The State of Senior Hunger in America in 2019

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The State of Senior Hunger in America in 2019: An Annual Report

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EXECUTIVE SUMMARY

In this report, we provide a broad overview of the extent and distribution of food insecurity among seniors (those 60 years of age and older) in the United States in 2019, along with trends over the past two decades using national, state-level, and metropolitan-level data from the December Supplement to the Current Population Survey (CPS).

We concentrate on two measures of food insecurity: food insecurity and very low food security (VLFS). These are based on the full set of 18 questions in the Food Security Supplement (FSS), the module used by the United States Department of Agriculture (USDA) to establish the official food insecurity rates of households in the United States. We define food insecurity by three or more affirmative responses and very low food security as eight or more affirmative responses in households with children and six or more in households without children. One should note that all VLFS persons are also included in the food insecure category.

Specifically, in 2019, we find that:

- Out of 74 million persons age 60 and over, 7.1% are food insecure and 2.6% are VLFS. This translates into 5.2 million and 1.9 million seniors, respectively.
- From 2018 to 2019, there was not a statistically significant change in food insecurity or VLFS.
- Compared to 2001, the fraction of food insecure and VLFS seniors increased by 38% and 84%. The number of seniors in each group rose 128%, and 213%, which also reflects the growing population of seniors.
- Continuing with historic trends documented in prior reports, we find that food insecurity is greatest among racial or ethnic minorities, those with lower incomes, those who are younger (ages 60-69), and those who are renters.
- State-level food insecurity rates range from a high of 13.5% (District of Columbia) to a low of 2.9% (Minnesota).
- Metro-level food insecurity rates range from a high of 13.7% (Memphis) to a low of 2.3% (Minneapolis/St. Paul).

Despite the strong economy and financial markets in 2019, millions of seniors in the United States went without enough food due to economic constraints, and unlike the population overall, senior rates of food insecurity still have not returned to their pre-Great Recession levels. At this writing, the nation is still in the midst of the COVID-19 health pandemic, with devastating costs in terms of loss of life and economic livelihoods. While this health shock is affecting all walks of life, based on the findings regarding food insecurity and health in Gundersen and Ziliak (2020), food-insecure seniors are a group of particular concern given their poor health outcomes put them at greater risk. This risk is particularly acute among those seniors experiencing VLFS, the ranks of which have especially swelled since 2001.

I.   FOOD INSECURITY IN 2019

We document the state of hunger among senior Americans ages 60 and older in 2019 using data from the most recently available Current Population Survey (CPS). This is part of a series of reports on food insecurity among seniors, which began with Ziliak et al. (2008) and has been produced annually since 2012. In December of each year, households respond to a series of 18 questions (10 questions if there are no children present) that make up the Food Security Supplement (FSS) in the CPS (see the Appendix for more details on the CPS and FSS). Each question is designed to capture some aspect of food insecurity and, for some questions, the frequency with which it manifests itself. Respondents are asked questions about their food security status in the last 30 days, as well as over the past 12 months. Following the standard approach used by the USDA, we focus on the questions referring to the past year. Appendix Table 2 presents selected summary statistics for the CPS sample, adjusted using the FSS survey weight to make the sample nationally representative among adults age 60 and over.

Based on the full set of 18 questions in the FSS, the module used by the USDA to establish the official food insecurity rates of households in the United States, we concentrate on two measures: food insecurity (three or more affirmative responses) and very low food security (VLFS; eight or more affirmative responses in households with children; six or more in households without). One should note that all VLFS seniors are also included in the food insecure category and, thus, VLFS seniors constitutes a subset of food insecure seniors. Another measure, marginal food insecurity (one or more affirmative responses), is included in Appendix Tables 3a-e.)

In Table 1, we present estimates of food insecurity among seniors in 2019. We find that 7.1% were food insecure (5.2 million seniors) and 2.6% were VLFS (1.9 million seniors). The table also presents estimates of food insecurity across selected socioeconomic categories. Here we see great heterogeneity across the senior population. For example, for those with incomes below the poverty line, 32.1% were food insecure and 13.1% were VLFS. In contrast, for seniors with incomes greater than twice the poverty line, these numbers fall dramatically to 2.6%, and 0.9%. Turning to race, white seniors have food insecurity rates that are less than half the rates for Black seniors. Similarly, Hispanics (of any racial category) have food insecurity rates that are just over twice the rates of non-Hispanics.

Table 1. The Extent of Senior Food Insecurity in 2019		
	Food Insecure	Very Low Food Secure
Overall	7.1%	2.6%
By Income		
Below the Poverty Line	32.1	13.1
Between 100% and 200% of the Poverty Line	15.8	5.4
Above 200% of the Poverty Line	2.6	0.9
Income Not Reported	5.1	1.9
By Race		
White	5.9	2.2

Black	15.2	5.6
Asian American, Pacific Islander, Native American, and people who identify as multi-racial	8.0	3.1
By Hispanic Status		
Hispanic	13.5	4.5
Non-Hispanic	6.4	2.4
By Marital Status		
Married	3.8	1.2
Widowed	8.9	3.6
Divorced or Separated	13.9	5.7
Never Married	13.6	4.4
By Metropolitan Location		
Non-Metro	8.3	2.6
Metro	6.8	2.6
By Age		
60-64	9.2	3.7
65-69	7.1	2.7
70-74	7.2	2.4
75-79	5.3	1.7
80 and older	4.5	1.6
By Employment Status		
Employed	4.4	1.4
Unemployed	14.8	2.6
Retired	5.9	2.2
Disable[1]d	22.5	9.4
By Gender		
Male	6.3	2.2
Female	7.6	2.9
By Grandchild Present		
No Grandchild Present	6.6	2.5
Grandchildren Present	15.5	3.8
By Homeownership Status		
Homeowner	4.7	1.6
Renter	18.3	7.3
By Veteran Status		
Veteran	5.1	1.9
Not a Veteran	7.4	2.7
By Disability Status[2]		
Without a disability	4.9	1.7
With a disability	13.3	5.3

Source: Authors' calculations from 2019 December Current Population Survey. The numbers in the table show the rates of food insecurity under two measures for various groups. [1]Disabled employment status means the person is out of the labor force because of a disability or other reason. [2]Disability status refers to those with limitations on select activities of daily living.

Food insecurity among divorced or separated seniors is more than three times greater than married seniors. As age increases, food insecurity rates generally fall. For example, seniors between the ages of 60 and 64 have food insecurity and VLFS rates that are over twice those 80 and older. In terms of employment categories, food insecurity rates are nearly four times higher among those who report being disabled as the reason for being out of the labor force in comparison to the retired. For VLFS the difference is over four times higher. For seniors with a grandchild present, food insecurity rates for both measures are substantially higher than when no grandchildren are present. Seniors who are renters have much higher rates of both food insecurity and VLFS in comparison to homeowners. Non-Veteran seniors have slightly higher food insecurity and VLFS rates than seniors who are Veterans. Starting last year, we included a new measure of disability in addition to the one tied to labor force participation noted above. This measure defines an individual as having a disability if they report any of the following disabilities: hearing, visual, cognitive, ambulatory, self-care, independent living. Seniors with disabilities have food insecurity rates almost three times higher and VLFS rates more than three times higher as those without a disability.

