

Learning from the Pandemic: Lessons to Improve Food Insecurity in North Carolina

PRESENTED TO

North Carolina Pandemic
Recovery Office (NCPRO)

PRESENTED BY

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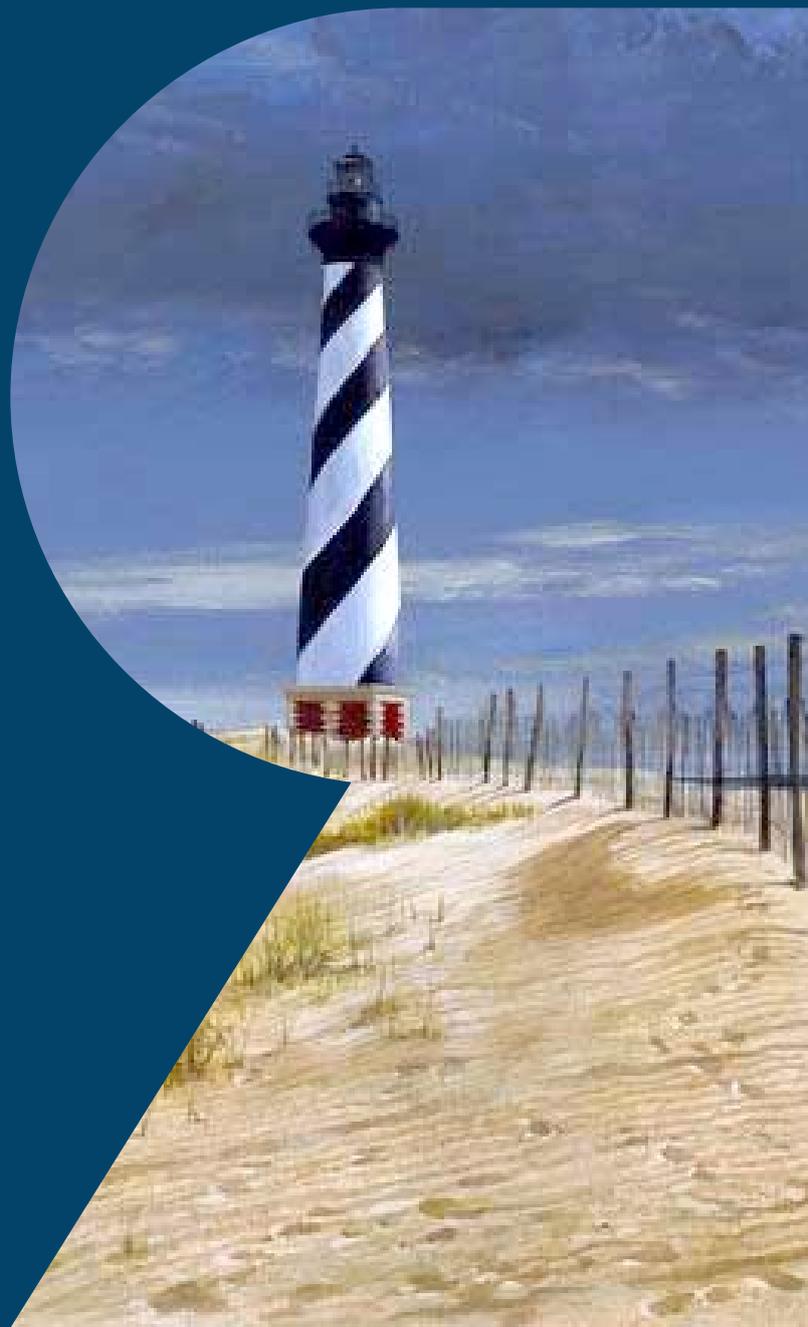


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Policy Question

Through analyzing food insecurity and policy responses to food insecurity before and after the disruptions caused by the COVID-19 pandemic, what lessons can we learn to mitigate food insecurity in North Carolina long-term?

Executive Summary

The team used qualitative and quantitative methods to analyze the impact of the pandemic on food insecurity in North Carolina. Most counties noted increased demand for SNAP. Half noted a decrease in food insecurity, while the rest were split between constant and increased food insecurity. More than half considered communication from the state to be good. Almost 80% thought the pandemic response was well implemented, and none said implementation was bad.

The pandemic provided a window of opportunity to examine the efficacy of policies that expand access and increased benefits for FNS recipients. Initial findings suggest that maintaining pandemic-era policies (or modified versions of them) would be promising for reducing food insecurity both before and after future public health emergencies and natural disasters.

Key Findings

Finding #1 – A robust policy response may have prevented a widespread increase in food insecurity.

Finding #2 – Increased SNAP enrollment & benefits may not signal increased food insecurity.

Finding #3 – Some counties noted improved efficiency and productivity.

Finding #4 – Implementation of pandemic-era programs was good overall.

Findings #5 – Communication during the pandemic was good overall.

Finding #6 – County size correlated with changes in demand for SNAP.

Finding #7 – Undocumented populations may have been overlooked.

Finding #8 – Dramatic increase in food supplied by nonprofits helped keep food insecurity low.

Finding #9 – The pandemic revealed the need for a better rapid response plan.

Finding #10 – Technology could still be used more effectively.

EXAMINING FOOD INSECURITY IN NORTH CAROLINA

Food Insecurity Detailed

Food insecurity is a household-level measurement denoting limited access to food. Food insecurity encapsulates two distinct conditions: low food security and very low food security.¹

Low food security signifies poor food quality, variety, and desirability of food. Very low food security signifies the same conditions but with the addition of reduced food intake and hunger.

According to the U.S. Department of Agriculture (USDA), “10.5 percent (13.8 million) of U.S. households were food insecure at some time during 2020,” the same share as in 2019.² North Carolina experiences food insecurity above the national average. About 13.9 percent of households (10th highest nationally) experience low food security and about 5.5 percent of households (12th highest nationally) experience very low food security.³

Education, employment status, and income are all correlated with food insecurity. Food insecurity declines as educational attainment increases.⁴ Full-time workers experience lower rates of food insecurity than part-time workers.⁵ In North Carolina, 50 percent of people experiencing food insecurity live below 130 percent of the federal poverty line (FPL) and are thus eligible for the full Supplemental Nutrition Assistance Program (SNAP) benefits. Additionally, 31 percent of North Carolinians experiencing food insecurity live above 185 percent of the FPL and are thus ineligible for SNAP benefits.⁶

People with disabilities are more likely to experience food insecurity, as are households with children - and particularly single female-led households.⁷ Likewise, Black and Hispanic households experience higher rates of food insecurity than do white households. In 2020, 22 percent of Black households, 17 percent of Hispanic households, and seven percent of white households experienced food insecurity.⁸

Causes of Food Insecurity

At its core, food insecurity is a food access issue. Two of the largest barriers to food access are economic instability and the built environment.⁹ Both economic stability and the built environment are susceptible to disaster-related disruptions.

