INSIGHTS: Data Brief

DIFFERENCES IN COUNTY-LEVEL ACCESS TO SOCIAL SAFETY NET SERVICES ACROSS THE UNITED STATES

KEY TAKEAWAYS

- Communicable disease outbreaks can increase the need for social safety net services to mitigate the health impacts of food insecurity, unemployment, lack of health insurance, and inadequate housing.

- Access to social safety net services varied widely across counties in the United States, with both local and regional differences in access to housing, food, health insurance, and unemployment benefits.

- The northeast region had generally better access to social safety net services while the southern region had generally worse access.

- Using an index score ranging from 0 to 10 (with 10 indicating the highest access and quality) to gauge both access and quality of safety net services on a county level, we observed that county scores tended to be similar within states.

- On average, U.S. counties that scored in the lower 75th percentile in their state for access to social safety net services had lower percentages of their populations who were of White race (74% vs. 81%) and higher percentages of their populations who were of Black race (10% vs 6%), Hispanic ethnicity (10% vs. 8%), and ages ≥65 (21% vs. 19%) when compared to counties ranking in the top 25th percentile.

- Over half of U.S. counties (59%) that scored in the lower 75th percentile in their state for access to social safety net services had <20,000 population.

- On average, unemployment rates were 16% higher in counties scoring in the lower 75th percentile in their state for access to social safety net services when compared to counties scoring in the top 25th percentile.

INTRODUCTION

Local and county level systems of preparedness are at the frontline of the country's ability to respond to and recover from infectious disease outbreaks. The COVID-19 pandemic has shown firsthand how certain communities, specifically low-income communities and communities with a higher percentage of racial minorities, can be disproportionately burdened by the economic and health impacts of an infectious disease outbreak.[1-3] As the COVID-19 pandemic extends into its third year, it continues to have a disproportionate economic impact on these communities.[4] The events related to the COVID-19 pandemic have brought to the forefront the value of social safety net programs that help support the most vulnerable communities and that can help mitigate the impacts of communicable disease outbreaks and their socioeconomic consequences (e.g. unemployment, food insecurity).