Table 1 allows us to see the proportions of persons within various categories who are food insecure and, with this information, we can make statements about who is most in danger of being food insecure. For example, those with lower incomes are more likely to be food insecure than those with higher incomes. Also, of interest is the distribution of senior hunger. In other words, out of those who are food insecure, what proportion fall into a particular category? We present these results in Table 2.

As seen in Table 2, the majority of seniors in either food insecurity category have incomes above the poverty line. For example, out of those reporting income, almost two in three food-insecure seniors have incomes above the poverty line. A similar story holds for race—while Black seniors are at greater risk of food insecurity under either measure than white seniors, almost seven in ten food-insecure seniors are white. Despite the lower food insecurity rates among older seniors, 10.4% of food-insecure seniors are over the age of 80; the figure is 10.1% for VLFS. And while the rates of food insecurity are lowest for retired persons, they make up a large portion of both categories—50.7%, and 50.4%. However, one area where higher probabilities among a category also results in higher proportions in Table 2 is for disability; 52.3% of VLFS seniors have a disability.

Table 2. The Distribution of Senior Food Insecurity in 2019		
	Food Insecure	Very Low Food Secure
By Income		
Below the Poverty Line	28.6%	31.7%
Between 100% and 200% of the Poverty Line	31.1	29.0
Above 200% of the Poverty Line	18.0	16.6
Income Not Reported	22.3	22.7
By Race		
White	69.5	68.8
Black	22.9	23.1

Asian American, Pacific Islander, Native American, and people who identify as multi-racial	7.6	8.1
By Hispanic Status		
Hispanic	17.6	16.2
Non-Hispanic	82.4	83.8
By Marital Status		
Married	31.3	26.7
Widowed	23.0	25.5
Divorced or Separated	31.0	34.7
Never Married	14.7	13.0
By Metropolitan Location		
Non-Metro	18.9	16.3
Metro	81.1	83.7
By Age		
60-64	36.7	39.4
65-69	23.4	24.1
70-74	19.5	17.9
75-79	10.0	8.5
80 and older	10.4	10.1
By Employment Status		
Employed	18.7	15.8
Unemployed	1.5	0.7
Retired	50.7	50.4
Disabled*	29.0	33.0
By Gender		
Male	41.1	39.3
Female	58.9	60.7
By Grandchild Present		
No Grandchild Present	89.9	93.3
Grandchildren Present	10.1	6.7
By Homeownership Status		
Homeowner	54.5	50.3
Renter	45.5	49.7
By Veteran Status		
Veteran	10.4	10.8
Not a Veteran	89.6	89.2
By Disability Status**		
Without a disability	52.0	47.7
With a disability	48.0	52.3

Source: Authors' calculations from 2019 December Current Population Survey. The numbers in the table show the distribution of food insecurity under two measures for various groups. *Disabled employment status means the person is out of the labor force because of a disability or other reason. **Disability status refers to those with limitations on select activities of daily living.

In Table 3, we present state-level estimates of senior food insecurity for 2019 based on averages of 2018-2019 data. The range for food insecurity spans from 2.9% in Minnesota to 13.5% in the District of Columbia and, for VLFS, from 0.8% in North Dakota to 5.4% in New Mexico.[1]

Table 3. State-Level Estimates of Senior Food Insecurity in 2019

	Food Insecure	Very Low Food Secure		Food Insecure	Very Low Food Secure
AL	9.4%	4.2%	MT	4.4%	1.8%
AK	6.7	3.5	NE	4.6	1.6
AZ	8.5	2.4	NV	8.9	4.5
AR	8.2	4.4	NH	3.2	1.1
CA	6.3	1.9	NJ	6.4	2.0
CO	9.3	4.1	NM	12.4	5.4
CT	8.3	3.2	NY	7.3	2.6
DE	6.5	2.5	NC	7.5	3.2
DC	13.5	4.1	ND	3.3	0.8
FL	6.7	3.0	OH	7.2	2.0
GA	8.3	3.1	OK	8.3	2.8
HI	4.2	1.4	OR	4.0	1.9
ID	4.3	2.1	PA	6.2	2.5
IL	7.0	3.0	RI	5.3	1.6
IN	8.0	3.6	SC	8.5	2.8
IA	5.2	2.8	SD	5.0	1.5
KS	8.8	3.2	TN	6.5	2.8
KY	10.4	2.2	TX	10.4	3.6
LA	9.9	5.2	UT	6.6	2.0
ME	6.0	3.7	VT	4.8	1.8
MD	5.1	2.6	VA	6.2	2.7
MA	5.5	1.5	WA	6.2	2.0
MI	5.8	1.0	WV	9.9	4.0
MN	2.9	1.5	WI	4.7	1.2
MS	11.7	4.4	WY	5.7	1.9
MO	7.3	3.2			

Source: Authors' calculations. The numbers are two-year averages found by summing the number of food-insecure seniors in each category by state across the 2018-2019 December Current Population Surveys and dividing by the corresponding total number of seniors in each state across the two years.

In the maps below we highlight the ten states with the highest rates of senior hunger in 2019. For food insecurity, all states are located in the South and West. The same holds for VFLS, with the notable exception of Maine. There is some movement in the top ten classifications from one year to the next both because of changes in economic circumstances within states and variation from

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[1] A common measure of dispersion or inequality is the coefficient of variation (CV), which measures the ratio of the standard deviation of an outcome to the mean value of the outcome. The cross-state CV for food insecure persons ages 60+ is 0.34, and the corresponding CV for VLFS is 0.41.

survey sample sizes, but overall, many of the states consistently appear. For example, eight of the ten states with the highest rates of food insecurity were on the list last year and seven of the ten states with the highest rates of VLFS were on the list last year.
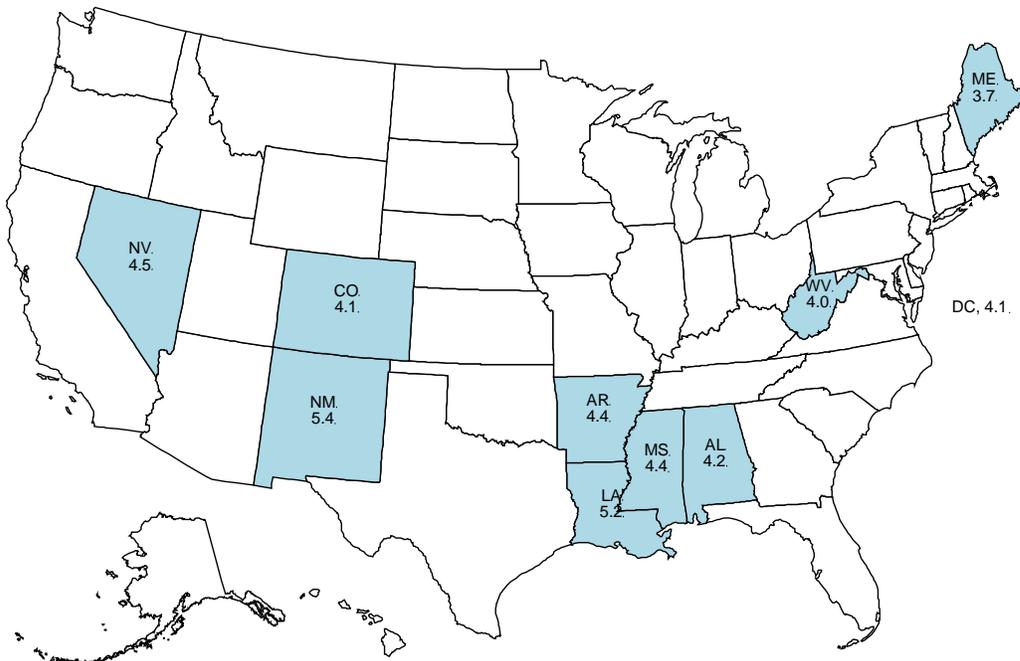
Map 1: Top 10 States with the Highest Rates of Senior Food Insecurity in 2019

