COMMUNITY NEEDS ASSESSMENT

Food Security, Mental Health &

Service Needs Among Residents

prepared by Urban Alliance

URBAN**ALLIANCE**

About Urban Alliance

Urban Alliance (UA) is a collective impact organization located in East Hartford, Connecticut. Our mission is to create opportunities for people to achieve lasting change in their lives through the collaborative work of churches and organizations in our local community. Learn more at www.urbanalliance.com.

The *Community Needs Assessment: Food Security, Mental Health & Service Needs Among Residents* is the final report derived from data collected from residents at food distribution sites in Hartford, CT and surrounding communities.

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Food Security, Mental Health & Service Needs Among Residents

Abstract

A total of 513 residents at mobile food distributions completed surveys collecting information about food security, mental health, income changes since COVID-19, and service needs. Results indicate that residents in this sample evidenced a high level of food insecurity and high levels of anxiety when compared to national data. ANOVA analyses showed that residents with higher levels of food insecurity also evidenced higher levels of anxiety and lower levels of well-being. Further, residents who continued to experience a negative economic impact after COVID-19 reported lower food security scores and more service needs. This data supports the link between food insecurity and mental health and the need for mental health support for food insecure households. It also suggests that those who continue to experience a negative economic impact after COVID-19 need additional support from the charitable food system and community programs.

Introduction

Food security means having both physical and economic access to sufficient food to meet dietary needs for a productive and healthy life. A family is food secure when its members do not live in hunger or fear of hunger. Based on the 1996 World Food Summit, food security is when all people, at all times, have physical and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life (Clay, 2002).

The four main dimensions of food security:

- **Physical availability of food:** Food availability addresses the "supply side" of food security and is determined by the level of food production, stock levels and net trade.
- **Economic and physical access to food:** An adequate supply of food at the national or international level does not in itself guarantee household level food security. Concerns about insufficient food access have resulted in a greater focus on incomes, expenditure, markets and prices in achieving food security.
- **Food utilization:** Utilization is commonly understood as the way the body makes the most of various nutrients in the food. Sufficient energy and nutrient intake by individuals are the result of good care and feeding practices, food preparation, diversity of the diet and intra-household distribution of food. Combined with good biological utilization of food consumed, this determines the nutritional status of individuals.
- **Stability of these three dimensions over time:** Even if your food intake is adequate today, you are still considered to be food insecure if you have inadequate access to food on a periodic basis, risking a deterioration of your nutritional status. Adverse weather conditions, political instability, or economic factors (unemployment, rising food prices) may have an impact on your food security status.

While national data suggests that the majority of people in the United States are food secure, many are not and struggle to access affordable, nutritious food. According to estimates from Feeding America, more than 380,000 (1 in 10) Connecticut residents struggle with hunger and more than 83,000 children are food insecure.

The United States Department of Agriculture (USDA) divides food insecurity into the following two categories:

- **Low food security:** "Reports of reduced quality, variety, or desirability of diet. Little or no indication of reduced food intake."
- **Very low food security:** "Reports of multiple indications of disrupted eating patterns and reduced food intake."

Food insecurity rates are highest for single-parent households and households with incomes below the poverty line. In 2021, 32.1 percent of households with incomes below the Federal poverty line were food insecure.

Social Determinants of Health: Food Insecurity, Mental Health, and Service Needs

Social determinants of health (SDOH) are the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks. Social determinants of health (SDOH) have a major impact on people's health, well-being, and quality of life. Examples of SDOH include access to nutritious foods; safe housing; transportation; and neighborhoods; education; job opportunitie; and income (World Health Organization, 2010).

SDOH also contribute to wide health disparities and inequities. For example, people who don't have access to grocery stores with healthy foods are less likely to have good nutrition. That raises their risk of health conditions like heart disease, diabetes, and obesity and even lowers life expectancy relative to people who do have access to healthy foods. Because of this an issue such as food insecurity can not be understood in isolation. Low-income households are at increased risk for a number of compounding challenges including food insecurity, housing insecurity, health disparities, educational disparity, and living in high crime communities (Palmer, Ismond, Rodriguez, & Kaufman, 2019).

