Background & Frequently Asked Questions (FAQ) about:

The Impact of COVID-19 on Food Insecurity in 2020 and 2021

Analysis of how food insecurity may increase in 2020 and 2021 due to COVID-19 for the overall population and children by state, county, and congressional district

FEEDING AMERICA	Developed by the Feeding America Research Team, in partnership with Dr. Craig Gundersen.	**Last updated: 03/31/2021** | Please contact Feeding America Research if you require further clarification.

Background

Since the onset of the crisis related to the coronavirus (COVID-19) pandemic, Feeding America has worked with our Technical Advisory Group and others to analyze and share information about impacts of the economic crisis on food insecurity via briefs, visuals, and talking points. We released our first round of projections for 2020 at the national level and for states, counties, and congressional districts from March to May in 2020. Based on updated information, we issued revised 2020 projections for the same geographies in October 2020. **This brief reflects updated 2020 projections as well as new projections for 2021. For the first time, Feeding America is providing national projections by race (Black and white), rurality (rural and urban) and very low food security (VLFS).**

For more than ten years, Feeding America has produced local-level estimates of food insecurity through the *Map the Meal Gap* (MMG) study. The same model used to estimate local food insecurity can also predict food insecurity using projected changes to variables in the model. To predict changes in food insecurity as a result of COVID-19, we have used actual changes to unemployment and estimated changes to poverty, two variables that have a statistically significant and substantial effect on food insecurity estimates and are likely to be most directly affected by COVID-19.

National Estimates

Below, Table 1 displays the assumptions used for unemployment and poverty at the national level and the food insecurity levels that would result for both the overall population and for children. For example, assuming the annual unemployment rate in 2021 will be 6.7% and the annual poverty rate will be 12.0% (16.0% for children), an estimated 1 in 8 people (approximately 42 million people total), including 1 in 6 children (13 million children total) will live in food-insecure homes in 2021. Please see the FAQs below for an explanation of the assumptions we use for unemployment and poverty.

Table 1. National projections of food insecurity by select characteristics for 2020 and 2021

	Actuals	**Projections**	
	2019	2020	2021
INDICATORS/ASSUMPTIONS[1]			
Annual Unemployment Rate	*3.7%*	9.2%	6.7%
Annual Poverty Rate	*10.5%*	11.1%	12.0%
Annual Child Poverty Rate	*14.4%*	14.8%	16.0%
FOOD INSECURITY PROJECTIONS			
OVERALL POPULATION			
Food Insecurity			
Annual Food Insecurity Rate	*10.9%*	13.9%	12.9%
Number of Food-insecure People	*35.2 million*	45 million	42 million
Ratio	*1 in 9*	1 in 7	1 in 8

[1] The rates and assumptions listed for unemployment and poverty are relevant to projections for the overall population and for children only. Contact Feeding America Research for information about indicators/assumptions related to projections by race and geography.

Very low food security (VLFS) [a subset within food insecurity]			
Annual VLFS Rate	*3.7%*	5.1%	4.6%
Number of people experiencing VLFS	*11.8 million*	17 million	15 million
Ratio	*1 in 27*	1 in 20	1 in 22
CHILD POPULATION			
Food Insecurity			
Annual Food Insecurity Rate	*14.6%*	19.9%	17.9%
Number of Food-insecure People	*10.7 million*	15 million	13 million
Ratio	*1 in 7*	1 in 5	1 in 6
Very low food security (VLFS) [a subset within food insecurity]			
Annual VLFS Rate	*3.9%*	5.7%	5.1%
Number of people experiencing VLFS	*2.9 million*	4.2 million	3.7 million
Ratio	*1 in 26*	1 in 18	1 in 20
BY RACE			
Food Insecurity – Black Individuals			
Annual Food Insecurity Rate	*19.2%*	21.6%	21.3%
Number of Food-insecure People	*9.0 million*	10 million	10 million
Ratio	*1 in 5*	1 in 5	1 in 5
Food Insecurity – white Individuals			
Annual Food Insecurity Rate	*9.6%*	12.3%	11.1%
Number of Food-insecure People	*23.6 million*	31 million	28 million
Ratio	*1 in 10*	1 in 8	1 in 9
BY GEOGRAPHY			
Food Insecurity – Individuals in Rural Counties			
Annual Food Insecurity Rate	*12.5%*	14.4%	13.3%
Number of Food-insecure People	*5.4 million*	6 million	6 million
Ratio	*1 in 8*	1 in 7	1 in 8
Food Insecurity – Individuals in Urban Counties			
Annual Food Insecurity Rate	*10.6%*	13.1%	12.1%
Number of Food-insecure People	*29.8 million*	37 million	34 million
Ratio	*1 in 9*	1 in 8	1 in 8

Local Estimates

For our estimates of the impact of COVID-19 on food insecurity at the local level, we begin with the assumptions noted above and described below. Because unemployment has varied across the country, the projected change in the unemployment rate at the local level is adjusted using actual unemployment rates since the pandemic began. The adjustment for poverty at the national level is used across all geographies.

