Food Insecurity in Local Communities: How Data Collection Can Improve Community Policy

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Food Insecurity In Local Communities: How Data Collection Can Improve Community Policy

A thesis submitted in partial fulfillment of the requirement for the degree of Bachelor of Arts in Public Policy from

The College of William and Mary

By

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Accepted for Honors (Honors)

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- Allison Greenday
Abstract

Over the summer of 2018, we ran a case study in Henrico County, Virginia, seeking to employ simplistic data collection methods to better understand the complex network of issues surrounding food insecurity. In studying a specific issue within a single bounded area, this study aims to demonstrate that local governments can address large-scale issues within their communities through data collection and analysis. This study was successful in identifying several key components contributing to food insecurity and broader income insecurity concerns, paving the way for policy solutions targeted at specific root causes of insecurity. With these findings, we confirmed the overarching theory that simple data collection methods can vastly improve the way local governments interact with their communities.
Chapter 1: How Local Governments Can Make the Biggest Impacts

In research, everything comes with a qualifier. When we discuss poverty, for example, we discuss it in terms of specific populations: rural, urban, minority, etc. Rarely would we find an in-depth investigation of anything on a generalized scale. Yet the same cannot be said for policymaking – particularly at higher levels of government. By necessity, policies cannot include nuanced qualifiers for when and where they can be implemented. They must take a top-down approach, addressing the general needs of the majority. Specific community needs are left unaddressed. These needs, however, can drastically alter the way a policy impacts the community, making the results uneven and inevitably providing some communities with advantages over others. But what if we took a different approach, and built policies from the ground up?

Local institutions offer a level of optimism far beyond that found at other levels of government. No governing body is as in tune with its community, or has the potential to make a more direct impact on people’s daily lives. However, with a smaller scope comes fewer resources, and, as with any institution, decisions must be made regarding their use and allocation. Under these and other constraints, it can often seem that a local government’s power does not extend far beyond fixing “small” problems. This perception could not be further from the truth. Local governments have the potential to make significant impacts on their communities, and they frequently do. Public transportation systems, for example, can be the difference between employment and unemployment. Indeed, the road infrastructure can shape the structure of a community. The key is finding ways to maximize a local government’s impact on its constituency without unduly straining available resources. Data collection provides just such an opportunity. Tools such as
surveys are inexpensive ways to gain a comprehensive view of any given problem and its framework of contributing factors. Using these methods, a local government can gather substantial, significant data without exhausting their resources, and they can use this data to craft custom, efficient policies to better serve the needs of their specific communities.

This paper utilizes a case study to explore the theory that any problem, regardless of nuance or complexity, can be broken down and addressed at the local level. The case study format allows us to examine a single unit – in this case, a county – as a representative of a larger group (Gerring, 341). Local governments have limited resources and, in Virginia, limited privileges, but state-level intervention is often too broad to accurately address the needs of unique and specific communities. And although case studies are not ideal for finding causal effects and relationships, the mechanisms behind these relationships are made more clear through a case study than they could be in a cross-unit study (346).

This study serves primarily as a proof of concept. By isolating a single, localized unit, we can determine how effective this data collection technique truly is. In addition to using localized data, the study also uses only limited resources to better mimic the conditions under which a government might carry out its own research. Once this study is complete, we can evaluate its impact and determine whether it can be more widely adopted by local communities throughout the country. There is no need to confirm any case-specific theories. The purpose of data collection is inherently exploratory; in order to fix problems, we must first understand the mechanisms at work and divine what the problems themselves are. If this is possible in a single county, using more limited resources than most localities would realistically have available, it can be done anywhere.

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1 The research budget is $1,000 with a single researcher earning roughly minimum wage over the course of three months.
Chapter 2: Food Insecurity and the Poverty Nexus

The case study that forms the basis of this paper was run in Henrico County, Virginia over the summer of 2018. The chosen problem is that of food insecurity. Food insecurity, itself a complex and involved issue, is something which will here be known as a “gateway indicator”: it is relatively easy to see and study, and provides an ideal starting point from which to observe more deeply ingrained issues. It does not exist in a vacuum, but is rather a component of the larger web of poverty. When viewed holistically, its tangled nature appears overwhelming and discourages action on the local scale. But local governments can use their resources efficiently to address the roots of both food insecurity and systemic poverty. While total alleviation may not be possible, mitigation certainly is, provided that there is proper understanding of the issues at play. Thus, it becomes a perfect candidate for study and action at the local level.

A brief survey² was distributed to clients at five food pantries throughout the county to determine what issues, if any, they were experiencing beyond food insecurity. Using food pantries as data collection points is particularly advantageous, as they allow easy access to the target population. Using these locations drastically reduces the human and financial resources required to run the study. By asking clients to report other issues in their lives, we can begin to observe phenomena which are less easily studied. Issues with housing, transportation, or other necessities are generally harder to locate, and data collection in these fields requires additional time and manpower. However, such issues should present themselves in the data gathered at food pantries

² See Appendix C for the full text of the survey (English translation, Form A) and percentagized responses
if they are indeed components of the same “poverty nexus.” These are termed “nexus issues,” as they appear to have an integral connection to the broader problem.

Food Insecurity: A Gateway Indicator

Imagine that poverty, as a concept, is a tangled web of points connected by thin strands – almost like a spiderweb crumbled into a ball. There are many points, but several of them stand out as focal points – these are our nexus issues. The picture as a whole is messy and overwhelming, but if we choose a single focal point, we can begin to observe the connections and interactions between individual phenomena. Through this process, we can untangle the entire structure – but only if the effort is careful, intentional, and coordinated. Food insecurity is an ideal choice of focal point: as a fundamental need, households will prioritize their spending on food. As such, food insecurity will rarely (if ever) exist on its own. It will accompany other problems and insufficiencies included in this tangled web. Because it can be observed and studied with more ease and fewer resources than other points, it is an accessible gateway to our understanding of poverty.