This combination of stressors places families living below the poverty line at an increased risk of mental health struggles. The experience of not having enough food for one's household is very distressing. A recent CDC study on food insecurity in America found that food insecurity is associated with a 257% higher risk of anxiety and a 253% higher risk of depression (Fang, Thomsen, & Nayga, 2021). When adults with serious mental illness (SMI) experience very low food security, they are less likely to be able to afford mental health care and use mental health services. Even for people who do not have a diagnosed mental illness, dealing with food insecurity may contribute to anxiety and depression in adults, and emotional problems among adolescents.

This study seeks to better understand the link between food security, mental health, economic impact since COVID-19 and service needs in a sample of community residents receiving food from a free mobile pantry. This data was collected as part of a needs assessment to better understand the needs a residents receiving support from the charitable food system. Findings will be used to inform community stakeholders about service needs and inform new programming aimed to support food insecure residents.

Methods

Self-report data was collected from 513 residents at food distributions held in Hartford, CT and surrounding communities. Surveys were offered in both English and Spanish. The following section provides information about the measures used to collect information about each of the constructs listed below.

Demographic Data

Demographic data including gender, age, ethnicity, economic change since COVID-19, adults and children in each household and zip code were collected to understand the demographic characteristics of the sample.

Food Security

USDA U.S. Household Food Security Survey Module (Six-Item Short Form): The six-item short form of the survey module was developed by researchers at the National Center for Health Statistics. It has been shown to identify food-insecure households and households with very low food security with reasonably high specificity and sensitivity and minimal bias compared with the original 18-item measure. Respondents were given a score ranging from 0-6, which corresponds to three levels of food security: High or marginal food security, low food security, and very low food security (Blumberg, Bialostosky, Hamilton, & Briefel, 1999).

Services Needs

Respondents were asked about the service needs of their household. They were provided with 12 types of service needs (e.g. food, housing, mental health, childcare, employment assistance) and indicated which types were needed.

Emotional Health and Well-being

WHO-5 Wellbeing Index: This 5-item questionnaire measures current mental well-being (time frame the previous two weeks). Originally developed to assess both positive and negative well-being, this five-question version use only positively phrased questions to avoid symptom-related language (Østergaard, Søndergaard, Bech, 2015). Sample items include, "I have felt cheerful and in good spirits" and "I have felt calm and relaxed." Responses are measured using a 5-point likert scale that ranges from "all of the time" to "at no time."

Generalized Anxiety Disorder Scale (The GAD-7): This 7-item measure assesses anxiety symptoms associated with generalized anxiety disorder. Items are scored using a zero to three scale indicating the frequency of each symptom. Scale scores range from 0 to 21. Cut-off scores for mild, moderate and severe anxiety symptoms are 5, 10 and 15 respectively. The internal consistency of the GAD-7 has been reported to be Cronbach α = . 92. Test-retest reliability was also good (intraclass correlation = 0.83). Comparison of scores derived from the self-report scales with those derived from the MHP-administered versions of the same scales yielded similar results (intraclass correlation = 0.83), indicating good procedural validity (Spitzer, Kroenke, Williams, Löwe, 2006).

Results

Demographic Data

The following tables provide information about demographic data reported for 513 survey respondents. Demographic data shows that the majority of respondents reported being females (*n*=291, 56.8%), either Black or African American (*n*=244, 47.6%) or Latino/Hispanic (*n*=221, 43.1%) and over 55 years (*n*= 213, 41.6%) or 41-54 years (*n*= 147, 28.7%).

