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Food insufficiency and difficulty affording expenses after the end of Supplemental Nutrition Assistance Program emergency allotments in the United States among households with and without children

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Abstract

Objective: Emergency allotments were issued in the Supplemental Nutrition Assistance Program (SNAP), the largest program addressing food insecurity in the United States, during the COVID-19 pandemic. These emergency allotments temporarily increased the amount of monthly food purchasing assistance received by SNAP-participating households. Our aim was to examine the association of the end of SNAP emergency allotments with food insufficiency and difficulty affording expenses, overall and among households with and without children.

Methods: We used March 2021–April 2022 Household Pulse Survey data from respondents in four states that ended emergency allotments in August 2021 (“earlier ender” states) and eight states that ended emergency allotments after the end of the study period (comparison states). We

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Declaration of competing interest

The authors have no conflicts of interest to disclose.

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Anna E. Austin: Writing – review & editing, Writing – original draft, Methodology, Formal analysis, Data curation, Conceptualization. **Stephanie Ettinger de Cuba:** Writing – review & editing, Methodology, Conceptualization. **Courtney N. Maierhofer:** Writing – review & editing, Methodology, Formal analysis, Data curation. **Rebecca B. Naumann:** Writing – review & editing, Methodology, Conceptualization. **May Chen:** Writing – review & editing, Methodology, Conceptualization. **Kayla N. Anderson:** Writing – review & editing, Methodology. **Paul R. Shafer:** Writing – review & editing, Methodology, Conceptualization.

Disclaimer

The findings and conclusions of this study are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

conducted difference-in-differences analyses to compare changes in the risk of food insufficiency and difficulty affording expenses from before to after the end of emergency allotments in August 2021 between SNAP-participating households in “earlier ender” states and comparison states.

Results: Earlier ending of SNAP emergency allotments was associated with a 5.0 percentage point increase in the risk of food insufficiency (risk difference (RD) = 0.05, 95 % confidence interval (CI) 0.03, 0.07) and an 8.0 percentage point increase in the risk of difficulty affording expenses (RD = 0.08, 95 % CI 0.06, 0.09). The increase in the risk of food insufficiency was slightly larger for households with children (RD = 0.06, 95 % CI 0.03, 0.09) than households without children (RD = 0.04, 95 % CI 0.00, 0.08).

Conclusions: SNAP benefit reductions after the end of emergency allotments were associated with difficulty affording food and household expenses among households with and without children.

Keywords

Supplemental Nutrition Assistance Program SNAP; emergency allotments; food insufficiency; food insecurity; material hardship

1. Introduction

Food insecurity, or lack of access to enough food for an active, healthy lifestyle (Rabbit et al., 2024), is a pressing public health issue in the United States. Food insecurity is associated with an increased risk of multiple adverse health-related outcomes for adults and children, including chronic conditions such as diabetes (Te Vazquez et al., 2021), mental health conditions such as depression and anxiety (Pourmotabbed et al., 2020), experiences of violence (Frank et al., 2024), and suicidal behaviors (Frank et al., 2024). Households with children consistently have a higher prevalence of food insecurity than households without children (17.9 % vs. 11.9 % in 2023) (Rabbit et al., 2024). Among children, lack of access to enough food can be conceptualized as an adverse childhood experience (ACE) given its potential to contribute to toxic stress (Leung et al., 2024; Leung et al., 2020), disrupt healthy development (Fiese et al., 2011), and increase the risk of poor physical and mental health into adulthood (Gundersen and Ziliak, 2015).

The Supplemental Nutrition Assistance Program (SNAP) is the largest food and nutrition assistance program in the United States, providing a monthly benefit to eligible low-income households to assist with the cost of food (United States Department of Agriculture, 2022a). For SNAP-participating households, the monthly benefit amount is calculated based on household income, expenses, and size, with maximum benefit amounts set according to household size. Existing research shows that SNAP participation is associated with reductions in food insecurity (Swann, 2017) and difficulties affording other expenses, such as housing, utilities, and healthcare (Evans et al., 2024). At the onset of the COVID-19 pandemic in March 2020, the federal government expanded SNAP in response to rising unemployment and economic insecurity (United States Department of Agriculture, 2022a). Specifically, the Families First Coronavirus Response Act allowed states to issue emergency allotments in SNAP (United States Department of Agriculture, 2022a) Under

emergency allotments, all SNAP-participating households received the maximum monthly benefit possible for their household size (United States Department of Agriculture, 2022a). While this increased benefits for many households, households that were already receiving the maximum benefit possible did not initially experience an increase (United States Department of Agriculture, 2022a). In April 2021, emergency allotments were further expanded to ensure that all SNAP-participating households received a minimum benefit increase of \$95 per month (United States Department of Agriculture, 2022a). At the federal level, SNAP emergency allotments expired in March 2023 with the end of the COVID-19 public health emergency. Although most states continued emergency allotments up to their expiration, 18 states ended emergency allotments earlier, between April 2021 and February 2023 (United States Department of Agriculture, 2022a).