Impacted Populations

Even on its own, food insecurity is hardly a simple problem to address. To be food secure, an individual must have access to adequate food “for an active, healthy life,” without the need to reduce or disrupt food intake (Stubblefield and Leigh, 13). Some definitions add that food should be accessible through “socially acceptable” methods, and that a person should be certain of their ability to access food in such a way (Wolfe et al., 92). Its effects can be devastating, and there are a myriad of components that require careful attention and a great deal of resources. It is an issue which requires charities and government agencies to play constant defense, dedicating resources to controlling the damage and leaving nothing behind with which to combat the source (David,
Its impacts are far-reaching: the Census Bureau found in 2016 that 12.6% of American households experience some level of food insecurity (2-4). Single mothers face the highest rate of food insecurity at 31.6% (8). Households with children also face an increased risk, with some studies reporting them twice as likely to experience food insecurity compared to childless households (Garasky, Morton, and Greder, 41).

The elderly, too, are particularly vulnerable. This is due in large part to their reduced mobility and relative isolation (David, 9), as well as lower, fixed incomes and poor general health (Wolfe et al., 92). Wolfe et al.’s 1996 study notes that minority and impoverished elderly groups are roughly twice as likely to experience food insecurity as the total population, and those living below the poverty line have greater nutritional risk resulting from decreased food access (92).

There are, however, mitigating factors. The same study found that those living with a strong sense of community perceived themselves to be more secure. Many had neighbors who would regularly check in and help with meal preparation, transportation, and other daily needs. Knowing volunteers at local organizations also made the food environment more “friendly” and helped stabilize individuals’ situations (98-99). In short, they benefited from a sense of community food security, in which “all community residents obtain a safe, culturally appropriate, nutritionally adequate diet in a sustainable food system that maximizes community self-reliance and social justice” (Hamm and Bellows, 37).

Food Deserts

Those most impacted by food insecurity often live in what are known as food deserts. Although specific definitions can vary, most studies describe food deserts as areas with low food access (physical, economic, or both), where residents do not live within a reasonable distance of an adequate variety of healthy, affordable foods and usually lack access to transportation (RVA
Food Policy Task Force, 4; Leete, Bania, and Sparks-Ibanga 205). Food deserts occur disproportionately in minority and/or low-income areas, many of which experience higher morbidity and mortality rates due to health issues. Scholars credit these disparities with a myriad of systemic factors such as neighborhood deprivation and residential segregation (Walker, Keane, and Burke, 876).

The presence of local retailers, and the quality of the food they supply, can have a substantial impact on overall community food security and economic health in general. These retailers are important sources of local employment, but conditions do not always allow them to supply affordable, healthy foods (Leete, Bania, and Sparks-Ibanga, 206; Short, Guthman, and Raskin, 353-361; Walker, Keane, and Burke, 880). Ultimately, whether local stores help alleviate food insecurity or not depends heavily on the food environment – essentially, the infrastructure which makes food available to residents. The food environment plays heavily into the concept of community food security. Food deserts may be created when large chains develop locations on the outskirts of inner-city areas. Offering a better variety of better quality food at lower prices, these become highly desirable locations that attract a great deal of business, and they can force smaller retailers in the area to close. As a result, the supermarket remains accessible to those with cars and/or public transportation access, while options for those without steadily dwindle (Walker, Keane, and Burke, 876). In this scenario, local food vendors may be crucial – but only if their goods promote food security. Those local retailers which do provide healthy foods at low costs often contribute strongly to community food security: they employ local people, and are able to rely on family labor to keep costs low. The stores in this study also filled a cultural need, offering foods with cultural significance to local residents which might be difficult to find elsewhere (Short, Guthman, and Raskin, 353-361).
The Role of Pantries and Other Organizations

Charitable organizations play a key role in providing community services and fulfilling local needs. Food pantries in particular can be used for a variety of reasons, from helping families make ends meet during temporary setbacks to providing critical support for households experiencing severe need. Moreover, they often serve as community gathering places, particularly the smaller ones operating out of local churches and community centers. Volunteers and clients often know one another well, and weekly distributions function as a way for neighbors to catch up and check on one another – particularly among elderly clients. As sources of both immediate aid and community fellowship, pantries have the potential to foster both individual and household food security and overall community growth and stability (Hamm and Bellows, 39).

As previously discussed, pantries are excellent study locations for isolating a representative population sample and conducting a thorough study, particularly when resources are limited. However, it should be noted that not all food insecure households will utilize pantries or government programs. A 2010 study by the American Dietetic Association found that almost 70% of households experiencing food insecurity did not use local pantries even when they had knowledge of them (Holben, 1369). Stigmas surround both government programs and charity organizations, particularly among formerly middle-class households. These stigmas are harmful for multiple reasons, not the least of which is the chronic under-counting of those in need.

The Role of Nexus Issues

Like food insecurity, each nexus issue is its own complex entity. Addressed individually, each could easily consume every resource an institution has to give, and the underlying issues may still never be truly resolved. These issues are structural centers – when the pressure is taken off of

3 As observed by the author during pantry visits and distributions
4 Discussed verbally (and recorded with consent) with pantry clients during distribution
one, it will be transferred to the others; the problem essentially just moves somewhere else. But when we address these issues together, treating them as key foundational parts of a single whole rather than as separate phenomena, we may be able to effectively mitigate the damage without shifting the burden elsewhere.

Finding these nexuses points requires an in-depth analysis through the lens of a gateway indicator. The survey used in this study gathers strategic data about the conditions surrounding food insecurity. Clients’ answers are aggregated and cross-tabulated to determine common trends among the survey population. As trends begin to appear, the analysis can be targeted to reveal relationships between focal points and provide insight into how policies might address multiple issues at once. The information gathered in the survey is based on several theorized issues, namely healthcare, housing, childcare, and transportation. This study also seeks to investigate whether there is a “threshold gap,” in which those coping with food and other financial insecurities fall short of the eligibility standards necessary to secure government aid. Such a gap would indicate a significant number of citizens who are unable to sufficiently provide for their households, but who are uncounted and underrepresented in official poverty estimates.