For our revised 2020 and new 2021 projections, we use our updated 2019 food insecurity estimates from *Map the Meal Gap* as our new pre-Covid baseline (our previous projections were based on data through 2018). These more recent historical estimates are based on data through 2019 from the Current Population Survey (CPS), American Community Survey (ACS) and Bureau of Labor Statistics (BLS).

Frequently Asked Questions

Below we provide responses to commonly asked questions. If you have other questions that are not addressed below, please contact research@feedingamerica.org.

Methodological Questions:

How are these food insecurity projections calculated?

Using the model developed for *Map the Meal Gap*, which has been updated with 2019 data and provides insight into the relationship between food insecurity and relevant variables such as unemployment and poverty, we apply projected changes to annual unemployment and poverty rates to arrive at new projections for food insecurity. Specifically, for every percentage point increase in the annual unemployment rate, the food insecurity rate for the full population is estimated to increase by 0.509 percentage points, and for every percentage point increase in the annual poverty rate, food insecurity for the full population is estimated to increase by 0.332 percentage points.

Note that the *Map the Meal Gap* model does include other variables, such as median income, homeownership rate, disability status and race/ethnicity. While these variables do change over time, in the near term we assume the most significant changes due to COVID-19 will be in unemployment and poverty. Consequently, we have limited our projection calculations to consideration of those two economic indicators.

For more background on the *Map the Meal Gap* methodology, see the Technical Appendix.

What is the rationale for the assumption used related to unemployment in 2020?

Our revised 2020 projections assume that the effective annual unemployment rate for 2020 was 9.2%, an increase of 5.5 percentage points relative to the 2019 baseline now being used. The *Map the Meal Gap* model relies on an annual estimate of unemployment, which is the average of monthly rates throughout the year.

This assumption represents a downward shift relative to our previous 2020 projections (which initially assumed an annual unemployment rate of 11.5% in May 2020 and 10.5% in October 2020). An annual unemployment rate of 9.2% reflects actual seasonally adjusted monthly civilian unemployment rates from January 2020 to December 2020, which average 8.1%, as well as the COVID-19 misclassification error as reported by the BLS; we calculate an annual misclassification error (+1.1 percentage points) by averaging the monthly error between March 2020 and December 2020 and assuming no error in January 2020 or February 2020.

What assumption is being used for unemployment in 2021?

For 2021, we assume a national annual unemployment rate of 6.7%. This is a conservative estimate of annual unemployment that assumes rates will remain effectively unchanged in 2021 relative to 2020 Q4 and reflects the actual rate for November 2020, the most recent month for which we have county data at the time of this update. Although higher than the revised projected rate per the Congressional Budget Office, a rate of 6.7% is consistent with the upper range of projected unemployment for 2021 Q4 according to the Federal Reserve.

What is the rationale for the assumption used related to poverty in 2020?

Compared to unemployment, there has been far less work done to try to predict poverty rates for 2020. This is largely due to the fact that poverty is inherently more difficult to predict since a household's income relative to the poverty line cannot be determined until the year is over (whereas the annual unemployment rate is an average of monthly unemployment rates). Work that has been done has primarily focused on alternative measures of poverty (e.g. scholars at The Urban Institute have released two sets of projections that use a modified definition of poverty, scholars from the University of Chicago and Notre Dame use monthly data from the Basic Monthly Current Population

Survey (Monthly CPS) to estimate annual poverty and scholars from Columbia University use monthly data from the Supplemental Poverty Measure). The *Map the Meal Gap* model utilizes the official annual poverty measure, adjusted to exclude undergraduate students, so these sources can't be directly applied to our projections.