Existing studies (Restrepo, 2023; Austin and Sokol, 2024; Sanjeevi and Monsivais, 2023; Richterman et al., 2023; Wells et al., 2024) have examined the implications of emergency allotments for household food insecurity and food insufficiency, a closely related but narrower construct focused solely on whether a household has enough food to eat (Poblacion et al., 2021). Results from these studies indicate that SNAP emergency allotments were associated with a decreased risk of difficulty affording enough food among SNAP-participating adults early in the pandemic (Restrepo, 2023) and among households with children (Austin and Sokol, 2024). Results also show that the percent of adults reporting that their household did not have enough food to eat increased after states ended emergency allotments early (Sanjeevi and Monsivais, 2023; Richterman et al., 2023) and after emergency allotments expired at the federal level (Wells et al., 2024). Results from one study indicate that difficulty affording household expenses also increased after emergency allotments expired at the federal level (Wells et al., 2024). The potential implications of states ending emergency allotments early for food insufficiency and difficulty affording household expenses among households with and without children have not been examined.

The aim of this study was to examine the association of the end of emergency allotments in SNAP with household food insufficiency and difficulty affording expenses and whether the strength and direction of these associations differed for households with and without children.

2. Methods

2.1. Data source

We used data from the Household Pulse Survey (HPS) (United States Census Bureau, 2024a), a nationally representative, cross-sectional survey administered by the United States Census Bureau and other federal agencies. Beginning April 2020, the HPS was administered every two to four weeks with one adult (ages ≥ 18 years) invited to complete the survey online per sampled household (United States Census Bureau, 2024a). HPS data are publicly available and can be used to produce national and state estimates (United States Census Bureau, 2024a).

2.2. Study period and study population

We used HPS data collected between March 17, 2021 and April 11, 2022 (Phases 3–3.4) from respondents living in 12 states that ended emergency allotments prior to their expiration at the federal level (Fig. 1; Supplemental Table 1). Using the month and year each state ended emergency allotments and returned to regular SNAP benefits, we created treatment and comparison groups of states. The treatment group, hereafter referred to as “earlier ender” states, included four states (Florida, Montana, Nebraska, and South Dakota) that ended emergency allotments in August 2021. The comparison group, hereafter referred to as “comparison” states, included eight states (Iowa, Arizona, Kentucky, Wyoming, Indiana, Georgia, Alaska, South Carolina). These eight states ended emergency allotments prior to their expiration at the federal level, but after the end of our study period (between April 2022 and February 2023). Our study period included 18 total HPS survey weeks. We defined a pre-period as the nine survey weeks before (HPS administration dates March 17, 2021 to August 16, 2021) and a post-period as the nine survey weeks after (HPS administration dates August 18, 2021 to April 4, 2022) the end of emergency allotments in August 2021 in “earlier ender” states. Because the HPS asked about food insufficiency and difficulty affording household expenses in the last seven days, we aligned the start of the post-period with the first HPS administration during which the entire seven day reference period was during or after August 2021 (Supplemental Table 1).

We included only the eight states listed above in the comparison group because these eight states were more similar on economic and policy characteristics to the four “earlier ender” states than states that allowed emergency allotments to expire at the federal level in March 2023 (Supplemental Table 2). In addition, we did not include three states that ended emergency allotments during our pre-period and three states that ended emergency allotments during our post-period to ensure that no policy changes occurred during the pre- and post-periods.

We restricted our study population to HPS respondents who reported that their household received SNAP benefits, as only SNAP-participating households are likely to have been affected by the end of SNAP emergency allotments.

2.3. Outcomes

The HPS assesses food insufficiency with the question, “Getting enough food can be a problem for some people. In the last seven days, which of these statements best describes the food eaten in your household?” Response options include “enough of the kinds of food we wanted to eat,” “enough but not always the kinds of food we wanted to eat,” “sometimes not enough to eat,” and “often not enough to eat.” Consistent with prior research (Bovell-Ammon et al., 2022; Shafer et al., 2022; Berkowitz and Basu, 2021), we considered the latter two responses to indicate household food insufficiency. This single question has been validated as a household-level outcome (Poblacion et al., 2021). While food insecurity is commonly reported in the literature, food insufficiency captures more severe food hardship (i.e., whether a household had enough food to eat) (Poblacion et al., 2021) and is intended to assess rapid changes in household food hardship (i.e., last seven days) (United States Department of Agriculture, 2024).