Table 1. Demographic Information (*n*=513)

Gender
Male: 43.2%
Female: 56.8%

Ethnicity
Black/African American: 47.6%
Latino: 43.1%
White: 4.9%

Age
18-25 years: 7.1%
26-40 years: 22.6%
41-54 years: 28.7%
55 years and over: 41.6%

Household Composition
Average Adults in Household: 2.4
Average # Children Under 18 Yrs.: 1.7

Income changes since COVID-19
I bring in more money: 2.7%
I bring in the same amount: 30.1%
I bring in less money: 67.2%

Mental Health, Food Security and Service Need Frequencies

Wellbeing

The WHO-5 screens for general well-being with cut-off scores suggesting normal well-being, poor-well-being and depression. The majority of residents reported scores in the normal range (n= 346, 76.4%), and a sizable percent reported poor well-being (n= 69, 13.5%), and below the clinical cut-off for depression (n= 52, 10.2%).

Table 2. WHO-5: Symptom Severity (n=513)

Normal Wellbeing	76.4%
Poor Well-being	13.5%
Depression	10.2

Figure 1. WHO-5: Wellbeing Scores (*n*=513)

Depression 10.2%
Poor Well-being 13.5%
Normal Wellbeing 76.3%
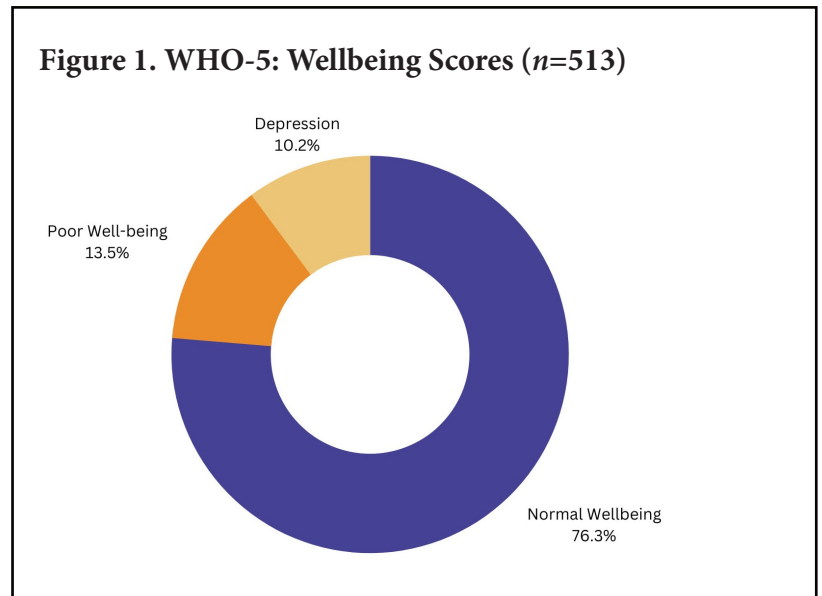
WHO-5 Items:

- I have felt cheerful in good spirits
- I have felt calm and relaxed.
- I have felt active and vigorous.
- I woke up feeling fresh and rested.
- My daily life has been filled with things that interest me.

Anxiety

Frequencies

The GAD-7 was used to measure anxiety levels with cutoffs indicating minimal anxiety, mild anxiety, moderate anxiety, and severe anxiety. There was a relatively even distribution between anxiety levels: minimal anxiety (*n*= 110, 25.1%), mild anxiety (*n*= 83, 18.9%), moderate anxiety (*n*= 127, 28.9%), and severe anxiety (*n*= 119, 27.1%).

Table 3. GAD-7: Anxiety Severity (*n*=513)

Minimal anxiety	25.1%
Mild anxiety	18.9%
Moderate anxiety	28.9%
Severe Anxiety	27.1%

Figure 2. GAD-7: Anxiety Severity (*n*=513)

