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Use of the Emergency Food System among Food Insecure, Low-income Households in the United States 2015 to 2020

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Abstract

The emergency food system (EFS) is a critical part of the United States' social safety net. Using 2015–2020 Current Population Survey Food Security Supplement data, we identified trends in EFS use among food insecure, low-income households by estimating the probability of EFS use adjusting for demographics using multivariable logistic regression. From 2015–2019, between 31.0% and 34.4% of households received emergency food, while 42.4% did in 2020. EFS use did not increase in 2020 compared to prior years for older adults and non-metropolitan households. Targeted outreach should be used to expand the reach of this resource to underserved and marginalized populations.”

Keywords

Food insecurity; Emergency food; Food assistance; Current Population Survey

Introduction

Food insecurity, which occurs when a household has limited or uncertain access to sufficient amounts of nutritious foods to support an active and healthy lifestyle,⁽¹⁾ can negatively impact both individuals and communities. Individuals who experience food insecurity have a higher risk of developing various nutrition related chronic diseases such as type 2 diabetes, hypertension, cardiovascular disease, and osteoporosis.^(2–4) Individuals who experience food insecurity tend to have higher healthcare costs,^(5, 6) which could further contribute to food insecurity by limiting household resources. When food insecurity elevates healthcare costs at the population level,⁽⁷⁾ there are further implications for communities that bear the brunt of these costs. There are also racial and ethnic inequities around food access,⁽⁸⁾ food security,^(9, 10) and nutrition related chronic diseases^(10–12) likely due to ingrained, societal, and

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systematic factors that are outside of individual control and require large scale solutions to address.

The federal government implements a variety of food assistance programs aimed to meet the food needs of low-income households. The primary governmental program is the Supplemental Nutrition Assistance Program (SNAP), which provides benefits to participants that can be used to purchase qualifying food items through an Electronic Benefits Transfer card. SNAP has been shown to be effective in ameliorating food insecurity, (13, 14) but SNAP's overall effectiveness is limited by low participation rates among some eligible demographic groups,⁽¹⁵⁾ inadequate benefits to completely eliminate food insecurity among participants,^(16–18) and barriers to program participation such as stigma^(17, 19) and administrative burdens.⁽²⁰⁾ Other government programs vary in scope and often target specific demographic groups, for example children (e.g., the National School Lunch Program and School Breakfast Program) or older adults (e.g., the Congregate and Home Delivered Nutrition Services). While there is evidence these programs can be effective at addressing food insecurity,^(21–23) similar issues with access^(24–27) and stigma⁽²⁸⁾ exist with these programs as well.

Because of the persistence of unmet food needs in the United States, the emergency food system (EFS) has stepped in to provide low- or no-cost food to in-need households through community-based organizations.^(29, 30) The terms charitable food system, food banking system, and emergency food system have been used interchangeably and refer to the same system. In the EFS, foods are procured by food banks, which are large organizations that distribute food to client-facing organizations such as food pantries, food programs, or meal sites. The EFS is a complex network of autonomous but interconnected organizations that operate across government (administering The Emergency Food Assistance Program or TEFAP; a United States Department of Agriculture (USDA) nutrition program designed to purchase surplus food from producers and provide it to low-income households), private (securing donated and purchased food from food producers, distributors, and retailers), and non-profit (distributing food to client-facing organizations and clients) sectors to source and distribute food to in need households. To give an idea of the complexity of this system and food sources, a food bank may receive USDA-sourced TEFAP foods, donated shelf-stable items from national producers and retailers, donated produce from a local producer, and purchased produce from a local vendor which are then sorted, packaged, and distributed to a food pantry that provides food to community members. While originally intended to address acute situations of limited food access, such providing food to affected households following a natural disaster, use of the EFS has become increasingly chronic and many households regularly rely upon the EFS to acquire food.⁽³⁰⁾ To give context of the scope of the EFS in the United States, Feeding America, one of the largest food banking organizations in the United States, distributed approximately 5.2 billion meals to more than 40 million people in 2019 with a cost of approximately \$3.4 billion.⁽³¹⁾ In the same year, SNAP served slightly fewer people, approximately 36 million, but provided about \$55.6 billion in benefits to participants.⁽³²⁾

Because EFS use is a function of both need and accessibility, one indicator of the effectiveness of the EFS is the extent to which food insecure households utilize it, especially

in underserved and marginalized populations. In this manuscript, underserved refers to any populations that have been excluded from accessing food assistance services and proper nutrition for any reason and marginalized refers specifically to underserved groups which have been excluded from accessing food assistance services and proper nutrition due to unequal power dynamics and systemic discrimination in the form of racism, sexism, and/or ageism, specifically households led by Black non-Hispanic, Hispanic, female, or aged members.