The HPS assesses difficulty affording household expenses with the question, “In the last seven days, how difficult has it been for your household to pay for usual household expenses, including but not limited to food, rent or mortgage, car payments, medical expenses, student loans, and so on?” Response options include “not at all”, “a little”, “somewhat”, or “very”. We considered responses of “very” to indicate difficulty affording expenses.

2.4. Confounders

To identify potential confounders, we created a conceptual diagram using principles of directed acyclic graphs (Glymour, 2006). Based on this diagram (Supplemental Fig. 1), we adjusted analyses for indicators of the state policy context (state minimum wage, refundable Earned Income Tax Credit rate, maximum Temporary Assistance for Needy Families benefit for a family of three, and Medicaid expansion) and state economic conditions (percent population unemployed and median household income). Though we did not identify individual or household characteristics as potential confounders, given that these characteristics are unlikely to affect when states ended emergency allotments, we also adjusted analyses for respondent race and ethnicity, education, presence of children in the household, and household size, factors that likely affect the outcomes. See Supplemental Table 3 for variable descriptions.

2.5. Statistical analysis

To examine the association of the end of emergency allotments with household food insufficiency and difficulty affording expenses, we conducted two group, two period difference-in-differences analyses (Wing et al., 2018). The HPS has a low response rate, ranging from 3.0 %–14.0 % across included states during our study period, which contributes to substantial week-by-week variation in estimates at the state level (United States Census Bureau, 2024b). Thus, we selected an analytic approach that averaged over survey weeks in the pre- and post-periods rather than a more granular approach, like event studies, that might result in overinterpreting noisy changes in estimates on a week-by-week basis (Peterson et al., 2021).

Our difference-in-differences analyses compared changes in the risk of household food insufficiency and difficulty affording expenses from before (i.e., pre-period) to after (i.e., post-period) the end of emergency allotments between SNAP-participating respondents in “earlier ender” and comparison states. We constructed a linear regression model to calculate risk differences (RDs) and corresponding 95 % confidence intervals (CIs), with standard errors clustered at the state level. We specified the model as follows:

$$Y_{ist} = \beta_0 + \beta_1 \text{EarlierEnder}_{is} + \beta_2 \text{Period}_t + \beta_3 (\text{EarlierEnder} \times \text{Period})_{st} + \beta_4 X_{ist} + \beta_5 X_1 + e_{ist}$$

where i indexes respondents, s indexes states, and t indexes time; Y_{ist} is a binary indicator for household food insufficiency or difficulty affording expenses for respondent i in state s at time t ; EarlierEnder_{is} is a binary indicator for whether respondent i lived in a state that ended emergency allotments in August 2021 or in a comparison state; and Period_t is a binary

indicator for whether the survey responses corresponded to the pre- or post-period. The coefficient for the interaction term between $EarlierEnder_{is}$ and $Period_{it}$, β_3 , is the difference-in-differences estimator and indicates whether the change in the risk of the outcomes from before to after the end of emergency allotments in August 2021 differed for respondents in “earlier ender” and comparison states. The variable X_{st} is a vector of time-varying state policy and economic indicators included to adjust for potential confounding, and X_i is a vector of respondent characteristics. We constructed models overall and separately for households with and without children.

A key assumption in the difference-in-differences approach is the parallel trends assumption, or,

that in the absence of an end to emergency allotments in August 2021, trends in the outcomes would have been similar in “earlier ender” and comparison states. Our assessment of the parallel trends assumption indicated that it was met, conditional on state-level confounders and respondent characteristics (Supplemental Table 4), for all outcomes and sub-groups except for difficulty affording expenses among households with children. Thus, we did not conduct difference-in-differences analyses for difficulty affording expenses among households with children.

We conducted several sensitivity analyses. First, the exact date of the final emergency allotment issuance varied somewhat across states (United States Department of Agriculture, 2022b). Thus, we conducted sensitivity analyses with later start to the post-period (Supplemental Table 1) to allow for additional time between HPS administration and the last emergency allotment issuance. Second, because South Carolina ended emergency allotments in February 2023, close in time to their expiration at the federal level, we conducted sensitivity analyses excluding South Carolina as a comparison state. Last, because the end of the post-period slightly overlapped with the end of emergency allotments in Iowa in April 2022, we conducted sensitivity analyses excluding Iowa as a comparison state.

