Background & Frequently Asked Questions about:

Map the Meal Gap

A Report of County and Congressional District Food Insecurity and County Food Cost in the United States

FEEDING AMERICA	Developed by Dr. Craig Gundersen and Feeding America Research Team	**Last updated: 5/3/2022** Please contact the Feeding America Research Team for the latest version of this document or additional information.

Background

Map the Meal Gap is an annual study conducted by Feeding America to improve our understanding of how food insecurity and food costs vary at the local level. By better understanding variations in local need, communities can develop more targeted strategies to reach people struggling with hunger. The first *Map the Meal Gap* report was published in 2011, and the project celebrated its 10th anniversary with its 2020 release.

For food insecurity estimates, *Map the Meal Gap* analyzes the relationship between food insecurity and its determinants (which as of *Map the Meal Gap 2020* includes: non-undergraduate student poverty, unemployment, median income, homeownership, and disability status). The model also includes controls for percentage of the population who are African American and percentage who are Hispanic. Through a series of models defined in our technical brief, we generate estimated food insecurity rates for individuals and for children in every county and congressional district in the country. Additionally, we estimate state and county meal costs and food budget shortfalls.

We continue to estimate food insecurity at the county, congressional district, and state level for Black individuals, Latino individuals, and white, non-Hispanic individuals, first done for *Map the Meal Gap 2022*. For more information about our estimating procedure for these models, please see the technical brief.

New to the dataset this year are food insecurity and very low food security estimates for seniors (age 60+) and older adults (age 50-59) at the state level and for major metropolitan areas. These data come from *The State of Senior Hunger in America in 2021* and *Hunger Among Adults Age 50-59 in 2021*, written by Drs. James P. Ziliak and Craig Gundersen.

Note: *Map the Meal Gap* estimates represent the state of food insecurity in the United States using the most recently available data from the Census, which has a two-year lag. For example, *Map the Meal Gap 2020* reports food insecurity in 2018 and *Map the Meal Gap 2019* reports food insecurity in 2017. For clarity, the file names on the provided datasets indicate the report year and the data year. "MMG2020_2018Data_ToShare" represents the *Map the Meal Gap 2020* report using 2018 data.

More in-depth technical details on Feeding America's methods and approaches for estimating local-level food insecurity and meal costs are detailed in the Map the Meal Gap 2020 Technical Brief.

A Note on Compatibility of Local Food Insecurity Estimates

Local food insecurity estimates from *Map the Meal Gap* are primarily designed to make comparisons across similar geographies in a given year (e.g., County A to County B in 2021 or State A to State B in 2020). Users are encouraged to exercise caution when comparing estimates over time (e.g., County A in 2021 to County A in 2020), especially when differences are small since they may not be statistically different. In fact, most geographies will see statistically insignificant changes in estimated food insecurity from one year to the next, especially when the national changes in food insecurity rates are small. That said, the magnitude of those changes may be relatively large and potentially meaningful. Users should consider how differences for one geography compare to differences for other comparable geographies (e.g., how much did estimated food insecurity in County A change from 2020 to 2021 relative to all other counties in the state). Users may also want to look at comparable estimates from more than two years when available (e.g., County A in 2021 compared to County A in 2020 and 2019).

With the caveats above in mind, county and service area food insecurity estimates from *Map the Meal Gap 2023* (2021 data) may be compared to data from *Map the Meal Gap 2022* (2020 data), *Map the Meal Gap 2021* (2019 data), and *Map the Meal Gap 2020* (2018 data). District and state food insecurity estimates from *Map the Meal Gap 2022* (2020 data), however, are not directly comparable to estimates from *Map the Meal Gap 2023* (2021 data) or *Map the Meal Gap 2021* (2019 data). This is because our 2020 estimates were calculated using ACS 5-year (2016-2020) data, not the ACS 1-year data used in previous studies since the U.S. Census

Bureau did not release 2020 ACS 1-year data in 2022 due to data quality concerns related to Covid-19. District and state estimates for 2020 can, however, be used to make comparisons across similar geographies (e.g., District A to District B in 2020 or State A to State B in 2020) but should not be used for comparisons over time (e.g., District A in 2020 to District A in 2019).

We do not recommend comparing food insecurity estimates for any geography from the most recent four studies – *Map the Meal Gap 2023* (2021 data), *Map the Meal Gap 2022* (2020 data), *Map the Meal Gap 2021* (2019 data), or *Map the Meal Gap 2020* (2018 data) – to estimates from *Map the Meal Gap 2019* (2017 data) or any previous year due to the changes in the methodology made in 2020 (i.e., updated poverty variable and new disability variable). Estimates from *Map the Meal Gap 2013* (2011 data) through *Map the Meal Gap 2019* (2017 data) are more directly comparable.