Several studies have noted the interconnectedness of these key nexus issues. At each point, a household’s situation is precariously positioned as a set of trade-offs, and the problem at hand is invariably exacerbated by the other extant issues. For example, a 2008 study from Cook et al. describes in detail the problems surrounding household energy insecurity. As energy prices rise dramatically, households below the poverty line find themselves at an increasing financial burden. Insufficient heating and/or cooling creates health problems for the elderly, young children, and those with certain illnesses and disabilities (867-868). The study found a strong positive connection between energy and food insecurity (872), but it also found evidence that other aspects
of a household’s well-being were endangered, as well. A significant portion of energy insecure households reported forgoing medical care and/or cutting back on medication as a direct result of high energy bills (868).

Food insecurity is a cycle in and of itself: insufficient nutrition leads to illness, which both increases household expenditures and decreases employment opportunities. Together, these factors force households to make difficult choices regarding how limited funds should be allocated. With more expenses and less income, a household’s financial situation will continue to worsen, making sufficient nutrition harder still to obtain (David, 5). Tradeoffs are frequent: many households report difficult decisions between purchasing medicine, undergoing medical procedures, and paying medical bills and purchasing food (Wolfe et al., 95; Holben, 1370). A recent study from Fraze et al. took a similar approach to healthcare as we take here to food insecurity, examining nonmedical factors that may contribute to overall household health. Significantly, they identify three main areas of focus: transportation, housing, and food insecurity (2111).

This grand network of tradeoffs comprises the overarching nexus which we understand as poverty or “income insecurity,” which often arises out of a sudden shock or event. This may take the form of losing benefits and/or employment, stressing budgetary constraints and creating the issues of food insecurity, poor health, housing insecurity, etc.. The American Dietetic Association’s study found that “[a]mong households using food pantries and other emergency food programs, many reported choosing between buying food and medical care/medication (31.6%), rent/mortgage (35%), or utilities/heating (41.5%)” (Holben, 1370). There is an implication here, to be discussed at greater length in Chapter 5, that an action to stabilize a household’s budget and/or pre-shock situation may be the difference between a manageable setback and cyclical
exacerbation of poverty. For example, if a household already has some issues accessing transportation, an unexpected event such as the family car breaking down could set off a chain of events that could be halted by transportation assistance. Similarly, actions taken to stabilize one side of a potential tradeoff (ex: healthcare) may help mitigate the downward spiral.

The Poverty Nexus

We cannot understand the true value of this case study without first discussing the ultimate issue at its heart: poverty. The actual definition of poverty varies, making direct studies difficult. Some measures are entirely subjective, relying on individuals to self-report their financial situations. There are two main subjective models for measuring poverty, but both rely primarily on household composition – specifically, the number and ages of household members (RVA Food Policy Task Force 15). However, these studies are not fully reliable; researchers found that respondents consistently underestimated their income when reporting income security, skewing the results (Kapteyn, Kooreman, and Willemse 222, 227-228). Other measures are more standardized. A more recent study in the Journal of Human Resources (Lucci, Bhaktal, and Khan 301) bases its estimation of the poverty line based on a household’s food expenditures. Using price data from surveys and/or the Consumer Price Index (CPI), researchers “calculate the cost of a ‘minimum food basket’ needed to achieve a minimum caloric intake” of around 2100 calories per day. These calculations provide two complementary thresholds. One accounts for non-food expenditures for “households whose total spending equals the food poverty line,” and the other, higher threshold uses “a higher non-food allowance calculated from the food budget share of households whose food spending exactly meets the food poverty line.”

Yet even among these objective standards, urban poverty is consistently underestimated. As populations around the word become increasingly urbanized, evaluation methods have not
adjusted to the new realities of urban life (297). A higher cost of living in urban centers undermines the above threshold standard as non-food expenditures such as housing, utilities, healthcare, and transportation cost more, but the study does not distinguish between cities and rural areas in its calculations (302). Such studies also fail to account for marginalized urban populations such as the homeless, members of “informal settlements,” and those in unsafe or inaccessible areas (299).

The underestimation of urban poverty has widespread impacts. Chief among them: governments and donors do not view urban poverty as an urgent priority, and they do not allocate sufficient resources (297). Thus, what resources are available to address poverty-related issues must continue to go towards treating symptomatic problems that show up more readily in the available data. Food insecurity, as stated earlier, is just such an issue: easily visible and sufficiently complex as to demand that resources be devoted to the most pressing surface-level components. Fortunately, because it is so heavily interwoven with poverty itself, we can use the wealth of information available about food insecurity to move past the surface and determine what can best be done to alleviate the problem at its source, and improve the overall well-being of underrepresented and underserved populations.

The Threshold Gap

The Federal Poverty Line (FPL) is widely regarded as a grossly insufficient measure of financial insecurity in the United States. A 1989 Gallup poll found that the average American would have set the poverty line for a family of four at $15,017 – roughly $3,000 higher than the actual $12,092 at that time (O’Hare et al., 7-8, 18). Adjusted for inflation, Americans would have set the threshold at roughly $31,486 in 2019 USD, versus what would today be a $25,382 poverty line (BLS, “CPI Inflation Calculator”) – which is nearly $300 higher than the current threshold of $25,100 (HealthCare.gov, “Federal Poverty Level”). The FPL has long been criticized as outdated,
and it is rarely used as an accurate measure of need in academic studies (O’Hare et al., 10). Perhaps the best illustration of academics’ refusal to rely on the FPL can be found in Cook et al.’s study, which exclusively relies on a threshold set at 150% of the FPL (868). The authors offer no explanation or justification for this revised threshold, nor is there any need for them to do so; the standard is widely accepted.