Economic Instability

Economic instability refers to the condition of insufficient money to consistently purchase food. Poverty is the primary indicator of food insecurity.¹⁰ 2021 Census data show that 82 percent of households reporting that they did not have enough to eat said it was strictly because of an inability to afford food.¹¹

Disasters can generate short- and long-term poverty. The Coronavirus pandemic has caused increased unemployment and exacerbated household-level economic instability. The economic ramifications of the pandemic have outlasted the federal government's initial policy responses.¹² Additionally, hurricanes increasingly disrupt food supply chains and threaten food security, particularly in North Carolina's coastal regions.¹³

Built Environment

Built environment refers to the condition of limited physical food access due to a lack of grocery stores or supply chain disruptions. Census data show that 17.4 percent of the U.S. population lives in areas that have low food access, as defined by being more than one-half mile or 10 miles from the nearest supermarket in urban and rural environments, respectively.¹⁴ Urban areas with limited food access are characterized by income inequality and majority minority populations.¹⁵ Unequal food access is often the result of discriminatory policies like redlining that structurally disadvantage minority populations.¹⁶

Disasters can jeopardize food supply chains and limit food access. The COVID-19 pandemic has disrupted food supply chains globally,¹⁷ but the USDA attests that food access and affordability in the U.S. has remained unaffected.¹⁸ However, North Carolina residents often experience food shortages from natural disasters, which are becoming more severe with climate change.¹⁹ As the Atlantic Ocean warms, for example, the winds, flooding, and storm surges from tropical storms and hurricanes are becoming more powerful and damaging.²⁰

Government Responses to Food Insecurity

In 2019, the Congressional Research Service reported on 17 domestic food assistance programs, including direct cash assistance and food assistance programs.²¹ Overall, government assistance programs provide nine times the nutritional support of the charitable food sector.²²

Some of the most prominent federal programs are SNAP, the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC),²³ the Temporary Assistance for Needy Families program (TANF),²⁴ the National School Lunch Program (NSLP),²⁵ the Child Tax Credit (CTC), and the Earned Income Tax Credit (EITC).²⁶

Major disaster relief and pandemic-specific programs include The Emergency Food Assistance Program (TEFAP),²⁷ the Disaster Supplemental Nutrition Assistance Program (D-SNAP),²⁸ and the Pandemic Electronic Benefit Transfer program (P-EBT).²⁹

Successes of Food and Cash Assistance Programs

Comprehensive approaches to addressing disaster-related food insecurity should include both food and cash assistance. Anti-hunger organization Feeding America's "Map the Meal Gap Report" concluded that SNAP, SNAP-Education (SNAP-Ed), and WIC play a critical role in helping low-income families break out of the cycle of food insecurity.³⁰

The American Rescue Plan (ARP) increased funds to several federal programs combatting poverty and food insecurity, including TANF, CTC, and SNAP.³¹ According to the North Carolina Justice Center, an anti-poverty organization, the number of North Carolinians utilizing SNAP increased by 24 percent during the pandemic to a total of about 1.3 million.³² A 2021 study by Columbia University estimates that the suite of policies in ARP could lift more than five million children out of poverty in the first year, reducing childhood poverty by 50 percent.³³

North Carolina Efforts to Address Food Insecurity

The North Carolina Department of Health and Human Services (NCDHHS) set a goal to decrease the population of children living in food insecure homes from 20.9 percent to 17.5 percent by 2025.³⁴ NCDHHS created the North Carolina Early Childhood Action Plan to address food insecurity and measure communities' access to supplemental nutrition services.³⁵

In November 2021, Governor Cooper signed a state budget into law that includes more than \$55 million³⁶ from the federal State Fiscal Recovery Fund to reduce food insecurity.³⁷ Funds will go to North Carolina food banks, Golden L.E.A.F., and Reinvestment Partners' Produce Prescription Program.³⁸

Protecting and Enhancing SNAP

SNAP is the main government intervention for food security. Recipients of TANF, Supplemental Security Income (SSI), or state-funded general assistance are categorically eligible for SNAP.³⁹ At the federal level, there have been attempts to eliminate categorical eligibility for SNAP.⁴⁰

North Carolina policymakers can reduce food insecurity by protecting categorical eligibility, opting out of the SNAP felony ban, and reversing the state's 2016 decision to limit ABAWDs (able-bodied adults without dependents) to three months of SNAP benefits.⁴¹

In response to the pandemic, USDA instituted several policies to enhance SNAP and mitigate food insecurity. In North Carolina, waivers have temporarily ended restrictions on ABAWDs⁴² and certain formerly convicted Controlled Substance Felons, allowing these populations to receive SNAP benefits.⁴³ Other waivers have also expanded online EBT grocery purchasing options⁴⁴ and increased access to SNAP by allowing for telephonic signatures on SNAP applications and recertifications.⁴⁵ Additionally, the Emergency Allotments (EA's) waivers increased all SNAP recipients' benefits to the maximum allotment for their household size.⁴⁶

RESEARCH METHODS

The team used both qualitative and quantitative methods to answer the following policy question:

Through analyzing food insecurity and policy responses to food insecurity before and after the disruptions caused by the COVID-19 pandemic, what lessons can we learn to mitigate food insecurity in North Carolina long-term?

First, the team collected survey and interview responses from both county Department of Social Services (DSS) officials and several anti-hunger nonprofits. The team used this qualitative research to outline findings and trends observed by those professionals. Next, the team reviewed SNAP benefits data provided by the NC Department of Health and Human Services (NCDHHS) and analyzed the data for important quantitative trends during the pandemic.

QUALITATIVE ANALYSIS

Qualitative Data Sources:

1. County government officials
2. Food banks and food councils

Rationale for Various Contacts

The team gathered information from government officials and nonprofit organizations to develop a well-rounded understanding of food insecurity in North Carolina before and since the pandemic began.

Overview of Qualitative Approach

The team contacted DSS officials in all of North Carolina's 100 counties via phone and email. The team also contacted several food banks and food councils that were recommended by DSS officials and NCPRO. Through these contacts, the team gathered information on the scope of food insecurity and the success of the pandemic response at the local level.

The team generated a call script (see Appendix 1) and corresponding form email (see Appendix 2) to produce consistent responses from our contacts with county government officials. The team created a similar form email to send to nonprofit organizations (see Appendix 3). The team also conducted interviews with a few county officials and North Carolina Local Food Council (NCLFC), an anti-hunger network.

The form emails operated as open-ended surveys. The team opted for an open-ended survey to avoid constraining or limiting responses. The team coded responses from DSS officials to determine: 1) the change in demand for nutrition assistance, 2) the quality of communication from the state concerning the pandemic-era policies, 3) the quality of implementation, 4) change in food insecurity.

