populations that might be served by the MTY programs, including Black or African American, Native American, Hispanic or Latinx, and Asian American individuals.³⁹ The ability to tailor meal boxes is subject to cost and logistical considerations, but given the prevalence of lactose intolerance, sourcing of lactose-free milk or milk alternatives is likely to be an important consideration.

Supporting Households with English Learners and Limited English Proficiency Speakers

An inclusive food and nutrition intervention needs to provide support for households whose primary language is not English. USDA requires programs receiving federal funding to take reasonable steps to facilitate meaningful access for households with English learner students, often referred to in federal guidance as limited English proficiency (LEP).⁴⁰ Providing supports to LEP households is part of civil rights protections.

A significant percentage of students in many states served by MTY programs are deemed to be LEP. For example, Texas is a focal state for MTY and is second only to California among states with the highest share of students who have a primary language other than English.⁴¹ In spring 2020, an estimated 20 percent of students in Texas were identified as having LEP,⁴² with 90 percent of these students having Spanish as their primary language. New Mexico and Alaska, two states that are a part of MTY's expansion program, are also among the top 10 states in the country with respect to the percentage of LEP students.⁴³ Approximately 16 percent of New Mexico's student population has LEP, with Spanish as the primary language for nearly three-quarters of students. Indigenous languages are the next most commonly represented languages among New Mexico's English learners, including almost 12 percent who speak Navajo, and smaller proportions who speak Nias (2 percent) or Zuni (1 percent). Alaska has an LEP student population estimated to be about 12 percent; the most common language among English learners is Yupik (41 percent), followed by Spanish (11 percent), Filipino (9 percent), Inupiaq (8 percent), and Samoan (7 percent).

In 2020, BCHP implemented bilingual capacity in English and Spanish for the majority of program processes. The MTY website, enrollment forms, and outreach emails were translated into Spanish, though not all vendor materials were available. A few MTY team members were also bilingual in English and Spanish and could be available for communicating with families with questions. The Urban Institute offered a Spanish option for all surveys and qualitative interviews.

Future Considerations

- Best practices for supporting LEP students and their households include assessing the representation of LEP students in states and school districts targeted for outreach, designating an LEP coordinator to develop and monitor a plan for ensuring LEP support in all vital communications, training relevant staff on implementing the plan, and arranging for oral

translation as needed.⁴⁴ BCHP made significant progress in implementing most of these practices in 2020. Moving forward, designating a coordinator to assess language needs across districts and to monitor implementation can be a useful step for maximizing the ability to provide meaningful access to students and households who speak languages other than English.

- Although Spanish is the primary language other than English in many areas that BCHP has served, it is important to assess the need for all key communications to be provided in other relevant languages. This accommodation may require additional budgetary resources.
- School personnel may be helpful in facilitating communications with LEP households, but they often have many competing demands that limit their ability to support all aspects of program communications. Other community partnerships may be useful in some cases, especially when language support other than Spanish is needed.
- LEP households may include individuals who have concerns about enrolling in programs supported with federal funding because of fears about “public charge” rules.⁴⁵ Child nutrition programs are not subject to public charge considerations, but shifting rules in recent years and a hostile immigration climate has led to continued “chilling effects” among some immigrant families (Bernstein et al. 2021). BCHP may consider including a brief statement about the public charge issue in its program FAQ and enlist the assistance of schools and other trusted community partners to mitigate these concerns among immigrant families.

Providing Culturally Relevant Foods

Incorporating culturally relevant foods into the MTY programs offers an opportunity to maximize the acceptance and use of prepacked food box contents. The MTY programs were not designed to provide individual choice, although vendors have tried to rotate menus during the program period. Offering items that are familiar and meaningful to the diverse cultural food environments of participating households may provide one way to improve satisfaction with the variety and types of foods and enhance the program’s ability to retain participants.

In addition, MTY prioritized serving certain indigenous communities who experienced involuntary disruption of cultural food traditions due to government and charity policies (Burnette, Clark, and Rodning 2018). Given this history and the growing native food sovereignty movements in some indigenous communities,⁴⁶ external organizations working on food and nutrition interventions need to demonstrate sensitivity to community preferences and traditions.

Future Considerations

- During the pandemic, significant supply chain challenges made it difficult for vendors to secure even common shelf-stable items, and there was little opportunity to prioritize sourcing culturally diverse offerings. Given the significant representation of diverse communities in the MTY program, especially Hispanic or Latinx, Native American, and Alaska Native communities, working with vendors to implement intentional menu planning and food sourcing strategies for incorporating culturally relevant foods should be a priority moving forward. BCHP can look to resources from school districts and community organizations that have prioritized culturally relevant food options for ideas and best practices.⁴⁷
- Engagement with a selection of school district school nutrition personnel, parents and caregivers, and even older students can help program administrators gather input on culturally relevant food preferences while also strengthening connections between BCHP's MTY program teams and participating districts and communities prior to annual enrollment activity.
- Building expectations for culturally relevant foods into vendor contracts is a critical tool for increasing responsiveness to diverse communities.

Key Takeaways and Recommendations

This report documents the strengths and challenges of the 2020 MTY program in its efforts to provide nutritional support to families with children in rural, high-need areas. In 2020, the program was successful in reaching high-need families, and our analysis of program impact data indicates that MTY can be an effective tool for reducing food insecurity among hard-to-reach households.

In this section, we highlight several opportunities to improve future program operations and program responsiveness to families. Although not exhaustive, these considerations address the broad range of challenges noted across stakeholders and identify the entities that may be best suited to implement each recommendation. As with any program, improvements will need to be considered in the context of available budgetary and staffing resources. In addition, having sufficient time to plan and implement changes is an important consideration, especially as the 2020 year required rapid response under unusually challenging conditions.

School District Experience

In response to the difficulties school districts experienced during the enrollment process (described above), this set of recommendations suggests ways that the enrollment process could be streamlined by BCHP in future iterations of the program.

- BCHP should continue to assess opportunities to streamline enrollment processes for districts, including simplified mechanisms for reporting eligible students, especially for districts that have difficulty accessing technology or database software.
 - » BCHP should explore offering flexibilities for rolling enrollment, and potentially wider enrollment windows, to reach more families.
 - » BCHP and USDA should explore offering flexibilities for students whose families may be newly eligible for MTY after program initiation, such as students who move into the district or become newly FRPL eligible. Alternatively, USDA could allow BCHP to approximate eligibility for households with certain self-reported characteristics in specific districts to avoid a time-consuming and complex household-level verification process for district personnel. Lengthy verification

procedures can impede the ability to get food to families in need in a timely manner, especially during short program windows like summer, and also create a burden for school personnel who may be facing competing priorities or are not typically working during certain program time periods.

- BCHP and its partner vendors should communicate with district personnel to gather information on potential shipping issues in rural areas with nonstandard addresses, particularly in reservations and tribal areas and in outlying parts of the US.
 - » BCHP could develop a formal mechanism for school coordinators to convey shipping considerations or irregularities at the outset based on their professional experience to mitigate known shipping issues.
- BCHP should designate an LEP coordinator to develop and monitor a plan for ensuring LEP support in all vital communications, train relevant staff on implementing the plan, and arrange for translation in languages assessed as necessary.
 - » Given competing demands on school district personnel, the LEP coordinator could also explore other community partnerships that may facilitate outreach and enrollment assistance to LEP families.