The true danger of the FPL lies in its use in determining eligibility for government programs. Without an accurate measure of financial need, many households may find themselves in a position where their income is insufficient to cover basic expenses but they cannot qualify for public assistance. The gulf between actual financial security and federally defined financial security is here referred to as the “threshold gap,” in which households may be meeting some basic needs, but are unable to further stabilize themselves due to a lack of opportunity.

**Case Study: Henrico County, Virginia**

The decision to conduct this study in Henrico County, VA was based on several factors. There are numerous pantries active in the county, many of which serve relatively large communities, which allows for a larger sample size. The economy is heavily diversified – Health Care and Social Services employs a plurality of Henrico citizens at just 14%. Unemployment was at 3.3% (just below the national average) as of December 2017 (Henrico County 2018, under “Henrico County Profile”). The county is also racially diverse, with the following demographic makeup: as of the 2010 census, 59.2% of Henrico citizens identified as white, 29.5% as black, 6.6% as Asian/Pacific Islander, 4.4% as other/multiracial, and 0.3% as Native American/Alaskan native (12). The county’s geopolitical position, however, makes it most compelling as a study area. As shown in **Map 1**, the county is positioned around the city of Richmond. To the Northeast, the

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5 See Appendix A for relevant tables and figures
The county's income distribution roughly mirrors that of Richmond – the West End is well known as a wealthy district with a booming economy, while children born in the East End have a life expectancy 20 years shorter than their western counterparts (Tricycle, under “Home”). Although some of the more rural communities in eastern Henrico have moderately high incomes, the areas closest to Richmond’s East End appear more impoverished. Lucci, Bhatkal, and Khan suggest that this phenomenon is not uncommon. Henrico is a county, and as such is not considered an “urban center” (299-300). Studies of Richmond’s urban poor will not include members of communities who live beyond the city limits, resulting in undercounted and therefore underserved populations. Economic conditions and redevelopment policies continuously displace the urban poor to these outskirts, altering the appearance of poverty without impacting the data itself. As a result, neither Richmond nor Henrico consider their food insecure populations to be part of a larger community, and are less likely to extend sufficient resources to address the problem.

Henrico is also home to several food deserts, particularly in the areas closest to the city limits – the transitional zones. Richmond’s Food Policy Task Force found a number of food deserts in the city, many of them coinciding with low income “neighborhoods of color” (under “Mayor’s Charge,” 3-4). Based on the close connection in income distribution in Henrico neighborhoods bordering the city, we can assume that this pattern remains consistent beyond city limits. Despite
concentrated areas of wealth, nearly half of Henrico’s students (47.05%) are eligible for free or reduced price meals (Virginia Department of Education).

These factors make Henrico an ideal case study for this paper. The cross-section of urban and suburban poverty provides unique challenges and nuance that make local policy difficult to design. If this project is successful in breaking down and addressing the problems facing Henrico residents, then, it will prove that this technique can be effective anywhere.

Existing Models for Aid

Richmond and Henrico

To design an effective study, we must first form a basic concept of what might work. Given much of Henrico’s demographic similarities to the City of Richmond, we need not look far. Recently, the city of Richmond launched its own task force to investigate food insecurity within the city. The final report makes a number of suggestions focused not just on food policy, but also on surrounding issues. These provide both examples of effective policies and opportunities for collaboration between Richmond and Henrico. Richmond’s approach targets two main objectives: expanding access to affordable, healthy foods; and keeping ahead of the problem. A Food Policy Coordinator would oversee the implementation of policies such as establishing community kitchens and/or food hubs, a new “green” career development program, and urban agriculture (RVA Food Policy Task Force, 111). Food hubs/cooperatives expand access to fresh food in food deserts, acting as regional “distribution and coordination facilities” and often working with small local farms to find and distribute fresh produce. Both urban and rural economies benefit from such programs, addressing the needs of two communities simultaneously. Food hubs are not necessarily public institutions, either. There is ample opportunity to develop public-private partnerships under non-profit or producer/consumer-driven models (82).
Urban agriculture is crucial to both the food hub model and the “green” career development initiative. The Task Force makes several recommendations involving expanded access to agricultural products at both the personal and community level. Residents in low-income neighborhoods benefit greatly from the increased availability of healthy foods and more opportunities for employment. Produce from community gardens can also go directly to food banks and local pantries, and potentially even to food hubs and/or cooperatives. The gardens become community spaces, providing safe places and activities for local youth and deterring crime (59-67). A local non-profit, Tricycle, works to promote agriculture in urban spaces and increase representation therein (“Tricycle – Urban Ag Culture”). They offer an affordable 11-month fellowship which operates in conjunction with the USDA-Natural Resources Conservation Service to teach students how to engage in sustainable urban agriculture (“Grow”). Tricycle also supports local businesses and entrepreneurs through a corner store initiative known as Corner Farm, in which they partner with the city of Richmond to provide corner stores in food deserts with local produce. Employees are hired locally, and Tricycle staff help train store owners on produce handling. Fresh fruits and vegetables are delivered weekly, and staff members hold periodic classes on food preparation to encourage healthy eating in the local community. These Corner Farm stores have already begun expanding past the Richmond city limits and into Henrico County, likening the chances for partnership with the county (“Eat”).

These initiatives target food insecure populations, but they also seek wider-reaching impacts. Food hubs and cooperatives engage local farmers and have the potential to provide an economic boost through that channel. Similarly, urban agriculture sites open new employment opportunities and help deter crimes in certain areas, which can go a long way towards revitalizing communities. The Corner Farm initiative, like Richmond’s “green” career initiative, seeks to
stimulate local economies while simultaneously improving food access and encouraging healthier lifestyles. The Task Force’s goal is to keep ahead of the problem; to do so, they are beginning to look past the symptoms and examine the deeper issues.