We conducted analyses in SAS 9.4 and applied survey weights to all analyses. Based on recommendations from the American Statistical Association, we relied on the magnitude of the difference-in-differences estimator and width and location of the corresponding 95 % CIs to interpret results (Wasserstein and Lazar, 2016). Because data were de-identified and publicly available, this study was not considered human subjects research and did not require Institutional Review Board approval.

3. Results

During the study period, there were 5685 SNAP-participating respondents in the four “earlier ender” states and 10,773 in the eight comparison states. The percent of respondents by race and education level was similar in “earlier ender” and comparison states (Supplemental Table 5). The percent of respondents who identified as Hispanic was higher in “earlier ender” states than in comparison states (28.8 % vs. 13.2 % in the post-period). The percent of respondents in households with children (55.7 % vs. 60.5 %) and households

with six or more people (10.7 % vs. 15.4 %) was lower in “earlier ender” states than in comparison states.

At the state level, the percent population unemployed and median household income were similar among respondents in “earlier ender” and comparison states (Supplemental Table 6). The maximum Temporary Assistance for Needy Families benefit for a family of three (\$330.43 vs. \$309.57 in the post-period) and minimum wage (\$9.90 vs. \$7.54) were slightly higher, while the refundable Earned Income Tax Credit rate was lower (0.7 % vs. 14.5 % in the post-period), among respondents in “earlier ender” states than in comparison states. A lower percent of respondents in “earlier ender” states were in a state that had expanded Medicaid (9.6 % vs. 53.1 %).

The percent of respondents in “earlier ender” states that reported household food insufficiency increased from before (i.e., pre-period) to after (i.e., post-period) the end of SNAP emergency allotments in August 2021, overall (22.5 % to 26.5 %) and among those in households with children (21.4 % to 27.5 %) and without children (23.9 % to 25.2 %; Fig. 2, Supplemental Table 7). Similarly, the percent of respondents in “earlier ender” states that reported difficulty affording expenses increased from before to after the end of emergency allotments, overall (30.9 % to 37.9 %) and among those in households with children (34.4 % to 40.5 %) and without children (26.9 % to 34.7 %). In contrast, among respondents in comparison states, who did not experience an end to emergency allotments during the study period, the percent that reported household food insufficiency or difficulty affording expenses remained stable or slightly decreased from the pre to the post-period.

In adjusted difference-in-differences analyses (Table 1, Fig. 3), earlier ending of SNAP emergency allotments was associated with a 5.0 percentage point increase in the risk of food insufficiency among all SNAP-participating households (RD = 0.05, 95 % CI 0.03, 0.07), a 6.0 percentage point increase among SNAP-participating households with children (RD = 0.06, 95 % CI 0.03, 0.09), and a 4.0 percentage point increase among SNAP-participating households without children (RD = 0.04, 95 % CI 0.00, 0.08). Similarly, earlier ending of SNAP emergency allotments was associated with a 8.0 percentage point increase in the risk of difficulty affording expenses (RD = 0.08, 95 % CI 0.06, 0.09) among all SNAP-participating households and a 9.0 percentage point increase (RD = 0.09, 95 % CI 0.05, 0.13) among SNAP-participating households without children.

Results were similar in sensitivity analyses with an alternative start date for the post-period, excluding South Carolina as a comparison state, and excluding Iowa as a comparison state (Supplemental Tables 8–13).

4. Discussion

Our results show that the end of SNAP emergency allotments was associated with an increased risk of food insufficiency and difficulty affording expenses among SNAP-participating households. The risk of food insufficiency increased by 5.0 percentage points and the risk of difficulty affording expenses increased by 8.0 percentage points from before to after the end of emergency allotments among SNAP-participating households in states

that ended emergency allotments in August 2021 compared to those in states that ended them later. We observed a slightly larger increase in the risk of food insufficiency among households with children than among households without children (6.0 vs. 4.0 percentage points). While we were not able to estimate the change in risk of difficulty affording expenses among households with children, the increase in risk was somewhat larger among households without children than among all households (9.0 vs. 8.0 percentage points).

Our results indicating that the risk of household food insufficiency increased after emergency allotments in SNAP ended are consistent with prior studies (Restrepo, 2023; Austin and Sokol, 2024; Sanjeevi and Monsivais, 2023; Richterman et al., 2023; Wells et al., 2024). This increase in risk was slightly larger (6.0 vs. 4.0 percentage points) among households with children than among households without children, though the 95 % CIs for these percentage point increases overlapped. Importantly, even brief or periodic disruptions in access to food during childhood can have implications for lifelong health and well-being (Fiese et al., 2011). Though adults often attempt to protect children from experiencing hunger when they do not have enough food, typically by reducing their own food intake or skipping meals (Coleman-Jensen et al., 2013), children report that they are aware their family is struggling. Children describe adverse emotional effects in this context, including feelings of anger, frustration, anxiety, sadness, and embarrassment about their family's lack of food (Leung et al., 2020). Thus, regardless of whether children experience hunger in the context of household-level food insufficiency, there are potential negative implications for their health and well-being. Further, regardless of whether there are children in the household, food insufficiency among adults can negatively impact their health and well-being (Te Vazquez et al., 2021; Pourmotabbed et al., 2020; Frank et al., 2024).