Top 10 States for Rates of Food Insecurity among Seniors
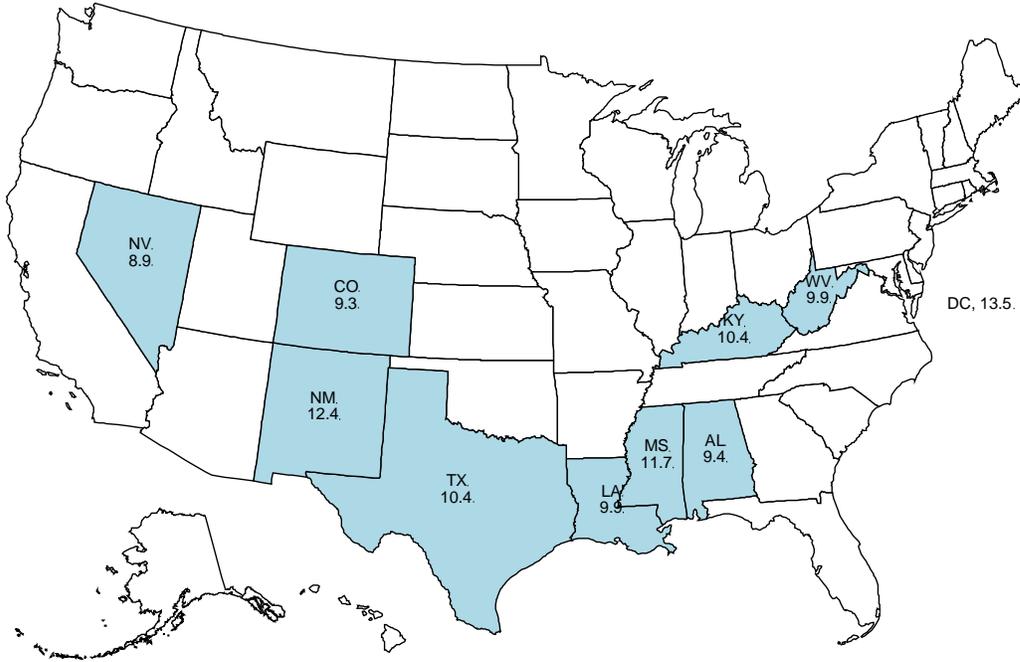
Map 2. Top 10 States for Rates of Very Low Food Security among Seniors

Top 10 States for Rates of Very Low Food Security among Seniors

In Table 4 are estimates of food insecurity and VLFS rates by large metropolitan areas (i.e., more than 1 million in total population). These are based on data from 2015 to 2019. Like with state rates, there is a wide range of estimates. For food insecurity, the highest rate, in the Memphis metro area, is almost six times higher than the lowest rate, in Minneapolis-St. Paul (13.7% versus 2.3%). The relevancy of looking at food insecurity for geographies below the state level is demonstrated by that fact that Tennessee (home to Memphis) is not even in the top 10 for food insecurity rates. For VLFS, the highest rate is in the Indianapolis metro area (5.5%) and the lowest, like the last two years, is in San Diego (0.4%).

**Table 4. Estimates of Senior Food Insecurity in Metropolitan Areas > 1,000,000 Persons in 2019**

	Food Insecure	Very Low Food Secure
Atlanta-Sandy Springs-Roswell, GA	7.3%	2.3%
Austin-Round Rock, TX	6.5	3.0
Baltimore-Columbia-Towson, MD	7.8	4.4
Birmingham-Hoover, AL	8.0	3.5
Boston-Cambridge-Newton, MA-NH	6.2	2.0
Buffalo-Cheektowaga-Niagara Falls, NY	7.4	3.2
Charlotte-Concord-Gastonia, NC-SC	7.0	3.1
Chicago-Naperville-Elgin, IL-IN-WI	7.5	3.3
Cincinnati, OH-KY-IN	7.5	2.6
Cleveland-Elyria-Mentor, OH	8.7	4.3
Columbus, OH	5.7	2.4
Dallas-Fort Worth-Arlington, TX	7.6	2.8
Denver-Aurora-Lakewood, CO	5.6	2.8
Detroit-Warren-Dearborn, MI	7.3	2.2
Hartford-West Hartford-East Hartford, CT	9.7	1.7
Houston-Baytown-Sugar Land, TX	9.3	3.5
Indianapolis, IN	9.1	5.5
Jacksonville, FL	8.4	2.3
Kansas City, MO-KS	8.1	3.2
Las Vegas-Henderson-Paradise, NV	8.0	3.6
Los Angeles-Long Beach-Anaheim, CA	8.8	2.7
Louisville, KY-IN	10.4	4.3
Memphis, TN-MS-AR	13.7	4.9
Miami-Fort Lauderdale-West Palm Beach, FL	7.6	2.6
Milwaukee-Waukesha-West Allis, WI	6.8	1.9
Minneapolis-St Paul-Bloomington, MN-WI	2.3	1.2
Nashville-Davidson-Murfreesboro, TN	4.9	3.1
New Orleans-Metairie, LA	12.9	5.0
New York-Newark-Jersey City, NY-NJ-PA	7.1	2.5
Oklahoma City, OK	6.0	2.3
Orlando, FL	7.0	2.5
Philadelphia-Camden-Wilmington, PA-NJ-DE	6.3	2.0
Phoenix-Mesa-Scottsdale, AZ	7.5	2.5

Pittsburgh, PA	5.0	2.1
Portland-Vancouver-Hillsboro, OR-WA	5.4	2.4
Providence-Warwick, RI-MA	7.1	3.5
Raleigh, NC	10.8	3.9
Richmond, VA	4.7	1.9
Riverside-San Bernardino-Ontario, CA	8.2	3.6
Rochester, NY	3.3	1.9
Sacramento-Arden-Arcade-Roseville, CA	5.6	3.5
St. Louis, MO-IL	8.4	3.4
Salt Lake City, UT	6.4	2.1
San Antonio, TX	8.4	3.9
San_Diego-Carlsbad-San Marcos, CA	3.1	0.4
San Francisco-Oakland-Fremont, CA	5.8	1.4
San Jose-Sunnyvale-Santa Clara, CA	8.8	2.1
Seattle-Tacoma-Bellevue, WA	5.3	1.7
Tampa-St. Petersburg-Clearwater, FL	7.8	3.1
Virginia Beach-Norfolk-Newport News, VA-NC	4.8	1.7
Washington-Arlington-Alexandria, DC-VA-MD-WV	4.4	1.9

Source: Authors' calculations. The numbers are five-year averages found by summing the number of food-insecure seniors in each category by metro areas across the 2015-2019 December Current Population Surveys and dividing by the corresponding total number of seniors in each metro area across the five years.