Other city/county initiatives target non-nutritional barriers to financial security. Specifically, the Greater Richmond Transit Company (GRTC) operates two specialty services for disadvantaged populations: C-VAN and CARE. C-VAN operates in conjunction with the Department of Social Services to provide transportation for participants in Virginia Initiative for Employment not Welfare (VIEW) (GRTC, “C-VAN”). CARE operates under ADA guidelines to provide transportation assistance for individuals with disabilities which make using typical public transportation options difficult (“CARE”). Both services may deviate from the GRTC’s typical fixed routes, with CARE Plus available for those who need to travel farther than three-quarters of a mile from the fixed route. It should be noted, however, that CARE and CARE Plus services cost nearly twice as much as ordinary routes (“CARE”, “Fare Passes”). C-VAN clients must be referred by a social worker, and CARE clients must meet ADA eligibility requirements. Additionally, the CARE service area (shown by Map 3), serves primarily metropolitan areas, while many of the more rural extents are not accessible. Reviews of Richmond’s existing public transportation system are harsh. Many studies point out that the vast majority of low-skilled jobs in the Richmond metropolitan area lie beyond GRTC’s service area, with some going so far as to blame Richmond’s transit system for exacerbating poverty in the region (Chen, 7).

Beyond Virginia

On a national scale, similar programs targeting more than one issue related to food insecurity are beginning to take hold. In Boston, Project Bread is being hailed as a model for the

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6 Most local GRTC routes are $1.50 per ride, while CARE services are $3 per ride. Richmond residents must pay $6 for CARE Plus (although the price remains $3 for those living in Henrico).
country in how food insecurity can be addressed (David 16). It serves as an umbrella organization, promoting a series of smaller initiatives such as food education, healthy incentives, and enrollment aid (18). The Boston Medical Center has set up a Nutrition Resource Center in an attempt to address both food insecurity and healthcare issues. Their Preventive Food Pantry (known as the “food pharmacy”) allows doctors to prescribe healthy food to patients and families, and their Demonstration Kitchen features healthy cooking lessons to encourage patients to adopt healthy habits (19-20). Institutionalizing these initiatives within organizations such as universities and hospitals which are ingrained in the local community both increases access to aid and de-stigmatizes it, allowing people who may not normally seek out assistance to do so (22). For-profit institutions can also play a critical role. Subsidies encourage some companies to participate in social programs, while others may simply follow a social business model and accept a reduced profit in order to provide a societal need (24).

As organizations and policymakers focus more on the need to provide comprehensive solutions to citizens’ needs, models become broader in their scope. The most effective policies are those that seek to involve the entire community and address issues beyond food insecurity itself. Promoting intersectional policies and involving entities across the public-private spectrum strengthens communities. Community gardens and urban agriculture projects provide community gathering spaces and promote employment from the bottom-up, revitalizing areas instead of consigning them to ever more forgotten spaces where the problem will continue unrecognized. The more broad-based the policy – the more nexus points each solution addresses – the more manageable the problem becomes.
Chapter 3: Methodology

Existing data for food insecurity tends to either be generalized and collected at large-scale levels from randomly sampled populations or highly specified based on particular studies. Such data are sufficient for broad studies, but are hardly so for projects such as this which aim to examine specific communities. For most locally-based studies, data must first be collected and processed before any detailed analysis can take place. Surveys offer an opportunity to collect this data without expending unrealistic resources, all the while targeting people who are directly impacted by food insecurity and allowing researchers to best understand the relevant circumstances.

Survey Design

Studies have shown that respondents in any social science research may be subject to any number of biases. One of the most potent, particularly in highly personal and stigmatized situations, is a social desirability bias, in which the respondent seeks to “please” the interviewer and portray themselves in the best light possible. Standard interviews can further introduce an interviewer bias. Most interviewers work off of a tightly-defined script, designed to prevent the interviewer from biasing the results in the ways they interact with respondents. A semi-formal, collaborative interview style such as the one proposed by Suchman and Jordan optimizes the process by allowing the interviewer to interact with respondents and resolve any potential misunderstandings, aiming for “stability of meaning” over “standardization of the interaction” (262). However, even a collaborative setting cannot entirely eliminate the social desirability pressure on sensitive issues such as financial stability, and the resources required to run a series of
collaborative interviews fall beyond the scope of this project. Respondents were instead given a self-administered paper survey to fill out anonymously and independently, eliminating the possibility of interviewer bias and greatly reducing social pressure. Pantries had all necessary materials (pencils, clipboards, etc.) on site to reduce accessibility issues, and Spanish-speaking clients could opt for a translated form.

Accessibility was a key consideration throughout the design process. As such, questions were written to be clear and concise, and the survey was limited to one page, front and back. There are 26 questions spanning 7 categories: household profile, transportation, food (in)security status, employment status, government and community program usage, respondent input, and basic demographic information. These categories provide a broad enough overview of each client’s situation, allowing for far-reaching analysis without an undue risk that respondents would begin to “satisfice” as they progressed through the questions. Two questions in particular, however, presented an additional risk for selection bias: question 20, which asks respondents to rank potential programs in order of helpfulness; and question 22, which asks respondents to identify other potentially helpful programs from a list. Respondents using minimal effort may rank and/or select choices at random, often on the basis of which answer appears first. To mitigate this effect, the survey exists in two forms: A and B. The forms are identical except for the answer choices on these two questions, which appear in reversed order.