Use of the EFS has steadily increased over time for all food insecure households from about 20% in 2005⁽³³⁾ to about 28% in 2019,⁽³⁴⁾ with a large increase to 35% during the COVID-19 pandemic in 2020.⁽³⁵⁾ There are also a substantial number of food insecure households that do not use the EFS,⁽³⁵⁾ which may be related to the presence of serious barriers to accessing these resources, including accessibility of services,^(36–38) stigma,⁽³⁹⁾ and the nutritional quality of the foods available.^(29, 40, 41) These barriers could prevent underserved and marginalized groups from receiving emergency food to a greater extent than the general population and result in disparities in use. For example, already marginalized groups may be less likely to engage in behaviors that are stigmatized. Additionally, having limited hours and days of operation may have disproportionate impact on underserved, low-income households without access to reliable transportation or who have a conflicting, non-flexible work schedule. It is unclear the extent to which increasing trends in use of the EFS were similar for members of underserved and marginalized groups. Since the EFS has become an important part of the food safety net in the United States, it is crucial for policymakers and stakeholders in the EFS to understand the extent to which this system is reaching in-need households and the characteristics of who uses and who does not use this resource.

To address the aforementioned gaps in understanding the use of the EFS by low-income, food insecure households in the United States, we analyzed national data collected as part of the Current Population Survey (CPS) between 2015 and 2020. We sought to describe food insecure, low-income households that use the EFS and answer the following research questions: 1) What proportion of low-income, food insecure Americans received food from an emergency food provider between 2015 and 2020? 2) Were there differences in the proportion of low-income, food insecure Americans receiving food from an emergency food provider for subpopulations of interest: households with children, with an older adult household respondent, with a non-white or Hispanic household respondent, with a female household respondent, or households in non-metropolitan areas? and 3) Across survey years, were there differences in receipt of food from an emergency food provider by demographic characteristics such as racial or ethnic identity, educational attainment, participation in government food assistance programs, or household income? Because of the impact food insecurity has on health and well-being, understanding who does and who does not use the EFS among low-income, food insecure Americans can help to identify populations that underuse this resource. This knowledge can be used to implement more effective outreach efforts, help the EFS and other food assistance services better reach underserved and marginalized households and communities, and provide direction for investigating systemic and societal barriers to use.

Methods

Data and Sample

The data for this study came from the CPS Food Security Supplement from 2015 to 2020. The CPS is a monthly survey of the non-institutionalized population conducted by the United States Census Bureau and Bureau of Labor Statistics. The CPS samples about 60,000 Americans yearly and collects data on a wide variety of economic and social characteristics.⁽⁴²⁾ The CPS uses a probability-based, multi-stage, stratified sampling design to generate state-level and nationally representative samples of the noninstitutional population aged 16 years and older.⁽⁴²⁾ The CPS uses a longitudinal design, where each household is surveyed for four consecutive months, not surveyed for the subsequent eight months, and then once again surveyed each month for four rounds, after which their participation in the CPS ends.⁽⁴²⁾ The CPS uses a combination of in-person and telephone interviews depending on the households month in sample and other considerations (e.g., a respondent requests a telephone interview for the first interview at initial contact).⁽⁴²⁾ Generally, in-person interviews take place during the first month of each of 4-month interview period while other months are conducted over the telephone.⁽⁴²⁾ Previous research has shown that interview mode does not significantly affect the validity of the food security measure used in the CPS.⁽⁴³⁾ The CPS interviewer identifies one knowledgeable member of the household to be the “household respondent”.⁽⁴²⁾ The household respondent provides information on themselves (i.e., it is self-reported) and all other members of the household (i.e., it is collected by proxy).

The Food Security Supplement is a supplemental CPS survey that asks a sub-set of households about topics related to unmet food needs. It is co-sponsored by the USDA Food and Nutrition Service and has been annually conducted in December since 2004.⁽⁴²⁾ The CPS provides household- and person-level sampling weights for the Food Security Supplement that adjust for baseline probability of selection, supplement nonresponse, and population characteristics.⁽⁴²⁾