Prior research indicates that by offsetting the cost of food, SNAP benefits free up household finances for other critical needs (Evans et al., 2024). Additional research shows that when a household's SNAP benefit amount is reduced due to changes in income, the risk of housing instability, difficulty affording utilities, and forgone healthcare increase (Ettinger de Cuba et al., 2019). Our results showing that the risk of difficulty affording household expenses, like rent or mortgage, increased after SNAP emergency allotments ended are consistent with these findings. In our study, the increase in the risk of difficulty affording expenses was larger among households without children than among all households. Households without children are not eligible for some types of food, nutrition, and cash assistance, such as the Special Supplemental Nutrition Program for Women, Infants, and Children and federal or state Child Tax Credits. While we were not able to conduct adjusted difference-in-differences analyses for difficulty affording expenses among households with children, it is notable that four in ten households with children in "earlier ender" states and nearly one in three households with children in comparison states reported that it was very difficult to afford expenses in the post-period. This highlights the magnitude of difficulty affording expenses among low-income households with children. Comprehensive economic supports for households with children are important for ensuring these households can afford the resources essential to promoting child and adult health and well-being (Centers for Disease Control and Prevention, 2019).

In 2023, 47 million people in the United States lived in a household affected by food insecurity, with the prevalence of household food insecurity steadily increasing in recent years (10.2 % in 2021 to 13.5 % in 2023) (Rabbit et al., 2024). Prior to the COVID-19 pandemic, SNAP-participating households reported needing an average of \$42 more per week to be able to afford enough food (Gundersen et al., 2018). With the end of emergency allotments, SNAP-participating households received at least \$95 per month less in SNAP benefits, with some households experiencing a reduction of \$250 or more (Center on Budget and Policy Priorities, 2023). Our results and those from other studies (Restrepo, 2023; Austin and Sokol, 2024; Sanjeevi and Monsivais, 2023; Richterman et al., 2023; Wells et al., 2024) can be used to inform ongoing discussions regarding the adequacy of SNAP benefit amounts for mitigating food insecurity and promoting optimal health and well-being, particularly among households with children. Our results also add to growing research demonstrating the effectiveness of economic supports, such as programs that provide direct cash assistance (Shafer et al., 2022; Raifman et al., 2021), for preventing ACEs, including food insecurity (Centers for Disease Control and Prevention, 2019). Collectively, our results and existing research (Evans et al., 2024; Restrepo, 2023; Austin and Sokol, 2024; Sanjeevi and Monsivais, 2023; Richterman et al., 2023; Wells et al., 2024; Ettinger de Cuba et al., 2019) demonstrate the effectiveness of SNAP, one of the largest social safety net programs in the United States and the largest food and nutrition assistance program in the United States, for reducing food insecurity and other material hardships, highlighting the importance of SNAP for promoting individual, child, and family health and wellbeing.

4.1. Limitations

This study has limitations. First, though we adjusted our difference-in-differences analyses for a.

comprehensive set of state-level confounders and respondent characteristics, there is potential for unmeasured or residual confounding. Second, the HPS is experimental and has a low response rate, resulting in small sample sizes and large standard errors for some sub-groups. Further, while a low response rate is typical of online surveys, this indicates potential for non-response bias. While the HPS weights help to somewhat mitigate this potential bias, they do not fully account for non-response bias within the weighting variables (United States Census Bureau, 2024b). Last, existing research shows that other economic support programs implemented during the COVID-19 pandemic, including the expanded Child Tax Credit in 2021 (Shafer et al., 2022) and unemployment insurance (Raifman et al., 2021), were associated with decreases in household food insecurity and food insufficiency. The Pandemic Electronic Benefit Transfer was also in operation in all study states and provided benefits to households with children for value of school meals missed due to pandemic-related disruptions to in-person school and during the summer. These programs were available to eligible households in both “earlier ender” and comparison states and thus their implementation or expiration likely did not systematically affect our results.