The question categories were carefully designed to develop a holistic view of issues facing Henrico’s low-income communities in a brief format. The goal is to discover problems that frequently occur together. Suggested policies will target these nexus issues. It is important here to note that “step zero” was to first research and understand Henrico County’s socioeconomic environment. The county’s urban/suburban/rural environments and demographic makeup make it
in many ways unique, and questions relevant to this population may not be relevant to another locality (and vice versa). While the questions on this survey were broadly inspired by similar studies, they were chosen and curated with Henrico County itself in mind. The 7 categories mentioned above address issues most commonly associated with financial insecurity in both scholarship and common intuition. Employment – or lack thereof – can be influenced by transportation issues and complicated by family situations (such as access to childcare). Among the employed, different industries and employment sectors have different business practices and pay schedules, all of which may impact a household’s financial stability. Similarly, reasons for unemployment are often varied, and may reveal underlying issues that might otherwise go unnoticed.⁷

By far the most important category is respondent input, which consists of three questions. The first asks respondents to rank after school childcare programs, increased transportation options, community gardens, and food cooperatives in order of helpfulness. The second asks the respondent if there are any other programs they would like to see offered, either by the community or the government. Finally, the third asks what information respondents would like to have available at the food pantry, and offers a list of options including housing, healthcare, and SNAP enrollment (among similar programs and a write-in option). The ranking question is asked first in order to provide ideas and get the respondent into a brainstorming mindset. These questions provide direct, bottom-up insight into what would be most effective and immediately beneficial

⁷ In this paper, as in the survey distributed in summer 2018, the word “unemployment” refers generally to a lack of employment, and does not follow the more official economic definition of “unemployment” as a jobless individual who is actively searching for work. Instead, it may here encompass job-searchers, discouraged workers, retirees, etc. The general definition is more commonly known, particularly to survey respondents, and as it allows for varied circumstances, it therefore better serves the purpose of this study.
for food insecure households and communities. Such insights are, of course, vital to the policymaking process.

Many of the questions used were inspired by similar surveys run by universities and food banks in other states/cities. A Feeding America study categorized clients by the frequency of their visits. Asking how many months out of the past year anyone in their household had visited a pantry, they created the following groups: “Recurrent” clients utilized pantries 12 months out of the year; “Frequent” clients came 6-11 months; “Intermittent” clients came 2-5 months; and “Nascent” clients had only begun visiting a pantry in the past month (Echevarria et. al., 5). A survey examining food pantries in Milwaukee, WI asked pantry clients first “How much money do you have for food each month?” and then “How much money do you need for food each month?” Both questions provided the following categories: $0-$50, $60-$100, $101-$150, $151-$200, and “More than $200” (Askew, 16). Although the answer categories were adjusted to read $51-$100, these questions were kept in their original forms for this study. The respondent input category was heavily inspired by another survey, which included the question: “I would like information on the following to be available at the pantry,” followed by a list of both state and federal programs such as SNAP, WIC, and family/community organizations. The same survey then asked “What other community services or activities would help you or your family?” and provided a similar list of options (Stubblefield, 11-12). Other questions used in this study were inspired by conversations with officials in the Hanover County Department of Social Services in Hanover County, VA.

Sampling and Distribution Methods

A convenience sample provides the best data spread for the available resources. Whereas a traditional random sample would require more time, money, and effort to systematically select respondents, a convenience sample allows us to examine a specific target population in large
numbers provided they share at least one common characteristic. Convenience samples do introduce some bias, as they are more dependent than most on who will choose to complete the survey and may therefore suffer in their ability to fully represent a population. However, this sampling method is useful when working with a large population and limited resources, and issues of representation may be addressed through careful research and comparisons with similar studies (Fink, 18). Working with a representative from FeedMore, an email was sent to every FeedMore-affiliated pantry in Henrico County. The email explained the purpose of the project and assured anonymity for all clients. Six food pantries responded indicating they would like to participate. One, Faith Community Baptist Church, was not able to complete the study. Pantries organized survey distribution according to their own schedules and resources, and offered the survey to all clients during normal hours of operation.

Differences in pantry operations and environments led to varied response rates. However, there is no clear explanation for these differences. LAMB’S Basket pantry, by far the largest pantry in the study, contributed 56.4% of the total responses. The pantry is well-staffed, and had sufficient resources to offer a small incentive (such as an extra baked good) for returned surveys. The survey was announced to all clients, and of the estimated 400 households served per month, 28.5% (114) participated. The other pantries were much smaller – at 80 households per month, New Bridge Baptist Church had the second largest client base – and none opted to offer incentives. However, this does not appear to have impacted participation. Three Chopt Presbyterian Church had the highest response rate at 52% (26 of an estimated 50 households per month). This rate may have had to do with weekly distributions and multiple opportunities for clients to encounter and fill out the survey. At New Bridge, which only opens once a month and therefore had only two opportunities to distribute the survey, the response rate was 20%. Yet Varina Episcopal Church
distributed the survey only once at its monthly food pantry and the participation rate was 30%. Finally, Mt. Olive Baptist Church had the second highest participation rate at 46.7%. This response rate is likely most indicative of distribution methodology – a few weeks into the study, the pantry revealed that it did not have sufficient staff to distribute the survey themselves and reached out to request in-person distribution. Due to time constraints, there were only two opportunities to distribute the survey, but direct contact with the research director may have motivated more individuals to participate in the study. Given more time, it is possible that Mt. Olive’s response rate could have surpassed that of Three Chopt.

As noted earlier, convenience samples can introduce some bias based primarily on who is available and most disposed to participate. But studies such as that by Kelly et. al. have shown that convenience samples provide reliable data when compared with other techniques such as random clusters (3130). Although neither pantries nor FeedMore keep data on their clients’ demographics, the demographic results do align with expectations generated based on similar studies and existing literature. With this basis in mind, it is reasonable to assume that the sample gathered is sufficiently representative. With over 200 completed surveys, representing 31% of potential respondents, the participation rate was roughly what was expected. Variances in the demographics themselves between pantries suggest that each pantry is well represented, with no one specific group appearing any more likely to respond than others for reasons related to the survey.8

Finally, as pantries returned completed surveys, their managers were given a brief “exit survey.” These surveys consisted of 6 open-ended questions designed to gather supplemental data and a different perspective of the issue. Pantry managers were asked questions about how their

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8 As will be further discussed in the results, there are some groups which are disproportionately represented overall; however, this is more likely due to actual issues of food insecurity and pantry access than bias introduced by the survey or sampling methods.
client bases had change over time, whether and how the pantries were impacted by the 2009 recession, and what challenges the pantry and its clients face overall. Managers were also asked what zip codes they primarily serve and whether there is any other information that would be pertinent to this study. Their responses will help direct the analysis, provide necessary geographical data, and can provide context for the results that will guide policy recommendations.

