

An Evaluation of Purpose-Driven Organizations and Food Insecurity in Oklahoma

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Executive Summary

Oklahoma is one of the least food secure states in America. In 2021, 1 in 7 residents did not obtain adequate amounts of safe and nutritious food, creating a food insecure population of 561,640 individuals. While purpose-driven organizations across the state work to ameliorate the issue, Oklahoma's food insecurity remains at elevated levels. In response to the ongoing crisis, the Tulsa-based social enterprise, and data company, 9b Corp, requested an analysis of Oklahoma's purpose-driven organizations working to alleviate and prevent food insecurity. The analysis aims to understand how organization's address food insecurity in Oklahoma and what metrics they use to measure the issue. Private (non-governmental) Tulsa and Oklahoma City-based organizations were chosen for analysis as they are located in the two largest cities in the state and offer a means of convenience due to 9b Corp's current network.

The purpose of the study is to provide 9b Corp with the information needed to build effective data-driven solutions that reflect the needs of their clients working to alleviate and prevent food insecurity. The study contributes to the amount of exploratory research examining how low and very low food security in Oklahoma is addressed and measured by private purpose-driven organizations.

My results conclude each organization addresses the issue using direct service programs, indirect service programs, or both. In addition, many organizations value nutrition when solving food insecurity as well as barrier alleviation for sustainable solutions. Organization's measure the issue using internal data, external data, and demographic characteristics of their clients. I recommend that 9b Corp: offers their clients data solutions using food insecurity indicators, develop a SNAP Recipient/Eligibility Gap Index, identify food deserts, and lastly, conduct future quantitative studies measuring the local levels of food insecurity in Tulsa neighborhoods.

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INTRODUCTION

Thousands of Oklahoma residents suffer as their state grapples with an ongoing hunger and food insecurity crisis (Coleman-Jensen et al., 2022). With 14.1 percent of all households facing dangerously low levels of food security, Oklahoma ranks as the fifth hungriest state in America (Regional Food Bank of Oklahoma, 2023). Insufficient access to a nutritious and balanced diet can negatively affect an individual's welfare. Long-term food insecurity and hunger are shown to cause an array of chronic illnesses, disrupt childhood development, decrease academic achievement, and greatly impede future economic success (Feeding America, n.d.). According to the nonprofit Hunger Free Oklahoma, hunger alone costs the state \$1.4 billion each year in diet-related health care costs and decreased academic achievement (2022). To promote equity and ensure all Oklahomans have the ability to live healthy lives, hunger relief organizations must provide sustainable solutions that efficiently and effectively contribute to an Oklahoma eradicated of food insecurity.

The United States Department of Agriculture (USDA), a leader in food-related research, defines food insecurity as “an economic and social problem caused by the inadequate access to safe and healthy foods” (2022). Very low levels of food security often lead to hunger, the physiological condition caused by a lack of sufficient calories (U.S. Department of Agriculture, 2022). Due to declines in government funded assistance (Hunger Free Oklahoma, 2023 and Oklahoma Human Services, 2023) private food networks play a vital role in combatting Oklahoma's food insecurity crisis. 9b Corp, a social enterprise and data company serving Tulsa, is hoping to equip local food insecurity-relief organizations with data solutions built to sustainably combat Oklahoma's food crisis.

9b Corp operates as an external data department for numerous nonprofits, foundations,

An Evaluation of Purpose-Driven Organizations and Food Insecurity in Oklahoma and other purpose-driven organizations across the Tulsa metro area (9b Corp, n.d.). 9b Corp's data services offer organizations analytic solutions that they may not have access to otherwise. To expand their impact, 9b Corp's leadership recently launched a new product titled Neighborhood Explorer. Using location-based data, Neighborhood Explorer offers an interactive online dashboard allowing purpose-driven organizations to visualize community welfare statistics within Tulsa, Oklahoma (9b Corp, n.d.-b). Once complete, the Neighborhood Explorer application will provide in-depth coverage of various social determinants of health, including food insecurity.

To build meaningful data solutions and grow the Neighborhood Explorer tool, 9b Corp initiated an exploratory study to examine the work of private purpose-driven organizations in the food insecurity-relief space. Through one-on-one interviews, the study aims to inform 9b Corp how organizations serve community members in need and the metrics they use to measure food insecurity-related factors.

Statement of Purpose

The purpose of this study is to explore how private organizations with programs in food insecurity alleviation and prevention currently address and measure food insecurity-related issues. Therefore, this study aims to answer the following research questions:

RQ1. How do private purpose-driven organizations address the issue of food insecurity in Oklahoma?

RQ2. What metrics are used by private purpose-driven organizations to measure food insecurity in Oklahoma?

The conclusions drawn from the study will provide 9b Corp with the information needed to build effective data-driven solutions that reflect the needs of their clients and contribute to public

An Evaluation of Purpose-Driven Organizations and Food Insecurity in Oklahoma value. In addition, the purpose of this study is to promote the use of evidence-based practices. Evidence-based decision making, a growing model used by public leaders, incorporates the best available research on a topic to guide decisions, highlight gaps in program effectiveness, and uses systems to measure outcomes (Baba & HakemZadeh, 2012 and PEW Trusts, MacArthur Foundation, 2014). Lastly, drawing conclusions from both the literature review and exploratory analysis, this study contributes to the amount of research available examining how purpose-driven organizations address low and very low food security, specifically in Oklahoma.

The study includes: a literature review; a measurement and data collection plan; a sampling plan; a data analysis plan; communication of results; discussion and recommendations; and references.

LITERATURE REVIEW

The Regional Food Bank of Oklahoma opened its door in 1980 as America's 21st food bank (Regional Food Bank of Oklahoma, 2023). In 2022, Feeding America, the manager of an expansive network of food charities and the largest domestic hunger-relief organization in the country, reported partnering with over 200 food banks and 60,000 food pantries and meal programs (Feeding America, 2022-b). This extraordinary expansion of private food assistance reflects a trend in decreased public funding coupled with an ongoing need for food throughout America. After a period of expansive public food assistance throughout the 1960's and 70's, severe budget cuts in the 1980's decreased government assistance and inadvertently increased food insecurity (SNAP to Health, n.d. and Berg, J., & Gibson, 2012). These cuts gave rise to the quick expansion of private hunger-relief charities to meet public demand for quality food.

Despite these trends, millions of Americans rely on public food assistance each year, typically from the Supplemental Nutrition Assistance Program (SNAP), formally known as food

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stamps, to fulfill food security needs (DeSilver, 2023). Nevertheless, research shows that many Americans do not receive adequate support to live healthy lives through government funded programs (Keith-Jennings, Llobrera, & Dean, 2019). This study seeks to understand how private food insecurity alleviation and prevention organizations in Oklahoma incorporate, or neglect, the various factors influencing food insecurity in their program management and how they measure the complex issue.