Comparisons to National Norms

The GAD-7 has been used extensively in research and in clinical settings to screen for anxiety. Research using national samples has created norms for this instrument. According to Löwe, Decker, Müller, et al., (2008) in national samples 5% of the population scored above a 10 (moderate anxiety) and only 1% score over 15 (severe anxiety). When compared to these norms, our study sample exhibited very high levels of anxiety 28.9% compared to 5% in the moderate range and 27.1% compared to 1% in the severe range.
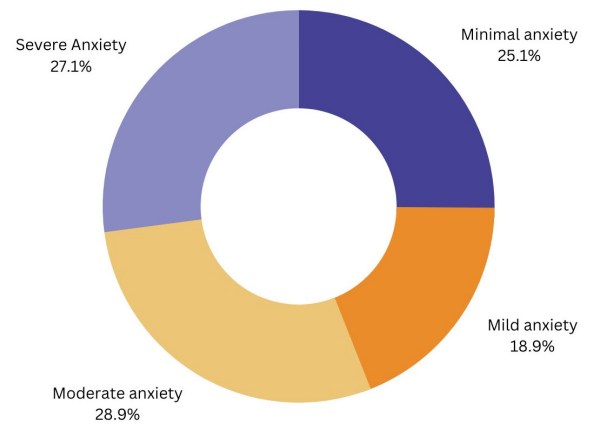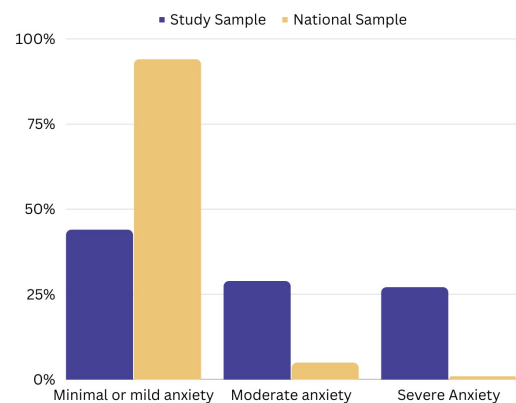

Figure 3. GAD-7: National Norms for Anxiety

GAD-7 Items:

- Feeling nervous, anxious, or on edge.
- Not being able to stop or control worrying.
- Worrying too much about different things.
- Trouble relaxing.
- Being so restless that it is hard to sit still.
- Becoming easily annoyed or irritable.
- Feeling afraid, as if something awful might happen.

Food Security

Frequencies

USDA U.S. Household Food Security Survey Module was used to measure food insecurity with cutoffs indicating high food security, low food security, and very low food security. The majority of respondents fell into the low (*n*= 178, 38.9%), and very low (*n*= 237, 51.9%), food security ranges.

Table 4. Food Security Levels (n=457)

Food Security Category	
High food security	9.2%
Low food security	38.9%
Very low food security	51.9%

Comparisons to National Norms

The *USDA U.S. Household Food Security Survey* has been used extensively in research to better understand food security. Research using national samples has created norms for this instrument. According to a Coleman-Jensen & Rabbitt et al., (2021) in national samples 89.8% of the population scored in the high food security range, 6.4% scored in the low food security range and 3.2% scored in the very low food security range. When compared to these norms, our study sample exhibited very low levels of food security with only 9.2% evidencing high food security, 38.9% evidencing low food security and 51.9% very low food security.
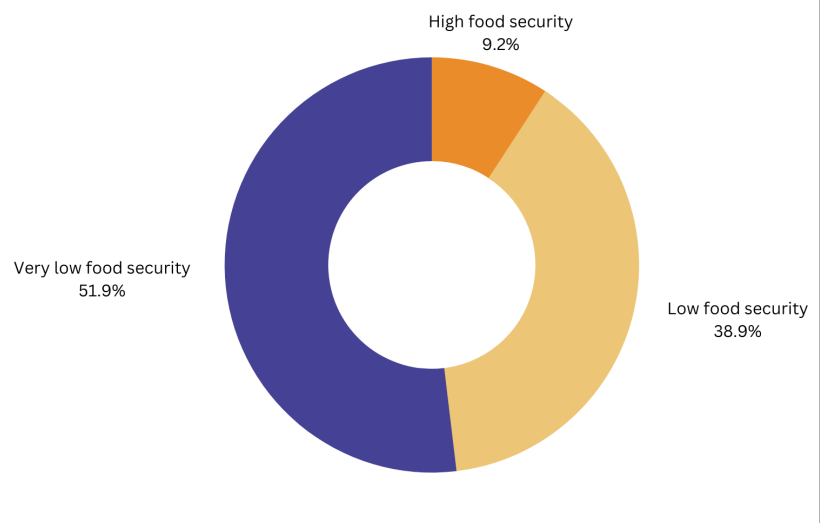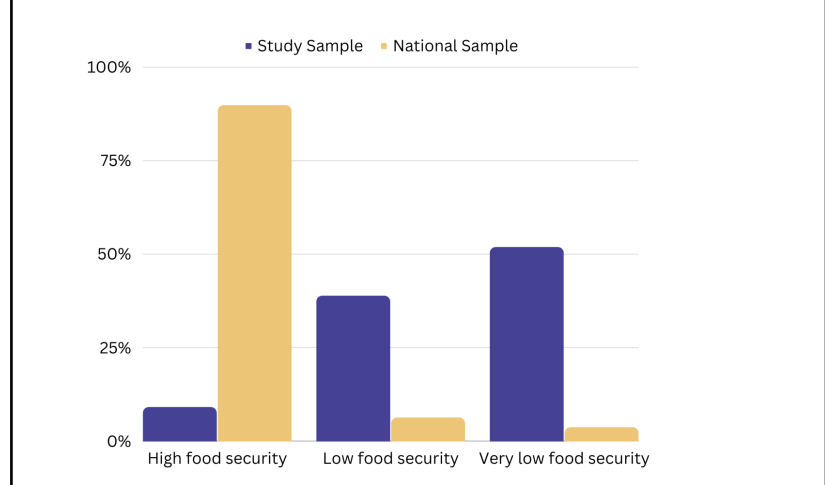