Throughout late February-March 2022, on a bi-weekly basis, the team sent follow-up emails to DSS offices that did not respond. The team did this to ensure maximum county responses. For counties that did not reply to any of the first three attempts, the team reached out with a short multiple-choice survey (see Appendix 4). This survey was intentionally brief and straightforward in order to collect as many responses as possible.

The team tracked contacts with DSS offices and nonprofits in online shared documents titled “County Call Sheet” and “Nonprofit Outreach”, respectively. The team recorded the full text of each DSS response in a document titled “Full Survey Response Text”, and the full text of nonprofit responses in “Non-County Responses.”

By the end of March 2022, the team received responses from 47 counties, MANNA FoodBank, Food Bank of Central & Eastern North Carolina, Inter-Faith Food Shuttle, and NCLFC. A summary of DSS survey response data is included in Appendix 8.

QUANTITATIVE RESEARCH

To assess changes in SNAP before and during the pandemic the team used January 2019 to January 2022 data from NCDHHS’s county-level SNAP database. This database included SNAP numbers broken down by month, year, age, gender, and race. The team also used the North Carolina Prosperity Zones (see Appendix 5), the North Carolina Regional Councils of Governments (see Appendix 6), and the U.S. Office of Management and Budget’s (OMB) rural-urban continuum codes (see Appendix 7) as additional controls and variables. The team used 2020 Census data to control and analyze for county population size, county median income, and county racial demographics.

Organizing and Analyzing Quantitative and Qualitative County-Level Data

The team gathered data and information in a shared OneDrive “Master Spreadsheet.” The spreadsheet is organized by county. For each county, the team gathered information on population, demographics, and utilization of SNAP. Then, the team used Stata to test for correlations between county variables (see Appendix 9). Specifically, the team examined the change in benefits received across different county types, the correlation between benefits and population size, income, and race, and the correlation between population size, income, and race and the county responses to the survey questions.

CONSTRAINTS ON METHODOLOGY

Open-ended Questions

Open-ended survey questions left room for interpretation and could have reduced the accuracy of the team's findings. The team's questions about implementation of pandemic-era programs and communication were open-ended. Interviews would be required to understand the background and intent behind respondents' feedback.

Varied Responses

Out of a **sense of loyalty**, county government officials may have been reluctant to say communication was bad within their own organization or between levels of government.

The team had **lower response rates** from counties with smaller populations (45 percent response rate from counties with populations under 50,000 versus 49 percent response rate from counties over 50,000). The team also had lower response rates from counties with majority minority populations (35 percent of majority minority counties versus 50 percent for majority white counties).

The **response rate varied across questions** in the survey. For example, 47 officials answered a question about the change in demand for SNAP while only 40 officials answered a question about the change in food insecurity.

Limited Perspectives

The team does not know if all the officials surveyed have been employed since the start of the pandemic. If hired since March 2020, some may have a **limited perspective** on how conditions in their counties changed due to the pandemic.

The team spoke with four **non-governmental organizations**, which is not enough to provide a complete perspective from the nonprofit hunger-relief sector.

The team did not survey or interview impacted populations. The **perspective of those experiencing food insecurity** is not incorporated into the team's analyses.

QUANTITATIVE ANALYSIS FINDINGS

Poorer Counties Received More Nutrition Assistance

Poorer counties saw a greater increase in benefits than wealthier counties during the pandemic. Controlling for population size, an increase in county median income of \$1 correlates with a \$453.78 decrease in benefits pre- and post-March 2020. This demonstrates that more SNAP resources were going to areas with greater need.

Lower White Population Correlated with More Nutrition Assistance

Counties with a higher percentage of people of color received more benefits. Controlling for median income and population size, a one percentage point increase in the white population correlates with \$114,471 less benefits.

Whiter Counties Had a Better Communication Experience

Counties with larger white populations perceived communication to be better. For every one percentage point increase in the white population in a given county, respondents were one percent more likely to say that communication was good.

Each County Received \$17 Million More in Nutrition Assistance

On average, counties saw an increase of \$17 million in SNAP benefits between the year prior to the pandemic and the year immediately following March 2020.

Metro Counties Were More Likely to Perceive Increased Demand

Counties with a Rural-Urban Continuum code of 1-3 (metro areas) were 15% more likely to report that they saw increased demand for nutrition assistance, however this finding was not quite significant at the 90% confidence level.

Other Variables Tested

The team also analyzed the data for correlations between race, income, and demand for nutrition assistance, as well as income, population size and quality of communication. There was no correlation. Furthermore, the team tested the data for relationships between race, income, and population size and the results for quality of implementation and perceived food insecurity. There was no correlation.

SURVEY & INTERVIEW RESULTS

FINDINGS FROM COUNTY OFFICIALS

Finding #1 – A robust policy response may have prevented a widespread increase in food insecurity.

The team's survey results revealed, pandemic era programming prevented a widespread increase in food insecurity. 48 percent of DSS offices reported that food insecurity dropped during the pandemic. Another 25 percent said there was no change in food insecurity due to the pandemic. And 28 percent of counties reported an increase in food insecurity during the pandemic. Counties that reported no change or a decrease in food insecurity often commented that this was due to the efficacy of pandemic-era policy changes.

“The waivers and waiver extensions applied for by the state and approved by the federal government were well thought out and provided additional assistance to eligible households to assist them in providing food to their households during the pandemic.”
- Lee County official

“Lots of people are getting lots more food assistance benefits than they were normally getting.”
- Buncombe County official

Such sentiments were echoed by several county officials. Below are pandemic-era policy changes and waivers county officials highlighted.

Telephonic Signatures Made the Process More Efficient

Nearly every county official said the telephonic signatures waiver helped them serve people more efficiently. The waiver allows FNS applicants to verbally provide their signature for applications and recertifications instead of in writing.

“The ability to do Telephonic Signatures for applications and recertification is the most beneficial procedural change we have experienced. This allows business to be done without face-to-face contact and also eliminates the burden of transportation some of our clients experience.”
- Catawba County official

Drug Felon Ban Restrictions Lifted & ABAWDs Received Waivers

Another waiver that county officials highlighted as beneficial was the one that lifted the ban on people formerly convicted of certain drug-related crimes to receive SNAP benefits.

“Drug related felons are permanently disqualified from receiving FNS benefits. In NC, the exception to this is if the felony is an H or I class crime committed and convicted in NC. Then, the person can cure the disqualification after 6 months from release from prison or after conviction if not incarcerated, by completing an assessment with the local mental health authority. The requirement to complete that assessment has been suspended until the end of the certification or the month following the end of the Public Health Emergency declaration.”

-Cabarrus County Official

“[The drug felon ban] has prevented individuals who have served their time from obtaining lifesaving nutritional benefits. If these individuals have children, the kids can't access benefits. This policy also affects their partners. Many people come to us saying they have nothing to eat.