Private Food Assistance

An array of private purpose-driven organizations implement assistance in the food insecurity space. The literature shows organizations created to alleviate both low and very low food security can be grouped into three categories: emergency food, food rescue, and food insecurity prevention. Emergency food organizations are the most prominent form of private assistance. These charitable organizations consist of food banks, food pantries, and community kitchens. Food banks rescue and distribute food to pantries and community kitchens (Waite, 2019). Food pantries and community kitchens provide free groceries and hot meals directly to community members in need (An et al., 2019).

In 2023, The Congressional Review, a public policy research institute, published a report outlining the USDA's The Emergency Food Assistance Program (TEFAP) (Billings, 2023). The report highlights emergency food use trends by households from 2008 to 2021 (see Appendix A). While emergency usage has reduced slightly, with a spike during the Covid-19 pandemic, the research shows households are relying on emergency food sources at an elevated level. After forty years of TEFAP and the 1980's spike in private assistance, a conclusion is drawn that private food assistance has become a regular part of the consumer food system rather than a short-term solution. While these organizations may fulfill a needs-gap by preventing hunger and

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the dangerous effects of very low food security, public leaders must consider the outcomes the private food system has on food security and public health.

Food Insecurity Indicators

To identify gaps in private food insecurity alleviation and prevention, it is important to consider the factors influencing food insecurity. These indicators may be used as metrics to measure food insecurity alleviation and prevention outcomes. An abundance of research analyzing the factors influencing food insecurity is available. While this review is not an exhaustive examination, it outlines reoccurring themes found throughout the literature. First, most studies consider food insecurity against a number of demographic variables. The literature shows that many empirical studies analyze demographic data and food insecurity rates using information collected from a variety of national household sample surveys. These include the National Health and Nutrition Examination Survey (NHANES), the National Health Interview Survey (NHIS), the Current Population Survey (CPS), and the Household Pulse Survey (HPS). With broad demographic and food security questions, these surveys make for useful collection tools to analyze large amounts of data.

Poverty is generally assumed as the root cause of food insecurity as the two issues are strongly correlated (Bowen et al., 2021). The USDA reports that food security and income levels are typically directly proportional, meaning as income rises so does access to sufficient and healthy food (U.S. Department of Agriculture, 2022-c). In contrast, as income declines so does food security. Food security can also be cyclical, especially with households receiving public food assistance. A low-income family may be mostly food secure, only experiencing food insecurity at the end of each month when benefits are depleted early (Valluri et al., 2021). Meanwhile, the literature supports the notion that structural inequities typically contribute to

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on-going or higher risks of food insecurity for certain communities. For example, structural racism is shown to perpetuate food insecurity among communities of color at higher rates than white communities (Feeding America, 2022).

Gender is another reoccurring demographic characteristic considered in the literature. Many empirical studies using national household surveys report women experience higher levels of food insecurity than men (Hernandez et al., 2017; Coleman-Jensen et al., 2022; Vaudin et al., 2022; Banks et al., 2021; Walker, 2021). Alternatively, a 2023 cross-sectional study conducted in North Philadelphia, a neighborhood where most zip codes face extreme poverty, examined gender as a predictor of food insecurity (Inguito et al., 2023). The targeted, urban-based study found no disparities between the level of food insecurity in women and men. Therefore, men's experience with food insecurity may be underrepresented in studies that use national survey data. Lastly, transgender and gender non-conforming individuals are very vulnerable to high levels of poverty and food insecurity, but few empirical studies consider these individuals (Branum, 2021). Many of the national survey's used as data collection sources do not include comprehensive gender identity questions.

In addition, the literature also evaluates age as an influencing factor of low food security levels. Elderly individuals encounter food insecurity due to both economic and physical barriers (Vaudin, 2022). One study shows that while some older adults may be economically secure, they can still face food insecurity due to physical challenges in purchasing and preparing food (Vaudin, 2022). This finding highlights the complexity of food insecurity while contesting the misconception that a lack of financial resources is the only cause. Lastly, a bilateral relationship between food insecurity and poor health can be observed (Coleman-Jensen & Nord, 2013 and Berkowitz, 2017). Food insecurity is shown to cause numerous diet-related disabilities. These

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chronic illnesses include diabetes, heart disease, and obesity (Laraia, 2013).

The literature shows food insecurity is also analyzed through barrier factors. These factors can be grouped into three categories: Access Factors, Availability Factors, and Utilization Factors. A version of these three categories were first mentioned in a study by Meredith Niles et al., examining Covid-19's early impacts on food insecurity (2020) but they properly summarize the results of other empirical research on the topic. In this review, Access Factors include barriers that prevent individuals and households from visiting food facilities, including grocery stores and charitable food assistance organizations. Availability Factors include barriers obtaining food. And Utilization Factors included barriers faced when using food. Along with demographic factors, individuals facing low food security may experience multiple barrier factors.

Measuring Food Insecurity

In 2019, the USDA celebrated its 25th anniversary of measuring food insecurity in America (Bickel et al., 2023). Throughout that time, many researchers have used the agency's measurement classifications in their studies. To help researchers measure the issue, the USDA published a comprehensive guidebook titled, *Guide to Measuring Household Food Security* (Bickel et al., 2023). In addition, the USDA has gone on to develop the U.S. Household Food Security Survey Module (2023). The module's survey questions are commonly used in America's national household surveys to measure the four levels of food security defined by the USDA. These levels include high food security, or no food-related problems, marginal food security, or possible anxiety about food but no effect on quality or intake of food, low food security, or reduction in quality, variety, and desirability, and very low food security, or eating pattern disruptions and reduced food intake due to a lack of resources (U.S. Department of

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Agriculture, 2022-d). The USDA does not measure hunger or the number of individuals in America experiencing hunger, stating, “There is no official “hunger count” to estimate the number of hungry people, and so there are no hard data available to estimate the extent of hunger directly” (Bickel et al., 2023). This is due to the lack of a consistent meaning of hunger and the variance in personal experience. A 2013 systematic review published by the Public Health Nutrition journal examined 159 articles on food security measurements. The systematic review found the USDA’s U.S. Household Food Security Survey Module and the Self-Perceived Household Food Security Scale were the most used measurement tools (Marques et al., 2015).

In order for 9b Corp to offer useful datasets in the Neighborhood Explorer product, it is important to understand what location-based data is currently available. The results of the qualitative interviews will inform 9b Corp which of these data sources are relevant to their clients, what sources should be disregarded, and the possible need for additional data collection. The national household surveys, mentioned earlier, appear to be the predominate data source for food security calculations. Many of the largest hunger-relief and prevention organizations in America, including Hunger Free America, No Kid Hunger, Food Research & Action Center, and Meals on Wheels utilize these surveys in their annual reports and whitepapers. The national household survey results are shared as open and free primary data. Results are always offered on the national level, most are offered on the state level, and few offer at the county level. While these surveys are esteemed pieces of research, the literature highlights some drawbacks to consider. Research shows that the national household surveys have experienced a steady decline in response rate since the 1990’s (Czajka & Beyler, 2016). According to the U.S. Census Bureau, the Current Population Survey’s response rate fell 18 percent between 2017 and 2022 alone (Pickering, 2022). As the gap between non-respondents and respondents widens, federal

An Evaluation of Purpose-Driven Organizations and Food Insecurity in Oklahoma household surveys risk nonresponse bias. This form of bias occurs when the individuals unwilling or unable to participate in a study are systematically different from those that do (Science Direct, n.d.). In addition, stigma surrounding food insecurity may also prevent individuals from providing honest answers throughout the surveys. The most robust private data source found measuring food insecurity is Feeding America's Mind the Meal Gap which reports on national, state, and county levels every two years (n.d.).