Figure 4. Food Security Level (*n*=513)

High food security 9.2%
Very low food security 51.9%
Low food security 38.9%

Figure 5. National Norms for Food Security (*n*=513)

Study Sample   National Sample

(High food security, Low food security, Very low food security)

The *USDA U.S. Household Food Security Survey Items*
- The food that (I/we) bought just didn't last, and (I/we) didn't have money to get more.
- (I/we) couldn't afford to eat balanced meals.
- In the last 12 months, did (you or other adults in your household) ever cut the size of your meals or skip meals because there wasn't enough money for food?
- [IF YES ABOVE, ASK] How often did this happen?
- In the last 12 months, did you ever eat less than you felt you should because there wasn't enough money for food?
- In the last 12 months, were you every hungry but didn't eat because there wasn't enough money for food?

Service Needs

Frequencies

Additionally, respondents were asked a series of "yes" and "no" questions about the service needs of them-selves or individuals in their household. The areas of highest need included food (n= 344, 70.3%), housing (n= 214, 42.8%), employment assistance (n= 117, 23.9%), and mental health (n= 108, 22.1%).

Table 5. Resident Service Needs

	n	% Yes	% No
Food	489	70.3%	29.7%
Housing	489	43.8%	56.2%
Health Insurance	488	20.1%	79.9%
Education	489	15.1%	84.9%
Employment Assistance	489	23.9%	76.1%
Physical Health	489	17.4	82.6
Mental Health	489	22.1	77.9
Addiction/Recovery	489	9.4	90.6
Child/Teen Programming	489	15.1	84.9
Childcare	489	13.1	86.9