II. FOOD INSECURITY OVER TIME

To place the 2019 estimates into perspective, we now examine trends in food insecurity since 2001. In Figure 1, we display results for the full population in terms of the percentage of seniors (left-hand axis) and number of seniors in millions (right-hand axis). From 2018 to 2019, there were decreases in the rates for both measures but neither was statistically significant. Despite these recent gains, the food insecurity rate is still higher than before the Great Recession that started in December 2007 (7.1% versus 6.3%), in contradistinction to the population overall whose food security rate fell below that at the start of the Great Recession (10.9% versus 12.2%) as reported in Coleman-Jensen et al. (2020). Likewise, the senior VLFS rate also slightly exceeds its 2007 level (2.6% versus 2.4%). Both rates are far higher than in 2001— the fraction of seniors experiencing food insecurity and VLFS has increased by 38%, and 84%--and the number of seniors in each group rose 128%, and 213%, reflecting both the growing number of seniors and their rising food insecurity rates.

Figure 1. Trends in Food Insecurity among Senior Americans
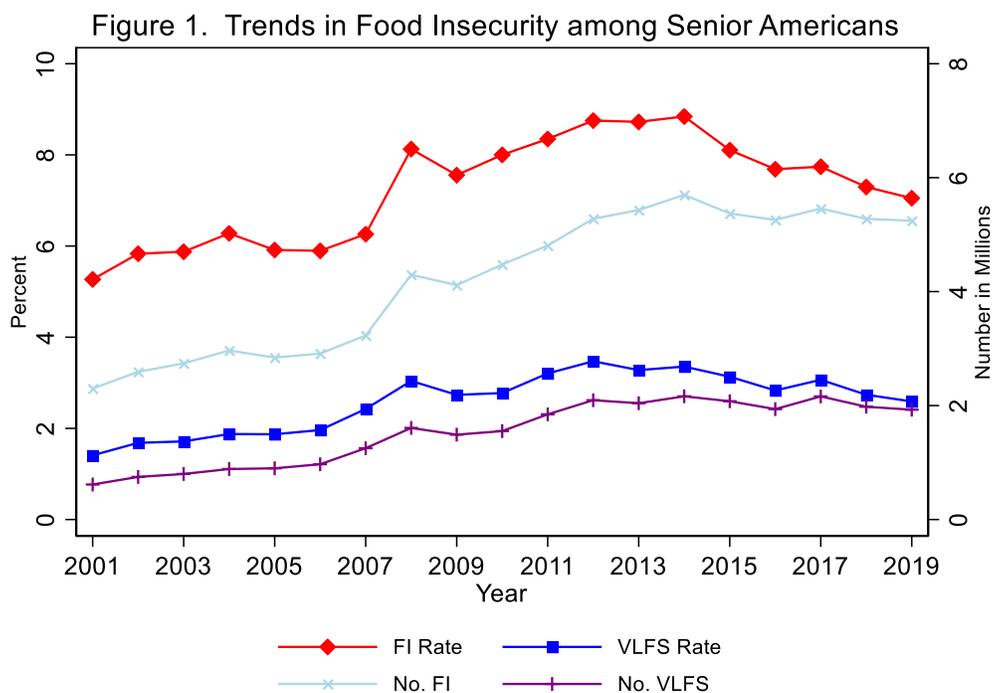
In Table 5, we take a deeper look into underlying changes in the composition of food-insecure seniors from 2018 to 2019. The table presents percentage point changes in both categories of food insecurity by the same set of socioeconomic characteristics in Table 1. Insofar as there were not statistically significant declines in food insecurity or VLFS, it is not surprising that there are not many statistically significant declines by categories either. For food insecurity, there were statistically significant declines among married seniors, those between the ages of 65 and 69, and those who report being out of the labor force due to a disability. Worrisome, though, is for the second year-in-a-row there was an increase, albeit not statistically significant, for seniors with incomes below the poverty line. If in strong economic times like 2019 and 2018 there is not progress against food insecurity, then this does not bode well for what may have occurred during COVID-19. For VLFS, the variables with statistically significant declines were for seniors between the ages of 60 and 64, those who are unemployed, those who report being out of the labor force due to a disability, and those without a disability.

Table 5. Percentage Point Changes in the Composition of Senior Hunger from 2018 to 2019

	Food Insecure	Very Low Food Secure
Overall	-0.25	-0.15
By Income		
Below the Poverty Line	2.62	-1.15
Between 100% and 200% of the Poverty Line	-1.56	-0.72
Above 200% of the Poverty Line	-0.16	0.08
Income Not Reported	-0.55	-0.03

|		
By Race		
White	-0.30	-0.15
Black	0.54	0.10
Asian American, Pacific Islander, Native American, and people who identify as multi-racial	-1.43	-0.66
By Hispanic Status		
Hispanic	-1.36	0.05
Non-Hispanic	-0.13	-0.17
By Marital Status		
Married	-0.51*	-0.13
Widowed	0.23	-0.20
Divorced or Separated	-0.34	-0.30
Never Married	-0.33	-0.31
By Metropolitan Location		
Non-Metro	-0.06	-0.25
Metro	-0.28	-0.13
By Age		
60-64	-0.35	-0.71*
65-69	-1.17*	-0.06
70-74	0.71	0.29
75-79	-0.47	-0.40
80 and older	0.44	0.46
By Employment Status		
Employed	0.02	-0.20
Unemployed	-6.43	-4.35*
Retired	0.18	0.34
Disabled[1]	-2.98*	-2.65**
By Gender		
Male	-0.04	-0.12
Female	-0.42	-0.17
By Grandchild Present		
No Grandchild Present	-0.26	-0.18
Grandchildren Present	-0.61	0.45
By Homeownership Status		
Homeowner	-0.22	-0.09
Renter	0.19	-0.17
By Veteran Status		
Veteran	0.01	0.19
Not a Veteran	-0.32	-0.22
By Disability Status[2]		
Without a disability	-0.58	-0.86*
With a disability	-0.20	0.06

Source: Authors' calculations. The numbers in the table reflect percentage point changes from 2018-2019. The asterisks denote statistical significance at the following levels: *** $p<0.01$; ** $p<0.05$; * $p<0.1$, [1]Disabled employment status means the person is out of the labor force because of a disability or other reason. [2]Disability status refers to those with limitations on select activities of daily living.

In the next set of figures, we examine trends in food insecurity since 2001 across a variety of subpopulations found in Tables 1 and 5. We begin in Figure 2 with trends in food insecurity for seniors living in metropolitan areas versus nonmetropolitan areas. The figure shows that, for most years, but not all, food insecurity rates were higher in nonmetro areas with an increase in

that gap in both 2018 and 2019, suggesting that the lack of improvement in senior food insecurity in recent years stems from ongoing challenges in nonmetro areas. For VLFS, though, whether the rates are higher or lower in nonmetro areas shows no clear pattern.