-Lincoln County Official

Several counties said this waiver was a positive change. None said it was a negative change. A few counties also noted that the waiver for ABAWDs (Able Bodied Adults Without Dependents) was helpful. Before the waiver, ABAWDs 18-49 years old, not working at least 20 hours per week or meeting another exemption criteria, were limited to receiving SNAP benefits for three months during a three-year period. The waiver allowed ABAWDs to receive benefits without limitations.

SNAP Emergency Allotments & Automatic Eligibility for Maximum Benefits

All county officials with whom we spoke noted that the SNAP EA's and automatic eligibility for SNAP maximum benefits helped families afford food in the wake of the pandemic. Officials often noted how impactful these policy changes were for vulnerable populations, like seniors and people with disabilities.

“Hands down, the best benefit of NCDHHS' response to the pandemic was the increase of benefits for seniors and/or the disabled living on a fixed income. Most seniors in our rural area are solely dependent on their SSA [Social Security Administration] benefits. A majority of them do not have enough allowable expenses to offset their income, thus they receive \$20 - \$70 per month. We hear horrible stories from our elderly about how they had to purchase medicine or heating fuel instead of food. Benefits for clients solely dependent on SSA income is the first item to check off if we want to eliminate hunger.”

-Mitchell County Official

“USDA was very helpful in providing waivers to DSS during the pandemic. The ability to auto-extend eligibility was a great help to DSS's in the beginning. I think this response, to increase to the maximum allotment regardless of income, has addressed the food insecurity/hunger resulting from the pandemic.”

-Tyrrell County Official

Across the state, county officials highlighted how effective SNAP waivers and EA's were in combatting food insecurity.

In fact, to the team's surprise, some county officials claimed SNAP recipients in their area had more benefits than they could spend. For example, a Buncombe County official shared that some people were “**sitting on 10-12k on EBT cards**” and about 1,800-2,000 residents had more than \$2,000 on their EBT cards - more than they would need to spend in a given month.

Automatic SNAP Recertification

Several county officials mentioned how automatic SNAP recertification increased efficiency and the number of people they could serve. However, a few county officials noted a hitch in the automatic SNAP recertification process, namely, that ending it abruptly and simultaneously for all SNAP recipients both puts a strain on DSS personnel and jeopardizes recipients' food security status.

“It is very hard for the counties to accommodate the state/federal expectations of returning to regular polices after the waivers that were in place during the pandemic have been lifted, when counties are given no room to work through the required casework that is back logged without any provisions to do so.”

- Jackson County official

Additionally, a Carteret County official warned that recipients are dependent on the extra benefits, so when benefits decrease, without stop-gap measures, they anticipate “**quite a difference**” in food insecurity.

Finding #2 – Increased SNAP enrollment & benefits may not signal increased food insecurity.

87% of county officials surveyed noted increases in the number of SNAP participants and the amount of SNAP dollars in their communities. DSS officials correlate the increase in numbers to the expansion and changes of these programs which have worked to better serve the existing pool of people in need.

Many officials explained that the increase in numbers may reflect improved accessibility as increased benefits for SNAP enrollment; reduced barriers to SNAP; and reduced stigma around receiving nutrition assistance were put in place.

Increased Benefits

Several counties thought that their enrollment numbers went up in response to increased benefits.

“Some families applied for food stamps because of the supplement. As word got out that supplements were going to full allotment, more and more people applied.”
- Davidson County official

On the other hand, a Wake County official did not believe that the increase in SNAP applications was attributable to people hearing about the maximum allotment. She said EA's were issued when applications were low, and that people applied because they needed it. Thus, the increase in SNAP applicants could reflect the expanded eligibility and/or an increase in food insecurity. However, the discrepancy in the change in demand for SNAP versus the change in food insecurity, as noted by county officials, suggests that the eligibility hypothesis was more likely.

Reduced Barriers

The increase in SNAP enrollment could be primarily due to an increase in accessibility. Automatic recertification waivers, as mentioned above, reduced barriers to accessing benefits and increased disbursed benefits. A Wake County official noted how disbursed benefits remained high even when applications slowed down because there was no longer application “churn,” as people were getting renewed automatically. Similarly, Buncombe County Official said that one reason food assistance caseloads increased about 50% since pre-pandemic was that they waived recertifications.

“People normally cycle on and off, but now they’re staying on the program.”
-Buncombe County Official

Reduced Stigma

Reduced stigma around receiving SNAP played a role in increased participation. For example, an official from Yancey County remarked, “A lot of myths about the program were put to rest.” Folks from NCLFC also mentioned that stigma around receiving food assistance dropped during the pandemic, which could have contributed to more people seeking food assistance.

Finding #3 – Some counties noted improved efficiency and productivity.

When DSS personnel mentioned their workloads during the pandemic, they said they were busier than ever. However, a few respondents noted that they also got more productive and efficient during the pandemic because of technological improvements and new communication systems.

A Tyrrell County official said that ARP and Coronavirus Aid, Relief, and Economic Security Act (CARES Act) funding **“has been beneficial for agencies to fund technology to assist with remote staff. Our agency was able to purchase laptops, remote access, and webcams with this funding.”** Another official from Cleveland County claimed that the pandemic **“pushed us forward about ten years technology-wise,”** which helped them become more productive and efficient. Thanks to improved technology and workplace practices, local county government offices may be more prepared to handle future crises.

Finding #4 – Implementation of pandemic-era programs was good overall.

Of the 47 responses the team received from counties around North Carolina, 78 percent of them said the implementation of pandemic era programs was good overall. About 22 percent were neutral on the matter. Zero counties said implementation was bad.

“Considering that we were all not prepared for what was ahead of us with the pandemic, I feel that the response to the pandemic was sufficient.”
- Jackson County official

Despite pointing to new EBT policies such as expanded online options, many respondents indicated that implementation would be even better with more vendors, more online partnerships, and other creative solutions to food access.

Finding #5 – Communication during the pandemic was good overall.

People did not have strong concerns about communication in the immediate aftermath of the pandemic. 53 percent of respondents felt there was good communication. 36 percent were neutral about communication. 11 percent said there was bad communication.

“I don’t feel like communication was an issue here in our county. NCDHHS communicated well with DSS agencies, and we were able to communicate well with our clients.”
- Mitchell County official

The main concerns around communication were that it is a challenge for DSS offices to inform FNS households about expiring waivers. DSS personnel are widely concerned that recipients will be blindsided as waivers expire and benefits decrease. Notably, counties with larger white populations perceived communication to be better. Quantitative analysis revealed that for every one percent increase in the share of the white population in a given county, respondents were one percent more likely to say that communication was good.

Additionally, some county officials noted that there was room for improvement in communication around P-EBT.

“The state didn’t do a good job of getting the word out about P-EBT... I fear that a lot of it was wasted because families didn’t know how to use it.”

-Guilford County official

“I think P-EBT was the most cumbersome for our staff initially (Not so much presently). We were flooded with P-EBT questions and confusion. Recipients had no clue what it was all about, especially when the guidelines were different at each issuance.”