4.2. Conclusions

Throughout the COVID-19 public health emergency, substantial policy changes were implemented to increase benefits and reduce administrative burdens in multiple state and

federal programs, including SNAP. Our results show that the end of emergency allotments in SNAP, which resulted in reductions in the amount of food purchasing assistance received by SNAP-participating households, was associated with increases in food insufficiency and difficulty affording household expenses. Our results also suggest that reductions in SNAP benefit amounts with the end of emergency allotments may have had differential impacts for households with and without children, which is important as food and other material hardships during childhood can affect lifelong health and wellbeing. Given the health and societal costs (Gundersen and Ziliak, 2015), large-scale programmatic and policy strategies to mitigating food and other material hardships, such as expansion of SNAP eligibility and benefits, may also be associated with reductions in other complex public health issues (Naumann et al., 2024). Continued research can inform our understanding of the implications of changes to SNAP access, eligibility, benefits, and administration for basic needs stability and health-related outcomes.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Data availability

The data are publicly available from the U.S. Census Bureau.

Appendix A.: Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.ypmed.2025.108385>.

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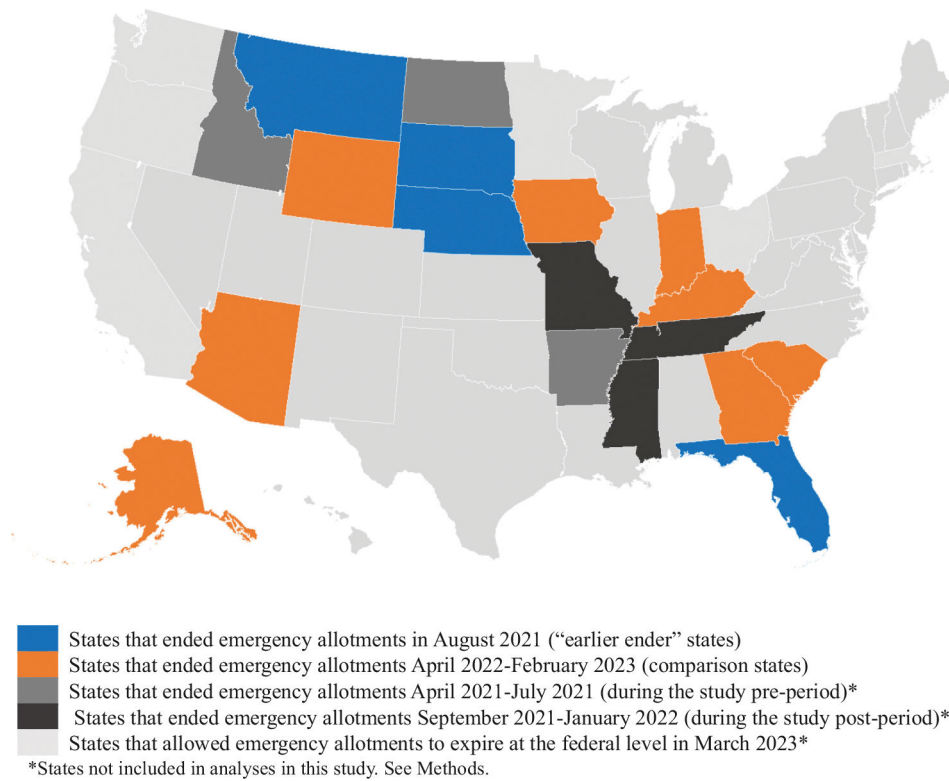
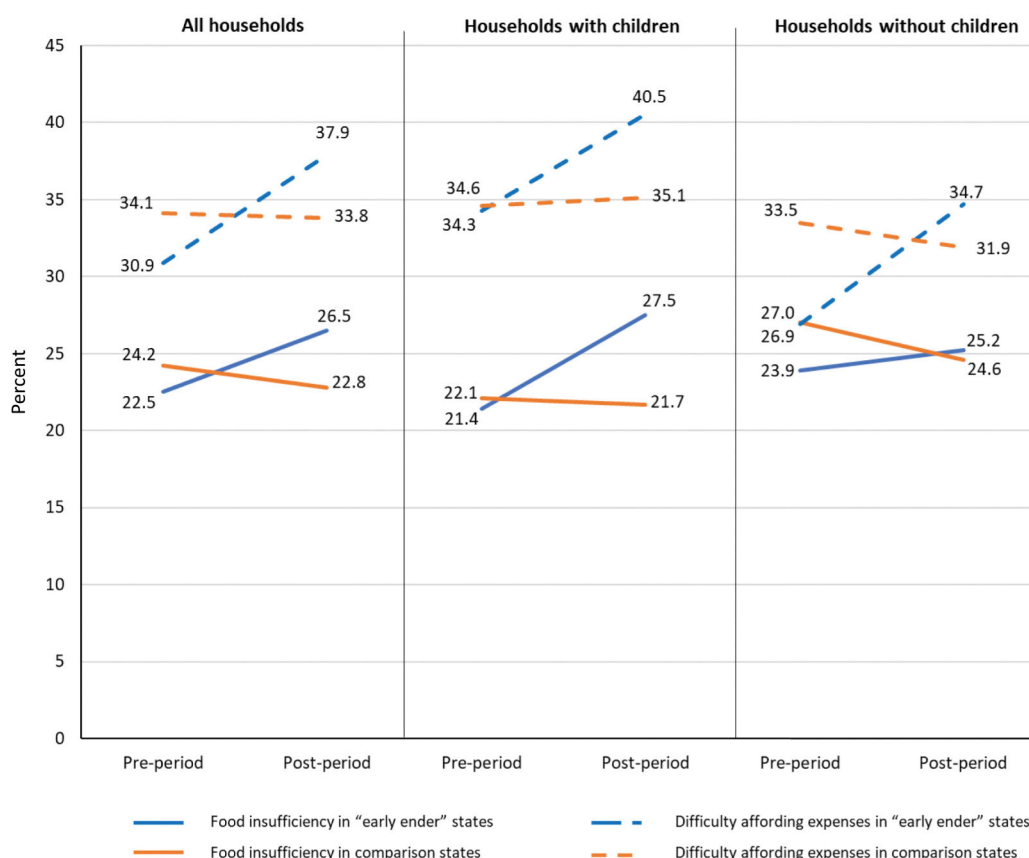