METHODOLOGY

To promote exploratory research and answer the study's two research questions, RQ1. How do private purpose-driven organizations address the issue of food insecurity in Oklahoma? and RQ2. What metrics are used by private purpose-driven organizations to measure food insecurity in Oklahoma?, this study utilizes a qualitative research design. Unlike quantitative research which requires statistical analysis (Fulton Library, n.d.), qualitative methods aim to explore ideas and experiences using non-numeric data (Cint, 2020). Rather than evaluating a single cause, this study hopes to understand the various perceptions and behaviors of food insecurity-alleviation and prevention organizations used to address Oklahoma's food insecurity crisis.

Sampling Techniques

Using purposive sampling, which requires a deliberate selection of participants (Business Research Methodology, n.d.), the target population for this study are employees of Oklahoma-based private purpose-driven organizations with at least one program dedicated to food insecurity alleviation and/or prevention. In this study, private is defined as any non-governmental entity, including both for-profit and non-profit organizations. In addition, this study considers any organization with a strong social mission, in this case one dedicated to

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ending food insecurity, as being purpose driven. Due to the high rate of food insecurity in the Oklahoma there are a large number of food insecurity alleviation organizations. The two main food banks in Oklahoma serve roughly 1,950 private emergency food organizations across the state (Food Bank of Eastern Oklahoma, 2023 and Regional Food Bank of Oklahoma, 2023). There are also a number of private organization's dedicated to food insecurity prevention. These include two robust advocacy and research organizations, and Oklahoma-based university programs dedicated to understanding the issue. As a means of convenience, only organizations based in the Tulsa and Oklahoma City metro areas are utilized in this study. This is an effective method as 9b Corp predominately serves Tulsa-based purpose-driven organizations.

According to 2021 Feeding America data, both Oklahoma County and Tulsa County have food insecurity rates of 12 percent (Hake, Engelhard, & Dewey, 2023). These rates are slightly below the state average of 14.1 percent, or 561,640 individuals (Hake, Engelhard, & Dewey, 2023). Throughout the study, the snowball strategy is used to grow the study's sample size. This method entails gathering potential interviewees by asking for referrals from each participant (Kirchherr & Charles, 2018). The snowball sampling method was initiated using a small set of connections from 9b Corp's network. Every participant contacted for this study had to meet the sampling criteria of being employed by a Tulsa or Oklahoma City-based nonprofit or social enterprise with at least one program dedicated to food insecurity alleviation and/or prevention for Oklahomans. No government employees were used in this study.

Data Collection

The researcher aimed to conduct eight to ten virtual interviews, or until the data collection reached saturation. Saturation occurs when additional data collection and analysis are deemed unnecessary (Saunders, 2017). In qualitative research, saturation supports the study's

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external validity, or the ability to apply its analysis to other situations or context (Ravelo, 2023).

The data collection method for this study uses original data from one-on-one interviews. Each interviewee was contacted through email to request and coordinate interviews. Prior to each discussion, the respondents were told that the purpose of the interview is to learn more about the topic of hunger and food insecurity, how their organization addresses hunger and food insecurity, and what metrics they currently use to measure these issues. To guide the discussion, the interviewer utilized a semi-structured approach with open-ended questions. This approach is important to standardize each interview but also allows for the greatest amount of discovery (Remler & Van Ryzin, 2022). Each interview was intended to last between 30 to 45 minutes in length and conducted using a virtual meeting platform. With the interviewee's permission, each discussion was recorded for later analysis. The interview protocol and list of interview questions can be found in Appendix B.

To explore how organization's address and measure food insecurity, 22 private purpose-driven organizations throughout Tulsa and Oklahoma City were contacted for one-on-one interviews. The researcher received a response rate of 55.5 percent. In total, ten volunteers agreed to participate in the requested virtual interview and share their organization's approach to food insecurity. With two participants being from the same organization, nine individual organizations were included in the interviews, giving the study a participation rate of 40.9 percent. The interviews were conducted throughout the months of September-November 2023 and lasted between 30-60 minutes in length. This study refers to any individual who took part in the one-on-one interview data collection as "participants" from hereafter.

Of the ten participants interviewed, nine shared they work at non-profit organizations, and one manages a for-profit social enterprise. Each participant met the study's sampling criteria

An Evaluation of Purpose-Driven Organizations and Food Insecurity in Oklahoma as they are employed by a private organization which manages at least one program dedicated to food insecurity alleviation and/or prevention for Oklahomans. Seven of the organizations are based in Tulsa and two organizations are based in Oklahoma City. The interviewees consisted of six executives, one senior level director, one senior data analyst, and two direct service coordinators. One participant's position will remain anonymous. Five organizations included in the study have a focus area of emergency food with five food pantries and one community kitchen. Two organizations work in food rescue/distribution through food banks. Three organizations have programs dedicated to advocacy and food policy work. One organization identifies as a community resource center. And one organization's focus area is mobile grocery and community farming. The types of service, meaning how an organization engages with the community, are categorized as either direct, indirect, or both. Table 1 visually summarizes the characteristics of each organization interviewed.

Org. Name	Type	Location	Focus Area	Type of Service
O1	Non-Profit	Tulsa	Food Pantry; Advocacy/Prevention	Direct & Indirect
O2	Non-Profit	Tulsa	Community Resource Center; Food Pantry; Advocacy/Prevention	Direct & Indirect
O3	Non-Profit	Tulsa	Food Pantry; Community Kitchen	Direct
O4	Non-Profit	Tulsa	Advocacy/Prevention; Research	Indirect
O5	Non-Profit	OK City	Food Pantry	Direct
O6	Non-Profit	Tulsa	Food Pantry	Direct
O7	For-Profit Social Enterprise	Tulsa	Mobile Grocery; Farm Hub	Direct & Indirect
O8	Non-Profit	Tulsa	Food Bank	Direct & Indirect
O9	Non-Profit	OK City	Food Bank	Indirect