For our revised 2020 and new 2021 food insecurity projections, however, we opted to use national annual poverty estimates from the aforementioned researchers at the University of Chicago and Notre Dame (see Han, Meyer and Sullivan (2020) for full methodology and interactive dashboard for most recent estimates) to inform our poverty projections. We did so for the following reasons: a) estimates through December 2020 are now available, providing a national annual rate consistent with the timeframe for which we are estimating food insecurity; b) the study uses data from the Monthly CPS, the same survey that is used to establish the state-level coefficients for poverty for *Map the Meal Gap*; and c) the poverty estimate from the Monthly CPS has, historically, been a good predictor of changes in the official poverty rate, which is what we use to calculate our food insecurity projections.

Although these annual poverty estimates from the Monthly CPS are not directly comparable to the official poverty rate and tend to be slightly higher, changes over time between both sets of estimates are historically similar. As a result, we assume that the official poverty rate will experience the same percent change as the Monthly CPS estimates. Therefore, an annual poverty rate of 11.1% reflects what the official poverty rate would be for all individuals in 2020 if the actual poverty rate of 2019 (10.5%) increased by the same percent as projected poverty did between December 2019 and December 2020.

A national annual poverty rate of 11.1% in 2020 represents an increase of 0.6 percentage points relative to the 2019 baseline now being used (we apply this same approach for child poverty, resulting in a child poverty rate of 14.8%, an increase of 0.4 percentage points over 2019). This increase is smaller than what we had projected in our previous analyses as well as what was observed during the Great Recession (from 2007 to 2009). This update to a smaller increase in the poverty rate is a reflection of the substantial stimulus package benefits which raised many people above the poverty line.

What assumption is being used for poverty in 2021?

We assume that national poverty will increase from a projected rate of 11.1% in 2020 to 12.0% in 2021 (and from 14.8% to 16.0% for children to reflect the same percent change as the overall rate). This is because, at the time of this analysis, annual poverty rates from the Monthly CPS had risen sharply in the last six months of 2020. To the extent that trend does not continue in 2021 (e.g., as a result of passage of the American Rescue Plan Act of 2021), our poverty projections may overstate actual rates.

How did you calculate values related to projected local unemployment?

To calculate the effective 2020 annual unemployment rate at the local level for our revised 2020 projections, for each county, we first averaged the actual monthly unemployment rates from the BLS from January 2020 to November 2020 (local data for December 2020 were not available at the time of this analysis but the national average for that month was identical to the previous month). We then added 1.1 percentage points to each rate to reflect the annualized national average Covid-19 misclassification error for 2020 consistent with the monthly errors reported by the BLS. Then we calculated the difference between these adjusted annual unemployment rates in 2020 and the 2019 annual averages. To calculate the projected annual unemployment rate for every county in 2021, we used actual monthly BLS data from November 2020 since these were the most recent local data available at the time of this update and because we conservatively assumed that annual unemployment would remain the same in 2021. Because the BLS does not provide actual monthly unemployment rates for congressional districts, we used a U.S. Census relationship file to

map each county to its corresponding district. We then averaged the unemployment rates for all the counties in each congressional district, weighting each county by its population, to arrive at a congressional district unemployment rate. In cases where a county spanned multiple districts, we divided the county's population by the number of districts that the county fell into and weighted accordingly.

This approach to local unemployment differs from the methodology used for our previously revised projections released in October 2020. For those estimates, we localized the projected change in the national annual unemployment rate by utilizing actual county-level unemployment rates as published by the BLS and created indices of the population weighted average unemployment rate for the months of April through July, relative to the national average unemployment rate during the same time. Congressional district indices were created by mapping counties to congressional districts, and those indices were aggregated up to produce state-level indices. For all geographies, the indices were multiplied by the projected national increase in unemployment (6.6 percentage points) to arrive at an adjusted local unemployment rate.

Consistent with how we calculate historical food insecurity estimates for food bank service areas and states, we aggregated county projections up to the service area, and congressional district projections up to the state level for both our revised 2020 projections and new 2021 projections.

How did you calculate values related to projected local poverty?

To estimate local annual poverty in 2020, and because the U.S. Census Bureau does not report official poverty on a monthly basis even at the national level, we assume all local rates in 2020 will increase by 0.6 percentage points to reflect the difference between the national annual poverty rate of 10.5% in 2019 and our projected rate of 11.1% in 2020 (child poverty rates are assumed to increase by 0.4 percentage points).

We make a similar assumption for 2021 whereby we assume all local rates in 2021 will increase by 1.5 percentage points to reflect the difference between the national annual poverty of 10.5% in 2019 and our projected rate of 12.0% in 2021 (child poverty rates are assumed to increase by 1.6 percentage points to reflect the same percent change as the overall rate).