We developed a composite index to help illustrate patterns and identify gaps in safety net access within counties across the United States, focusing on safety net services that pertain most directly to outbreak preparedness. In this brief, we present measures of county-level access to social safety net services based on data collected for 3,142 counties, represented through the following four domains: 1) access to quality housing; 2) access to quality food; 3) access to health insurance; and 4) access to unemployment benefits. These four domains were chosen as critical areas that are highly impacted by communicable disease outbreaks, as observed with the recent COVID-19 pandemic. Such a data-driven tool can help identify areas in which systems can be strengthened to support outbreak recovery and resilience.
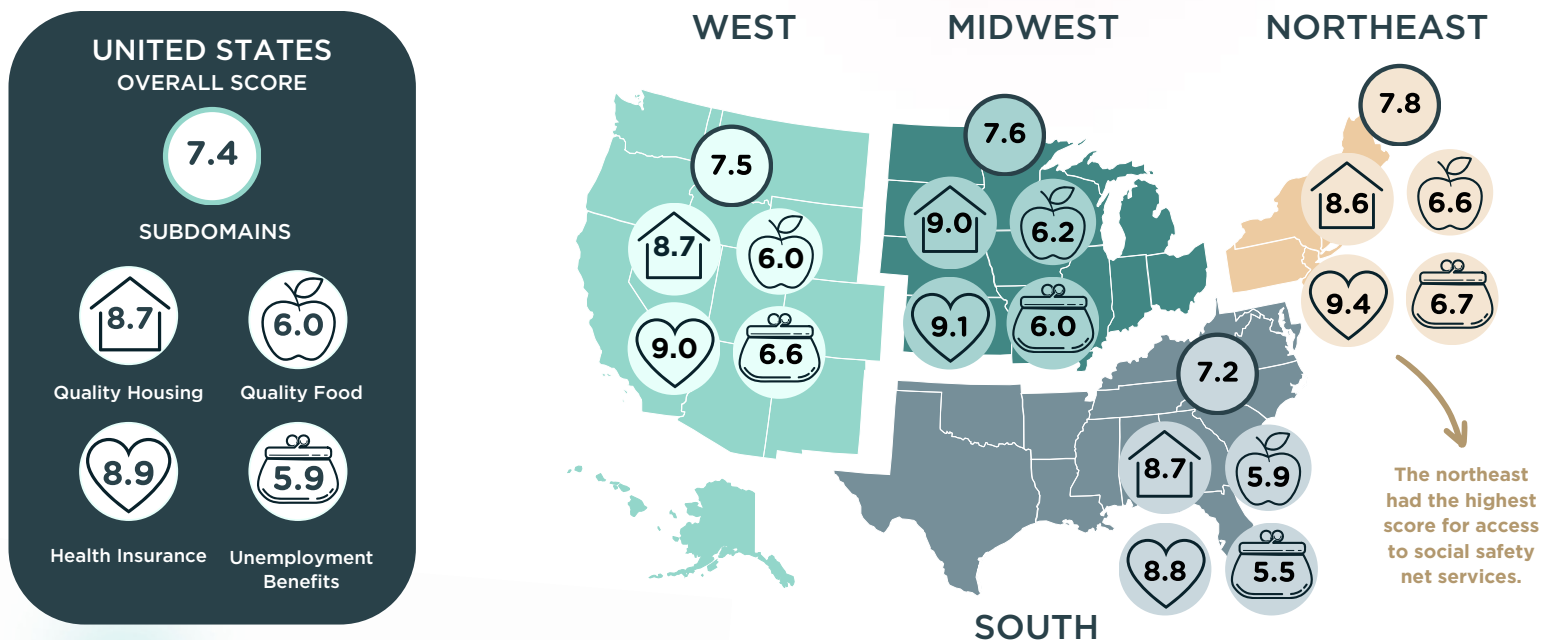

UNITED STATES
OVERALL SCORE
7.4

SUBDOMAINS
8.7 Quality Housing
6.0 Quality Food
8.9 Health Insurance
5.9 Unemployment Benefits

WEST
7.5
8.7 / 6.0
9.0 / 6.6

MIDWEST
7.6
9.0 / 6.2
9.1 / 6.0

NORTHEAST
7.8
8.6 / 6.6
9.4 / 6.7

SOUTH
7.2
8.7 / 5.9
8.8 / 5.5

The northeast had the highest score for access to social safety net services.

Figure 1. Access to social safety net services in the United States and by region, as measured on a scale from 0 to 10[a]

[a] Scores were calculated at the county level and were based on a scale ranging from 0 to 10 (a score of "10" represents the highest or best access to these services). Scores were based on indicators relating to both access to these social safety net services and the quality of those services. Scores for overall access to social safety net services were derived by averaging scores for the four domains of quality housing, quality food, health insurance, and unemployment benefits. Mean overall scores and domain scores for food and health insurance were statistically different across regions (p<0.05 for ANOVA test of mean differences).

Scores for overall access to social safety net services averaged 7.4 (out of 10) nationwide, with regional averages ranging from 7.2 to 7.8 (Figure 1). The northeast region had the highest overall score, and the southern region had the lowest overall score. We observed that county scores tended to be similar within states. The top three scoring states for overall access to social safety net services, based on scores averaged across counties, were Minnesota (8.2), Rhode Island (8.1), and Washington (8.1). The lowest scoring states were Arizona (6.9), Florida (6.9), and Mississippi (6.8).

County-level scores for overall access to social safety net services and for each of the domains had the following ranges: overall access (5.9-8.6), housing (6.1-9.7), food (3.1-7.9), health insurance (6.5-9.8), and unemployment benefits (2.9-8.3). On average, scores were higher for domains relating to access to quality housing and health insurance within regions and nationwide. Scores were lower for domains relating to quality food and to unemployment benefits. Domain scores related to food access and unemployment benefits had the greatest variability across counties.