Food Vendors

Though supply chain disruptions sometimes influence the availability and affordability of certain items in food boxes, this program could potentially tailor boxes to be more sensitive to the needs of families. This set of recommendations focuses on how partner vendors can plan menus more intentionally and how various stakeholders can become part of the process.

- Vendors should involve parents at the outset for menu determination through virtual parent focus groups, shipping samples for taste testing, surveys, or other methods.
 - » Family engagement will also help families determine what constitutes a recognized “entrée” item versus a “snack” item, which was a source of confusion for some participants.
 - » Previous program participants can be a valuable source of information on which products are most susceptible to damage during shipping.

- Vendors should look for ways to diversify box contents, or BCHP should encourage vendors to rotate their menus to ensure variety and to maximize opportunities for healthy options, such as vegetable offerings.
- Vendors should include menu cards (in all appropriate languages or with visual cues) in each box and delineate which items are meant for each meal. Menu cards were previously included in the 2019 sMTY program but were not part of the 2020 programs.
- Vendors, with the support of BCHP, should implement intentional menu planning and food sourcing strategies for incorporating culturally relevant foods. They can look to resources from school districts and community organizations that have prioritized culturally relevant food options for ideas and best practices.
- USDA should work collaboratively with vendors to maximize timely access to key food sources, such as producers of shelf-stable dairy or protein foods, to manage supply chain challenges.
 - » Federal facilitation may enable vendor partners to concentrate more fully on menu development, packaging, and shipping (especially in periods of general shortages).
- USDA should work with vendors to explore acceptable substitutes that may improve the integrity of food items during shipping. For example, to avoid liquid-related damages, allow powdered milk or other nonliquid substitutes for rural, hard-to-reach communities, especially communities in Alaska and reservation or tribal districts. (Vendors would need to ensure that receiving communities have potable water to reconstitute liquids safely.) Alternatively, vendors should securely package liquids and milk separately from other items in the box to avoid cross-contamination in the event of leakage.
- Vendors and shipping carriers should ensure boxes are able to withstand the weight of contents and promote strategies such as the use of box dividers to avoid crushing and other damage.

Partnerships between Vendors and Shipping Carriers

Several implementation challenges we describe throughout this report in relation to how boxes were shipped resulted from the rapid scale-up required during the pandemic, which created supply chain disruptions and shipping delays. Overall, the need for rapid scale-up also limited the time available to

carefully consider specific logistics around shipping. With these issues in mind, this set of recommendations is aimed toward considerations that vendors, carriers, and the administering organizations can use to plan ahead to ensure boxes are delivered on time and with minimal damage.

- BCHP, with support from USDA, should help streamline processes between food vendors and package carriers at the outset and provide as much information as possible about the geographic and numeric scope of the program. This advance information will allow vendors to efficiently source materials and plan shipping routes.
 - » An early planning process could involve including a representative from each stakeholder—vendor, carrier, packaging expert (if relevant), BCHP, and possibly USDA—in joint calls and meetings to establish logistics and expectations.
 - » Vendors have expressed a desire for USDA to communicate the value of a home delivery model to carriers, who otherwise have little context for why they should prioritize this program.
- USDA should explore negotiating standard shipping rates and terms or should predefine shipping strategies for different geographies, instead of leaving it solely to individual vendors to negotiate independently. Separate negotiations result in siloed efforts that dilute the visibility of the program to carriers.
- BCHP or other administering organizations should communicate clear expectations of vendors and their partnerships with carriers related to shipment tracking to support quality control and customer service. For example, shipping carriers and vendors should ensure all boxes have unique tracking identification to avoid challenges in program monitoring and customer service to program participants.
- Shipping carriers, vendors, and BCHP should explore providing access to tracking information directly to participants to minimize uncertainty about the timing of food deliveries, which can exacerbate stress in food-insecure households.

Participant Experience

Finally, an important stakeholder in improving program implementation are the participants themselves. This set of recommendations focuses on increasing awareness in order to enroll more families who may benefit from the program, centering the experience of families when making

decisions around box contents, and collecting ongoing feedback to monitor and improve program operations.

- BCHP should work with districts and states to engage diverse community stakeholders, such as tribal bodies, faith communities, or other community organizations, to promote the program and facilitate enrollment.
- BCHP should consider including a brief statement in program FAQs affirming that participation in MTY programs is not related to any public charge rules and enlist the assistance of schools and other trusted community partners to mitigate any related concerns among immigrant families.
- BCHP should proactively include the option for families and school districts to report food allergies or intolerances or religious or cultural food exemptions upon enrollment into the program. BCHP should ensure these needs are communicated to vendors and verify that vendors have the capacity to accommodate dietary considerations.
- The ability to tailor meal boxes is subject to cost and logistical considerations, but given the prevalence of lactose intolerance, vendors should look into sourcing lactose-free milk or milk alternatives.
- BCHP should implement a quick quality assessment measure to ensure participants actually received a box (e.g., an automated text message asking if the box was received) and to avoid situations in which enrolled households do not receive shipments for long periods of time.

In sum, the MTY program was an important resource for families during a tumultuous year that exacerbated food insecurity and material hardship, particularly among families with children. Program effectiveness can be strengthened in future iterations based on lessons learned during the 2020 MTY implementation. Given the persistent challenges that face rural families in accessing food and engaging in on-site programming, MTY offers a promising strategy for adapting existing nutrition program responses to better serve children in all types of communities in the US.

Appendix A. Detailed Sampling Methodology

This appendix describes the sample design and survey weight variables that were created for the analysis of the 2020 MTY participant survey.

Sample Design

The sample consisted of three groups of participants: households⁴⁸ in enrolled in eMTY; households enrolled in sMTY: TX; and households enrolled in sMTY: AK/NM. A small number of participants enrolled in the eMTY program switched over to sMTY. For the purpose of describing the sample and response rates, we count these participants as sMTY participants. However, for the analyses, they can be included in either or both groups.

In addition to these three groups, we also oversampled households that recorded the participant's race on the enrollment form as being Black, Hispanic/Latinx, or Native American. Because many households did not record their race/ethnicity on the enrollment form, the oversamples included participants who lived in school districts where 70 percent or more of the school-age children were Black, Hispanic/Latinx, or Native American. Overall, 6,563 households were sampled, as follows:

- 3,200 eMTY sample⁴⁹ (excluding oversamples) households
- 921 eMTY oversample of Native American and Alaska Native households
- 492 eMTY oversample of Black households
- 490 eMTY oversample of Hispanic/Latinx households
- 854 sMTY: TX households
- 606 sMTY: AK/NM households

Each sampled household was asked to complete two rounds of participant surveys. The first survey (round 1) was fielded in two waves toward the beginning of the program, from May 26 to July 15. The first wave occurred from May 26 to June 8, and the second wave occurred from June 24 to July 15. The second survey (round 2) was fielded around the end of the program, from September 1 to October 20. Most of the surveys were completed online via a link sent either to the household respondent's email address or via a text message link. Because of low response rates early in the

fielding period, paper surveys were sent to all nonresponding households in Alaska and South Dakota in both rounds 1 and 2, as well as to other respondents who requested them. A total of 102 paper surveys (45 from round 1 and 57 from round 2) were completed. Eighty of these paper surveys were from Alaska respondents, 18 were from South Dakota respondents, and we received 1 paper survey each from Kentucky, Louisiana, Michigan, and Tennessee. Survey dates from the paper surveys were either taken from the date written on the survey itself or imputed as the middle of the survey fielding period.