We analyzed data collected between 2015 and 2020. Because of the longitudinal design of CPS, some households complete the Food Security Supplement twice. To reduce the relatedness of responses across years, we only include households who were in the first four-month interview period for each year. Therefore, we can assume each year represents a cross-sectional, independent, and representative sample of the US population. We accessed data through the Integrated Public Use Microdata Series (IPUMS), an online data repository run by the Minnesota Population Center at the University of Minnesota that provides integrated and harmonized data from the CPS from 1962 to present.⁽⁴⁴⁾ Our population of interest consisted of households who made less than 185% of the Federal Poverty Level (FPL) and who were identified as food insecure based on the 18-item USDA food security module.⁽³⁴⁾ Because food acquisition behaviors and food security are generally household-level phenomena, our unit of analysis was the household, and we selected the household respondent to be included in the analytic sample. This resulted in a sample of 8,617 households. We also examined five subpopulations of interest: households with children (n=3,945), households with a household respondent over age 60 (n=2,446), households

with a non-White or Hispanic household respondent (n=3,805), households with a female household respondent (n=5,471), and households in non-metropolitan areas (n=2,144).

Measures

Our primary outcome was use of the EFS based on two survey questions reflecting major sources of emergency food. The two questions are “In the last 12 months, did you or other adults in your household ever get emergency food from a church, a food pantry, or food bank” and “In the last 12 months, did you or other adults in your household ever eat any meals at a soup kitchen or shelter?” Our outcome was a dichotomous indicator where an affirmative response to either question was coded as EFS use and the variable was coded as no EFS use otherwise.

We included variables for year and demographics characteristics to examine the association between these factors and emergency food use. Year was a categorical variable for each year from 2015 to 2020. Household-level demographics characteristics were household size (continuous), income (Under \$20,000, \$20,000-\$29,999, \$30,000-\$39,999, \$40,000+), geographic region (Northeast, South, Midwest, or West), household food security status (low or very low), and participation in food assistance programs (yes/no for each: SNAP in the previous year, Free or Reduced Lunch (FRL) in the previous year, and Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) in the previous month). Respondents who replied they did not know if they participated in a program or who refused to answer the question were coded as not participating in the program. Variables for respondent-level demographic characteristics were based on the household respondent. These were age (34 or younger, 35 to 59, and 60 or older), sex (male or female), racial identification (White; Black; American Indian/Alaskan Native, Asian, Native Hawaiian and other Pacific Islander; or Multiracial), Hispanic ethnicity (Hispanic or non-Hispanic), marital status (married, separated/divorced, widowed, or never married), education (less than high school, high school or equivalent, some college or associates degree, or bachelor’s degree or higher), and employment status (employed, unemployed, or not in labor force). We consider the sex, racial identification, and Hispanic ethnicity variables as proxies for systemic and institutionalized discrimination (whether that be sexism and/or racism), as there are practices and policies within institutions related to food access and food assistance services that may negatively affect individuals and households with these identities.^(45, 46) We do not consider the age variable to be a direct proxy for ageism because of the existence of economic and other supports that influence food access for older adults (e.g., receiving income supports through Social Security retirement benefits) that co-occur alongside systemic and institutionalized discrimination of older adults and our inability to disentangle groups who are and who are not affected by each, but this context should be considered when interpreting results regarding older adults.

Analysis

To examine use of the emergency food system over time, we calculated the unadjusted proportion of emergency food users in each year overall and for each subpopulation of interest. Next, to examine how use of the emergency food system differed by year and demographic characteristics, we used multivariable logistic regression to model use of

the emergency food system as a function of age, marital status, race, Hispanic ethnicity, employment status, participation in governmental food assistance programs, food security status, household income, household size, geographic region, and year. We then calculated the predicated probability of using the emergency food system to produce an adjusted proportion of emergency food users in each year and for each demographic characteristic. To examine if these associations were consistent across different household types, we repeated this analysis with each subpopulation of interest (households with children, households with a household respondent over age 60, households with a non-White or Hispanic household respondent, households with a female household respondent, and households in non-metropolitan areas). We utilized the Food Security Supplement household-level sampling weights for each analysis to account for the complex survey design and non-response bias and all probabilities presented below are weighted percents. Stata 17 was used for all analyses.⁽⁴⁷⁾

Results

Demographic characteristics of the analytic sample

Demographic characteristics of the overall sample and the subpopulations of interest in this study are shown in Table 1. In this sample of food insecure households with incomes less than 185% of the federal poverty level, about half of household respondents were in the 35 to 59 age group, followed by 34 and under with about a third, and the fewest were in the 60 and over age group. Household respondents were mostly female (62.7%), White (67.0%), and non-Hispanic (77.0%). Under half of the household respondents were employed and most households earned under \$20,000 per year. Households were mostly located in South (43.6%), followed by the West (21.2%) and Midwest (21.0%), and the fewest were in the Northeast (14.2%). About 40% of the sample experienced very low food security. Overall, 50% participated in SNAP, about 30% participated in FRL, and 10% in WIC. Participation in nutrition assistance programs increased or decreased in subpopulations where it would be expected due to the household's characteristics. For example, participation in WIC was about 20% in households with children.