Figure 2. Trends in Food Insecurity among Senior Americans by Metropolitan Status
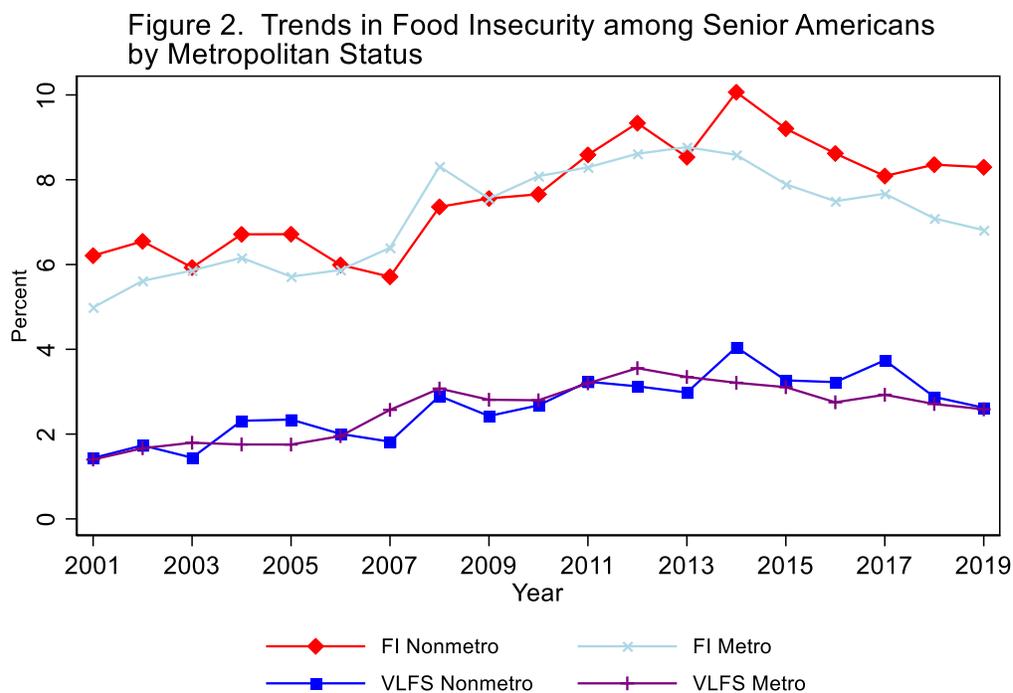
Panel a of Figure 3 depicts trends in food insecurity across different races and panel b is for VLFS. As discussed above, food insecurity and VLFS for Black seniors are much higher than for white seniors. These figures reveal that these differences were present in each year from 2001 to 2019. Of note, though, is that the rates are higher in 2019 than 2001 for both food insecurity and VLFS for white seniors while, for Black seniors, the value for food insecurity is roughly the same in 2019 compared to 2001, and slightly higher for VLFS. Comparing white seniors and the Asian American, Pacific Islander, Native American, and people who identify as multi-racial category, rates are higher among the latter category in all years except one for VLFS.
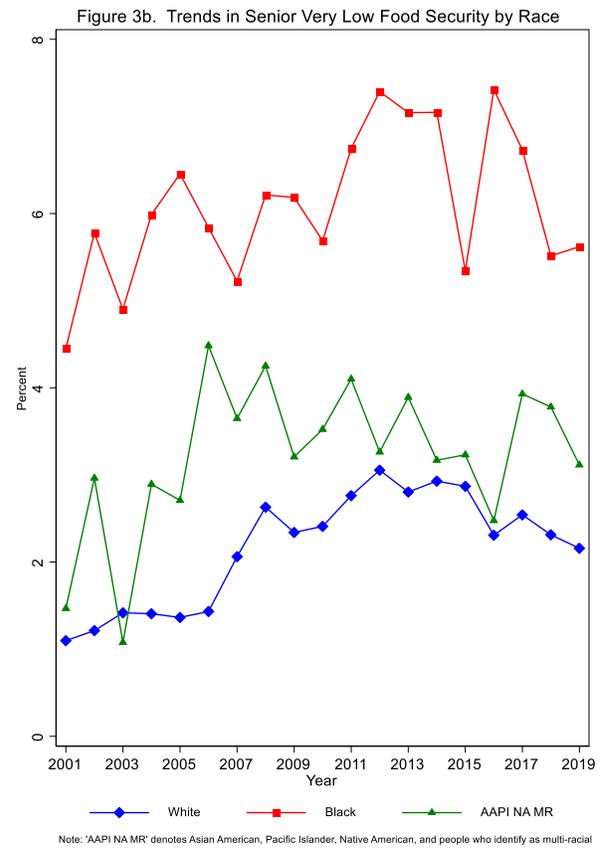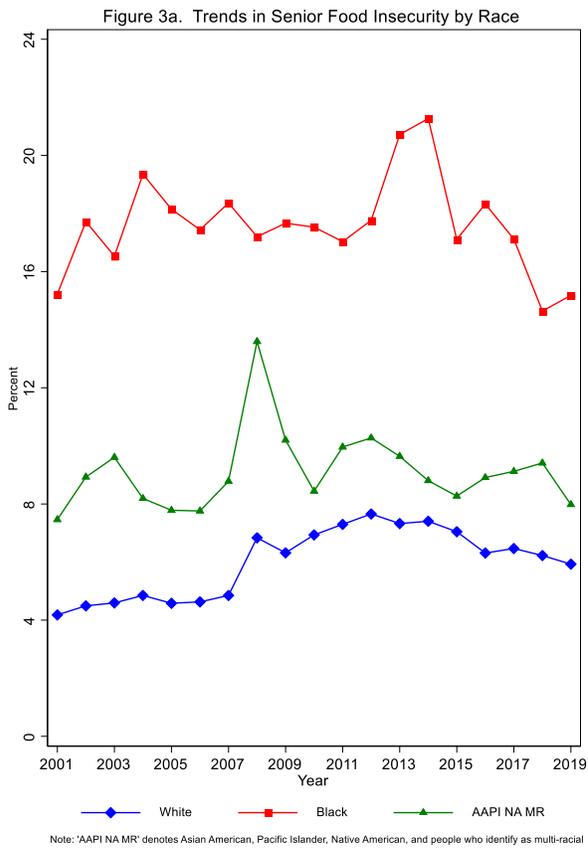
Figure 4. Trends in Senior Food Insecurity by Hispanic Ethnicity
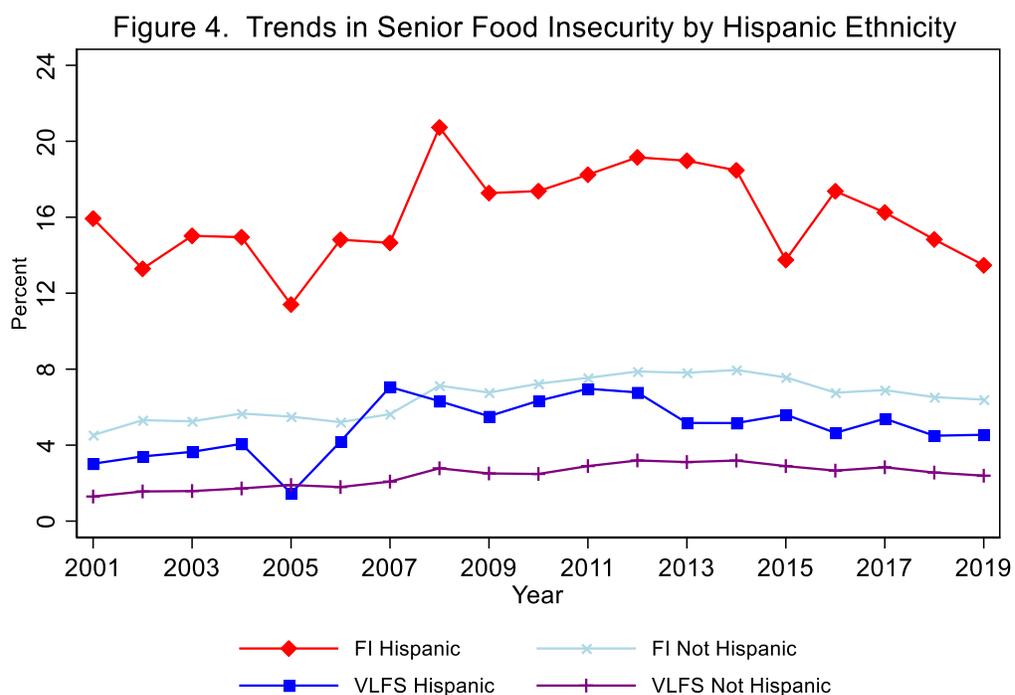
Figure 5 presents a parallel set of results for seniors broken down into three age groups – 60-69 years-old, 70-79 years old, and age 80 and older. In all years, the rates of food insecurity are highest for those between 60 and 69, followed by 70-79 year-olds, and 80+ year-olds. However, the patterns over time do show differences in trajectories and relative gaps between age categories. The figure makes clear that the persistence in food insecurity and VLFS rates above those from the Great Recession are driven by 60-69 year-olds. For those in the 60-69 group, there has been declines in both food insecurity and VLFS since 2017.