The response rates for the two surveys and the rate for those who completed both surveys are shown in tables A.1, A.2, and A.3. Note that the response rate is of the 81 percent of families who consented to be surveyed when filling out their program enrollment form.

TABLE A.1
Round 1 Response Rates

Program	Sample size	Completed surveys	Response rate
eMTY	5,103	3,339	65.4%
sMTY: TX	854	549	64.2%
sMTY: AK/NM	606	199	32.8%
Total	6,563	4,093	62.3%

Source: Authors' analysis of Meals-to-You survey responses.

Note: eMTY = emergency Meals-to-You; sMTY = summer Meals-to-You.

TABLE A.2
Round 2 Response Rates

Program	Sample size	Completed surveys	Response rate
eMTY	5,103	2,657	52.1%
sMTY: TX	854	486	56.9%
sMTY: AK/NM	606	198	32.7%
Total	6,563	3,341	50.9%

Source: Authors' analysis of Meals-to-You survey responses.

Note: eMTY = emergency Meals-to-You; sMTY = summer Meals-to-You.

TABLE A.3
Completed Round 1 and Round 2 Response Rates

Program	Sample size	Completed surveys	Response rate
eMTY	5,103	2,278	44.6%
sMTY: TX	854	435	50.9%
sMTY: AK/NM	606	131	21.6%
Total	6,563	2,844	43.3%

Source: Authors' analysis of Meals-to-You survey responses.

Note: eMTY = emergency Meals-to-You; sMTY = summer Meals-to-You.

In both survey rounds, we retained all responses in which the respondent completed at least the first three questions of the survey. Our analysis thus contained some partial responses.

In round 2, two programming errors in the online survey were addressed by sending out short follow-up surveys to the respondents who were affected. Because of the first error, 108 respondents were not given the consent language at the beginning of the survey. We fielded a short breach survey with these 108 respondents, and 61 completed it. For the remaining 47 respondents who did not complete the short breach survey, a short letter was included with their mailed incentive payment that offered the chance to contact our team if they wanted to opt out of using their survey data. This approach was approved by the Urban Institute Institutional Review Board.

The second error resulted in 1,996 participants not being asked the question on whether their child experienced any allergies or intolerances or religious or cultural issues when trying to eat box contents. To correct this issue, a text message survey was sent to ask the allergies or intolerances question, with 1,374 participants responding.

Survey Weights

We used three sets of participant survey weights: a round 1 weight for producing household-level estimates from the round 1 survey, a round 2 weight for producing household-level estimates from the round 2 survey, and a “both rounds” weight for producing estimates that compared round 1 survey estimates with round 2 survey estimates. The survey weights accounted for nonresponse and the oversampling of Black, Hispanic or Latinx, and Native American families. These survey weights adjusted the sample so that the respondents and nonrespondents had the same distribution of characteristics, based on demographic information obtained for the full population of participants in the MTY program.

The survey weights affected variance estimates and, as a result, tests of significance and confidence intervals. Variance estimates derived from standard statistical software packages that assume simple random sampling are generally too low, which can lead to overstated significance levels and overly narrow confidence intervals. The impact of the survey weights on variance estimates was measured by the design effect and is explained in more detail at the end of this appendix.

Adjustments were done separately for the three sample groups (eMTY, sMTY: TX, and sMTY: AK/NM):

- An adjustment to correct for the oversampling of Black, Hispanic or Latinx, or Native American families was done first before making other adjustments.
- A small adjustment was made to the sMTY: TX sample to correct for slightly higher participation rates of families with fewer children.
- An adjustment to the eMTY sample and the sMTY: AK/NM sample corrected for higher participation rates of families with more children.
- Only small race/ethnicity adjustments were needed after correcting for oversampling. These adjustments were due to slightly higher response rates in the eMTY and sMTY: TX samples among white families.
- In the eMTY sample, there were some state adjustments to correct for small differences in response rates. For instance, families from Louisiana and Alabama had slightly higher response rates than respondents from Kentucky and Texas.
- In the sMTY: AK/NM sample, an adjustment was needed because response rates were much lower in Alaska.
- For the sMTY: TX sample, there was a small school district adjustment. However, the school district response rates did not vary much, especially compared to the 2019 sMTY: TX pilot study.

The final weights were then normalized within the three sample groups so that the sum of the weights equaled the sample size of each sample group.

Design Effects

Statistical adjustments following data collection were required due to the disproportionate participation rates of sampled families. These adjustments require analysis procedures that adjust the standard errors so they are like those that would be obtained from a simple random sample that involved no adjustments. Therefore, when using survey weights, variance estimation requires estimating the survey design effect associated with the weighted estimate. The term *design effect* is used to describe the variance of the weighted sample estimate relative to the variance of an estimate that assumes a simple random sample.

In a wide range of situations, the adjusted standard error of a statistic should be calculated by multiplying the usual formula by the design effect. Thus, the formula for computing the 95 percent confidence interval around a percentage is as follows:

$$\hat{p} \pm \left(deft \times 1.96 \sqrt{\frac{\hat{p}(1 - \hat{p})}{n}} \right)$$

where \hat{p} is the sample estimate, $deft$ is the design effect, and n is the unweighted number of sample cases in the group being considered. Tables A.4, A.5, and A.6 show the design effects for survey weights for round 1, round 2, and the combined rounds, respectively.

TABLE A.4

Design Effects for Survey Weights Using the Round 1 Weight

Type of Analysis	Design Effect
eMTY sample group	1.27
Native American sample	0.90
Black sample	1.16
Hispanic/Latinx sample	0.71
White sample	1.49
sMTY: TX sample	1.02
sMTY: AK/NM sample	1.19
Total sample	1.23

Source: Authors' adjusted survey weights from Meals-to-You survey responses.

Note: eMTY = emergency Meals-to-You; sMTY = summer Meals-to-You.

TABLE A.5

Design Effects for Survey Weights Using the Round 2 Weight

Type of Analysis	Design Effect
eMTY sample group	1.34
Native American sample	0.64
Black sample	1.00
Hispanic/Latinx sample	0.88
White sample	1.57
sMTY: TX sample	1.04
sMTY: AK/NM sample	1.07
Total sample	1.28

Source: Authors' adjusted survey weights from Meals-to-You survey responses.

Note: eMTY = emergency Meals-to-You; sMTY = summer Meals-to-You.

TABLE A.6

Design Effects for Survey Weights Using the Round 1 and Round 2 Weight

Type of Analysis	Design Effect
eMTY sample group	1.29
Native American sample	0.91
Black sample	1.28
Hispanic/Latinx sample	0.70
White sample	1.49
sMTY: TX sample	1.02
sMTY: AK/NM sample	1.22
Total sample	1.25

Source: Authors' adjusted survey weights from Meals-to-You survey responses.

