Assessing Food Insecurity During COVID-19 Pandemic

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Overview

• Assessing Food Insecurity During COVID-19: Project Design
  • Sampling
  • Measurement

• Describing the Food Insecurity Problem Spatially
  • U.S.
  • Regions
  • States
  • Counties

• Risk and/or Consequences of Food Insecurity During COVID-19
Food Insecurity in the U.S.

• **Food insecurity**: “is the limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways.”

• 1 in 8 Americans live in food insecure households

• Those more likely to experience food insecurity (Vulnerable):
  • Near or below poverty line
  • Single parent households
  • Women living alone
  • Black/Hispanic-headed households
  • Elderly
Study Design Overview

• Nationally representative sample of adults (n = 10,368)
• Online platform; surveys executed by Qualtrics, Inc.
• Data were collected the 3rd week March 2020
• Data were post-strata weighted (income, gender, race/ethnicity, and geography) to ensure adequate representation and mirroring of the U.S. population per U.S. Census estimates
• Survey asked a range of questions regarding fear, perception, social and behavioral response, sociodemographics, etc.
Measurement Overview

• U.S. Adult Food Security 10-item Module
• Questions were revised to address immediate food insecurity (last 3 months) as opposed to last 12 months)
• Questions range from running out of food, not having enough money for food, eating balanced/healthy foods, cutting size of meals, eating less, being hungry etc.
• Items are recoded to create a 10-item scale ranging from 0-10
• Persons scoring 3 or higher are in moderate to high food insecurity group—focus of our work.
United States (2018): 12% of households are food insecure based on USDA estimates.

United States (2020): 38% of sampled individuals are food insecure based on our sample (n = 10,368).

United States (2020): South Region (40.8) highest percent of respondents reporting moderate to high food insecurity in our sample (n = 10,368).
Food Insecurity Across U.S. Regions

Average over all 4 regions = 38.3%
Food Insecurity Across Regions and States

Figure 1. State-Level Food Insecurity

Legend:
- High Food Insecurity (40.9% - 47.7%)
- Moderate Food Insecurity (35.9% - 39.8%)
- Low Food Insecurity (24.5% - 35.9%)
- Limited Data
Northeast Region

Percent Food Insecurity Aggregated to County-Level in Northeast U.S. Census Region

Legend
Food Insecurity by Quartile
- High FI
- Moderate FI
- Low FI
- No FI
- No Data

Sources: Epi, HERE, FAO, NOAA, USGS. © OpenStreetMap contributors, and the GIS User Community
Midwest Region

Percent Food Insecurity Aggregated to County-Level in Midwest U.S. Census Region

Legend
Food Insecurity by Quartile
- High FI
- Moderate FI
- Low FI
- No FI
- No Data
Percent Food Insecurity Aggregated to County-Level in West U.S. Census Region

Legend
Food Insecurity by Quartile
- High FI
- Moderate FI
- Low FI
- No FI
- No Data

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## State Level Food Insecurity
### (Top 10 Most Food Insecure)

<table>
<thead>
<tr>
<th>State</th>
<th>Percent Food Insecure</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>47.7%</td>
<td>153</td>
</tr>
<tr>
<td>Arkansas</td>
<td>47.4%</td>
<td>95</td>
</tr>
<tr>
<td>Tennessee</td>
<td>45.1%</td>
<td>215</td>
</tr>
<tr>
<td>Kentucky</td>
<td>44.0%</td>
<td>141</td>
</tr>
<tr>
<td>Georgia</td>
<td>43.6%</td>
<td>335</td>
</tr>
<tr>
<td>Texas</td>
<td>42.1%</td>
<td>922</td>
</tr>
<tr>
<td>Maryland</td>
<td>41.9%</td>
<td>198</td>
</tr>
<tr>
<td>California</td>
<td>41.7%</td>
<td>1250</td>
</tr>
<tr>
<td>Missouri</td>
<td>40.9%</td>
<td>193</td>
</tr>
<tr>
<td>North Carolina</td>
<td>40.7%</td>
<td>332</td>
</tr>
</tbody>
</table>
General Observations (Preliminary Findings)

• Food insecurity is highest among vulnerable populations (African-Americans; Hispanics, Low-income, and younger respondents)

• Food insecurity is significantly correlated with measures of mental health (anxiety and depression)

• COVID-19 Fear (How would you rate your fear of COVID-19 currently on a scale of 0-10?) is significantly related to food insecurity

• Food insecurity appears to be geo-spatially correlated with both outbreak hotspots and disadvantaged communities
Questions?

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