-Currituck County official

Finding #6 – County size correlated with changes in demand for SNAP.

Larger counties noted a higher increase in demand. 96 percent of respondents from counties with populations greater than 50,000 said that there was an increase in demand for SNAP. This may be due to the greater population numbers, or due to the fact that they are wealthier counties and weren't used to having many of those populations on food stamps.

Smaller counties noted less increase in demand. Several of them commented that they were "already poor so [the pandemic] didn't change anything." Many of them said that food insecurity was constant for the same reason. Quantitative analysis suggests that metro counties (RUC 1-3) were 15 percent more likely than non-metro counties (RUC 4-9) to report an increase in demand for SNAP. However, this result was not quite statistically significant due to the low sample size.

FINDINGS FROM COMMUNITY ORGANIZATIONS

Finding #7 – Undocumented populations may have been overlooked.

NCLFC cautioned the team to not overlook the experience of undocumented people in the pandemic response: **“Counties probably aren’t counting them in their numbers.”** MANNA FoodBank also noted that undocumented populations are typically among the most vulnerable and hard-hit during crises.

In North Carolina, there are about 325,000 undocumented immigrants who comprise 39 percent of the immigrant population and three percent of the total state population as of 2016.⁴⁷ But they are not eligible for many federal benefits, including social security, SNAP, and other pandemic era benefits. Only U.S. citizens and certain lawfully-present non-citizens may receive SNAP benefits.⁴⁸ Non-citizens who are eligible based on their immigration status must also meet other SNAP eligibility requirements such as income and resource limits.⁴⁹ The undocumented population makes up a huge percentage of the workforce (especially in agriculture) and contributes almost \$20 billion to North Carolina’s economy but was unable to seek any benefits during the pandemic.⁵⁰ This population and their families were left vulnerable and at risk during this disaster.

Finding #8 – Dramatic increase in food supplied by nonprofits helped keep food insecurity low.

Food banks and nonprofits reported an incredible surge in the amount of food distributed, some by more than twice their normal levels.

“Thanks to the incredible support of our partners and donors, along with large investments in hunger relief made to federal nutrition programs by Congress, food insecurity in our 34-county service area did not rise as high as expected.”
- Food Bank CENC

Survey and interview respondents noted that there was a drastic increase in need that state and local governments could not immediately address. The nonprofit community helped to fill this need, despite some volunteer shortages due to contagion fears.

Finding #9 – The pandemic revealed the need for a better rapid response plan.

Community organizations pointed to the fragility of North Carolina's food infrastructure. A lack of staffing and resources in government prohibited them from providing for some urgent and immediate needs of constituents. Respondents emphasized the importance of developing better strategies to respond to such crises in the future.

Finding #10 – Technology could still be used more effectively.

While the pandemic forced many agencies and organizations to improve their use of technology, there is still room for improvement. Specifically, nonprofit respondents pointed to the opportunity to use text messages to communicate with SNAP and EBT recipients about their benefits, recertification deadlines, and more.

RECOMMENDATIONS

1

Maintain pandemic-era policies that increased SNAP benefits. Either keep waivers that increased benefits, such as EA's and maximum benefits, or create modified versions of these waivers that can increase benefits outside of emergencies. For example, waive SSA benefits when determining seniors' benefits eligibility.

2

Maintain pandemic-era policies that decreased barriers to SNAP. Keep waivers that increased accessibility, including ABAWDs, drug-felons, telephonic signatures.

3

Extend SNAP recertification to every twelve months. This would require a policy change at the federal level.

4

Improve communication and coordination around P-EBT. This would require efforts on behalf of both the state government and local agencies and school districts.

5

Advocate for pandemic-era benefits to cover undocumented populations. This would require a policy change at the federal level.

6

Continue to expand EBT partnerships with online vendors. Lower the eligibility requirements for vendor applicants. For example:

- Decrease the amount of total gross retail sales from the sale of staple foods from 50 percent to 40 percent.
- Decrease the number of stocking units and/or staple food varieties required from three to two.

7

Pursue further research in certain areas:

- Conduct interviews with FNS and DSS stakeholders around the state to identify specific areas of improvement for P-EBT coordination and implementation.
- Examine policies to serve other vulnerable populations who had difficulty accessing benefits during the pandemic: former convicted felons, seniors, LGBTQ+, disabled individuals.
- Research states such as California that were able to find the means to allocate funding to undocumented populations and consider replicating those policies in North Carolina.

8

Enlist another Sanford School consulting team to improve upon this team's research, considering lessons learned from this team's methodology and findings:

- Survey all 100 counties and conduct targeted interviews:
 - Conduct multiple choice surveys on the impacts of the pandemic and the efficacy of programs to address food insecurity.
 - Strategically Interview a diverse subset of counties to gain insights into their survey responses.

CONCLUSION

Using qualitative and quantitative analysis, the team found that pandemic-era programming was able to mitigate food insecurity and may have reduced food insecurity overall.

Reduced food insecurity appears to be due to expanded access to and increased benefits. Communication and implementation were generally well-perceived by county DSS officials. Factors such as county size and demographics may be correlated with food insecurity outcomes.

Despite the overall success of the response, there is room for improvement. Technology could be used more effectively and creatively. Programming could be expanded to assist more vulnerable populations such as people who are undocumented.

The most common recommendation from county officials was to retain pandemic-era policies, such as Telephonic Signatures, post-pandemic. The team proposes NCPRO advocate for the continued or modified use of these programs and policies.



Appendix 1 - Phone Call Script

If they pick up:

Hello, my name is _____ and I'm a graduate student at Duke University. Along with several other students, I am researching food insecurity and hunger in North Carolina. I would be interested in talking with you about data you have collected and trends you have observed on food insecurity and hunger in your county, both before and during the pandemic. Do you have some time to speak with me today or on another occasion?

If YES:

Great! I'm going to read through some questions, and you can let me know your thoughts as we go. If you'd like to pause the conversation at any time, we can pick it up later or continue the discussion via email.

READ THROUGH QUESTIONS. RECORD ANSWERS.

If NO:

That's okay! I'd still love to hear from you about these questions another time. Would you be available to schedule a call sometime in the next few days?

If YES, **SCHEDULE ANOTHER CALL.**

If NO:

No worries. Can I send you a follow up email with some questions instead?

If YES, **SEND EMAIL.**

If NO:

Is there someone else you can refer me to in your office?

TAKE THEIR INFORMATION/END CALL.

If you reach VM:

Hello, my name is _____ and I'm a graduate student at Duke University. Along with several other students, I am researching food insecurity and hunger around North Carolina. I would be interested in talking with you about data you have collected and trends you have observed concerning food insecurity and hunger in your county before and during the pandemic. If you are

able to speak more about this topic, please give me a call back at ___ - ___ - ___ or email me at ____@duke.edu. Thank you for your time.