Trends in use of the emergency food system between 2015 and 2020

Between 2015 and 2020, approximately 34% (95% confidence interval: 32.7%–35.1%) of low-income, food insecure households received emergency food (See Supplemental Table 1 for unadjusted and adjusted probabilities of using the EFS with 95% confidence intervals for each year and subpopulation between 2015 and 2020). Figure 1 shows the predicted probability of using the EFS for each year adjusting for demographic characteristics and reveals some differences in trends over time for subpopulation groups in 2020. From 2015 to 2019, there were no increases in EFS use overall or for any subpopulation. In 2020, use of emergency food services increased in the overall sample and in households with children, non-White or Hispanic led households, and female led households. However, in older adult led and non-metropolitan households, the predicted probability of using the emergency food system in 2020 were similar to previous years.

Demographic characteristics associated with receiving of emergency food

The estimated predicted probability of using the emergency food system for selected demographic characteristics from multivariable adjusted models are shown in Table 2. The estimated predicted probability of using the EFS for each demographic characteristics from multivariable adjusted models are shown in Supplemental Table 2. In the overall analysis, households led by respondents in the 35 to 59 age group (37.5%) were more likely to use emergency food services than those in the 34 or under group (31.8%) or 60 or older group (29.4%) that had other similar demographic characteristics. There were few differences in use of the emergency food system by age group in the subpopulation analyses. Some differences in use of emergency food services by race and ethnicity were found. Among older adults, Black led households (38.7%) were more likely to use emergency food services versus White led households (29.0%) that had other similar demographic characteristics. In contrast, after adjustment for other demographic factors, among non-metropolitan households, Black led households (26.9%) were less likely to use emergency food services versus White led households (34.2%). Multiracial led household were consistently more likely to use the emergency food system compared to White led households with other similar demographics. Receipt of emergency food was lower in Hispanic-led households (30.3%) versus non-Hispanic households adjusting for other demographics characteristics overall (35.0%), in households with children (28.2% versus 34.7%), and in female led households (30.5% versus 35.9%).

Use of the EFS was not substantially different between households with different levels of educational attainment and income among food insecure, low-income households (Supplemental Table 2). Households where the household respondent was unemployed or not in the labor force had higher use of the EFS when compared to being employed in the overall sample and in most subpopulations after adjusting for demographic characteristics. Some differences in emergency food use by region were found overall and within some subpopulations. To summarize, use was higher among households with similar demographics in the overall sample in the Midwest (38.7%) and West (38.9%) versus the Northeast (32.5%) or South (29.8%) and this was reflected in the subpopulation results. Use of the emergency food system was consistently higher among households experiencing very low food security versus low food security.

Use of the emergency food system was not higher among FRL and WIC participants overall, but use was higher for FRL participants compared to demographically similar non-participants in households with children (35.8% versus 29.4%; Supplemental Table 2). Overall (42.2% versus 25.4%) and in all subpopulations, use of the emergency food system was higher among households that participate in SNAP compared to non-participants after adjusting for demographic characteristics.

Discussion

In the CPS, emergency food use was relatively stable between 2015 and 2019 but increased substantially in 2020. Certain demographic characteristics such as age, racial identity, Hispanic ethnicity, employment status, and geographic region were associated with receipt of emergency food. These results should be used to inform outreach efforts and

investigations into systemic factors that could be acting as barriers for some populations. While there are concerns related to the need for households to chronically utilize these services and how best to address unmet food needs in the United States,^(29, 30) it is also imperative to ensure that the emergency food system has the capacity and resources to meet the food requirements of in-need households now and moving forward.

Previous research showed increasing trends in use of the emergency food system for food insecure households starting from the Great Recession starting in 2007, peaking in 2015, remaining relatively between 2015 and 2019, and increasing in 2020.^(33–35) This is consistent with what was observed in our adjusted analyses where there were no increases between 2015–2019 and then a substantial increase in 2020. The large increase in 2020 may indicate success in increasing the availability and accessibility of the emergency food system along with meeting increasing demand in response to the COVID-19 pandemic.^(48, 49) Emergency food providers responded to the pandemic in several ways to increase accessibility and keep up with rising demand, such as having drive-up or curbside collection, expanding home delivery, and having mobile, pop-up distribution events.^(48, 49) These changes should be evaluated and, if feasible and effective in improving access to healthy foods, funded and sustained in order to increase accessibility of the emergency food system in the future.