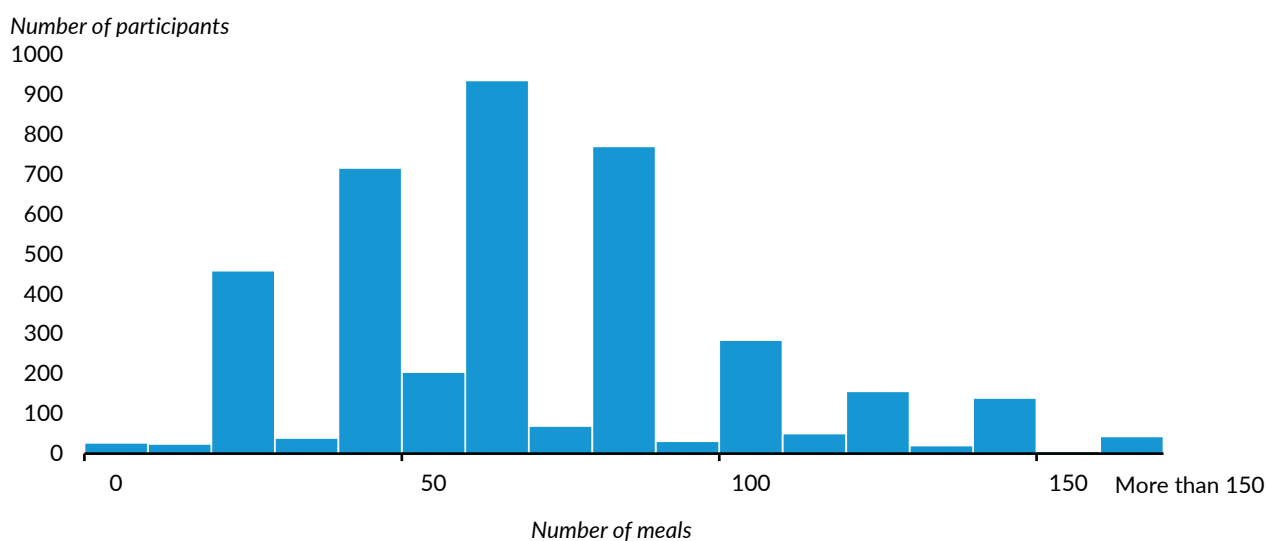
Note: eMTY = emergency Meals-to-You; sMTY = summer Meals-to-You.

The design effects can be less than one for the groups we oversampled (Black, Hispanic or Latinx, and Native American families) because their effective sample size when calculating statistical precision is larger than their weighted sample size. To get a more accurate estimate of the standard errors associated with a weighted estimate, one would multiply the unweighted standard error by the appropriate design effect value shown in the tables above. For example, suppose one was using the weight on a measure for the round 1 eMTY sample and the estimate had an unweighted standard error of 0.0212. The weighted estimate would not change; however, the standard error of the estimate would be 0.0269 (0.0212×1.27).

Appendix B. Distribution of Meals Received by Survey Time Point

FIGURE B.1

Number of Meals Received by Meals-to-You Participants before the Round 1 Survey, 2020

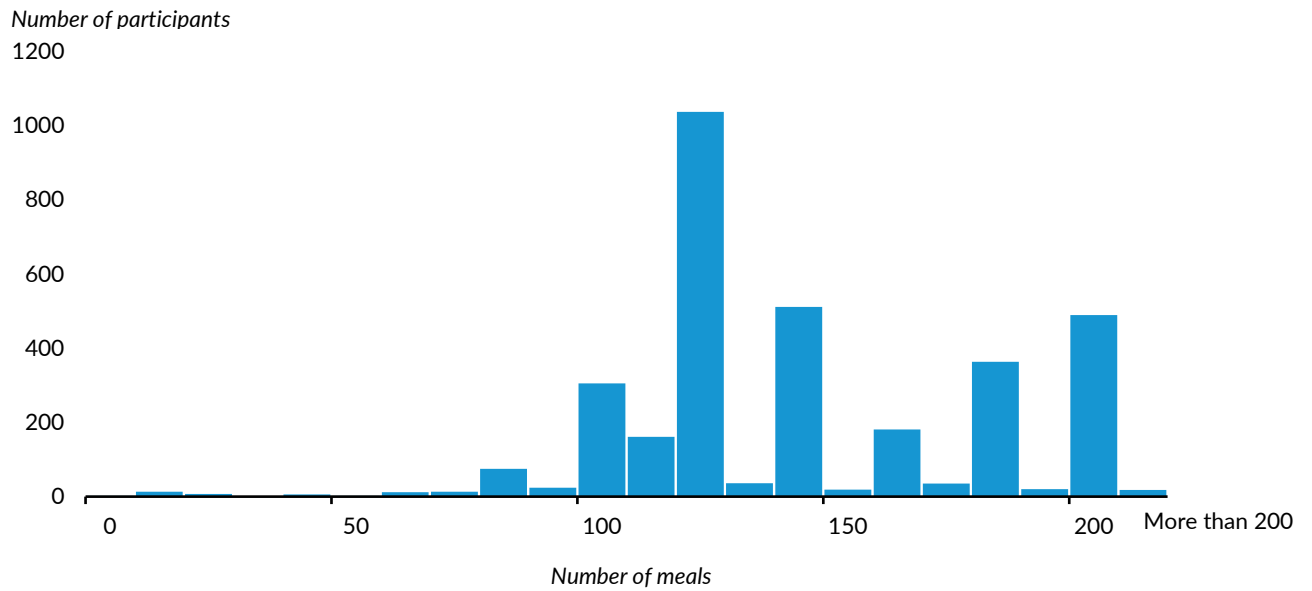


Source: Author's analysis of programmatic shipping data.

Note: Meal totals represent the number of meals marked as delivered.

FIGURE B2

Number of Meals Received by Meals-to-You Participants before the Round 2 Survey, 2020



Source: Author's analysis of programmatic shipping data.

Note: Meal totals represent the number of meals marked as delivered.

Appendix C. Impact Model

Descriptive Statistics

TABLE C.1

Descriptive Statistics for Control Variables Overall and by Program Type and Rurality

	Overall: Round 1	Overall: Round 2	eMTY: Round 1	eMTY: Round 2	sMTY: Round 1	sMTY: Round 2	Rural: Round 1	Rural: Round 2
Program type								
Ever participated in eMTY	86.0%	85.3%	—	—	—	—	76.9%	76.7%
Ever participated in sMTY	18.5%	19.7%	—	—	—	—	30.9%	32.2%
Survey response date	June 18	Sept. 7	June 16	Sept. 7	July 4	Sept. 6	June 21	Sept. 8
Race/ethnicity								
White, non-Hispanic	48.0%	46.7%	50.2%	48.5%	43.5%	43.8%	53.5%	53.5%
Black, non-Hispanic	18.0%	15.4%	19.6%	16.9%	6.3%	5.5%	12.6%	11.8%
Asian	0.4%	0.3%	0.3%	0.2%	0.6%	0.7%	0.2%	0.2%
Alaska Native or Native American	8.4%	6.5%	5.3%	3.9%	20.8%	16.4%	15.0%	12.4%
Hispanic/Latinx	14.2%	18.3%	13.2%	17.1%	19.5%	24.5%	9.0%	12.0%
Other/two or more races	8.6%	12.0%	8.9%	12.6%	7.2%	8.5%	7.3%	9.3%
Unknown	2.4%	0.6%	2.4%	0.6%	2.1%	0.5%	2.2%	0.7%
Household size (mean)	4.68	4.67	4.62	4.61	4.92	4.94	4.85	4.80
Income in 2019								
0–138% of FPL	65.6%	66.6%	65.3%	66.4%	66.2%	66.2%	65.1%	66.9%
138–250% of FPL	22.8%	23.0%	22.7%	22.8%	23.0%	23.4%	23.2%	22.4%
250–400% of FPL	9.2%	8.4%	9.5%	8.8%	8.3%	7.8%	8.6%	8.4%
>400% of FPL	2.5%	2.0%	2.6%	2.1%	2.4%	2.6%	3.1%	2.2%
Negative job impact of COVID-19	57.5%	55.9%	58.3%	57.4%	53.8%	47.3%	54.1%	50.5%
Any damaged boxes received	38.9%	53.8%	37.0%	50.7%	54.9%	72.5%	43.5%	60.0%
Unweighted N	4,066	3,338	3,501	2823	753	684	1,336	1,167