Recording Responses

Every survey is subject to bias and misinterpretation due to the simple truth that they must be filled out by humans. When recording the survey results, therefore, certain assumptions were necessary in order to preserve the quality and meaning of the data wherever possible. In some scenarios, it quickly became clear that a miscommunication had occurred, and it was easily corrected. For example, several respondents assumed that the word “unemployed” in question 13 (which asks about employment status) referred to the government definition of the word, which refers to someone recently without a job who is actively looking for a new position. Rather than mark themselves as “unemployed,” they would simply write “N/A” in the margins, followed by the reason they were out of work. Others would not respond at all. In order to preserve the integrity of the data, they would be recorded as “unemployed” if they wrote in the margin and/or responded anything other than “N/A” to question 15, which asks for the specific circumstances of those who are not working. Other miscommunications were cleared in a similar manner, aided by respondents who would make notes in the margins and/or respond to other questions in ways that clarified their meaning. Some issues, however, required more inference.

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9 See Appendix B for full responses
One particularly interesting case occurred with a respondent or respondents for whom neither English nor Spanish was their first language. For several questions, they marked two answers and indicated which was relevant to the “husband” or the “wife.” Given two sets of information and no clear way of understanding what was relevant to the actual respondent, the decision was made to record the survey twice: once with the “husband” answers and again with the “wife” answers. Common answers (those with only one option selected) were kept constant between the two surveys. Recording both surveys eliminates the possibility of selection bias by the researcher, while also boosting available data for what may be an underrepresented population of people with low English skills who do not speak Spanish who were therefore deterred from responding.

In some cases, repeated and unexpected results necessitated the creation of new answers and even new variables. Enough respondents reported themselves as being either both retired and disabled or both retired and looking for jobs that these combinations were recoded into their own categories for more informed analysis. Similarly, there were several repeated answers for the “Other” category regarding programs used, and WIC and SSI were added as categories.

A significant misinterpretation regarding household size required recalculations. The first question of the survey asks respondents how many people live in their households, and they are later asked how many children reside in the house. Differing answers in these categories, however, revealed a severe inconsistency. 41% of respondents who reported one person living in their household also reported having at least one child in the household. The problem becomes less pronounced among respondents who reported larger households to begin with, but 7.3% of those who reported a two-person household and 3.8% of those who reported a three-person household

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10 As indicated by their response to an open-ended question on the English form that English lessons would be beneficial
still under-reported based on the number of children (see **Table 1** in Appendix A). To correct for the discrepancy, the responses for questions 1 and 4 (household size and children in the household, respectively) were combined to more accurately reflect approximate household sizes. Households reporting one member and no children were preserved as one-person households, while those reporting one member and one child would be recoded as a two-person household, etc. These calculations do not impact households that appear to have reported correctly; they simply account for misinterpretations and correct the data to more accurately reflect what the respondent reported.

**Analysis: Variable Manipulations**

The data analysis process began with the computation of several new variables which are key to our understanding of the issues at play. Unlike the approximate household size variable discussed above, these variables are not meant to correct for anything, but rather to reveal trends from existing responses. The first task was to combine items from the two different forms of the survey to allow for full analysis of questions 20 (program rankings) and 22 (requested information). Conditional statements were used to create new variables – one for each answer choice – indicating how clients had responded to the question regardless of the form. Next, variables indicating a respondent’s overall financial need and, as an extension, their relative level of food (in)security were needed. Using conditional statements, questions 9 and 10, which ask how much money is available and needed for food each month, respectively, were combined into 5 categories. New values were determined based on the discrepancies between the monetary ranges clients reported having and needing, based on the assumption that the client has access to the maximum amount of money in their reported range.11

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11 For example, a client who reports having $51-$100 for food each month and needing $151-$200 would have a financial need of $51-$100.
Calculating the severity of need/insecurity was relatively straightforward. A security index was created based on the definition proposed by Stubblefield and Leigh and discussed in the previous chapter. Questions gauging how often respondents are forced to skip meals, their access to an adequate variety of healthy food, and how often they visit the pantry were recoded alongside the new financial need variable to conform to a scale ranging from 1-5, where 5 represents the most severe need. Each variable was given equal weight, and the four indicators were added together. The resulting scale was then reclassified into five main categories gauging respondents’ status from relatively secure to severely insecure.\textsuperscript{12} Due to low numbers at the extremes (8 and 2 respondents identified as “secure” and “severely insecure,” respectively), the scale was then recoded into a 3 category index: stable, moderate, and severe.\textsuperscript{13}

In order to better understand how charitable organizations such as food banks and pantries operate alongside government programs in the fight against food and financial insecurity, a new variable was necessary. Respondents were asked to report what (if any) government programs they use. The question instructed respondents to select all applicable answers, so each program was coded as an individual variable. Missing values were recoded as “did not report” in order to gain an accurate percentage of respondents who made use of each program.\textsuperscript{14} Using a 1/0 binary in which “1” indicates program use, these variables are added together to generate a general usage indicator. This variable assumes that all reported numbers are representative of the full population to approximate how many programs each respondent uses.

\textsuperscript{12} Naturally, these terms are relative. The “secure” category here indicates that clients use the pantry to fill a few infrequent nutritional gaps in the household, while “severely insecure” indicates that even with pantry assistance, clients may not be able to make ends meet.