Fig. 1.
States that ended emergency allotments in the Supplemental Nutrition Assistance Program in August 2021 and from April 2022–February 2023, United States.

**Fig. 2.**

Prevalence of food insufficiency^a and difficulty affording expenses^b among Household Pulse Survey respondents in Supplemental Nutrition Assistance Program -participating households, United States March 17, 2021-April 11, 2022.

Note: “Earlier ender” states are states that ended emergency allotments in August 2021 and include Florida, Montana, Nebraska, South Dakota. Comparison states ended emergency allotments from April 2022–February 2023 and include Iowa, Arizona, Kentucky, Wyoming, Indiana, Georgia, Alaska, South Carolina. The pre-period is time prior to the end of emergency allotments in “earlier ender” states in August 2021 and the post-period is time after the end of emergency allotments in “earlier ender” states in August 2021.

^aFood insufficiency was assessed with the question, “Getting enough food can be a problem for some people. In the last seven days, which of these statements best describes the food eaten in your household?”. Food insufficiency was defined as responses of “sometimes not enough to eat” or “often not enough to eat” and was compared to responses of “enough of the kinds of food we wanted to eat” and “enough but not always the kinds of food we wanted to eat”.

^bDifficulty affording expenses was assessed with the question, “In the last seven days, how difficult has it been for your household to pay for usual household expenses, including but not limited to food, rent or mortgage, car payments, medical expenses, student loans, and so on?”. Difficulty affording household expenses was defined as responses of “very” and compared to responses of “not at all”, “a little”, and “somewhat”.