Source: Meals-to-You survey, rounds 1 and 2, conducted May 26 to July 15, 2020, and September 1 to October 20, 2020.

Notes: Program impact model also controlled for states with over 40 respondents, but we did not break down by state in this table. Survey response date represents average date of response.

eMTY = emergency Meals-to-You; sMTY = summer Meals-to-You; FPL = federal poverty level.

TABLE C.2

Descriptive Statistics for Control Variables by Race/Ethnicity

	White, non-Hispanic		Black, non-Hispanic		Alaska Native or Native American		Hispanic/Latinx	
	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2
Program type								
Ever participated in eMTY	90.0%	88.6%	93.8%	93.4%	54.9%	50.7%	79.8%	79.9%
Ever participated in sMTY	16.8%	18.4%	6.4%	7.0%	46.0%	49.8%	25.4%	26.4%
Survey response date	June 13	Sept. 6	June 20	Sept. 7	July 3	Sept. 7	June 24	Sept. 7
Household size (mean)	4.56	4.55	4.45	4.33	5.24	5.22	4.98	5.04
Income in 2019								
0–138% of FPL	58.4%	58.7%	78.5%	80.2%	67.3%	68.1%	73.5%	73.2%
138–250% of FPL	25.6%	26.9%	17.7%	16.8%	21.0%	22.1%	19.7%	19.4%
250–400% of FPL	12.7%	11.8%	3.1%	2.5%	9.5%	7.2%	5.0%	5.6%
>400% of FPL	3.4%	2.6%	0.7%	0.4%	2.3%	2.5%	1.8%	1.8%
Negative job impact of COVID-19	57.4%	56.5%	53.2%	51.1%	51.6%	45.6%	63.8%	61.0%

	White, non-Hispanic		Black, non-Hispanic		Alaska Native or Native American		Hispanic/Latinx	
	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2
Any damaged boxes received	43.3%	60.2%	25.5%	39.0%	49.1%	66.3%	35.3%	42.8%
Unweighted N	1,479	1,179	701	544	488	455	1,479	1,179

Source: Meals-to-You survey, rounds 1 and 2, conducted May 26 to July 15, 2020, and September 1 to October 20, 2020.

Notes: Program impact model also controlled for states with over 40 respondents, but we did not break down by state in this table. Survey response date represents average date of response.

eMTY = emergency Meals-to-You; sMTY = summer Meals-to-You; FPL = federal poverty level.

Appendix D: Health Reform Monitoring Survey

Given the urgency of providing families with school-age children food during the pandemic, it was not feasible to create a control group to compare against families enrolled in the MTY program. However, the Urban Institute's Health Reform Monitoring Survey (HRMS) included two Coronavirus Tracking Surveys (CTS) that were conducted around the same time as the two MTY program participant surveys. Thus, the CTS provided a convenient method of conducting a national comparison of MTY data.

The CTS is a nationally representative internet-based survey of nonelderly adults designed to assess how the COVID-19 pandemic is affecting adults and their families and how those effects change over time. The first wave of the CTS was fielded May 14–27, 2020, and the second wave was fielded September 11–28, 2020; 91 percent of respondents completed the survey between September 11 and 17. Respondents for both waves were sampled from the 9,032 adults who participated in the most recent round of the HRMS, which was fielded March 25–April 10, 2020. The HRMS sample was drawn from the Ipsos KnowledgePanel, the nation's largest probability-based online panel. The panel is recruited from an address-based sampling frame covering 97 percent of US households and includes households with and without internet access. Participants can take the survey in English or Spanish.

The core sample of the CTS included an oversample of Black and Hispanic/Latinx HRMS participants. Both waves of the tracking survey included an additional oversample of adults in households with school-age children. The September wave tracking survey also included Black and Hispanic/Latinx panel members who did not participate in the HRMS. Our analytic sample size for wave one of the tracking survey was 1,673 and for wave two was 2,239. These were parents living with children ages 6 to 18. The sample size of Black families in the wave-two tracking survey was 530, and the sample size of Hispanic households was 603.

We constructed family-level weights to produce representative estimates for families with school-age children. These survey weights adjusted for unequal selection probabilities and were poststratified to the characteristics of families with school-age children based on benchmarks from the American Community Survey. Variables used in the poststratification weighting of the KnowledgePanel and the poststratification weighting of the tracking surveys included sex, age, race and ethnicity, primary language, education, marital status, household income, family income as a percentage of FPL, homeownership status, internet access, urban or rural status, state group, and census region.

Appendix E. Bivariate and Preferred Regression Results

TABLE E.1

Impact Based on Bivariate Regression and Preferred Specification of Receiving 10 Additional Meals-to-You Meals on Households' Food Insecurity and Food Insecurity Score in Early and Late Summer 2020, by Program Type, Rurality, and Race/Ethnicity

	Probability of Being Food Insecure (percentage point change)		Food Insecurity Score (score difference on 0–6 scale)	
	Early summer	Late summer	Early summer	Late summer
Overall				
Bivariate	-0.764%**	-0.870%***	-0.0337***	-0.0417***
Preferred	-0.952%***	-0.936%***	-0.0347**	-0.0287
eMTY				
Bivariate	-0.809%***	-0.995%***	-0.0344**	-0.0419***
Preferred	-0.900%***	-0.778%***	-0.0288*	-0.0181
sMTY				
Bivariate	-0.715%	-0.776%	-0.0178*	-0.0417
Preferred	-2.110%	-1.910%	-0.0639**	-0.0720
<80% Rural				
Bivariate	-0.986%***	-1.010%***	-0.0403***	-0.0472***
Preferred	-0.639%***	-0.673%*	-0.0376***	-0.0295
≥80% Rural				
Bivariate	-0.629%	-0.727%**	-0.0295	-0.0324**
Preferred	-1.500%**	-1.360%*	-0.0251	-0.0310
White non-Hispanic				
Bivariate	-0.793%**	-1.120%***	-0.0353***	-0.061***
Preferred	-1.440%*	-0.824%	-0.0422	-0.0137
Black non-Hispanic				
Bivariate	-1.150%	-1.610%***	-0.0644***	-0.0483***
Preferred	0.446%	-0.717%	-0.0030	0.0002
Alaska Native or Native American				
Bivariate	-0.983%	-0.757%	0.0061	-0.0479
Preferred	-0.176%	-2.630%**	-0.0032	-0.1240**
Hispanic/Latinx				
Bivariate	-0.482%*	-0.274%	-0.0133	-0.0161
Preferred	-0.743%*	-1.480%***	-0.0346**	-0.0536***

Source: Authors' analysis of programmatic shipping data and MTY participants' responses to food insecurity survey questions.