Appendix 2: Email and phone questions for government officials:

- What data do you have regarding food insecurity and hunger in the immediate aftermath of the pandemic?
 - o For example, do you collect regular data on the number of SNAP applicants and recipients in your county?
 - o Do you have data on the number of people seeking emergency food assistance from food banks and shelters?
 - o Did you notice trends or collect data on disparate rates of food insecurity and hunger by different demographics, such as race, income, gender, and family size?
- How do current levels of food insecurity and hunger compare to pre-pandemic levels in your county?
- In hindsight, what suggestions would you have for improving the pandemic response to reduce food insecurity and hunger?
- What channels of communication do you wish existed to make more rapid and effective responses to emergencies or disasters like the pandemic?
- What do you feel were the most useful or cumbersome state or federal policies to address food insecurity and hunger in the wake of the pandemic?
- What are some solutions developed in response to the pandemic that show promise of long-term use and success?

Appendix 3: Email and phone questions for non-profits:

- What data do you have regarding food insecurity and hunger in the immediate aftermath of the pandemic?
 - Do you have data on the number of people seeking emergency food assistance from your food bank before and after the pandemic?
 - Did you notice trends or collect data on disparate rates of food insecurity and hunger by different demographics, such as race, income, gender, and family size?
- How do current levels of food insecurity and hunger seem to compare to pre-pandemic levels in your area?
 - In hindsight, what suggestions would you have for improving the pandemic response to reduce food insecurity and hunger?
 - What channels of communication do you wish existed to make more rapid and effective responses to emergencies or disasters like the pandemic?
 - What do you feel were the most useful or cumbersome state or federal policies to address food insecurity and hunger in the wake of the pandemic?
 - What are some solutions developed in response to the pandemic that show promise of long-term use and success?
 - Have you noticed any impact from federal policies, like emergency allotments for SNAP, on the amount of people seeking emergency food assistance?
 - Are there any questions we ought to be asking you that we are not?

Appendix 4 - Short Multiple-Choice Survey

Hello [insert name here],

I hope you are doing well. If you have a moment, could you please answer these few quick questions?

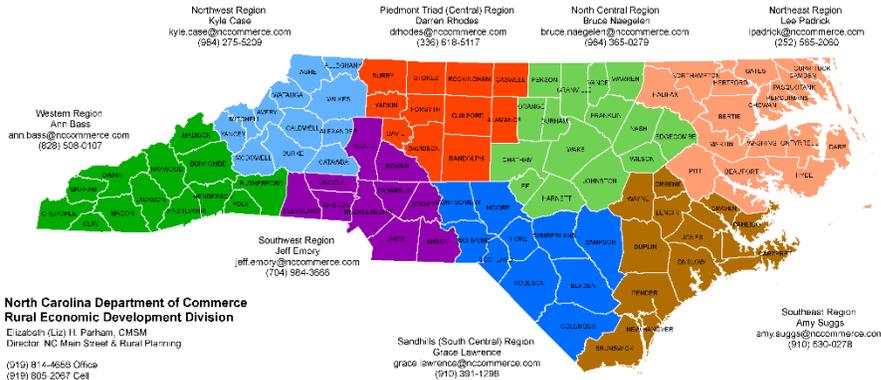
1. In the aftermath of the pandemic, would you say the need for food assistance in your county
 - a. Increased
 - b. Decreased
 - c. Stayed about the same
2. In the aftermath of the pandemic, would you say the communication between government (local/state/federal) was
 - d. Good
 - e. Bad
 - f. Neutral
3. In the aftermath of the pandemic, would you say the implementation of pandemic-related policies to address food insecurity was
 - g. Good
 - h. Bad
 - i. Neutral
4. In the aftermath of the pandemic, would you say the change in food insecurity in your county was
 - j. Increased
 - k. Decreased
 - l. Stayed about the same

Thank you so much!

[sign name here]

Appendix 5:

North Carolina Main Street & Rural Planning North Carolina Prosperity Zones



Updated: May 2021

North Central	Chatham	Western	Buncombe
	Durham		Cherokee
	Edgecombe		Clay
	Franklin		Graham
	Granville		Haywood
	Harnett		Henderson
	Johnston		Jackson
	Lee		Macon
	Nash		Madison

	Orange Person Vance Wake Warren Wilson		Polk Rutherford Swain Transylvania
Northeast	Beaufort Bertie Camden Chowan Currituck Dare Gates Halifax Hertford Hyde Martin Northampton Pasquotank Perquimans Pitt Tyrrell Washington	Northwest	Alexander Alleghany Ashe Avery Burke Caldwell Catawba McDowell Mitchell Watauga Wilkes Yancey
Piedmont-Triad	Alamance Caswell Davidson Davie Forsyth	Sandhills	Bladen Columbus Cumberland Hoke Montgomery

	Guilford Randolph Rockingham Stokes Surry Yadkin		Moore Richmond Robeson Sampson Scotland
Southeast	Brunswick Carteret Craven Duplin Greene Jones Lenoir New Hanover Onslow Pamlico Pender Wayne	Southwest	Anson Cabarrus Cleveland Gaston Iredell Lincoln Mecklenburg Rowan Stanly Union

Appendix 6:

North Carolina Association of Regional Councils of Governments



REGION A Southwestern Commission	Cherokee, Clay, Graham, Haywood, Jackson, Macon and Swain	REGION K Kerr-Tar Council of Governments	Franklin, Granville, Person, Vance and Warren
REGION B Land-of-Sky Regional Council	Buncombe, Henderson, Madison and Transylvania	REGION L Upper Coastal Plain Council of Governments	Edgecombe, Halifax, Nash, Northampton and Wilson
REGION C Isothermal Regional Commission	Cleveland, McDowell, Polk and Rutherford	REGION M Mid-Carolina Council of Governments	Cumberland, Harnett and Sampson
REGION D High Country Council of Governments	Alleghany, Ashe, Avery, Mitchell, Watauga, Wilkes and Yancey	REGION N Lumber River Council of Governments	Bladen, Hoke, Richmond, Robeson and Scotland
REGION E Western Piedmont Council of Governments	Alexander, Burke, Caldwell and Catawba	REGION O Cape Fear Council of Governments	Brunswick, Columbus, New Hanover and Pender
REGION F Centralina Regional Councils	Anson, Cabarrus, Gaston, Iredell, Lincoln, Mecklenburg,	REGION P	Carteret, Craven, Duplin, Greene, Jones, Lenoir,

	Rowan, Stanly and Union	Eastern Carolina Council of Governments	Onslow, Pamlico and Wayne
REGION G Piedmont Triad Council of Governments	Alamance, Caswell, Davidson, Guilford, Montgomery, Randolph, Rockingham, Davie, Forsyth, Stokes, Surry and Yadkin	REGION Q Mid-East Commission	Beaufort, Bertie, Hertford, Martin and Pitt
REGION J Triangle J Council of Governments	Chatham, Durham, Johnston, Lee, Moore, Orange and Wake	REGION R Albemarle Commission	Camden, Chowan, Currituck, Dare, Gates, Hyde, Pasquotank, Perquimans, Tyrrell and Washington