Despite the increase in emergency food use in 2020, the majority of low-income, food insecure households did not use these resources in any year, which may be an indication that previously identified barriers, such as stigma and lack of accessibility,^(36–39) are likely still present. Future studies using qualitative methods could explore the emergence of new barriers and facilitators to accessing emergency food resources and the persistence of established barriers and facilitators within the context of COVID-19 and the emergency food system's response. Furthermore, because use of the emergency food system is a function of both need and accessibility, research should examine how changes in the delivery of emergency food persists following the pandemic and the extent to which observed increases in use are sustained.

Increased use of emergency food assistance by food insecure households in 2020 were not seen in all subpopulations, with non-significant results for households led by an older adult and non-metropolitan households. This could be due to fears around exposure to the COVID-19 virus as well as existing barriers to receiving emergency food, such as transportation and geographic access,⁽³⁷⁾ more strongly impacting these households. Additionally, it could be due to a lack of awareness of available resources in these populations, unwillingness to utilize a stigmatized resource, or other factors discouraging use of the EFS. Further outreach should be done with older adults and in non-metropolitan communities to ensure they are aware of the resources available to them and to encourage use of these resources. Strategies that address these populations resources, capacity, and needs, such as home-delivery services and mobile food pantries, should continue to be implemented and evaluated.

When examining the demographic characteristics that were associated with receipt of emergency food, there were demographic differences and non-differences presented here

with a variety of implications. Before discussing differences in EFS use by racial identity and Hispanic ethnicity among food insecure households, it should be noted that in households where the household respondent identifies as Black, non-Hispanic or Hispanic, food insecurity rates in the general population are substantially higher than in White households.⁹ While we only included food-insecure households in this analysis, this disparity is concerning, and this context should be kept in mind when considering these results and their implications on program and policy choices. In our analysis, there did not appear to be differences in emergency food system use between Black and White led households across subpopulations, except in older adult led households where use was higher among Black compared to White led households. In households led by an individual identifying as multiracial, the use was much higher. Concerningly, households led by an individual who identified as Hispanic were less likely to use the emergency food system in comparison to non-Hispanic led households. Both organizational (e.g., not having Spanish language resources available; lacking culturally appropriate food) and structural (e.g., fears related to use of public services, law enforcement, and immigration status) barriers to using the emergency food system by Hispanic population have been identified in previous research,⁽³⁸⁾ and may have been especially salient in the time period analyzed. Finally, use was lower in households in the South and Northeast compared to the Midwest and West. In practice, efforts should be made by policymakers and emergency food providers to ensure the emergency food system is accessible in the Northeastern and Southern United States and to reduce the disparity in use between Hispanic and non-Hispanic households.

Use of the emergency food system was consistently higher among SNAP participants. Furthermore, use of EFS was higher among FRL participants in households with children. These findings may be due to outreach efforts and interventions which aim to connect households with government programs and the emergency food system. These results may also reflect that the users of one form of assistance may be more likely to use another resource for a variety of reasons that we are not able to explore with this data. Interpreting these results is further complicated by the fact that not all households are eligible for government food assistance programs. Additional research is needed to understand the reasons for lower use of emergency food resources in food insecure households who do not participate in government food assistance. Special, targeted efforts are needed to ensure food insecure households not participating in government programs have access to and use emergency food assistance.

There are some limitations that should be considered when interpreting these results. We defined use of the emergency food system as receiving food from a food pantry, food bank, church, or meal site in the previous year, which does not necessarily capture every part of the emergency food system, for example, emergency food received in a non-traditional setting such as a hospital or school. Despite this, food pantries, food banks, churches, and meal sites are the predominant emergency food providers in the United States. This analysis excludes households with unmet food needs that do not meet USDA's criteria of food insecurity, specifically those experiencing marginal food security. Further analysis with this population is warranted. Additionally, food insecurity is a multi-dimensional construct, and the USDA 18-item food security module does not capture all dimensions of food insecurity.⁵⁰ Therefore households may be excluded from this analysis because

they have limited accessibility due to factors not examined in the USDA module, such as geographic access to retailers that offer affordable, healthy foods. Incorporating measures of food insecurity (e.g., adding geographic measures of food availability alongside the USDA module) in research that better capture its multidimensional nature would provide valuable information in assessing use of governmental and emergency food assistance programs and services. Finally, while we examined non-metropolitan households as one of our subpopulations of interest, there are limitations of metropolitan status regarding understanding how the level of urbanity and rurality influences use of the emergency food system. There are differences between non-metropolitan communities relevant to use of the emergency food system which are not able to be assessed in this analysis, e.g., those residing in remote rural locations with no metropolitan area within reasonable driving distance may have different access to and use of emergency food assistance compared to those residing in small towns within driving distance to a metropolitan area. Further research using a more detailed measure of the urban-rural continuum is needed to examine the impact of urbanity and rurality on emergency food system use.