Table 1: Study's Organization Characteristics

Data Analysis

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To begin the study's data analysis, deductive coding is used to outline several preliminary codes. For RQ1 (How do private purpose-driven organizations address the issue of food insecurity in Oklahoma?), these codes include: emergency food assistance, food rescue, food insecurity prevention, and food policy research. For RQ2 (What metrics are used by private purpose-driven organizations to measure food insecurity in Oklahoma?): demographics, SNAP participation, national survey data, and USDA classifications. Throughout the study, data collection and data analysis were intertwined. Conducting analysis throughout the data collection process allows the researcher to spot patterns and adjust methodology as needed. This is a common technique in qualitative research methods to support a study's validity (Remler & Van Ryzin, 2022-b). Following each interview, memoing was done to summarize and review the interviewer's notes. The recorded audio was then uploaded to the transcribing software Otter.ai for more thorough analysis. Once the data collection process had reached a point of saturation and the data collection process was deemed complete, the researcher began the process of inductive coding on each participant response. Inductive coding is a form of content analysis that is done to develop meaningful themes and patterns in the raw data (Delve Tool, 2022 and Remler & Van Ryzin, 2022). Using the descriptive and in vivo coding methods, each response was indexed into primary codes. The primary codes offer a broad understanding around how each participant approaches the food insecurity crisis in Oklahoma, including how they define food insecurity and hunger, how they target communities in need, and the metrics used to measure the issue. Next, the preliminary codes were narrowed into a set of secondary codes. Lastly, secondary codes are categorized into themes, or groups of codes for the most succinct form of data analysis. A code outline can be found in Appendix C outlining each research question with their primary codes, secondary codes, and themes.

Limitations of the Methodology

Using a qualitative research method offers several methodology limitations. First, due to the smaller sample size and lack of nonprobability sampling the study is low in generalizability (Remler & Van Ryzin, 2022). This is accepted as the interviews offer more in-depth responses than a standardized data collection method. Dahlia Remler and Gregg Van Ryzin in *Research Methods in Practice* outline additional analysis limitations found in qualitative designs (2022). These include a lack of precise measurement of variables, inability to measure relationship between variables, and the inability to investigate causality. These limitations can be disregarded as this study hopes to answer exploratory research questions rather than causal relationships.

RESULTS**Hunger versus Food Insecurity**

Throughout the interviews, participants were asked how they would describe the issues of hunger and food insecurity with the opportunity to explain if they distinguish the two ideas (see questions three and four in Appendix B). This information will allow 9b Corp to use the language and classifications that best represent how their clientele describe the issues. A variety of answers were collected, highlighting the complexities of the two concepts. Five participants stated they do not differentiate hunger from food insecurity or have defined definitions for the two concepts. One participant mentioned the USDA's definitions, making the point that their organization follows the federal government's terminology. The remaining participants drew differences between hunger and food insecurity but offered personal definitions based on their experiences in the field.

When speaking on food insecurity, two themes, Access and Nutrition, were drawn from response's primary and secondary codes. The Access theme is inferred from the reoccurring

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codes drawn from the responses stating that food insecurity is present when individuals cannot access sufficient food due to both internal and external barriers. Five participants described food insecurity in this way. While every participant spoke on nutrition and the importance of healthy food at some point throughout their interviews, three participants specifically mentioned it when sharing their definitions of food insecurity. These participants believe food insecurity means more than not having enough food to eat, but it encompasses a consistent lack of access to healthy food. Table 2 summarizes the participant's responses with example excerpts.

Table 2: Hunger and Food Insecurity Definitions

Topics	No. of Participants	Excerpts
Does differentiate hunger & food insecurity	4	"It's not having access or enough and that to me, that's food insecurity, whereas hunger is the result of food insecurity"
Does not differentiate hunger & food insecurity	6	<p>"They're kind of one in the same [food insecurity and hunger], because even if you're food insecure, you're going to be hungry, even if you're eating junk, you're going to be hungry again, really quickly. So, it's hard to differentiate."</p> <p>"We probably incorrectly use those words [hunger and food insecurity] interchangeably...We don't have a technical definition."</p> <p>"We really do not [have a definition]...we take people at their word, that they're either homeless, jobless, or whatever the situation is, we don't even ask really...we're just trying to serve our community, the best that we can."</p>
Describes hunger as a physical feeling	3	<p>"Hunger is a feeling, hunger is a state."</p> <p>"Hunger is a feeling. It's the physical. So, to me, hunger is the physical symptom of not having enough food to eat."</p>
Describes food insecurity as Access	5	<p>"[Food insecurity] is something that doesn't have to exist. We have enough food to feed everyone, the only things that we have to get past are the barriers that prevent people from getting the food they need. It's a barrier problem."</p> <p>"Food insecurity would be not having enough to eat. So not having enough to eat within like, let's say, the last 30 days or not having enough healthy food to eat within the past 30 days or not having access to healthy fruits and vegetables to eat within the past, like 30 days."</p> <p>"Food insecurity is the term I try to use and how I define it is, over a year, a individual or household, either not having the means to go buy enough food, or causing certain behavior changes for fear of running out of resources."</p>

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Describes food insecurity as Nutrition	3	<p>“We look at it as anyone that's food insecure, which doesn't have access to healthy produce and not eating healthy.”</p> <p>“Food insecurity would be not having enough to eat... not having enough healthy food to eat within the past 30 days or not having access to healthy fruits and vegetables to eat within the past 30 days.”</p> <p>"Health disparities are much higher because they don't have access to health care, besides not having access to real food. And so they eat a lot of junk foods, so diabetes and heart disease and obesity is high.”</p>
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Research Questions Results

RQ1. How do private purpose-driven organizations address the issue of food insecurity in Oklahoma?

The study's interviews explored the methods that purpose-driven organizations use to alleviate and prevent food insecurity in Oklahoma. When asked about their role in the food insecurity space (see question two in Appendix B), four themes were drawn from the response's primary and secondary codes. These include Direct Service, Indirect Service, Barrier Alleviation, and Public Health Support. First, the results of this study show that every organization working in food insecurity serves their community either directly or indirectly, as shown in Table 1. Direct service organizations support community members firsthand and often include emergency food programs, such as food pantries or community kitchens. Other direct services outlined in the interviewee responses included public benefit (ex. SNAP) application assistance, nutrition education, and health assessments. The participant's interviewed with programs that do not work directly with community members are considered indirect services. Their programs include food rescue, food distribution, advocacy/policy work, research, and the educating of direct providers on topics such as nutrition and public assistance benefits.

The theme Barrier Alleviation is also used to summarize how purpose-driven organizations address food insecurity. Five participants mentioned some type of barrier alleviation work in their responses to their organization's role in food insecurity. Two secondary

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codes, utilization barrier alleviation and availability barrier alleviation were categorized to create the broader theme. The primary codes mentioned by the participants that created these secondary codes include, combatting food deserts, improving local food systems, client choice pantries, lack of requirements to get food, lack of registration to get food, and nutrition education. Lastly, Public Health Support is the final theme used to summarize how organization's address food insecurity in Oklahoma. The secondary codes used to create this theme were the use of nutrition guidelines, healthy emergency food, nutrition education, and nutrition awareness. Six participants mentioned nutrition when answering how their organizations address food insecurity. The primary codes drawn from these responses used to create the four nutrition-related secondary codes are, provide fresh produce, distribute healthier products, support nutrition policies, use of MyPlate nutrition guidelines, use of HER nutrition guidelines, food as medicine, increase community nutritional health, and equitable access to healthy food. Overall, the results of this study show each organization supports communities directly, indirectly, or both. They also work to systematically end food insecurity by alleviating food barriers and support public health by offering nutritious-conscious programs. Table 3 summarizes the participant's responses with example excerpts.