Figure 6 . Service Needs (n=513)
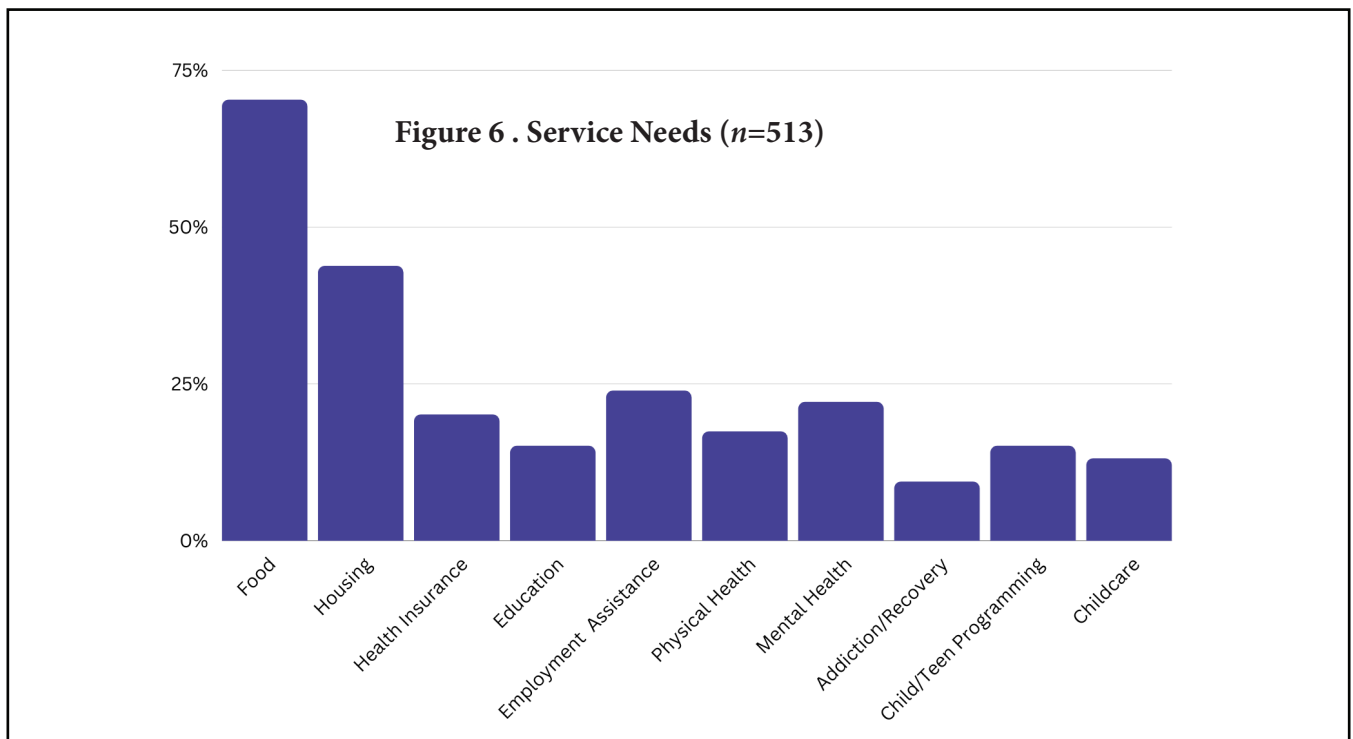
Mental Health and Food Security

ANOVA

A one-way between subjects ANOVA was conducted to compare the effect of food insecurity on mental health for residents at food distributions. There was a significant effect of food insecurity on mental health for both anxiety at the p<.001 level for the three conditions [F(2, 429) = 12.46, p = .001] and well-being [F(2, 429) = 5.75, p = .01].
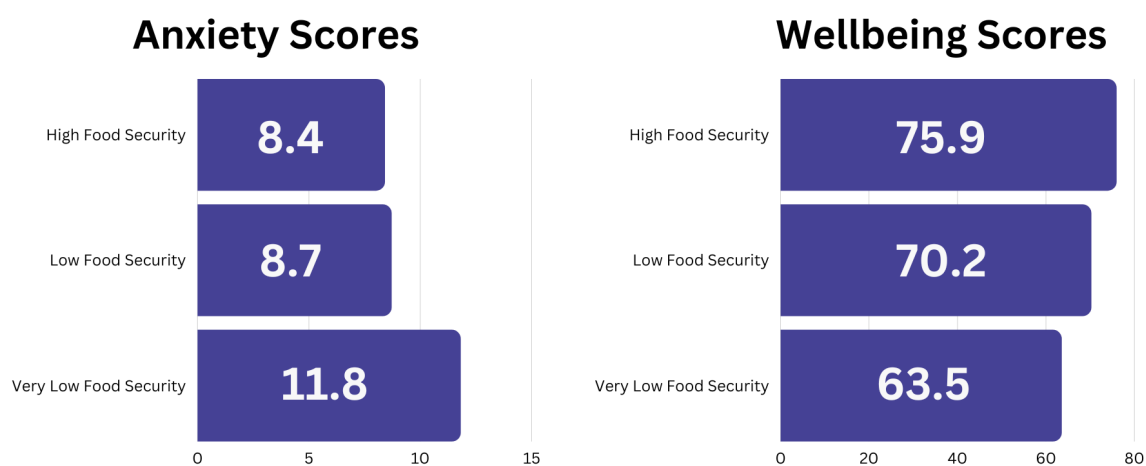
Post hoc analyses using Tukey HSD test indicate the mean score for anxiety for residents with very low food security (M=11.81, SD = 6.15) was statistically significantly higher than residents with high (M=8.42, SD = 7.61) and low food security (M=8.70, SD = 6.86).