Conclusion

These results demonstrate the extent to which use of the emergency food system increased in food insecure households in 2020 and highlight demographic characteristics associated with use between 2015 and 2020. Increased use in 2020 may have been, at least partially, due to increased accessibility coming from organizational and policy responses to the COVID-19 pandemic. Importantly, increases in use of the emergency food system in 2020 among the subpopulations examined were similar with the exception of households led by older adults and non-metropolitan households where use remained consistent with previous years. Policymakers and emergency food providers need to ensure that the emergency food system has the resources and capacity to continue to meet needs of low-income food insecure households as well as expand its reach.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Abbreviations:

CPS	Current Population Survey
EFS	Emergency Food System

FPL	Federal Poverty Level
FRL	Free or Reduced Lunch
IPUMS	Integrated Public Use Microdata Series
WIC	Special Supplemental Nutrition Program for Women, Infants, and Children
SNAP	Supplemental Nutrition Assistance Program
USDA	United States Department of Agriculture

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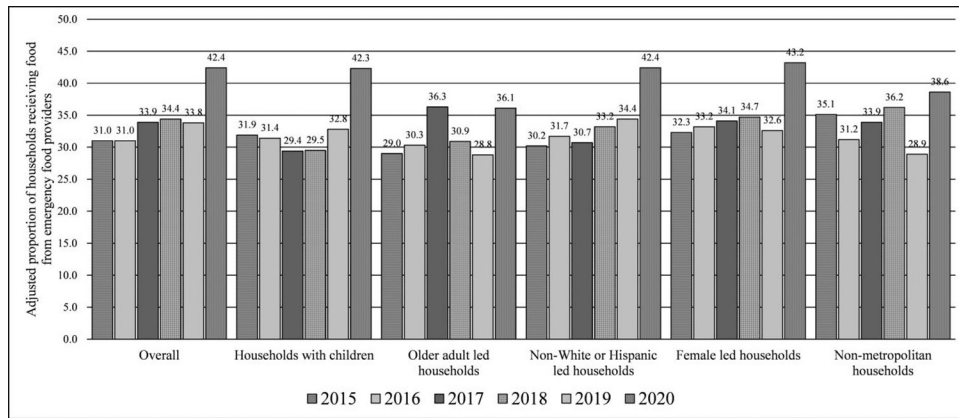


Figure 1. Adjusted probability of receiving emergency food for food insecure households in the United States with incomes less than 185% of the federal poverty level between 2015 and 2020 overall (n=8,617) and for households with children (n=3,945), households with a household respondent over age 60 (n=2,446), households with a non-White or Hispanic household respondent (n=3,805), households with a female household respondent (n=5,471), and households in non-metropolitan areas (n=2,144) from 2015–2020 Current Population Survey Food Security Supplement data

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Table 1.

Demographic characteristics as weighted mean±standard deviation or weighted proportion for food insecure households with incomes less than 185% of the federal poverty level and for subpopulations of interest between 2015 and 2020 from 2015–2020 Current Population Survey Food Security Supplement data

Characteristic	Overall (n=8,617)	Household with children (n=3,945)	Older adult led household (n=2,446)	Non-White or Hispanic led household (n=3,805)	Female led household (n=5,471)	Non-metropolitan household (n=2,144)
Household size, mean±standard deviation	2.7±1.5	3.9±1.3	1.8±1.2	2.9±1.5	2.7±1.5	2.5±1.7
Age, %						
34 or under	27.5	35.3	0.0	31.2	28.5	23.0
35 to 59	47.9	55.0	0.0	47.5	47.3	48.4
60 or over	24.6	9.7	100.0	21.3	24.2	28.5
Marital status, %						
Married	26.9	38.5	21.5	28.0	21.9	26.6
Separated/divorced	29.0	24.2	36.4	23.4	31.5	33.8
Widowed	9.0	5.6	26.3	7.2	11.4	11.8
Never married	35.1	31.7	15.8	41.3	35.2	27.8
Sex, %						
Male	37.3	27.8	38.4	36.6	0.0	39.2
Female	62.7	72.2	61.6	63.4	100.0	60.8
Race, %						
White	67.0	67.3	69.0	37.6	66.0	77.0
Black	25.0	24.6	24.2	47.2	26.5	16.2
AI/AN, Asian, NHPI	5.0	5.4	4.1	9.5	4.4	4.5
Multiracial	3.0	2.7	2.7	5.7	3.1	2.3
Hispanic ethnicity, %						
Yes	23.0	30.2	16.2	43.4	22.4	7.4
No	77.0	69.8	83.8	56.6	77.6	92.6
Education level, %						
Less than high school	24.6	24.8	30.3	30.6	22.3	24.7
High school or equivalent	33.8	33.8	32.0	32.1	32.9	40.5
Some college or associates degree	31.8	32.2	27.2	28.3	34.6	29.6