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Table 3: RQ1

Topics	No. of Participants	Excerpts
Manages Direct Service Programs	7	<p>"Starting in 2012, we were the first agency in the Tulsa area, to become a pantry of choice...we started asking our clients what they wanted to eat."</p> <p>"We actually go into food deserts. So, our primary...program is what we call our community food and resource festivals. We host these three times a month. Everyone gets a 30-pound bag of fresh produce; they get a meal from a local food truck to meet the immediate need. And then we have about 20 different community partners that we bring in."</p> <p>"We serve a community meal every day, and we do multiple grocery pantries...Our mission is to feed the hungry and homeless Tulsa every day."</p> <p>"We [recently] launched into our education program. So, we believe to really fight hunger, there's an educational piece."</p> <p>Summary: Any organization with a program that works in contact with community members.</p>
Manages Indirect Service Programs	7	<p>"We did add an advocacy program to our slate of programs...Because we know that just providing food alone is not going to solve the hunger problem."</p> <p>"We are a food distribution warehouse (food bank)..So we primarily distribute food to other organizations, who then distribute those food to clients."</p> <p>"We're an indirect service organization. We partner with organizations who are working directly [with the community], like the food banks, tribal nations, other nonprofits, to raise awareness for the different federal nutrition programs, and to help advocate for them and to increase participation".</p> <p>Summary: Any organization with a program that serves direct programs, works in policy or advocacy, works in research, or other secondary programs to community members.</p>
Incorporates Barrier Alleviation Initiatives	6	<p>"The kind of hallmark of our service is that there we are barrier free, there are no barriers to receiving our meal in the morning or to receiving groceries, or only grocery pantry rule is you can access the pantry one time a month".</p> <p>"And the food there is all client choice food in that we have a fairly diverse menu that our clients are able to select from, the quantity of the food items that they want...plus we have a section out front of our where the volunteers are assembling the client choice food."</p> <p>"With the [program name], our goal is to put one in every neighborhood, so there are no more food deserts and expand into rural communities. With the food system, we really are trying to disrupt the traditional supply chain, really create one that's rooted in justice and more locally owned."</p> <p>"We really focused on empowering the local food system while ensuring equitable access to healthy food through a number of programs."</p> <p>Summary: Any organization with a program that addresses an Access, Availability, and/or Utilization barrier factor.</p>

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Incorporates Public Health Support Initiatives	7	<p>“We also moved to change the balance of the food that we provided. And so whereas in the past we probably would have been pretty...starch and protein heavy. We didn't really think about things like sodium as much. Now we're more fruit and vegetable heavy. So we try to be closer to the MyPlate guide.”</p> <p>“Our mission is to increase the nutritional health of our communities”.</p> <p>“On our meal side, we have launched an initiative through the University of Oklahoma Tulsa's culinary medicine program, where we do a food as medicine program...So we try to incorporate a whole bunch more fresh fruit and vegetables.”</p> <p>Summary: <i>Any organization that addresses nutrition concerns by supporting the distribution of healthy and fresh food and strong nutrition education.</i></p>
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RQ2. What metrics are used by private purpose-driven organizations to measure food insecurity in Oklahoma?

Participants were also asked questions relating to how they measure hunger and food insecurity (see Theme 2 in Appendix B). This information provides 9b Corp an understanding of how the potential users of the Neighborhood Explorer tool currently measure their impact, their use of evidence-based decision making, and a set of possible data sources. Three themes were coded that observe how purpose-driven organizations measure hunger and food insecurity. The themes include Internal Metrics, External Metrics, and Demographic Metrics. Beginning with internal metrics, the study's results conclude this theme is typically composed of program outputs. Outputs are defined as a program's recorded deliverables (Whitaker, 2016). Six organizations mentioned the use of output measurements with primary codes being pounds of food donated, number of clients served, and number of client visits. Two organizations mentioned that they are working to measure outcomes. Next, the external metrics include any non-internal data the organizations use to measure food insecurity and hunger. The secondary codes used to create the external metric theme includes client feedback, government data, Feeding America data, number of SNAP applications, and number of SNAP enrollments. Six organizations mentioned they collect client feedback to better understand how they are serving the community. This type of information has been labeled as external in this study as it is collected from sources outside of the organization. Lastly, demographic measurements are used

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to measure who is experiencing or at risk of food insecurity. Table 4 summarizes the participant's responses with example excerpts.

Table 4: RQ2

Topics	No. of Participants	Excerpts
Utilizes Internal Metrics	6	<p>"Some of the metrics we use to look the impact, of course, we do track not only the bags of food, but also the pounds of food that are distributed...But then we also will look at the number of new clients who are coming, versus our repeat kind of cyclical clients."</p> <p>"The outputs are...the number of clients helped, the number of households helped, the number of times they received help, and then an estimated number of pounds of food being distributed."</p> <p>"Our goal of how we measure our success is how many times people are returning."</p> <p>"In terms of measuring for the individual, like a specific family, that would be a repeat client."</p> <p><i>Summary: Any organization that mentioned they measure food insecurity and hunger using their organization's inputs, outputs, or outcomes.</i></p>
Utilizes External Metrics	8	<p>"The [organization name] doesn't personally try to measure food insecurity. We usually take the data from Feeding America."</p> <p>"We do provide the opportunities, certainly not required, but we provide the opportunity for the client to give us feedback that is either identified with their name or without their name in terms of how they were helped."</p> <p>"We've measured food insecurity and all the data that we get as numbers from the DHS and Health Department."</p> <p>"A lot of our data comes from Feeding America. So, Map the Meal Gap."</p> <p><i>Summary: Any organization that mentioned they measure food insecurity and hunger using SNAP data, client feedback, external private data, and/or government data.</i></p>
Utilizes Demographic Metrics	6	<p>"We're always collecting our data. If we've had 161 families from a zip code come to an event we say okay, we need to start paying attention here."</p> <p>"We like looking at different subgroups like LGBTQ, Asian, Black, Hispanic, Native, we have a large Native population and looking at hunger based on that. But also, homelessness, and food insecurity at the college level".</p> <p>"Definitely family size, that's always useful. Because that kind of gives us a spec of how much food to order or what types of food to order if we have a lot of kids...I try to order kid friendly food a lot of times".</p> <p>"Four times a year we do a survey with our guests. We ask six basic questions: how old are you? What's your gender? What's your race? Where'd you stay last night? Etc".</p> <p><i>Summary: Any organization that mentioned they measure food insecurity and hunger using client and community information such as housing status, location, income level, and family size.</i></p>

DICUSSION AND RECOMMENDATIONS

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The complexities of food insecurity are showcased throughout the analysis of the study's interviewee responses. While reoccurring themes can be concluded from the study's responses, each participant shared a unique approach to food insecurity alleviation and prevention. Some organizations embrace evidence-based decision making and outcome measurement to achieve their goals, while others are concentrated on serving an immediate need with little time or resources to systematically evaluate their work. This information will allow 9b Corp to tailor their findings on the Neighborhood Explorer tool to the diverse set of purpose-driven organizations working to ensure food security for all Oklahomans. In addition, the study's findings contribute to the amount of research examining how private, purpose-driven organizations work to establish healthy and sustainable levels of food security in Oklahoma.