We identified counties scoring in the lower 75th percentile ("lower scoring") and top 25th percentile ("higher scoring") in their state for overall access to social safety net services. In Figures 2-4, we present comparisons of demographic characteristics, rural-urban status, and unemployment rates for lower versus higher scoring counties.

Figure 2. Demographic characteristics of U.S. counties, comparing lower scoring and higher scoring counties within their state for access to social safety net services
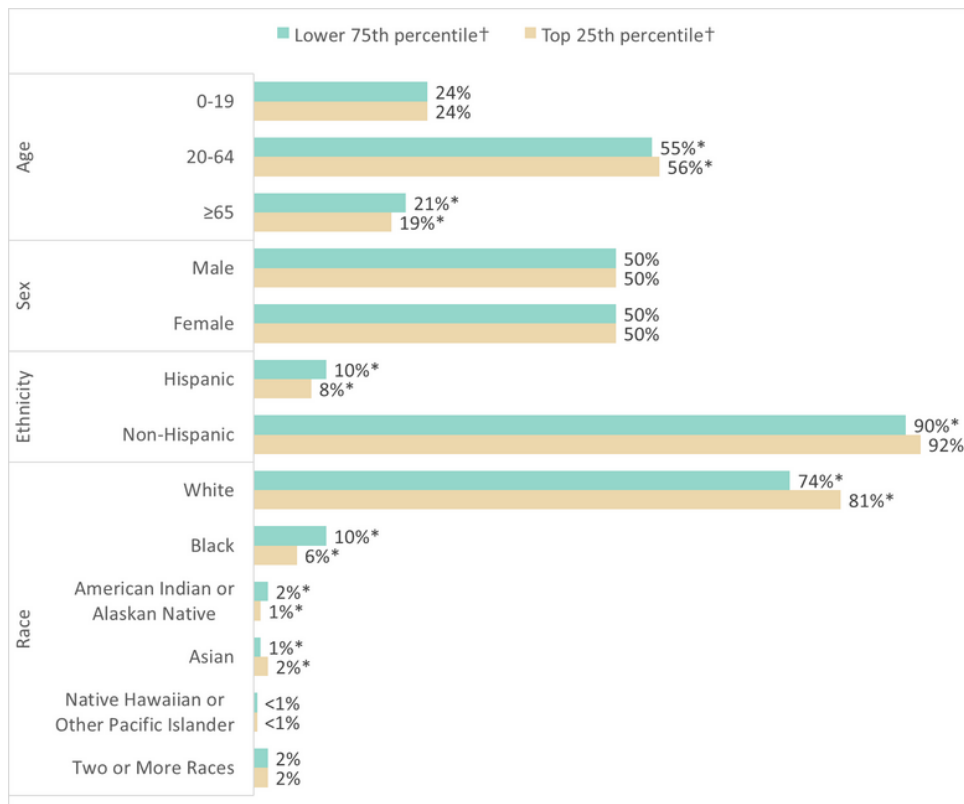
Lower scoring counties differed in several demographic characteristics when compared to higher scoring counties (Figure 2). On average, lower scoring counties had slightly higher percentages of their populations aged 65 years or older (21% vs. 19%) and of Hispanic ethnicity (10% vs. 8%) in comparison with higher scoring counties. We observed no differences in the distribution of males and females across the two comparison groups. Lower scoring counties had smaller percentages of their populations who were of White race (74% vs. 81%) and higher percentages of their populations who were of Black race (10% vs 6%) when compared to higher scoring counties.

† Teal bars represent counties in the United States scoring in the lower 75th percentile, and tan bars represent counties scoring in the upper 25th percentile of all counties within their state. Access to social safety net services was a composite score based on access to quality housing, quality food, health insurance, and unemployment benefits. * Indicates that the distribution of this demographic characteristic was significantly different when comparing the lower 75th percentile counties to the top 25th percentile counties (p<0.05 for t-test comparison).