Characteristic	Overall (n=8,617)	Household with children (n=3,945)	Older adult led household (n=2,446)	Non-White or Hispanic led household (n=3,805)	Female led household (n=5,471)	Non-metropolitan household (n=2,144)
Bachelor's or higher	9.8	9.2	10.5	9.0	10.2	5.2
Yearly income, %						
Under \$20,000	57.5	42.4	68.9	58.4	57.9	62.3
\$20,000 to \$29,999	22.8	24.5	21.8	21.5	22.8	20.8
\$30,000 to \$39,999	12.6	19.5	6.7	12.6	12.8	12.0
\$40,000+	7.1	13.6	2.6	7.5	6.5	4.9
Employment status, %						
Employed	43.5	55.8	13.5	47.7	43.3	36.3
Unemployed	7.4	7.7	3.7	8.0	6.3	6.2
Not in labor force	49.1	36.5	82.8	44.3	50.4	57.5
Region, %						
Northeast	14.2	14.2	15.4	13.5	14.5	7.9
Midwest	21.0	20.8	18.4	15.8	21.6	26.0
South	43.6	42.4	45.9	47.0	43.6	51.3
West	21.2	22.6	20.3	23.7	20.3	14.8
Food security status, %						
Low	59.2	68.3	57.0	63.1	60.1	57.7
Very low	40.8	31.7	43.0	36.9	39.9	42.3
Free or Reduced Lunch participant, %						
No	73.3	47.7	93.0	69.2	68.7	73.6
Yes	26.7	52.3	7.0	30.8	31.3	26.4
WIC [‡] participant, %						
No	91.3	83.2	98.9	89.1	90.7	91.9
Yes	8.7	16.8	1.1	10.9	9.3	8.1
SNAP [‡] participant, %						
No	50.7	44.4	53.9	49.0	46.6	51.6
Yes	49.3	55.6	46.1	51.0	53.4	48.4

*: AI/AN, Asian, NHPI, American Indian/Alaskan Native, Asian, Native Hawaiian and other Pacific Islander

[‡]: WIC, Special Supplemental Nutrition Program for Women, Infants, and Children

*SNAP, Supplemental Nutrition Assistance Program

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Table 2.

Predicated probability of receiving emergency food for food insecure households in the United States with incomes less than 185% of the federal poverty level for selected demographic characteristics between 2015 and 2020 from 2015–2020 Current Population Survey Food Security Supplement data