RQ1. How do private purpose-driven organizations address the issue of food insecurity in Oklahoma?

The study's findings align well with the takeaways of the literature review that emergency food is a popular tool used to combat food insecurity. Over half of the organization's interviewed in this study offer some type of emergency food. The literature review uses three categories to summarize the types of organization's working in food insecurity: emergency food, food rescue, and food insecurity prevention. Conclusions drawn from the interviews support the notion that it is best to classify organizations in the food insecurity space as direct service or indirect service, based on how they serve their community. These two categories better reflect how organizations identify themselves and encompass more programs working to end food insecurity.

The literature review also explains that many Americans do not receive adequate public assistance support, typically through SNAP, to maintain high food security levels

An Evaluation of Purpose-Driven Organizations and Food Insecurity in Oklahoma (Keith-Jennings, Llobrera, & Dean, 2019). The study's results support these claims as participants repeatedly mentioned the recent cutting of elevated Covid-19 SNAP benefits in March 2023, returning the funding to pre-pandemic levels. It is a growing concern among the participants that food insecurity is rising in Oklahoma. The participants interviewed that work at emergency food organizations shared they are already seeing increased levels of need.

Lastly, few empirical studies examine the impacts private organizations have on food security and public health. Meanwhile, the study's results show nutrition and public health are leading factors in the interviewees program develop. Therefore, published research on food insecurity may be underrepresenting the impact private organizations have on public health. Lastly, the literature review groups barrier factors contributing to food insecurity into three categories: Access Factors, Availability Factors, and Utilization Factors as first mentioned in Meredith Niles et al's 2020 study (2020). This study shows these barriers are more than passive factors found in empirical research perpetuating food insecurity. Rather, these factors are actively considered by purpose-driven organizations when developing holistic programs aimed at combatting food insecurity in Oklahoma.

In summary, the study finds private purpose-driven organizations address the issue of food insecurity in Oklahoma through the use of direct and indirect service programs. Nutrition and public health are leading elements in how organization's address food insecurity. And lastly, organization's create programs that alleviate and prevent various food barriers that contribute to food insecurity and hunger.

RQ2. What metrics are used by private purpose-driven organizations to measure food insecurity in Oklahoma?

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Throughout this study's data collection process, participants were able to speak on how they measure food insecurity and hunger as well as what metrics they deem important. As summarized in the results section, interviewees utilize sets of internal metrics, external metrics, and demographic data. Under internal metrics, the organizations tend to use output measurements with only two participants mentioning the use of outcomes, or the direct and indirect impact a program has on its focus area (Whitaker, 2016). One participant stated, "We don't [measure the level of hunger in Tulsa]. I think figuring out outcomes is the challenge of nonprofits, period". No internal metric tools were included in the literature review as most published research is conducted by outside organizations.

External metrics was the next theme concluded when answering the second research question. As outlined in the results section, external metrics include client feedback, private data, and government data. The two participants that mentioned public data can be confusing and on some occasions, wrong. This shows organizations are exposed to gaps in information due to the lack of robust and high-quality public data. When discussing external measurements, almost all participants explained they use SNAP participation as a leading measurement of food security. Alternatively, large organizations mentioned in the literature review such as the USDA consider SNAP as a tool to reduce food insecurity. The USDA does not use SNAP participation as an indicator of food insecurity, but the agency does try to measure its impact (Mabli et al., 2023).

Lastly, three organizations mentioned using large private data through Feeding America, which is published at a two-year lag with the smallest data sets being at the county level. The results show the organization's interviewed do not utilize the national household survey data that is typically considered in the available empirical research. None of the participants mentioned the use of the USDA's survey tools, such as the U.S. Household Food Security Survey Module

An Evaluation of Purpose-Driven Organizations and Food Insecurity in Oklahoma (U.S. Department of Agriculture, 2023). While the review explained this is a leading tool used in empirical food insecurity studies, there is a clear difference in how local organizations and nation-level researchers measure food insecurity and hunger. Throughout the discussions, participants shared they wished for more data published on the zip code level or smaller as well as more frequently.

In summary, the study finds private purpose-driven organizations measure the issue of food insecurity in Oklahoma using internal, external, and demographic metrics. Unfortunately, due to the complexities of food insecurity and a lack of resources, organization's working to alleviate and prevent food insecurity may struggle to measure their impact and identify areas of need.

Implications

The results of the study highlight both the intersectional causes of food insecurity and the wide variety of approaches being used to combat the issue in Oklahoma. Understanding the many ways private purpose-driven organizations are working to address food insecurity is important to support the issue holistically. Beyond emergency food programs, funders and policy makers must support all organizations working to establish sustainable local food systems in other direct or indirect ways. In addition, by understanding the causes of food insecurity and the ways to measure it, external data companies like 9b Corp can be prepared to provide the best possible data solutions tailored to the needs of the various types of organizations working to alleviate and prevent food insecurity in Oklahoma. The complexities of the issue and the various barriers that Oklahomans face in achieving healthy food security require a great deal of collaboration and strong evidence-based decision making. This research process is transferable to other data companies or governments to further understand how private purpose-driven

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Recommendations

1. **Neighborhood Explorer Map:** Add statistical information from the U.S. Census Bureau's American Community Survey and CDC's PLACES data to the Neighborhood Explorer visualization tool to help organization's target areas of need in Tulsa.
2. **SNAP Recipient/Eligibility Gap Index:** Create an index highlighting any gaps in Tulsa's SNAP eligibility population vs the current number of recipients using data from the U.S. Census Bureau's American Community Survey.
3. **Map of Tulsa Grocery Stores & SNAP Acceptance:** Plot locations of each full access grocery store in Tulsa that accept SNAP benefits to identify food deserts using [Oklaahaoma.gov's SNAP Merchant Locator](https://oklahoma.gov/snap-merchant-locator) data.
4. **Collect Local Data:** Conduct quantitative surveys to measure the levels of food insecurity in each Tulsa zip code to fulfill the need of more local level data measuring food insecurity. Utilize questions outlined in the USDA's Household Food Security Survey Module, a survey tool built to measure the four levels of food security.