Notes: Food insecurity was defined as responding affirmatively to at least two items on a six-item food security module. See Evaluation Methodology section for details. Coefficients represent percentage point changes.

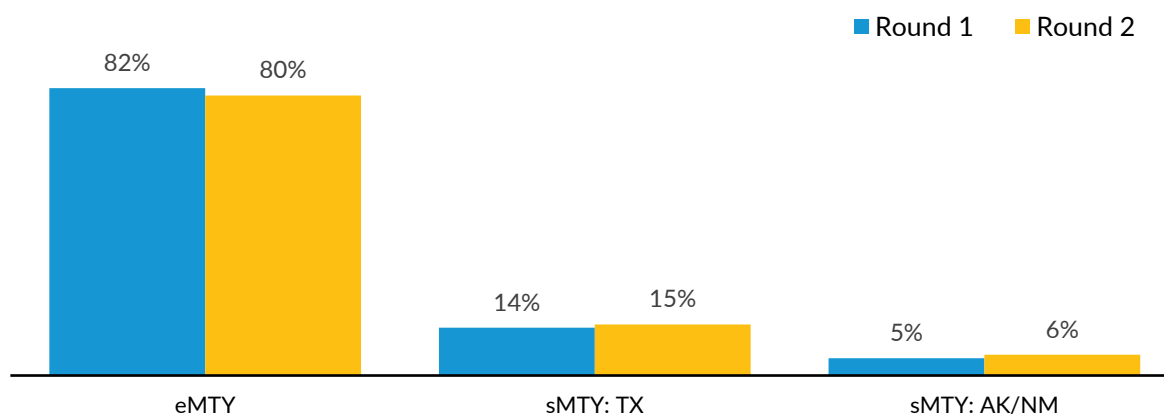
eMTY = emergency Meals-to-You; sMTY = summer Meals-to-You.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Appendix F. Survey Respondent Characteristics

FIGURE F.1

Meals-to-You Program Survey Responses, by Round and Program, 2020

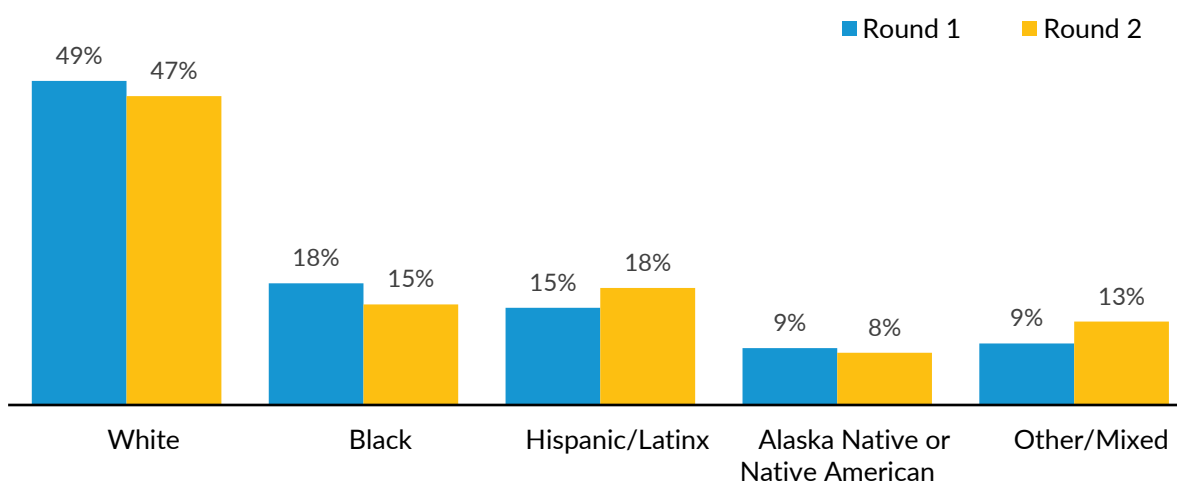


Source: Meals-to-You survey, rounds 1 and 2, conducted May 26 to July 15, 2020, and September 1 to October 20, 2020.

Note: eMTY = emergency Meals-to-You; sMTY = summer Meals-to-You.

FIGURE F.2

Meals-to-You Program Survey Responses, by Round and Race/Ethnicity, 2020

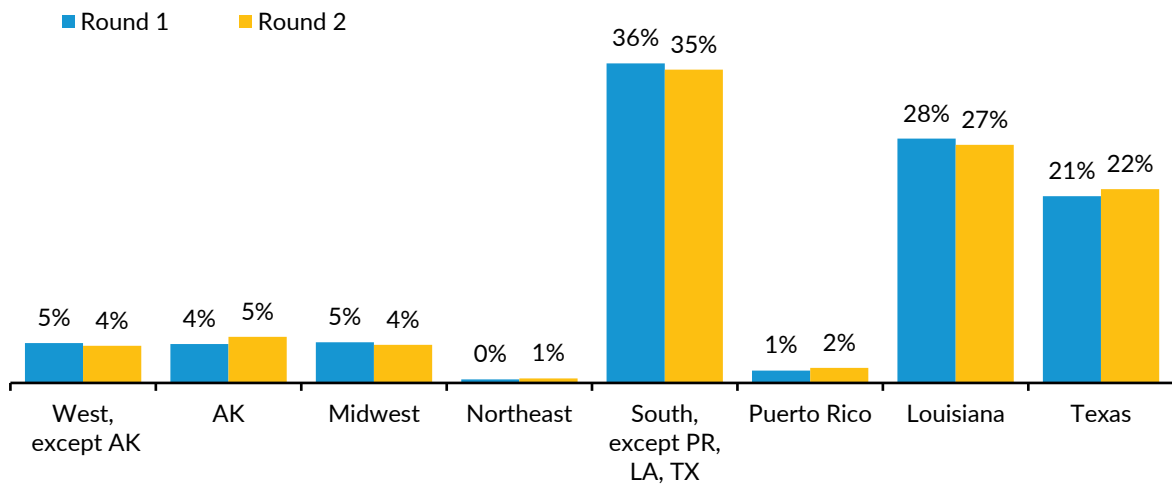


Source: Meals-to-You survey, rounds 1 and 2, conducted May 26 to July 15, 2020, and September 1 to October 20, 2020.

Note: "Other/Mixed" includes other reported races or participants reported as more than one race.

FIGURE F.3

Meals-to-You Program Survey Responses, by Round and Region, 2020



Source: Meals-to-You survey, rounds 1 and 2, conducted May 26 to July 15, 2020, and September 1 to October 20, 2020.

Note: PR = Puerto Rico.