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Figure 3. Rural-urban status of U.S. counties, comparing lower scoring and higher scoring counties within their state for access to social safety net services
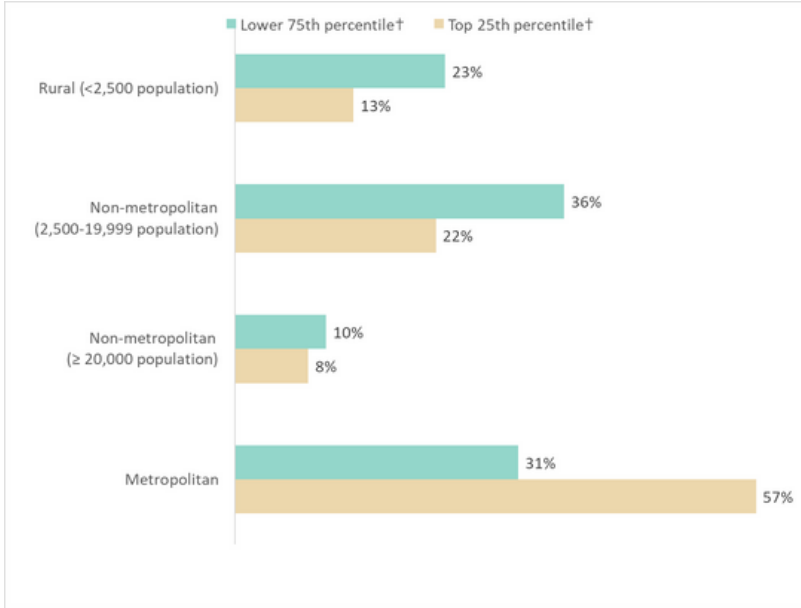

Figure 3 shows the percentages of counties that were in rural versus metropolitan areas in lower and higher scoring counties for access to social safety net services. Overall, lower scoring counties were more rural when compared to higher scoring counties. Over half of lower scoring counties had <20,000 population. In contrast, approximately one-third of higher scoring counties had populations <20,000. Over half of higher scoring counties were in metropolitan areas (57%), compared to less than one-third (31%) of lower scoring counties.

† Teal bars represent counties in the United States scoring in the lower 75th percentile, and tan bars represent counties scoring in the upper 25th percentile of all counties within their state. Access to social safety net services was a composite score based on access to quality housing, quality food, health insurance, and unemployment benefits. Rural-urban status categories were based on 2013 Rural-urban Continuum codes,[5] which represent the most recent rural-urban designations. The distribution of rural, non-metropolitan, and metropolitan counties differed in combined counties scoring in the lower 75th versus the top 25th percentiles (chi-square p<0.001).

Figure 4. Average unemployment rates in U.S. counties, comparing lower scoring and higher scoring counties within their state for access to social safety net services, 2016-2020
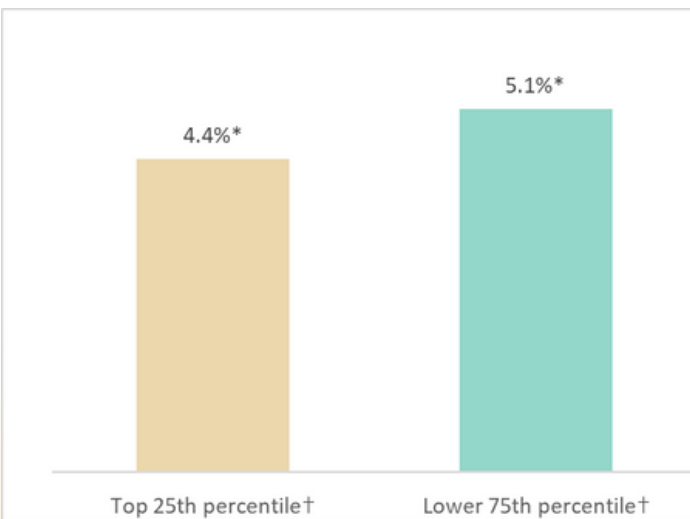
A comparison of unemployment rates in lower versus higher scoring counties for access to social safety net services is shown in Figure 4. Counties scoring in the lower 75th percentile had an unemployment rate that was 16% higher when compared to counties scoring in the upper 25th percentile (5.1% versus 4.4% unemployment, respectively).