Appendix 7:*Rural-Urban Continuum Codes*

Metropolitan Counties	<i>Description on Rural-Urban Continuum, according to U.S. OMB</i>
1	Counties in metro areas of 1 million population or more
2	Counties in metro areas of 250,000 to 1 million population
3	Counties in metro areas of fewer than 250,000 population
Nonmetropolitan Counties	
4	Urban population of 20,000 or more, adjacent to a metro area
5	Urban population of 20,000 or more, not adjacent to a metro area
6	Urban population of 2,500 to 19,999, adjacent to a metro area
7	Urban population of 2,500 to 19,999, not adjacent to a metro area
8	Completely rural or less than 2,500 urban population, adjacent to a metro area
9	Completely rural or less than 2,500 urban population, not adjacent to a metro area

Appendix 8:
Survey Response Data

Total responses							
47 responses		40 responses		45 responses		45 responses	
Change in Demand for SNAP		Perceived Change in Food Insecurity		Strength of Communication		Strength of Implementation	
Constant	8.5%	Constant	25.0%	Neutral	35.6%	Neutral	22.2%
Decrease	4.3%	Decrease	47.5%	Bad	11.1%	Bad	0.0%
Increase	87.2%	Increase	27.5%	Good	53.3%	Good	77.8%

Counties over 50k population							
25 responses		25 responses		25 responses		25 responses	
Change in Demand for SNAP		Perceived Change in Food Insecurity		Strength of Communication		Strength of Implementation	
Constant	4.0%	Constant	14.3%	Neutral	36.0%	Neutral	24.0%
Decrease	0.0%	Decrease	47.6%	Bad	12.0%	Bad	0.0%
Increase	96.0%	Increase	38.1%	Good	52.0%	Good	76.0%

Counties under 50k population							
22 responses		19 responses		20 responses		20 responses	
Change in Demand for SNAP		Perceived Change in Food Insecurity		Strength of Communication		Strength of Implementation	
Constant	13.6%	Constant	36.8%	Neutral	35.0%	Neutral	20.0%
Decrease	9.1%	Decrease	47.4%	Bad	10.0%	Bad	0.0%
Increase	77.3%	Increase	15.8%	Good	55.0%	Good	80.0%

Counties with majority white population							
40 responses		33 responses		38 responses		38 responses	
Change in Demand for SNAP		Perceived Change in Food Insecurity		Strength of Communication		Strength of Implementation	
Constant	7.5%	Constant	24.2%	Neutral	28.9%	Neutral	21.1%
Decrease	5.0%	Decrease	51.5%	Bad	10.5%	Bad	0.0%
Increase	87.5%	Increase	24.2%	Good	60.5%	Good	78.4%

Appendix 9:

Stata Regression Analysis

** Regress race against income

```
reg TotalDollarAmount PercentWhite2020
```

** Generate variable for total benefits and regress against racial makeup, population, income

```
gen totalbenefitspre = BenJan19 + BenFeb19 + BenMar19 + BenApr19 + BenJun19 + BenJul19  
+ BenAug19 + BenSep19 + BenOct19 + BenNov19 + BenDec19 + BenJan20 + BenFeb20
```

```
gen totalbenefitspost = BenApr20 + BenMay20 + BenJun20 + BenJul20 + BenAug20 +  
BenSep20 + BenOct20 + BenNov20 + BenDec20 + BenJan21 + BenFeb21 + BenMar21 +  
BenApr21
```

```
gen changebenefits = totalbenefitspost - totalbenefitspre
```

```
gen percentwhite20 = PercentWhite2020*100
```

```
reg changebenefits percentwhite20
```

```
reg changebenefits Population2020
```

```
. reg changebenefits Population2020
```

Source	SS	df	MS	Number of obs	=	100
Model	5.0010e+16	1	5.0010e+16	F(1, 98)	=	768.65
Residual	6.3761e+15	98	6.5062e+13	Prob > F	=	0.0000
Total	5.6386e+16	99	5.6956e+14	R-squared	=	0.8869
				Adj R-squared	=	0.8858
				Root MSE	=	8.1e+06

changebenefits	Coefficient	Std. err.	t	P> t	[95% conf. interval]	
Population2020	130.6987	4.714182	27.72	0.000	121.3435	140.0538
_cons	3777536	944889.6	4.00	0.000	1902433	5652638

reg changebenefits MedianIncome

. reg changebenefits MedianIncome

Source	SS	df	MS	Number of obs	=	100
Model	7.5943e+15	1	7.5943e+15	F(1, 98)	=	15.25
Residual	4.8792e+16	98	4.9788e+14	Prob > F	=	0.0002
				R-squared	=	0.1347
				Adj R-squared	=	0.1259
Total	5.6386e+16	99	5.6956e+14	Root MSE	=	2.2e+07

changebene~s	Coefficient	Std. err.	t	P> t	[95% conf. interval]	
MedianIncome	908.8951	232.718	3.91	0.000	447.0737	1370.716
_cons	-2.66e+07	1.15e+07	-2.31	0.023	-4.94e+07	-3791204

reg changebenefits MedianIncome Population2020

. reg changebenefits MedianIncome Population2020

Source	SS	df	MS	Number of obs	=	100
Model	5.1372e+16	2	2.5686e+16	F(2, 97)	=	496.90
Residual	5.0142e+15	97	5.1692e+13	Prob > F	=	0.0000
				R-squared	=	0.9111
				Adj R-squared	=	0.9092
Total	5.6386e+16	99	5.6956e+14	Root MSE	=	7.2e+06

changebenefits	Coefficient	Std. err.	t	P> t	[95% conf. interval]	
MedianIncome	-453.7782	88.40558	-5.13	0.000	-629.2388	-278.3176
Population2020	144.167	4.953962	29.10	0.000	134.3348	153.9993
_cons	2.43e+07	4094197	5.95	0.000	1.62e+07	3.25e+07

reg changebenefits percentwhite20 MedianIncome Population2020

reg changebenefits SeniorCases20

reg changebenefits MinorCases20

reg changebenefits RUC

** Correlate and regress population race with recipient race

gen whiterec1 = White20/TotalRecipients20

correlate percentwhite20 whiterec1

reg whiterec1 percentwhite20 Population2020 MedianIncome

```
. reg whiterecl percentwhite20 Population2020 MedianIncome
```