Post hoc analyses using Tukey HSD test indicate the mean score for well-being for residents with very low food security (M=63.53, SD = 25.30) was statistically significantly lower than for residents with high (M= 75.90, SD = 22.21) and low food security (M= 70.16, SD = 25.74) .

Table 6. ANOVA Analysis for Food Security and Mental Health

	High Food Security		Low Food Security		Very Low Food Security		F	p
	M	SD	M	SD	M	SD		
Anxiety	8.42	7.61	8.70	6.86	11.81	6.15	12.46	.0001
Wellbeing	75.90	22.20	70.16	25.74	63.53	25.29	5.75	.01

Figure 7. Food Security & Mental Health

Anxiety Scores

High Food Security	8.4
Low Food Security	8.7
Very Low Food Security	11.8

(x-axis: 0, 5, 10, 15)

Wellbeing Scores

High Food Security	75.9
Low Food Security	70.2
Very Low Food Security	63.5

(x-axis: 0, 20, 40, 60, 80)

Economic Impact Since COVID-19

ANOVA

A one-way between subjects ANOVA was conducted to compare the effect of economic changes since COVID-19 on residents at food distributions. Residents were divided into two groups 1) brining in less income since COVID-19 and 2) bringing in more income or the same since COVID-19. There was a significant effect of economic impact for both food security at the p<.001 level [F(2, 429) = 12.46, *p* = .001] and number of supportive services needed [F(2, 429) = 5.75, *p* = .01].
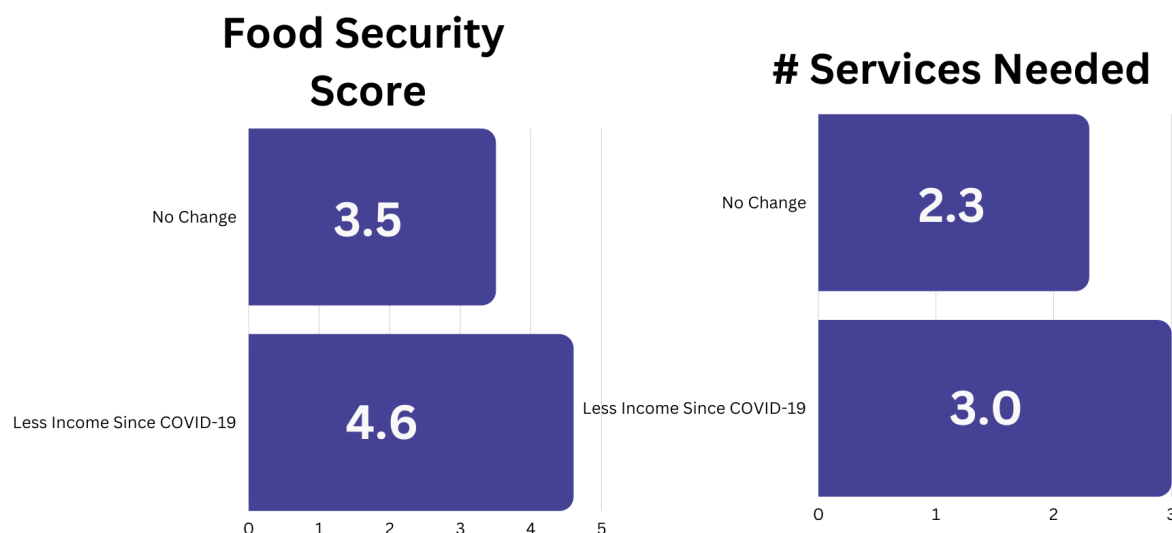
Post hoc analyses using Tukey HSD test indicate the mean score for food security for residents with less income (M=11.81, SD = 6.15) was statistically significantly lower than residents who reported no income change or more income (M=8.42, SD = 7.61).