† Teal bars represent counties in the United States scoring in the lower 75th percentile, and tan bars represent counties scoring in the upper 25th percentile of all counties within their state. Access to social safety net services was a composite score based on access to quality housing, quality food, health insurance, and unemployment benefits. *Percentage was statistically different in the lower 75th percentile when compared to the top 25th percentile (p<0.05 for t-test comparison). Unemployment rate data are from the Bureau of Labor Statistics Local Area Unemployment Statistics program within the USDA Economic Research Service.[7]

CONCLUSION

Access to social safety net services encompassing the areas of housing, food, health insurance, and unemployment benefits varied widely across counties in the U.S. The index described in this brief resulted in an overall average score of 7.4 out of 10 nationwide, indicating that there are clear opportunities to improve access to these safety net services across the country (in all counties). We observed statistically significant disparities in counties scoring in the lower 75th percentile compared to the top 25th percentile in their states particularly by race/ethnicity, rural-urban status, and by unemployment. Lower scoring counties had higher percentages of their populations who were black and lower percentages who were white. Over half of the lower scoring counties had a population <20,000. Lower scoring counties had higher average unemployment rates. Indicators of access to quality housing and health insurance scored relatively higher than indicators for access to quality food and unemployment benefits.

Our findings suggest the need for further examination of factors related to enrollment rates in supplemental food programs and access to sources of healthy food at the local level. It was estimated in 2019 (before the 2019 COVID-19 pandemic) that only 57% of WIC-eligible participants[8] and 82% of SNAP-eligible participants[9] enrolled in these programs nationwide. More recent policy changes spurred by the pandemic-related funding bills have resulted in increased WIC participation between years 2020 and 2022, although the trend varies across states.[10] These data point to the potential for policy changes to result in improvements in food access among the most vulnerable communities. Similarly, studies have identified strategies that improve access to unemployment benefits,[11,12] such as increasing access to broadband internet service, which is strongly associated with increased access to unemployment benefits, and is also associated with lower unemployment rates in rural areas.[13] Even though the national and regional average scores for health insurance coverage are relatively high, there may be further room for improvement, such as for states that have not adopted Medicaid eligibility expansion.[14] These differences and their impact on scores should be investigated further. Finally, our data suggest that rural counties and counties with higher percentages of black, Hispanic, or AIAN populations may represent areas with the greatest need for improved access to social safety net services in the United States.

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DATA SOURCES AND METHODS

Table 1. Data sources and measures used to derive index scores for access to social services

DATA SOURCE	DATASET NAME	MEASURE(S) USED
County Health Rankings & Roadmaps, University of Wisconsin Population Health Institute	County Health Rankings 2021[15]	Severe housing problems (based on HUD Comprehensive Housing Affordability Strategy, 2013-2017), Food environment index (based on USDA Food Environment Atlas, 2015), Broadband access (based on American Community Survey, 2015-2019)
U.S. Census Bureau	Model-based SAHIE Estimates for Counties and States: 2018[16]	Percentage of children (<19) and adults (18-64) with health insurance, 2018
U.S. Department of Agriculture	WIC 2019 Eligibility and Coverage Rates[17]	State-level WIC enrollment rates, 2019
U.S. Department of Agriculture	Supplemental Nutrition Assistance Program (SNAP) Eligibility & Access[9]	State-level SNAP enrollment rates, 2019
U.S. Census Bureau	Supplemental Nutrition Assistance Program (SNAP) Eligibility & Access[18]	County-level SNAP enrollment rates, 2013-2015, 2014-2016, 2016-2018, 2017-2019, depending on data availability
California Department of Social Services	CalFresh[19]	County-level SNAP Program Reach Index in California, 2015-2019
U.S. Census Bureau	ACS Supplemental Poverty Measures (SPM) Research Files: 2009 to 2019[20]	Poverty threshold for a family with two parents and two children, 2019
worldpopulationreview.com	Unemployment Benefits by State 2022[21]	State maximum unemployment benefits, 2022
USDA Economic Research Service, Bureau of Labor Statistics Local Area Unemployment Statistics	Unemployment and median household income for the U.S., States, and counties, 2000-2021[6]	Unemployment rates, 2016-2020
U.S. Census Bureau, Population Division	County Characteristics Population Estimates, 2020[22]	County population estimates by age, sex, race, and Hispanic origin, 2020
USDA Economic Research Service, Office of Management and Budget	2013 Rural-Urban Continuum Codes[5]	Rural-urban continuum codes for metro and nonmetro categories, 2013