Source	SS	df	MS	Number of obs =	100
Model	5.05467311	3	1.68489104	F(3, 96)	= 123.34
Residual	1.31144483	96	.013660884	Prob > F	= 0.0000
Total	6.36611794	99	.064304222	R-squared	= 0.7940
				Adj R-squared	= 0.7876
				Root MSE	= .11688

whiterecl	Coefficient	Std. err.	t	P> t	[95% conf. interval]
percentwhite20	.0133006	.0007649	17.39	0.000	.0117823 .0148188
Population2020	-5.66e-08	8.69e-08	-0.65	0.516	-2.29e-07 1.16e-07
MedianIncome	-1.11e-06	1.56e-06	-0.71	0.476	-4.20e-06 1.98e-06
_cons	-.2179992	.0710402	-3.07	0.003	-.3590129 -.0769855

** Generate new variables for pre and post pandemic applications (4 month windows) **

gen prepandemic = AppNov19 + AppDec19 + AppJan20 + AppFeb20

gen postpandemic = AppApr20 + AppMay20 + AppJun20 + AppJul20

** T-test for pre and post pandemic benefits **

ttest totalbenefitspost=totalbenefitspre

```
. ttest totalbenefitspost=totalbenefitspre
```

Paired t test

Variable	Obs	Mean	Std. err.	Std. dev.	[95% conf. interval]
totalb~t	100	3.63e+07	4955302	4.96e+07	2.65e+07 4.62e+07
totalb~e	100	1.89e+07	2581948	2.58e+07	1.38e+07 2.40e+07
diff	100	1.74e+07	2386543	2.39e+07	1.27e+07 2.22e+07

mean(diff) = mean(totalbenefitsp~t - totalbenefitspre) t = 7.3000
H0: mean(diff) = 0 Degrees of freedom = 99

Ha: mean(diff) < 0 Ha: mean(diff) != 0 Ha: mean(diff) > 0
Pr(T < t) = 1.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 0.0000

gen AApr = AA19/TotalRecipients19

```
gen AApost = AA20/TotalRecipients20
```

```
ttest AApre=AApost
```

```
** Generate metro and nonmetro categorical variables for RUCs **
```

```
gen metrocounty = RUC <=3
```

```
gen nonmetrocounty = RUC >=4
```

```
gen urbancounty = 1 if RUC <=3
```

```
replace urbancounty = 0 if RUC >3
```

```
tab urbancounty, m
```

```
** Generate new communication binary variable **
```

```
gen commgood1 = 1 if Communication == "Good"
```

```
replace commgood1 = 0 if Communication == "Bad"
```

```
replace commgood1 = 0 if Communication == "Neutral"
```

```
** Regress commgood1 with various metrics **
```

```
reg RUC commgood1 Population2020 MedianIncome
```

```
reg commgood1 percentwhite20
```

```
. reg commgood1 percentwhite20
```

Source	SS	df	MS	Number of obs	=	45
Model	1.4087309	1	1.4087309	F(1, 43)	=	6.19
Residual	9.7912691	43	.227703933	Prob > F	=	0.0168
Total	11.2	44	.254545455	R-squared	=	0.1258
				Adj R-squared	=	0.1054
				Root MSE	=	.47718

commgood1	Coefficient	Std. err.	t	P> t	[95% conf. interval]
percentwhite20	.0108307	.0043544	2.49	0.017	.0020492 .0196121
_cons	-.2238485	.3126194	-0.72	0.478	-.8543055 .4066086

```
reg commgood1 MedianIncome
```

```
reg commgood1 Population2020
```

```
** Generate new food insecurity variable based upon survey results **
```

```
gen insecurity = 1 if ChangeinFoodInsecurity == "Less Insecure"
```

```
replace insecurity = 0 if ChangeinFoodInsecurity == "Constant"
```

```
replace insecurity = -1 if ChangeinFoodInsecurity == "More Insecure"
```

```
** Regress insecurity with various metrics **
```

```
reg percentwhite20 insecurity
```

```
reg MedianIncome insecurity
```

```
reg Population2020 insecurity
```

```
** Generate new implementation binary variable **
```

```
gen impgood = 1 if Implementation == "Good"
```

```
replace impgood = 0 if Implementation == "Neutral"
```

**** Regress implementation with various metrics ****

reg impgood Population2020

reg impgood MedianIncome

reg impgood percentwhite20

**** Generate new variable for demand ****

gen demand = 1 if ChangeinDemand == "Increase"

replace demand = 0 if ChangeinDemand == "Constant"

replace demand = 0 if ChangeinDemand == "Decrease"

**** Regress demand with various metrics ****

reg demand Population2020

reg demand MedianIncome

reg demand percentwhite20

**** test urban county on other variables ****

reg impgood urbancounty

reg commgood1 urbancounty

reg insecurity urbancounty

reg demand urbancounty

```
. reg demand urbancounty
```

Source	SS	df	MS	Number of obs	=	47
Model	.279497099	1	.279497099	F(1, 45)	=	2.54
Residual	4.95454545	45	.11010101	Prob > F	=	0.1181
Total	5.23404255	46	.113783534	R-squared	=	0.0534
				Adj R-squared	=	0.0324
				Root MSE	=	.33181

demand	Coefficient	Std. err.	t	P> t	[95% conf. interval]
urbancounty	.1545455	.0969981	1.59	0.118	-.0408188 .3499097
_cons	.8	.0663629	12.05	0.000	.6663382 .9336618

```
** reshape data for panel data analysis **
```

```
reshape long HH App Ben Rec, i(County) j(month) string
```

```
*** Generate a binary variable to indicate the time, pandemic = 1 if it is post-pandemic, = 0 if it is pre-pandemic **
```

```
gen pandemic2 = 1 if month == "Apr20"  
replace pandemic2 = 0 if month == "Jan19"  
replace pandemic2 = 0 if month == "Feb19"  
replace pandemic2 = 0 if month == "Mar19"  
replace pandemic2 = 0 if month == "Apr19"  
replace pandemic2 = 0 if month == "May19"  
replace pandemic2 = 0 if month == "Jun19"  
replace pandemic2 = 0 if month == "Jul19"  
replace pandemic2 = 0 if month == "Aug19"  
replace pandemic2 = 0 if month == "Sep19"  
replace pandemic2 = 0 if month == "Oct19"
```

```
replace pandemic2 = 0 if month == "Nov19"
```

```
replace pandemic2 = 0 if month == "Dec19"
```

```
foreach var in May20 Jun20 Jul20 Aug20 Sep20 Oct20 Nov20 Dec20 Jan21 Feb21 Mar21 {  
replace pandemic2 = 1 if month == "`var'"  
}
```

```
*** Generate a numeric variable for county **
```

```
egen countynames = group(County)
```

```
** Calculate the average a county received in 2019 and 2020 **
```

```
egen benefitsbycounty = mean(Ben) if pandemic == 1, by(County)
```

```
replace benefitsbycounty = mean(Ben) if pandemic == 0, by(County)
```

```
*** Run a regression to determine the effect of the pandemic on the benefits received by each  
county **
```

```
xi: regress benefitsbycounty pandemic i.counties i.counties*pandemic, r
```

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