Appendix G. Menu Items

FIGURE G1

Sample Menu from Chartwells

What's on the Menu?				
10 Day Cycle Menu				
Day 1	Day 2	Day 3	Day 4	Day 5
Breakfast				
Breakfast Muffin – assorted flavors	Ultimate Breakfast Round – assorted flavors	Breakfast Muffin – assorted flavors	Pop-Tart – assorted flavors	Cereal – assorted flavors
100% Fruit Juice & 8 fl oz Milk	100% Fruit Juice & 8 fl oz Milk	100% Fruit Juice & 8 fl oz Milk	100% Fruit Juice & 8 fl oz Milk	100% Fruit Juice & 8 fl oz Milk
Lunch				
½ Bag of Tortilla Chips with Salsa	2 Peanut Butter Cups & 2 Packs of Graham Crackers	½ Bag of Tortilla Chips with Salsa	Can of Tuna with a Pack of Whole Grain Crackers	2 Yogurts and a Pack of Whole Grain Crackers
½ Pkg. of Refried Beans, Fruit Cup (1), 8 fl oz Milk	½ Pkg. of Mashed Potatoes, ½ Pkg. Sunflower Seeds, Dried Fruit (1), 8 fl oz Milk	½ Pkg. of Refried Beans, Fruit Cup (1), 8 fl oz Milk	Applesauce (1), Dried Fruit (2), 8 fl oz Milk	Applesauce (1), Sunflower Seeds (1), Raisins (3), 8 fl oz Milk

Source: Chartwells.

FIGURE G2

Sample Menu from McLane

Component	Items/Box (2 week)
32oz Skim Milk OR 32oz White Milk 1%	5
4.23oz Fruit Punch Juice	5
4.23oz Orange Tangerine Juice	5
6.75oz Apple Juice	5
6.75oz Very Berry Juice	5
1.35oz Raisels Lemon	5
4.1oz APPLE CINNAMON	4
4oz Pineapple Tidbits Fruit Cup	1
1oz CINN TST CRNCH CEREAL	2
1oz GOLDEN GRAHAMS CEREAL	2
1.06oz COCOA PUFFS CEREAL	2
1oz LUCKY CHARMS CEREAL	2
1oz CHEERIOS CEREAL	2
1oz Cinnamon granola	4
1oz Pizza Crackers	
OR 1oz Honey Graham Crackers	3
1oz Jungle Crackers	3
8oz Pork & Beans	2
15oz CHILI WITH BEANS	1
2.9oz Chicken Salad	2
2oz Shelf Stable Cheese Stick, Buffalo Wing Cheddar	1
1oz Dry, Roasted Soy Nuts	2
2oz (2PACK) Original Beef Sticks	1
1oz Roasted & Salted Chickpeas	2

Source: McLane Global.

FIGURE G3

Sample Menu from PepsiCo

Lunch/Supper					
Menu 1	Cheese Cup - 2oz	Menu 3	Sunbutter Cup	Menu 5	Hummus Cup
	WG Tortilla Chips		Sunflower Kernels		Sunflower Kernels
	Sunflower Kernels		WG Cracker		WG Wheat Cracker
	GoGo Squeeze Applesauce		Craisins		Fruit Cup 4.5oz
	Salsa Cup		100% Veg/Fruit Juice		Veg Juice 4.23oz
Menu 2	Chicken Salad	Menu 4	Cheese Plank	Menu 6	Bean Dip
	Sunflower Kernels		Sunflower Kernels		Sunflower kernels
	WG Cracker		WG Cracker - Pizza		WG Corn Chips
	Amazing Raisins		GoGo Squeez Applesauce		Craisins
	100% Veg/Fruit Juice		Marinara Cup		100% Veg/Fruit Juice

Breakfast					
Menu 1	Menu 2	Menu 3	Menu 4	Menu 4	Menu 6
Cereal Pouch or Bowlpack	Cereal Pouch or Bowlpack	Breakfast Bar	Cereal Pouch or Bowlpack	Cereal Pouch or Bowlpack	Breakfast Bar
100% 4.23oz Juice	100% 4.23oz Juice	100% 4.23oz Juice	100% 4.23oz Juice	100% 4.23oz Juice	100% 4.23oz Juice

Source: PepsiCo Foundation Food for Good.

Notes

- ¹ The true number of boxes delivered may be slightly higher, as some emergency boxes were split in half due to weight constraints in shipping to Alaska. The number of boxes presented in this report is derived from total number of meals delivered to participants divided by 20 meals as the average box size for eMTY and by 10 meals as the average box size for sMTY.
- ² Throughout the report, *households* refers to participating families in the program. We use *households* rather than *families* as the enrollment form and program as a whole use this language.
- ³ Throughout the report, *participants* refers to participating households that responded to evaluation activities, including surveys and interviews. Program experiences and outcomes are reported at the family level.
- ⁴ McLane served 82,359 households; PepsiCo served 23,954 households and Chartwells, 22,701 households.
- ⁵ BCHP noted that the higher take-up among school districts in these regions could be due to several factors. Child poverty is most pervasive in the Southeast region, and the USDA regional offices in this area may have been more enthusiastic about the program and helped promote participation.
- ⁶ Our first round of surveying took place over two waves. The first wave occurred from May 26 to June 8, 2020, and the second wave occurred from June 24 to July 15, 2020. More information on surveying can be found in appendix F.
- ⁷ Sampling criteria for participant interviews included program enrollment (eMTY only, sMTY only, or both); race/ethnicity (specifically white, Black, and Hispanic/Latinx respondents); school districts with low uptake; reservation status (as identified by a school district's being on a reservation); state or territory (sampling specifically for Alaska, New Mexico, and Puerto Rico); and select survey responses, including a composite measure of program satisfaction and whether the respondent had any household composition changes during the pandemic.

Due to insufficient sample size, we were not able to secure interviews from respondents with every combination of characteristics. Specifically, we did not obtain as many interviews in Puerto Rico, from Black respondents enrolled in both programs, and from sMTY respondents who were satisfied with the program overall as we had hoped.

- ⁸ Under the National School Lunch Program, families complete household income eligibility forms that help schools certify students as eligible for FRPL. CEP, a nonpricing meal service option for schools and school districts in low-income areas, allows schools and districts with the nation's highest poverty rates to serve breakfast and lunch at no cost to all enrolled students without collecting household applications. Instead, schools that adopt CEP are reimbursed using a formula based on the percentage of students categorically eligible for free meals based on their participation in other specific means-tested programs, such as the Supplemental Nutrition Assistance Program and Temporary Assistance for Needy Families. For information on CEP, see "Community Eligibility Provision," Food and Nutrition Service, USDA, last updated April 2019, <https://www.fns.usda.gov/cn/community-eligibility-provision>.
- ⁹ To create an eMTY and sMTY consolidated shipping dataset, BCHP matched tendered food boxes and corresponding invoiced food boxes for each vendor (Chartwells, McLane, and PepsiCo). Because McLane and PepsiCo did not return the tendered date in their invoice files, BCHP matched boxes based on program week and worked to resolve merge issues with all involved parties. Due to the magnitude of the dataset and shipping logistics and challenges, the quality of the data varied. The methodology used by BCHP created a dataset in which only 0.9 percent of boxes presented a merge issue.
- ¹⁰ The six-item short form of the survey module and the associated six-item food insecurity scale were developed by researchers at the National Center for Health Statistics in collaboration with Abt Associates. More

information about using the six-item food security module can be found on the USDA's Economic Research Service website at <https://www.ers.usda.gov/media/8282/short2012.pdf>.