Study Limitations and Challenges

Despite diligent reviews of the methodology and analysis plans, some limitations were presented in the study. First, the completed project was done under a condensed timeline of one standard Fall semester. Therefore, the results of the study may have been more robust if completed under a longer timeline. Next, due to the nature of the study, a second coder was not present in the data analysis portion of the research. Second coders are important in qualitative research as they help reduce the threat of researcher bias by offering different experiences and interpretations to the interviewee responses. In addition, some gaps in research were present when interviewees did not provide answers in line with the questions. This created a small set of incorrect or missing answers in the data analysis. The cause of this issue may have been due to the nature of a virtual interview as some audio issues were present. Two interviewees did not

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utilize the zoom option and requested a phone call instead as they were away from their desks. One interviewee had audio issue making it difficult to hear all responses clearly. Unfortunately, in-person interviews were not possible as the researcher and participants live in different cities. Therefore, interpretive validity is also limited due to the timeline of the study. Interpretive validity is supported by obtaining thorough participant feedback. Lastly, in addition to the exploratory questions, some close-ended information to gather background data on each participant organization may have been helpful to obtain throughout the study, making a case for a mixed-methods approach.

CONCLUSION

The study highlights the severity of hunger and food insecurity throughout Oklahoma. One participant mentioned “Food insecurity is probably the largest need [in Tulsa]”. Another went on to support recent research stating, “Oklahoma is one of the hungriest states in America”. Maslow's Hierarchy of Needs, a theory of motivation, explains that in the pyramid of human needs, the lowest must be met first before the others above can be fulfilled (McLeod, 2023). Food is considered a lowest level, or physiological, need. Therefore, without substantial food security, humans are unable to satisfy other needs that bring them financial security, emotional security, belongingness, and an overall balanced well-being. Food insecurity hinders the ability to live a higher quality life. 9b Corp’s Neighborhood Explorer tool will ensure both direct and indirect service organizations are equipped with data solutions that reflect the needs of local food insecurity organizations and communities in Oklahoma. As Oklahoma’s high levels of food insecurity continue, any organization working to alleviate and prevent the inequitable issue must utilize evidence-based decision making to ensure their work is both effective and efficient. All

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people deserve regular access to sufficient amounts of safe and healthy foods. Strong data-back solutions used by public leaders can ensure this right is fulfilled.

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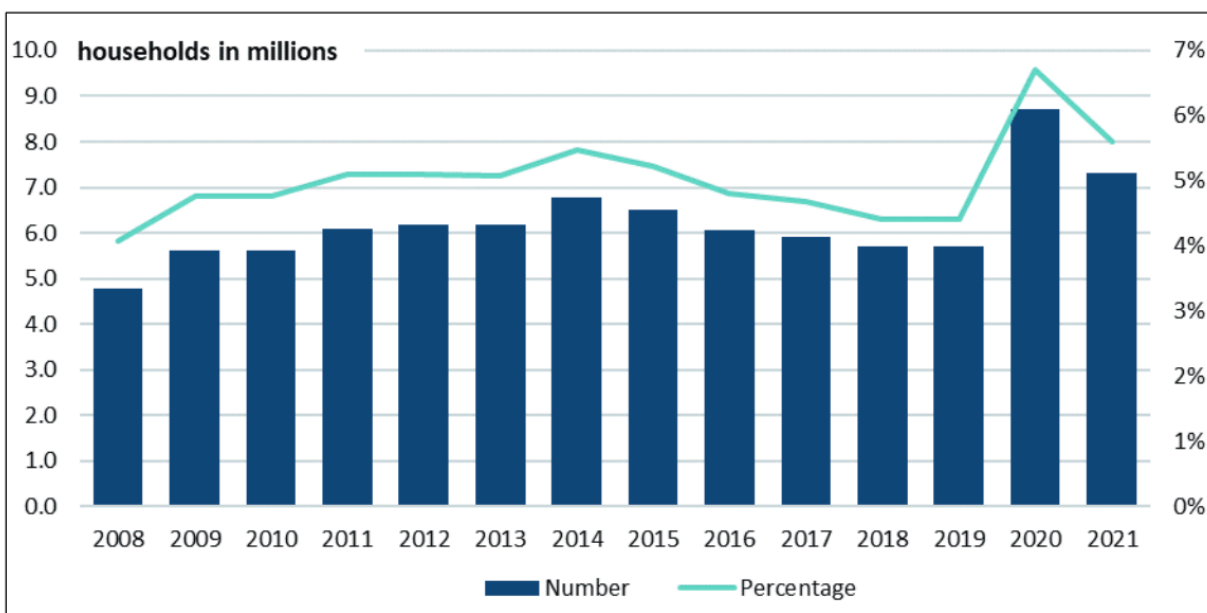
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Appendix A

Households Using Emergency Feeding Organizations, 2008-2021



Source: CRS graphic based on data contained in statistical supplements to *Household Food Security in the United States*, USDA Economic Research Service, for 2008-2021.

Appendix B

Interview Protocol

Welcome and thank you for your participation today. My name is _____ and I am a graduate student at the University of Colorado Denver and interviewing you on behalf of 9b Corp. Thank you for agreeing to participate in this interview. The interview will take about 45 minutes and will include 12 questions regarding the experience of hunger relief organizations. We will be taking notes so we can accurately document the information you convey. With your permission, I will also be recording this interview. If at any time during the interview you wish to discontinue the interview itself, please feel free to let me know.

All of your responses are confidential. Your responses will remain confidential and will be used to develop a better understanding of how you and other purpose-driven organizations address hunger-related issues. With hunger and food insecurity being a threat to America's public health, the purpose of this study is to understand what factors lead to such issues, how they are addressed by purpose-driven organizations, and what metrics can be used to measure them. Your participation in this interview is completely voluntary. If at any time you need to stop or take a break, please let me know. You may also withdraw your participation at any time without consequence. Do you have any questions or concerns before we begin? Then with your permission we will begin the interview.

Interview Questions:

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Introduction

1. What is your role at (organization name)?
2. Can you describe (organization name)'s role in hunger relief and/or hunger prevention?

Theme 1 - Define/Describe

3. How would you describe/define food insecurity?
4. How would you describe/define hunger?
5. Who do you see most impacted by hunger and/or food insecurity in your area of impact?

Theme 2 – Measurement

6. What metrics are important to consider when creating hunger relief and/or hunger prevention programs?
7. How does your organization establish and track program goals in the hunger space?
 - a) How do you decide if a program is successful?
8. How do you measure food insecurity?
9. How do you measure hunger?

Theme 3 - Focus on information and users for a technology

10. When working with hunger relief and/or hunger prevention would more information be helpful in your work?
 - a) What type of information?
 - b. Who would benefit from this information?
 - c. Who would use it?
 - d. Who would communicate it?
11. Are there areas when working with hunger relief and/or hunger prevention that you deal with too much information?
 - a) Would a different display or summary of that information be helpful?

If we had a magic wand to collect the information you just talked about and display it in a website or app on the phone....

12. Who do you think would be the most engaged user?
 - a) If needed, provide examples: community members, neighborhood association leaders, municipal government, etc.