Characteristic	Overall (n=8,617)	Household with children (n=3,945)	Older adult led household (n=2,446)	Non-White or Hispanic led household (n=3,805)	Female led household (n=5,471)	Non-metropolitan household (n=2,144)
Age, %						
34 or under	31.8 [29.2, 34.5]	29.8 [26.8, 32.9]	N/A	31.7 [28.0, 35.4]	33.7 [30.3, 37.1]	28.1 [22.3, 33.8]
35 to 59	37.5 [35.8, 39.2]	34.5 [32.2, 36.9]	N/A	36.0 [33.5, 38.6]	39.0 [36.8, 41.2]	37.6 [34.0, 41.1]
60 or over	29.4 [27.1, 31.8]	33.7 [28.1, 39.3]	N/A	31.1 [27.2, 35.0]	28.0 [25.1, 31.0]	32.4 [27.6, 37.3]
Race, %						
White	32.6 [31.2, 33.9]	32.7 [30.7, 34.7]	29.0 [26.6, 31.5]	30.8 [25.3, 36.2]	33.3 [31.6, 35.1]	34.2 [31.4, 37.0]
Black	35.9 [33.2, 38.7]	31.5 [27.6, 35.5]	38.7 [33.6, 43.9]	34.6 [30.3, 38.8]	36.2 [32.8, 39.6]	26.9 [20.7, 33.0]
AI/AN, Asian, NHPI*	32.3 [27.1, 37.5]	30.8 [23.3, 38.4]	27.5 [15.8, 39.1]	31.2 [25.7, 36.7]	34.4 [27.4, 41.4]	43.0 [30.3, 55.6]
Multiracial	49.4 [42.4, 56.4]	51.0 [39.7, 62.3]	44.7 [30.3, 59.1]	47.1 [39.6, 54.6]	52.7 [43.8, 61.7]	56.0 [41.0, 70.9]
Hispanic ethnicity, %						
No	35.0 [33.6, 36.3]	34.7 [32.6, 36.8]	32.0 [29.7, 34.4]	34.6 [30.8, 38.4]	35.9 [34.2, 37.6]	34.2 [31.6, 36.7]
Yes	30.3 [27.6, 33.0]	28.2 [24.9, 31.5]	30.3 [24.0, 36.6]	32.2 [26.9, 37.4]	30.5 [27.2, 33.9]	30.9 [22.4, 39.5]
Employment status, %						
Employed	29.4 [27.5, 31.3]	29.6 [27.3, 32.0]	27.6 [21.4, 33.8]	28.7 [26.0, 31.4]	30.8 [28.4, 33.3]	30.7 [26.4, 35.1]
Unemployed	36.5 [32.1, 40.9]	37.1 [30.7, 43.6]	32.2 [20.5, 43.9]	38.2 [31.8, 44.6]	38.0 [32.0, 44.1]	39.0 [29.1, 48.9]
Not in labor force	37.3 [35.5, 39.1]	36.2 [33.2, 39.1]	32.4 [30.0, 34.7]	37.6 [34.8, 40.4]	37.5 [35.3, 39.8]	35.2 [31.8, 38.6]
Region, %						
South	29.8 [28.1, 31.4]	28.0 [25.6, 30.5]	29.0 [25.9, 32.0]	29.1 [26.7, 31.5]	30.4 [28.3, 32.5]	30.2 [26.8, 33.7]
Northeast	32.5 [29.3, 35.6]	33.1 [28.4, 37.8]	28.7 [23.1, 34.3]	33.4 [28.3, 38.4]	33.8 [29.8, 37.8]	32.2 [23.7, 40.8]
Midwest	38.7 [36.1, 41.4]	39.2 [35.3, 43.2]	35.2 [30.2, 40.3]	40.5 [35.8, 45.2]	40.1 [36.7, 43.4]	39.0 [34.0, 44.0]
West	38.9 [36.2, 41.5]	35.6 [31.9, 39.2]	37.8 [32.6, 42.9]	38.2 [34.3, 42.1]	39.4 [35.9, 42.9]	38.8 [32.6, 45.0]
Food security status, %						
Low	29.0 [31.6, 34.6]	28.4 [26.3, 30.4]	28.4 [25.6, 31.2]	29.1 [26.9, 31.2]	30.8 [28.9, 32.6]	29.0 [26.0, 32.1]
Very low	40.8 [38.9, 42.7]	41.8 [38.6, 45.0]	36.1 [32.8, 39.5]	41.1 [38.1, 44.1]	40.6 [38.2, 43.0]	40.3 [36.5, 44.1]
SNAP [†] participant, %						
No	25.4 [23.8, 27.0]	24.4 [21.8, 26.9]	23.8 [21.0, 26.6]	26.1 [23.6, 28.5]	26.0 [23.8, 28.1]	24.9 [21.7, 28.2]

Characteristic	Overall (n=8,617)	Household with children (n=3,945)	Older adult led household (n=2,446)	Non-White or Hispanic led household (n=3,805)	Female led household (n=5,471)	Non-metropolitan household (n=2,144)
Yes	42.2 [40.4, 44.0]	39.0 [36.5, 41.5]	40.8 [37.3, 44.3]	40.4 [37.8, 43.0]	42.1 [39.9, 44.3]	43.1 [39.2, 46.9]

*: AI/AN, Asian, NHP, American Indian/Alaskan Native, Asian, Native Hawaiian and other Pacific Islander

‡: SNAP, Supplemental Nutrition Assistance Program

Predicted probabilities were calculated from multivariable logistic regression models predicting use of the emergency food system as a function of age, marital status, race, Hispanic ethnicity, employment status, participation in governmental food assistance programs, food security status, household income, household size, geographic region, and year. All models were weighted to account for the survey design and non-response.