Methodology Change Milestones

Changes Made in 2022

In 2022, Feeding America estimated, for the first time, food insecurity among Black individuals, Latino individuals, and white, non-Hispanic individuals for 2019 and 2020.

Changes Made in 2020

In 2020, Feeding America enhanced the *Map the Meal Gap* food insecurity model by including a disability rate variable and refining the poverty measure to exclude undergraduates from the calculation. The details surrounding this change are discussed in our technical brief. It is also worth noting that in most areas the estimates would have been lower absent any changes to the underlying methodology due to nationwide improvements to food insecurity and the underlying variables in 2018. **Because of the changes to the model, the estimates from *Map the Meal Gap 2020* or later are not directly comparable to estimates from previous years.**

Changes Made in 2013

In 2013, we introduced homeownership to serve as a proxy for household assets. **This methodological change means that the estimates from studies prior to *Map the Meal Gap 2013* are not directly comparable to more recent publications.**

However, there could still be value in studying changes over time to identify broad trends, especially if you are aware of the methodological changes in the study and when they occurred.

Citation

Please refer to each *Map the Meal Gap* datafile for the appropriate citation for that year's report.

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.

What is food insecurity?

A household is food secure if there is access, at all times, to enough food for an active, healthy life for all household members. Each year, the U.S. Department of Agriculture (USDA) measures the extent and severity of food insecurity in households through a nationally representative survey (the Current Population Survey). These statistics are released in an annual report called *Household Food Security in the United States* and are based on a measure of food security derived from responses to questions about conditions and behaviors known to characterize households having difficulty meeting basic food needs. For more details, visit the USDA Economic Research Service.

How did Feeding America select the variables included in the Map the Meal Gap model?

Our choice of variables was guided first by the existing literature on the demographic factors that correlate with food insecurity and second by the availability of each variable at the state, county and congressional district level. Variables that fit these two criteria include the unemployment rate, non-undergraduate student poverty rate, homeownership rate, median income and disability rate. We also include percent African American and percent Hispanic to implicitly account for the structural and institutional discrimination that underlies the differences in food insecurity for the two largest minority groups in the United States. The model does not capture every variable that has been shown to have a relationship with food insecurity rates, but we are limited by data availability at each geographic level. To account for variables that are not available, we include state and year fixed effects. These allow us to control for other observed and unobserved influences on food insecurity.

Why are variables representing percent African American and percent Hispanic included in the model?

African American and Hispanic populations disproportionately experience food insecurity, in addition to other socioeconomic factors like poverty and unemployment. The *Map the Meal Gap* model includes race and ethnicity to implicitly account for the structural and institutional discrimination that underlies these differences in food insecurity for the two largest minority groups in the United States. To accurately depict food insecurity, it is our responsibility to account for significant risk factors, including those that reflect uncomfortable truths about the experiences of people of color.

Methodologically, we include these two variables because they meet the criteria that we have identified for inclusion in the model *(explained in the above FAQ)*. Other populations of color, such as Native Americans and some Asian nationalities are also disproportionately affected by food insecurity; however, sample size and data availability have prevented us from including them in the model.

The current and historical disproportionate impact of food insecurity on African American and Hispanic populations is documented by the United States Department of Agriculture Economic Research Service.

Why does summing the Map the Meal Gap county estimates result in different totals than the state estimates?

The state estimates provided in the *Map the Meal Gap* report, interactive map, and datasets are an aggregation of congressional district estimates, not county estimates. The county and congressional district models use different data sources and timeframes. Except for unemployment, *Map the Meal Gap* county estimates use 5-year American Community Survey (ACS) data while congressional district estimates use 1-year ACS estimates.[1] For counties, in order to provide estimates for areas with small populations, this sample is defined over a 5-year period. Congressional districts have sufficient sample sizes to allow for the use of 1-year estimates. The unemployment estimates used between the two geographies also differs. The county model uses 1-year unemployment estimates from the Bureau of Labor Statistics (BLS). However, the BLS does not provide congressional district unemployment estimates. Therefore, 1-year ACS estimates are used instead.

I have more questions. Who do I contact?

Contact research@feedingamerica.org with any additional questions you have.

[1] The Census Bureau did not release 1-year estimates for stats for 2020. For this year only, the state rates use 2016-2020 ACS 5-year estimates.