Figure 5a. Trends in Senior Food Insecurity by Age

Figure 5b. Trends in Senior Very Low Food Security by Age
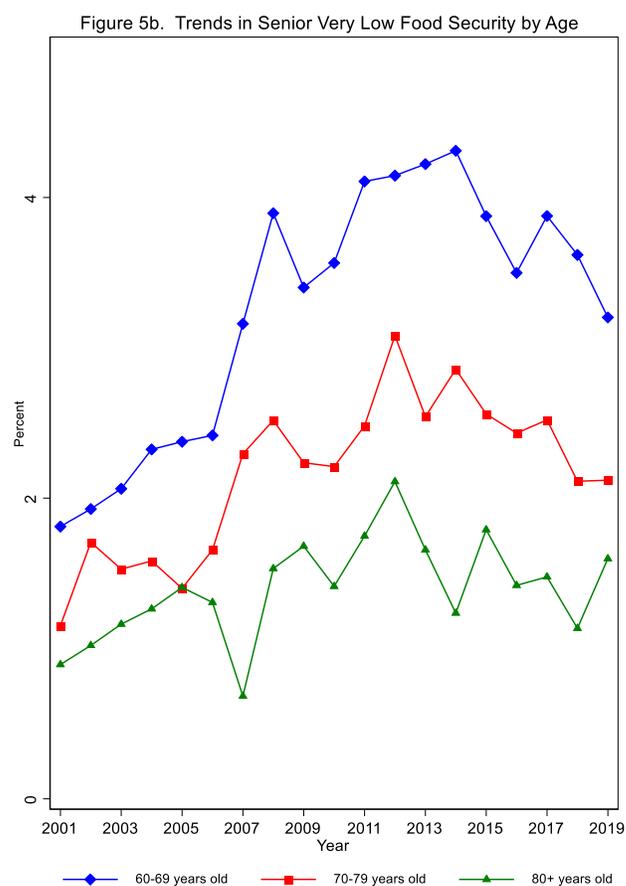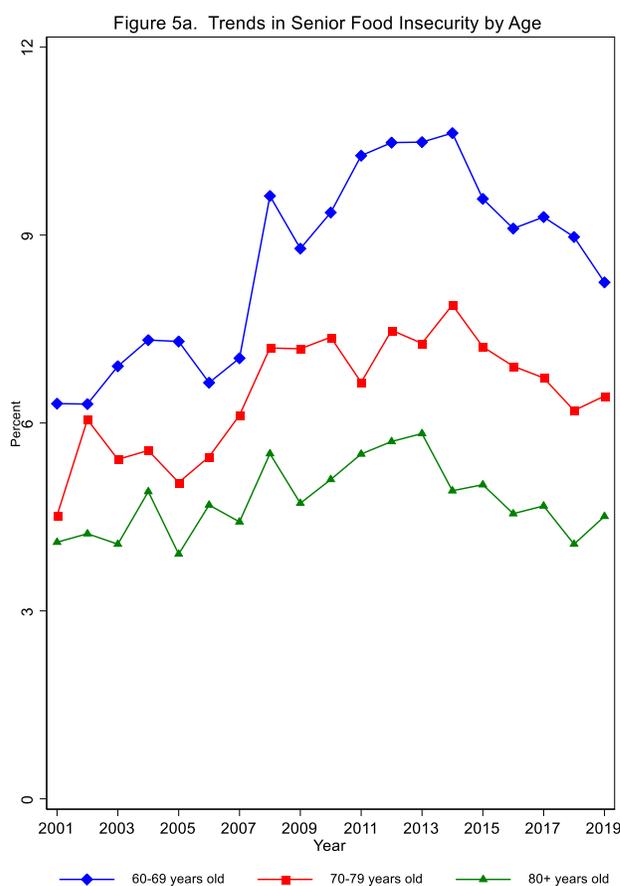
III.   CONCLUSION

This report demonstrates that food insecurity among seniors in America is a continuing challenge facing the nation. Despite the end of the Great Recession in 2009,1 in 14 seniors were food insecure in 2019. Even more troubling is the astonishing 213% increase in the number of VLFS seniors in 2019 compared to 2001. Given the compelling evidence in Gundersen and Ziliak (2021) that food insecurity is associated with a host of poor nutrition and health outcomes among seniors, this report implies that the high rates of food insecurity among seniors will likely lead to additional public health challenges and costs for our country (Berkowitz et al., 2017; Berkowitz et al., 2019).

A particular concern at this writing is the global pandemic due to the novel coronavirus. The ramifications of the crisis for senior food insecurity are not known at this time, and the CPS data covering this period will not be available until fall 2021. In response to the pandemic, the USDA has granted many states waivers to permit seniors to use SNAP on home delivered goods, and this policy innovation should improve food security, especially among home-bound seniors and those at greater health risk from the pandemic. These developments underscore the need for ongoing monitoring of food insecurity among older individuals in the U.S.