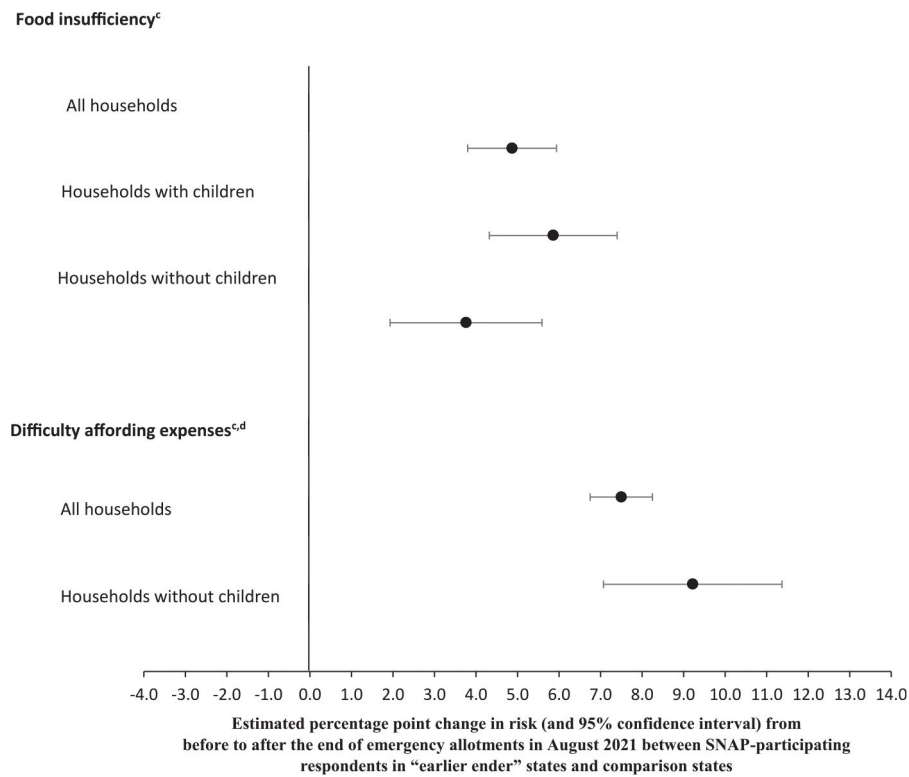


Fig. 3.

Association of the end of Supplemental Nutrition Assistance Program emergency allotments in August 2021 with household food insufficiency^a and difficulty affording expenses^b, United States March 17, 2021–April 11, 2022.

Note: “Earlier ender” states are states that ended emergency allotments in August 2021 and include Florida, Montana, Nebraska, South Dakota. Comparison states ended emergency allotments from April 2022–February 2023 and include Iowa, Arizona, Kentucky, Wyoming, Indiana, Georgia, Alaska, South Carolina, South Carolina).

^aFood insufficiency was assessed with the question, “Getting enough food can be a problem for some people. In the last seven days, which of these statements best describes the food eaten in your household?”. Food insufficiency was defined as responses of “sometimes not enough to eat” or “often not enough to eat” and was compared to responses of “enough of the kinds of food we wanted to eat” and “enough but not always the kinds of food we wanted to eat”.

^bDifficulty affording expenses was assessed with the question, “In the last seven days, how difficult has it been for your household to pay for usual household expenses, including but not limited to food, rent or mortgage, car payments, medical expenses, student loans, and so on?”. Difficulty affording household expenses was defined as responses of “very” and compared to responses of “not at all”, “a little”, and “somewhat”.

^cAdjusted for respondent race, ethnicity, education, children in the household, and household size; state Medicaid expansion, maximum Temporary Assistance for Needy Families benefit for family of three, refundable Earned Income Tax Credit rate, minimum wage, percent population unemployed, and median household income; standard errors clustered at state level.

^dAnalyses not conducted for difficulty affording expenses among households with children because the parallel trends assumption was not met.

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Table 1

Association of the end of Supplemental Nutrition Assistance Program emergency allotments in August 2021 with household food insufficiency^a and difficulty affording expenses^b, United States March 17, 2021-April 11, 2022.

Risk difference for difference-in-difference estimator ^{c,d} (95 % confidence interval)	
Food insufficiency	
All households	0.05 (0.03, 0.07)
Households with children	0.06 (0.03, 0.09)
Households without children	0.04 (0.003, 0.08)
Difficulty affording expenses	
All households	0.08 (0.06, 0.09)
Households with children ^e	-
Households without children	0.09 (0.05, 0.13)

^aFood insufficiency was assessed with the question, “Getting enough food can be a problem for some people. In the last seven days, which of these statements best describes the food eaten in your household?”. Food insufficiency was defined as responses of “sometimes not enough to eat” or “often not enough to eat” and was compared to responses of “enough of the kinds of food we wanted to eat” and “enough but not always the kinds of food we wanted to eat”.

^bDifficulty affording expenses was assessed with the question, “In the last seven days, how difficult has it been for your household to pay for usual household expenses, including but not limited to food, rent or mortgage, car payments, medical expenses, student loans, and so on?”. Difficulty affording household expenses was defined as responses of “very” and compared to responses of “not at all”, “a little”, and “somewhat”.

^cAdjusted for respondent race, ethnicity, education, children in the household, and household size; state Medicaid expansion, maximum Temporary Assistance for Needy Families benefit for family of 3, refundable Earned Income Tax Credit rate, minimum wage, percent population unemployed, and median household income; standard errors clustered at state level.

^dChange in risk of the outcomes from before to after the end of SNAP emergency allotments in August 2021 among SNAP-participating respondents in states that ended emergency allotments in August 2021 (i.e., “earlier ender” states; Florida, Montana, Nebraska, South Dakota) and in states that ended emergency allotments from April 2022-February 2023 (i.e., comparison states; Iowa, Arizona, Kentucky, Wyoming, Indiana, Georgia, Alaska, South Carolina).

^eAnalyses not conducted because the parallel trends assumption was not met for difficulty affording expenses among households with children.