Are there different assumptions and indicators for projections by race (Black and white), rurality (rural and urban) and very low food security (VLFS)?

Although we use similar assumptions for all of our projections, the projected unemployment and poverty rates for 2020 and 2021 as well as the historical coefficients from 2019 for both unemployment and poverty are specific to Black and white individuals as well as to rural and urban communities. Whereas our projections by race and rurality are not broken down by age, our VLFS projections are available for both the overall and child populations. Our VLFS projections also reflect the same projected rates for unemployment and poverty as used in our overall and child food insecurity projections; however, they reflect different coefficients. Please contact Feeding America Research for additional information related to our food insecurity projections by race and rurality as well as our VLFS projections.

What is the timeframe for these food insecurity projections?

The projections outlined in this work are estimates of the annual food insecurity rate for calendar year 2020 and 2021.

How often will you produce new/revised projections going forward?

We will continue monitoring the economic outlook and release revised projections whenever there are significant changes to our underlying assumptions.

How do these projections relate to national food insecurity data released by the USDA?

On September 9, 2020, the USDA released its annual report on household food insecurity in the United States. This report represents the last set of historical national food insecurity data from 2019, **before** the start of the COVID-19 pandemic, and revealed that in 2019, more than 35 million people, including nearly 11 million children, lived in a food-insecure household. These results reflect the lowest that food insecurity rates have been in more than 20 years.

Feeding America's projections indicate our best estimates of what food insecurity rates may have been in 2020 and may be in 2021 as a result of COVID-19 and its economic and other effects. Since the U.S. Census Bureau released 2015-19 ACS 5-year data for all counties and 2019 ACS 1-year data for congressional districts, we are now able to use data through 2019 as the baseline for computing our projections at the county and congressional district levels. Our previous projections used data through 2018 as the baseline since that was the most recent year available.

Note that in September of 2021, the USDA is expected to release its next annual report about household food insecurity in the United States in 2020. The national estimates from that report will replace Feeding America's national 2020 food insecurity projections. Although our estimates are consistent with national estimates reported by the USDA and based on historical state-level data collected in the CPS, the *Map the Meal Gap* model is designed to estimate local food insecurity.

How do these projections compare to the results from surveys that attempt to measure food insecurity?

Over the course of 2020, many surveys were fielded that included questions around food security, food sufficiency, or some measure of the need for food. There is striking variability in the results from those surveys – some results indicate very high rates of food hardship and others show almost no change from 2019. There are a number of reasons for this variability, primarily relating to differing methodologies for each study. Studies differed in the questionnaire used, the time period that was asked about (e.g. food insecurity in the last 30 days, 3 months, 12 months, etc.), when the survey was administered, the sampling approach, which communities and households were surveyed, and more. Additionally, most surveys do not have a baseline comparison from prior to the pandemic, and because the methods were different it is not possible to compare to pre-pandemic estimates of food insecurity. Finally, there is still much to be learned about how households respond to questions on food security during a pandemic, as well as how sampling approaches may have been impacted. The Feeding America food insecurity projections are not based on surveys conducted during the pandemic and are based on the best available information around key drivers of food insecurity, specifically unemployment and poverty.

How do these estimates relate to demand at food banks?

While food insecurity and charitable food use both reflect a need for food, they are not the same. Food insecurity is the lack of access to enough food due to limited financial resources and is the focus of both *Map the Meal Gap* and the projections. We have some insight into clients – those who come to charitable food programs – through nationally representative surveys and *Hunger in America 2014*. While the food insecure population and the client population overlap, they are not the same. Individuals who experience food insecurity may not visit charitable food assistance programs, and some families who utilize charitable food do not identify as food insecure. Regarding the latter, these households may be food secure due to the food they're receiving, or they may be on the cusp of food insecurity – at risk but not yet food insecure. We hope that the unprecedented charitable response during the pandemic played a role in alleviating existing food insecurity and preventing it for those on the edge.

Do these projections account for the American Rescue Plan Act of 2021?

Our most recent projections do not directly account for the impact of the American Rescue Plan. This is because, at the time of this analysis, the Congress had not yet passed the $1.9 trillion economic stimulus bill. In addition, as of late March 2021, few have received benefits from this most recent relief package. Although the American Rescue Plan is estimated to lead to a reduction in poverty in 2021, it is also worth noting that unemployment has a greater effect on projected food insecurity in our model. We are closely monitoring economic indicators and will release revised projections when there are significant changes to our underlying assumptions.