APPENDIX

The Current Population Survey (CPS) is a nationally representative survey conducted by the Census Bureau for the Bureau of Labor Statistics, providing employment, income and poverty statistics. Households are selected to be representative of civilian households at the state and national levels, using suitably appropriate sampling weights. The CPS does not include information on individuals living in group quarters including nursing homes or assisted living facilities. For this report and previous reports, we use data from the December Supplement which contains the Food Security Supplement (FSS). The questions from the FSS are found in Appendix Table 1. Because our focus is on hunger among seniors, our CPS sample is of persons age 60 and older. In 2019, this results in 21,776 sample observations. Appendix Table 2 presents selected summary statistics for the CPS sample.

Appendix Table 1: Questions on the Food Security Supplement

Food Insecurity Question	Asked of Households with Children	Asked of Households without Children
1. "We worried whether our food would run out before we got money to buy more." Was that **often, sometimes**, or never true for you in the last 12 months?	x	x
2. "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 you in the last 12 months?	x	x
3. "We couldn't afford to eat balanced meals." Was that **often, sometimes**, or never true for you in the last 12 months?	x	x
4. "We relied on only a few kinds of low-cost food to feed our children because we were running out of money to buy food." Was that **often, sometimes**, or never true for you in the last 12 months?	x	
5. In the last 12 months, did you or other adults in the household ever cut the size of your meals or skip meals because there wasn't enough money for food? (**Yes**/No)	x	x
6. "We couldn't feed our children a balanced meal, because we couldn't afford that." Was that **often, sometimes**, or never true for you in the last 12 months?	x	
7. In the last 12 months, did you ever eat less than you felt you should because there wasn't enough money for food? (**Yes**/No)	x	x
8. (If yes to Question 5) How often did this happen—**almost every month, some months but not every month**, or in only 1 or 2 months?	x	x
9. "The children were not eating enough because we just couldn't afford enough food." Was that **often, sometimes**, or never true for you in the last 12 months?	x	
10. In the last 12 months, were you ever hungry, but didn't eat, because you couldn't afford enough food? (**Yes**/No)	x	x
11. In the last 12 months, did you lose weight because you didn't have enough money for food? (**Yes**/No)	x	x
12. In the last 12 months, did you ever cut the size of any of the children's meals because there wasn't enough money for food? (**Yes**/No)	x	
13. In the last 12 months did you or other adults in your household ever not eat for a whole day because there wasn't enough money for food? (**Yes**/No)	x	x
14. In the last 12 months, were the children ever hungry but you just couldn't afford more food? (**Yes**/No)	x	
15. (If yes to Question 13) How often did this happen—**almost every month, some months but not every month**, or in only 1 or 2 months?	x	x
16. In the last 12 months, did any of the children ever skip a meal because there wasn't enough money for food? (**Yes**/No)	x	
17. (If yes to Question 16) How often did this happen—**almost every month, some months but not every month**, or in only 1 or 2 months?	x	
18. In the last 12 months did any of the children ever not eat for a whole day because there wasn't enough money for food? (**Yes**/No)	x	

Notes: Responses in bold indicate an "affirmative" response.

Appendix Table 2: Selected Characteristics of Senior Americans Age 60 and older in 2019

Income Categories	
Below the Poverty Line	0.06
Between 100% and 200% of the Poverty Line	0.14
Above 200% of the Poverty Line	0.49
Missing Income	0.31
Racial Categories	
White	0.83
Black	0.11
Asian American, Pacific Islander, Native American, and people who identify as multi-racial	0.07
Hispanic Status	
Hispanic	0.09
Non-Hispanic	0.91
Marital Status	
Married	0.58
Widowed	0.18
Divorced or Separated	0.16
Never Married	0.08
Metropolitan Location	
Non-Metro	0.16
Metro	0.84
Age	
60 to 64	0.28
65 to 69	0.23
70 to 74	0.19
75 to 79	0.13
80 and older	0.16
Employment Status	
Employed	0.30
Unemployed	0.01
Retired	0.60
Disabled	0.09
By Gender	
Male	0.46
Female	0.54
Grandchild Present	
No Grandchild Present	0.95
Grandchild Present	0.05
By Homeownership Status	
Homeowner	0.82
Renter	0.18
By Veteran Status	
Veteran	0.14
Not a Veteran	0.86
By Disability Status	
Without a disability	0.75
With a disability	0.25

Source: Authors' calculations from 2019 December Current Population Survey.

Appendix Table 3a. The Extent of Senior Marginal Food Insecurity in 2019

Overall	12.6%
By Income	
Below the Poverty Line	47.1
Between 100% and 200% of the Poverty Line	28.7
Above 200% of the Poverty Line	5.7
Income Not Reported	9.1
By Race	
White	10.7
Black	25.7
Asian American, Pacific Islander, Native American, and people who identify as multi-racial	14.5
By Hispanic Status	
Hispanic	23.5
Non-Hispanic	11.5
By Marital Status	
Married	8.0
Widowed	16.0
Divorced or Separated	22.0
Never Married	20.5
By Metropolitan Location	
Non-Metro	14.2
Metro	12.3
By Age	
60-64	15.0
65-69	13.1
70-74	12.7
75-79	10.8
80 and older	9.1
By Employment Status	
Employed	8.7
Unemployed	21.8
Retired	11.2
Disabled[1]	33.9
By Gender	
Male	11.6
Female	13.4
By Grandchild Present	
No Grandchild Present	12.0
Grandchildren Present	24.5
By Homeownership Status	
Homeowner	9.2
Renter	28.3
By Veteran Status	
Veteran	9.8
Not a Veteran	13.1
By Disability Status[2]	
Without a disability	9.1

With a disability	22.7

Source: Authors' calculations from 2019 December Current Population Survey. The numbers in the table show the rates of food insecurity under two measures for various groups. [1]Disabled employment status means the person is out of the labor force because of a disability or other reason. [2]Disability status refers to those with limitations on select activities of daily living.

Appendix Table 3b. The Distribution of Senior Marginal Food Insecurity in 2019

By Income
Below the Poverty Line	23.5%
Between 100% and 200% of the Poverty Line	31.7
Above 200% of the Poverty Line	22.4
Income Not Reported	22.4

By Race
White	70.5
Black	21.8
Asian American, Pacific Islander, Native American, and people who identify as multi-racial	7.8

By Hispanic Status
Hispanic	17.2
Non-Hispanic	82.8

By Marital Status
Married	37.0
Widowed	23.2
Divorced or Separated	27.4
Never Married	12.4

By Metropolitan Location
Non-Metro	18.2
Metro	81.8

By Age
60-64	33.3
65-69	24.4
70-74	19.3
75-79	11.3
80 and older	11.8

By Employment Status
Employed	20.7
Unemployed	1.3
Retired	53.6
Disabled[1]	24.5

By Gender
Male	41.9
Female	58.1

By Grandchild Present
No Grandchild Present	91.0
Grandchildren Present	9.0

By Homeownership Status
Homeowner	60.5
Renter	39.5

By Veteran Status
Veteran	11.2
Not a Veteran	88.8

By Disability Status[2]

Without a disability	54.1
With a disability	45.9

Source: Authors' calculations from 2019 December Current Population Survey. The numbers in the table show the distribution of food insecurity under two measures for various groups. [1]Disabled employment status means the person is out of the labor force because of a disability or other reason. [2]Disability status refers to those with limitations on select activities of daily living.