Post hoc analyses using Tukey HSD test indicate the number of services needed for residents with less income (M=63.53, SD = 25.30) was statistically significantly higher than for residents who reported no income change or more income (M= 75.90, SD = 22.21) and low food security (M= 70.16, SD = 25.74) .

Table 6. ANOVA Analysis for Economic Impact of COVID-19, Food Security, and Service Needs

	No Change or More income		Less income		F	*p*
	M	SD	M	SD		
Food Security Score	3.4595	1.88189	4.5774	1.55071	34.273	.000
# of Suppotive Services	2.2869	2.01022	3.0408	2.19686	10.139	.002

Figure 8. Economic Impact Since COVID-19

Food Security Score

No Change — 3.5

Less Income Since COVID-19 — 4.6

(axis: 0 1 2 3 4 5)

Services Needed

No Change — 2.3

Less Income Since COVID-19 — 3.0

(axis: 0 1 2 3)

Conclusions

This study collected data from 513 resident receiving food from mobile distribution sites. Data was collected about residents' level of food security, mental health symptoms, economic change since COVID-19 and service needs.

Key Findings:

Many respondents were very food insecure and experiencing many mental health symptoms. A number of the measures used in this study had national norms which allowed us to compare our sample to national data. In comparison to national data this study sample evidenced a higher prevalence of food insecurity and poorer mental health than would be expected on average in the general population. In fact, the prevalence of very low food security was 38.9% compared to 3.2% found in national samples. Further, 27.1% of respondents evidenced severe anxiety symptoms compared to just 1% in national samples.

The most frequently requested human service needs were food, housing, mental health and employment assistance. The areas of highest need for residents that participated in this study included food (n= 344, 70.3%), housing (n= 214, 42.8%), employment assistance (n= 117, 23.9%), and mental health (n= 108, 22.1%). This is consistent with local community data, which cites these as needed resources in the Hartford community. For example, 20% of Hartford households are food insecure and across Connecticut, there is a shortage of rental homes affordable and available to extremely low income households. Many of these households are severely cost burdened, spending more than half of their income on housing. Severely cost burdened poor households are more likely than other renters to sacrifice other necessities like healthy food and healthcare to pay the rent, and to experience unstable housing situations like evictions. These statistics speak to the need for supportive programming for this demographic (National Lowincome Housing Coalition, 2023).

Residents with very low food security exhibited more mental health symptoms. Residents with very low food security had higher anxiety levels and lower wellbeing scores that residents with high and low food security. This suggests that at a certain threshold food insecurity negatively impacts mental health. This is consistent with findings from other research studies that demonstrate the connection between food security and mental health. These studies in combination with this one have found food insecurity to be linked to an increased risk of developing mental illness, poor mental health, depression, anxiety, psychological distress, and sleep disturbances (Myers, 2020; Martin, Maddocks, Chen, Gilman, Colman, 2016).

Residents who continued to experience a negative economic impact since COVID-19 had lower levels of food security and more service needs. The economic impact of COVID-19 disproportionately impacted low-income households and communities of color (Vasquez Reyes, 2020). These findings suggest that residents that continue to experience the economic impact of COVID-19 have greater need for supportive community programs, continued need for support from the charitable food system, and programming to support economic mobility to change their life situation in a more sustainable way.

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