DEFINITIONS

Access to social safety net services:

Overall measure of access to safety net services, calculated by averaging domain scores for access to quality housing, food, health insurance, and unemployment benefits. Final scores for overall access and for each of the domains were scaled from 0 to 10, with a score of 10 representing the greatest access to social safety net services. Each domain with corresponding indicators is described below.

Access to quality housing:

This measure was an average score of the following two indicators.

1) Housing quality: Percent of households that do not have any of the following four housing problems – overcrowding, high housing costs, lack of kitchen facilities, or lack of plumbing facilities.

2) Housing affordability: Percent of households that spend less than 50% of their household income on housing.

Access to quality food:

This measure was an average score of the following two indicators.

1) Food environment index: Scaled index that measures access to healthy foods by considering the distance an individual lives from a grocery store or supermarket, locations for health food purchases in most communities, and the inability to access healthy food because of cost barriers.

2) Supplemental Nutrition Assistance Program (SNAP) rates: Percentage of the population that are enrolled in SNAP among those who are eligible.

3) Special Supplemental Nutrition Program for Women, Infants, and Children (WIC): Percentage of the population that are enrolled in WIC among those who are eligible.

Access to health insurance:

This measure was an average score of the following two indicators.

1) Health insurance (minors): Percent insured among people <19 years old.

2) Health insurance (adults): Percent insured among people 18-64 years old.

Access to unemployment benefits:

This measure was an average score of the following two indicators.

1) Broadband access: Percentage of households with broadband internet connection. Studies have shown that broadband connection is a predictor of better access to unemployment benefits.

2) Quality of unemployment benefits: Ratio of how much unemployment benefits an individual is able to get compared to the cost of living. Calculated as the ratio of the state maximum total weekly unemployment benefits, divided by the county's average Supplemental Poverty Measure (SPM) poverty threshold (based on weekly income) for a family with 2 parents and 2 kids.

STATISTICAL METHODS

Each of the indicators was calculated as a number scaled to be between 0 and 10, and then the indicators were averaged into a domain score. Domain scores were then averaged to create a final score representing county-level measure of overall access to safety net services. Higher scores (closer to 10) denote better access. We used county-level data where available, and state-level data where county-level data were not available, such as with the WIC participation rates and the SNAP participation rates in some states. We used the most recently available Rural-Urban Continuum Codes from 2013 to identify counties based on rural-urban status. The next update of RUC codes is planned for mid-2023,[6] and it is possible that rural-urban status of counties could have changed between 2013 and the date of this publication.

We calculated domain scores and the overall scores for counties. We identified counties in the lower 75th percentile and the top 25th percentile for their overall score compared to other counties in the same state. We compared some key demographic factors (age, sex, race, ethnicity, rural-urban status, and the unemployment rate) across the bottom 75th percentile counties and the top 25th percentile counties. Mean differences by region were tested using ANOVA. We used t-tests to compare mean percentages of populations within specified demographic groups (age, sex, race, ethnicity) and mean unemployment rates in the lower 75th versus the top 25th percentile counties. Chi-square tests were used to compare the distribution of rural-urban counties in those with scores in the lower 75th versus the top 25th percentile. We used an alpha of 0.05 for all statistical significance testing.

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