Appendix Table 3c. State-Level Estimates of Senior Marginal Food Insecurity in 2019

AL	14.8%	MT	9.4%
AK	13.6	NE	9.0
AZ	14.5	NV	16.9
AR	14.6	NH	6.4
CA	12.1	NJ	10.6
CO	13.8	NM	19.7
CT	13.0	NY	13.8
DE	10.2	NC	15.1
DC	19.1	ND	8.1
FL	13.0	OH	12.5
GA	15.3	OK	15.6
HI	9.3	OR	10.8
ID	9.7	PA	11.5
IL	12.9	RI	12.4
IN	12.7	SC	13.4
IA	7.9	SD	9.0
KS	15.0	TN	13.7
KY	17.7	TX	17.8
LA	18.1	UT	10.8
ME	13.7	VT	8.9
MD	10.1	VA	9.4
MA	9.3	WA	11.1
MI	10.5	WV	17.0
MN	5.8	WI	8.3
MS	19.8	WY	10.7
MO	12.9		

Source: Authors' calculations. The numbers are two-year averages found by summing the number of marginally food-insecure seniors in each category by state across the 2018-2019 December Current Population Surveys and dividing by the corresponding total number of seniors in each state across the two years.

Appendix Table 3d. Estimates of Senior Marginal Food Insecurity in Metropolitan Areas > 1,000,000 Persons in 2019

Atlanta-Sandy_Springs-Roswell_GA	13.7%
Austin-Round_Rock_TX	13.4
Baltimore-Columbia-Towson_MD	14.0
Birmingham-Hoover_AL	13.6
Boston-Cambridge-Newton_MA-NH	9.0
Buffalo_Cheektowaga_Nia_Falls_NY	13.2
Charlotte-Concord-Gastonia_NC-SC	12.2
Chicago-Naper-Elgin_IL-IN-WI	13.7
Cincinnati_OH-KY-IN	11.9
Cleveland-Elyria-Mentor_OH	15.6
Columbus_OH	10.1
Dallas-Fort_Worth-Arlington_TX	13.2
Denver-Aurora-Lakewood_CO	8.4
Detroit-Warren-Dearborn_MI	12.5
Hartford-W_Hford_E_Hford_CT	14.5
Houston-Baytown-Sugar_Land_TX	15.8
Indianapolis_IN	14.7
Jacksonville_FL	11.9
Kansas_City_MO-KS	13.5
Las Vegas-Henderson-Paradise, NV	16.8
Los_Ang-Long_Beach-Anaheim_CA	14.7
Louisville_KY-IN	18.5
Memphis_TN-MS-AR	19.0
Miami-F_Laud-W_Palm_Beach_FL	14.0
Milwaukee-Waukesha-West_Allis_WI	12.1
Minn-St_Paul-Bloom_MN-WI	6.2
Nville-Davidson-Murfreesboro_TN	8.5
New_Orleans-Metairie_LA	20.6
N_York-Newark-_J_City_NY-NJ-PA	13.3
Oklahoma_City_OK	14.1
Orlando_FL	11.6
Phila-Camden-Wmington_PA-NJ-DE	13.2
Phoenix-Mesa-Scottsdale_AZ	12.8
Pittsburgh_PA	11.9
Pland-Vancouver-Hboro_OR-WA	8.7
Providence-Warwick_RI-MA	13.5
Raleigh_NC	15.2
Richmond_VA	8.5
Rside-San_Bernardino-Ontario_CA	15.5
Rochester_NY	6.4
Sacr-Arden-Arcade-Roseville_CA	11.1
St._Louis_MO-IL	14.6
Salt_Lake_City_UT	10.6

San_Antonio_TX	19.5
San_Diego-Carlsbad-San_Marcos_CA	6.7
San_Francisco-Oakland-Fremont_CA	9.7
S_Jose-Sunnyvale-S_Clara_CA	12.5
Seattle-Tacoma-Bellevue_WA	9.3
Tampa-St._Petersburg-Clearwater_FL	13.0
V_Beach-Norfolk-New_News_VA-NC	8.1
Wash-Aton-Alex_DC-VA-MD-WV	7.6

Source: Authors' calculations. The numbers are five-year averages found by summing the number of food-insecure seniors in each category by metro areas across the 2015-2019 December Current Population Surveys and dividing by the corresponding total number of seniors in each metro area across the five years.

Appendix Table 3e. Percentage Point Changes in the Composition of Senior Marginal Food Insecurity from 2018 to 2019

Overall	-0.72*
By Income	
Below the Poverty Line	-1.65
Between 100% and 200% of the Poverty Line	-3.10**
Above 200% of the Poverty Line	-0.02
Income Not Reported	-0.92
By Race	
White	-0.57
Black	-1.60
Asian American, Pacific Islander, Native American, and people who identify as multi-racial	-2.20
By Hispanic Status	
Hispanic	-3.32*
Non-Hispanic	-0.45
By Marital Status	
Married	-0.72*
Widowed	-0.08
Divorced or Separated	-1.17
Never Married	-3.16*
By Metropolitan Location	
Non-Metro	-0.87
Metro	-0.68
By Age	
60-64	-1.00
65-69	-1.07
70-74	0.32
75-79	-1.28
80 and older	-0.35
By Employment Status	
Employed	-0.05
Unemployed	-10.03*
Retired	-0.35
Disabled[1]	-3.92**
By Gender	
Male	-0.32
Female	-1.05**
By Grandchild Present	
No Grandchild Present	-0.65*
Grandchildren Present	-3.37
By Homeownership Status	
Homeowner	-0.34
Renter	-1.64
By Veteran Status	
Veteran	0.38
Not a Veteran	-0.95**
By Disability Status[2]	
Without a disability	-0.70
With a disability	-0.82**

Source: Authors' calculations. The numbers in the table reflect percentage point changes from 2018-2019. The asterisks denote statistical significance at the following levels: *** p<0.01; ** p<0.05; * p<0.1 [1]Disabled employment status means the person is out of the labor force because of a disability or other reason. [2]Disability status refers to those with limitations on select activities of daily living.

REFERENCES

Berkowitz, S. A., Basu, S., Gundersen, C., & Seligman, H. K. (2019). State-Level and County-Level Estimates of Health Care Costs Associated with Food Insecurity. *Preventing Chronic Disease, 16(*E90).

Berkowitz, S. A., Basu, S., Meigs, J. B., & Seligman, H. K. (2018). Food insecurity and health care expenditures in the United States, 2011–2013. *Health Services Research, 53*(3), 1600.

Coleman-Jensen, A., Rabbitt, M., Gregory, C., & Singh, A. (2020). *Household Food Security in the United States in 2019*, United States Department of Agriculture, Economic Research Service, Report Number 275.

Gundersen, C. & Ziliak, J. (2021). *The Health Consequences of Senior Hunger in the United States: Evidence from the 1999-2016 NHANES*. Report submitted to Feeding America. Forthcoming.

Ziliak, J., Gundersen, C., & Haist, M. (2008). *The Causes, Consequences, and Future of Senior Hunger in America.* Report submitted to Meals on Wheels Association of America Foundation.

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