

Learning Outcome: Analyze the spatial pattern of food insecurity and related factors in Mississippi Counties

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Title: Mapping Food Insecurity: Spatial Patterns and Social Determinants in Mississippi Counties

Background: Mississippi consistently ranks among the states with the highest rates of food insecurity in the United States, with recent statistics indicating that approximately 19.3% of households in the state experience food insecurity. This alarming prevalence highlights the severity of this problem within the state. Therefore, this ecological study employs publicly available datasets and GIS tools to comprehensively understand the spatial distribution of food insecurity indicators and associated social determinants of health across Mississippi counties.

Methods: Using R software and ArcGIS Story Map, an ecological study was conducted focusing on Mississippi counties. Various publicly available datasets were analyzed to map indicators of food insecurity and related factors.

Results: The study revealed distinct patterns, with food insecurity indicators clustering in counties bordering Louisiana, while limited access to healthy food was prevalent in the delta region and certain counties like Kemper and Lauderdale. Notably, the food environment index exhibited a similar spatial pattern to limited access to healthy food. Moreover, disparities extend beyond food insecurity, involving low broadband access, limited food resources, high obesity rates, and poverty. Despite greater need elsewhere, resources were disproportionately allocated to Northeast Mississippi counties.

Conclusion: This study offers critical insights into the spatial patterns of food insecurity in Mississippi. Targeted interventions and equitable resource allocation strategies are crucial to address observed disparities across counties and ensure equitable access to food and resources.