- ¹¹ We also examined dosage only in the 30-day lookback period, but there was much less variation, especially at the second survey round, and the results were similar though less interpretable because of timing issues.
- ¹² *Hispanic/Latinx* is used throughout this report to reflect the different ways in which people self-identify. The US Census Bureau uses the term *Hispanic*. *White* and *Black* in this report refer to adults who do not identify as Hispanic/Latinx.
- ¹³ Rurality was calculated using 2019 American Community Survey data.
- ¹⁴ Family-level weights were created based on probability of selection from panel and poststratification based on Current Population Survey and American Community Survey benchmarks and were done by age, race and ethnicity, education, number of children in the household, state group by region, area by metropolitan status, family income as a percentage of FPL, primary language spoken in the household, internet access by age, and marital status.
- ¹⁵ Districts that responded to the survey were largely representative of the overall group of MTY districts with a few exceptions. Responding districts were statistically more likely to be in the Southeast region and less likely to be in the Southwest regions. Similarly, large city districts were statistically more likely to respond to the survey.
- ¹⁶ Specifically, 74 percent of respondents were food service coordinators or school nutrition directors. The remaining respondents were largely other school and district staff (e.g., office administrators or school leaders who helped facilitate the program).
- ¹⁷ District characteristics come from the National Center for Education Statistics' Common Core of Data and refer to the 2018–19 school year (the most recently available data).
- ¹⁸ *Native American/Alaska Native* is used throughout this report to reflect the different ways in which people self-identify. The National Center for Education Statistics uses the term *American Indian/Alaska Native*. Our data limit us from being able to identify specific tribal affiliations.
- ¹⁹ Districts that responded to the survey were largely representative of the overall group of MTY districts with a few exceptions. Responding districts were statistically more likely to be in the Southeast region and less likely to be in the Southwest regions. Similarly, large city districts were statistically more likely to respond to the survey.
- ²⁰ Specifically, 74 percent of respondents were food service coordinators or school nutrition directors. The remaining respondents were largely other school and district staff (e.g., office administrators or school leaders who helped facilitate the program).
- ²¹ Most of the participant analysis was done at the household level. The race of the household was determined by the reported race of the parent or guardian completing the survey. However, the race or ethnicity weighting adjustments relied on the enrollment information of the child to determine household race because we did not know the race or ethnicity of the parents or guardians who did not complete the survey.
- ²² The true number of boxes delivered may be slightly higher, as some emergency boxes were split in half due to weight constraints in shipping to Alaska. The number of boxes presented in this report is derived from total number of meals delivered to participants divided by 20 meals as the average box size for eMTY and by 10 meals as the average box size for sMTY.
- ²³ Most participant and household characteristics come from the MTY surveys. We used weights when estimating indicators for families with school-age children that completed each round of our survey, the comparison survey, and in longitudinal analyses of both surveys. These weights helped ensure our population was statistically similar to the overall service population. The weighting considered an oversample of Black,

Hispanic/Latinx, and Asian American populations for the eMTY survey. For more information about weighting and methodology, please see appendix F.

- ²⁴ “Office of the Governor News Release: Kaukau 4 Keiki Partnership to Provide Healthy Foods to Children in Rural Areas This Summer,” June 2021, Hawaii.gov, <https://governor.hawaii.gov/newsroom/office-of-the-governor-news-release-kaukau-4-keiki-partnership-to-provide-healthy-foods-to-children-in-rural-areas-this-summer/>.
- ²⁵ This is a lower-bound estimate from an array of different estimates in Gundersen, Kreider, and Pepper (2012). Unlike us, they used an estimation strategy that resulted in bounds rather than point estimates. This figure comes from dividing the impact estimate of 2.3 percentage points by 20, estimating that NSLP provides 200 meals per year (40 weeks in school times 5 lunches per week).
- ²⁶ A comparison with the continuous measure of food insecurity is not possible as Gundersen, Kreider, and Pepper (2012) only looked at the binary measure of food insecurity.
- ²⁷ All survey results were weighted to reflect the characteristics of the full participant population (see appendix F for more information).
- ²⁸ We calculated a composite measure of program experience based on survey questions asking about respondents’ satisfaction with the variety of items provided in the boxes, whether the boxes included enough food for the intended duration, whether they needed to contact the Baylor customer service team, if they could not eat anything in the box due to allergies or intolerances or for religious reasons, and if any of the boxes they received were damaged. Because damages were fairly widespread, we separated this measure from overall program experience.
- ²⁹ Quinn Klinefelter, “‘There’s No End in Sight’: Mail Delivery Delays Continue across the Country,” National Public Radio, January 22, 2021, <https://www.npr.org/2021/01/22/959273022/theres-no-end-in-sight-mail-delivery-delays-continue-across-the-country>.
- ³⁰ COVID-19–related negative employment impact includes reporting lost job or laid off from a job, furloughed or reduced hours, and/or lost earnings or income. COVID-19–related economic hardship includes putting off major household purchases; using up all or most of savings; taking money out of retirement, college, or other savings accounts; or increasing credit card debt.
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- ³³ “Report to White House: Alaska Economy Devastated by CDC Decision on Cruise Ships,” Office of Governor Mike Dunleavy, April 8, 2021, <https://gov.alaska.gov/newsroom/2021/04/08/report-to-white-house-alaska-economy-devastated-by-cdc-decision-on-cruise-ships/>.
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- ³⁶ Andrew Ujifusa, “Puerto Rico Schools Shut Down after Earthquakes Strike Island,” *EducationWeek* (blog), January 8, 2020, <https://www.edweek.org/education/puerto-rico-schools-shut-down-after-earthquakes-strike-island/2020/01>.

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- ³⁸ “Modifications to Accommodate Disabilities in the School Meal Programs,” Food and Nutrition Service, USDA, September 27, 2016, <https://www.fns.usda.gov/cn/modifications-accommodate-disabilities-school-meal-programs>.
- ³⁹ Lactose intolerance is caused by an inability to fully absorb foods containing lactose, such as milk or other milk products like cheese. Individuals who are lactose intolerant experience digestive symptoms after consuming these foods. The National Institutes of Health reports that more than two-thirds of the global population is lactose intolerant. See “Definition & Facts for Lactose Intolerance,” National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health, February 2018, <https://www.niddk.nih.gov/health-information/digestive-diseases/lactose-intolerance/definition-facts>.
- ⁴⁰ “Meaningful Access for Persons with Limited English Proficiency in the School Meal Programs: Guidance and Q&As,” Food and Nutrition Service, USDA, May 2016, <https://www.fns.usda.gov/cn/meaningful-access-persons-lep-school-meal-guidance-and-qas>.
- ⁴¹ See “Most Common Non-English Languages Spoken by English Learners” in “Our Nation’s English Learners,” US Department of Education, <https://www2.ed.gov/datastory/el-characteristics/index.html#three>.
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- ⁴⁸ Households are the unit of analysis; one household may have had several participants in the program.
- ⁴⁹ This is a random sample proportionate to the number of participating children in the household; for example, a household with two participating children had two chances to be selected.

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