Theme 4 – Snowball Sampling

13. Can you suggest someone or an organization we should talk to next?

Thank you for participating in this study. Please feel free to provide any additional information that you feel is relevant to this study. You may request a transcript of this conversation at any time.

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Appendix C

RQ1. How do private purpose-driven organizations address the issue of food insecurity in Oklahoma?

Participant Identifier	Primary Codes	Secondary Codes	Themes
P1	pantry of choice; "we started asking our clients what they wanted to eat, instead of what we thought they wanted"; MyPlate Guidelines	Direct Service: emergency food Public Health: nutrition guidelines; healthy food Barrier Alleviation: utilization barrier alleviation (pantry of choice)	Direct Service; Public Health; Barrier Alleviation
	apply for SNAP	Other: public benefit advocacy	
	"Just providing food alone is not going to solve the hunger problem"	Indirect Service: policy advocacy	Indirect Service
P2	food deserts; community partners; fresh produce; resource festivals	Direct Service: emergency food Public Health: healthy food Barrier Alleviation: availability barrier alleviation	Direct Service; Public Health; Barrier Alleviation
	"learning from the community"; listening; community relationship	Other: community partnership	
	nutrition education; "there has to be a paradigm shift"	Public Health: nutrition education Barrier Alleviation: utilization barrier alleviation	Public Health; Barrier Alleviation
P3	soup kitchen; grocery pantry; Feed every day; "our mission is to feed the hungry and homeless Tulsa every day"; agency partnerships	Direct Service: emergency food	Direct Service
	barrier free	Barrier Alleviation: availability barrier alleviation	Barrier Alleviation
	fruits & vegetables; food as medicine program; more focused; better day	Public Health: nutrition conscious; healthy food	Public Health
	not getting evicted; purchase medicine; fix car	Other: economic advantages	
P4	Indirect service; partnerships; raise awareness; increase participation	Indirect Service: food insecurity prevention Other: public benefit advocacy	Indirect Service
	"build capacity for other organizations"; accessibility	Other: policy advocacy	
P5	good quality; healthy food; sustainable food; "you don't have to live in our zip code to come"; "If you can make it to us. then you get food"; food pantry	Direct Service: emergency food	Direct Service
P6	emergency food; food by appointment; "partnership with food banks"; food pantry	Direct Service: emergency food	Direct Service
	pre-bagged selection; "7 to 10 days' worth of food"	Direct Service: emergency food	Direct Service
	client choice food; fresh produce; food by appointment; "10 days' worth of food"	Barrier Alleviation: utilization barrier alleviation (pantry of choice) Public Health: healthy food	Barrier Alleviation; Public Health
P7	nutrition health; "empowering the local food system"; "equitable access to healthy food"; food deserts	Public Health: nutrition conscious Barrier Alleviation: availability barrier alleviation; access barrier alleviation	Public Health; Barrier Alleviation
	for profit sales; Double Up Food Bucks; dignity	Other: social enterprise	
	disrupt supply chain; end food deserts	Barrier Alleviation: availability barrier alleviation	Barrier Alleviation
P8	food distribution warehouse; food bank; community partners; "we serve the Eastern 24 counties of Oklahoma"; "we have about 650 different partners"	Indirect Service: food rescue	Indirect Service
	distribute healthier products; nutrition policies; HER guidelines; "everything that we distribute, we want 65% to the fruits and vegetables"	Public Health: healthy food; nutrition guidelines	Public Health
P9	food bank; eliminate barriers; create accessibility; community impact work	Indirect Service: food insecurity Barrier Alleviation: access barrier alleviation	Indirect Service; Barrier Alleviation

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P10	food bank's direct distribution; service the community directly	Direct Service: emergency food	Direct Service
	fresh produce; low-income families	Public Health: healthy food	Public Health
	mitigate burden; relieve stress	Barrier Alleviation: access barrier alleviation	Barrier Alleviation

RQ2. What metrics are used by private purpose-driven organizations to measure food insecurity in Oklahoma?

Participant Identifier	Primary Codes	Secondary Codes	Themes
P1	outputs; pounds of food; number of clients; number of visits	Internal Metrics: organization outputs	Internal Metrics
	"figuring out outcomes is the challenge of nonprofits, period"		
	people of color; women	Demographic Metrics: race; gender	Demographic Metrics
	LGBTQ+ community	Demographic Metrics:: sexuality; gender	Demographic Metrics
	SNAP enrollment, census data	External Metrics: SNAP enrollment; government data	External Metrics
	housing insecurity	Demographic Metrics: housing status	Demographic Metrics
P2	zip codes; "We begin walking the neighborhood"; informal talks; festival attendees	Demographic Metrics: location	Demographic Metrics
	returning participants; public benefit applications; job applications; volunteers; "moving the needle and getting people resources"	Internal Metrics: organization outcomes External Metrics: number SNAP applications	Internal Metrics; External Metrics
P3	survey; age; gender; race; housing status; visit frequency	External Metrics: client feedback Demographic Metrics: age; gender; race; housing status	External Metrics; Demographic Metrics
	SNAP enrollment	External Metrics: SNAP enrollment	External Metrics
P4	Feeding America; Mind the Meal Gap; SNAP Gap; poverty level	External Metrics: Feeding America data; SNAP enrollment	External Metrics
	"any hunger would be qualitative data, like testimonials and focus groups"	External Metrics: government data; client feedback	External Metrics
	different subgroups; demographics; race; LGBTQ+; native population; homelessness; college students	Demographic Metrics: race; sexuality; gender; housing status; education status	Demographic Metrics
P5	Family size	Demographic Metrics: family size	Demographic Metrics
	zip codes; crime rates	Demographic Metrics: location; crime rates	Demographic Metrics
P6	feedback collection; number of visits	Internal Metrics: organization outputs External Metrics: client feedback	Internal Metrics; External Metrics
	bags of food distributed; pounds of food distributed; new clients; cyclical clients	Internal Metrics: organization outputs	Internal Metrics
P7	total sales; SNAP sales; Double-Up sales	Internal Metrics: organization outputs	Internal Metrics
		Internal Metrics: organization inputs; organization outputs; organization outcomes	
	logic models; tracking sales; tracking health data; recall surveys	External Metrics: client feedback	Internal Metrics; External Metrics
	Low-income zip codes; no grocery stores	Demographic Metrics: location; income level	Demographic Metrics
	store sales	Internal Metrics: organization outputs	Internal Metrics
	"they're concentrated in one area"; weekly schedule; Tulsa Housing Authority properties	Demographic Metrics: location; income level; age	Demographic Metrics
P8	Feeding America data; lag in data	External Metrics: Feeding America data	External Metrics
	number of clients; external causes; internal causes; pulse of need	Internal Metrics: organization outputs External Metrics: SNAP enrollment; client feedback	Internal Metrics; External Metrics

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P9	Feeding America data; lag in data; USDA reports	External Metrics: government data; Feeding America data	External Metrics
P10	program distributions; annual reviews	Internal Metrics: organization outputs; annual reviews	Internal Metrics