\textsuperscript{13} See Tables 2 and 3 in Appendix A for a full distribution of the severity index and its component variables

\textsuperscript{14} Due to privacy concerns and an inherent social desirability bias based on the stigma surrounding government programs, we cannot assume that missing values necessarily indicate that clients are not using a given program; instead, the valid answers simply indicate the number of respondents who did report using a programs, and we assume here that this is a representative figure.
The wage indicator variable is perhaps the most complex and speculative variable used in this study. Its intention is not to definitively report individuals’ wages, but rather to provide a suggestion useful for identifying potential trends and directing further study. The variable was created by first identifying respondents who live in one-person households. Their annual household income was then divided by either 40 hours (if they reported employment in one full-time job or two part-time jobs) or 20 hours (if they are employed in a single part-time job) to provide an estimated hourly wage.\(^{15}\)

**Methods Summary**

This survey is designed to collect as much grassroots-level information as possible. Any survey will present a researcher with unique challenges regarding the best way to communicate meaning, but the methods described above seek to prevent and mitigate potential misinterpretations. Distribution methods were informal and minimized inconvenience, usually occurring while clients waited to collect their items. The questions were kept brief and worded simply, with clear instructions for completion. The survey was available in both Spanish and English, and two forms (A and B) were provided in anticipation of attempts to satisfice on two particularly vulnerable questions. A convenience sample ensured thorough dissemination throughout the study population while both preserving resources and maintaining the necessary randomized data quality.

When misinterpretations did become evident through inconsistencies in the recorded data, several strategies were employed to correct the errors. First, assumptions were made based on the respondent’s answering pattern as to which answer is most correct in the event that they circled

\(^{15}\) Only single-person households were eligible for wage analysis, as household income could come from many family members, and each family member could be making different amounts per hour, which would skew the overall analysis and lead to false implications.
more than one answer or their selection was ambiguous. On a larger scale, new variables were created to account for widespread misinterpretations, such as the inconsistency with responses for household size. Finally, certain variables were manipulated to optimize them for future analysis and provide further insight. These methods comprise an effective, inexpensive technique that future localities and research teams can employ in their own communities.
Chapter 4: Data and Results

Demographics

The demographic makeup of the sample population is distributed roughly as might be expected. 38% of respondents reported completing high school or a GED equivalent as their highest educational attainment, and only 42.2% reported any college education. At 50.3%, African-American/black respondents comprised a plurality of the population, followed by white respondents at 39.6%. Other racial and ethnic groups make up the remaining 11.2%, with no group reaching higher than a 2.7% share (Native Americans and Multiracial respondents).

There is no clear trend relating to household size. A plurality (33.5%) of clients live in two-person households, followed by households of four or more (32.3%), three-person households (19.4%), and one-person households (14.8%). Households with children are not the norm in this sample, with 26.1% of respondents reporting no children at all and 39.5% reporting just one child. One-generation households are also most common at 46.3%, while just 17.4% of respondents reported more than two generations (themselves included). These numbers likely have to do with the average age of respondents, who tend to be older and less likely to live with young children. Just over a quarter of all respondents identified themselves as retirees, and 55.1% were over the age of 55.

Respondents are also overwhelmingly female (80.1%), although this may be due to a potential personal selection bias based on who in the household is more likely to go to the pantry and/or take a survey. To determine whether this disparity is artificial or a genuine issue, the presence of female-led households is tested by observing the gender of respondents in different household structures. Households were broken down first by the number of children present and
then by its approximate size. The number of male and female respondents in each category is represented in Tables 4.1 and 4.2.\textsuperscript{16} The gender disparity is stark. Although more women respond at every level, including in households where they are not necessarily the sole breadwinner, women in single-parent households\textsuperscript{17} are significantly more food insecure. Female respondents also make up a larger portion of young respondents; 100% of respondents aged 18-25 are female. Of people aged 18-35 living in a two-person household, 100% are female, and this number becomes more pronounced when we look at presumably single-parent households: among households with one child and one adult aged 18-45, 100% of the respondents are female.

\textbf{Table 5} shows key demographic data based on respondents’ calculated relative security levels. In most cases, there are few apparent trends as to which groups are more likely to experience higher levels of insecurity. Among these trends, some follow logically – the gender disparity, for example. Among racial and ethnic groups, a few disproportionate numbers also appear. While Hispanics/Latinos and Native Americans make up just 2.1% and 2.7%, respectively, of the sample population, they each account for 9.7% of those experiencing severe levels of food insecurity, and members of both groups fall overwhelmingly into severe categories of insecurity. These results are hardly surprising. As has been previously discussed, minority groups are often at increased risk for food insecurity, financial insecurity, and health problems.

The geographic position of pantries and respondents is also a crucial factor. While the primary focus of this study is urban poverty, we must also recognize the elements of rural poverty that exist in Henrico County. Two of the participating pantries, Three Chopt Presbyterian and Varina Episcopal, serve relatively more suburban/rural populations than the other three. They both

\textsuperscript{16} See Appendix A for data tables and figures

\textsuperscript{17} Here, we assume that households in which the number of children is one less than the approximate household size are single-parent households
also serve relatively more food insecure populations. At 88.9%, Varina Episcopal serves the highest concentration of clients experiencing moderate to severe food insecurity, followed by New Bridge Baptist (81.3%) and Three Chopt Presbyterian (76.9%).

**Nexus Issues**

**Transportation**

Transportation is a common concern among survey respondents. When asked to rank potential programs based on how beneficial they would be, 55.2% ranked “increased transportation options” as most or very helpful. Examining the relationship between access to personal transportation and employment reveals a greater lack of access at lower levels of employment (including both underemployment and unemployment). The rankings, however, are where the need for transportation stands out most starkly. Among those who are fully employed, only 16.7% ranked increased transportation options as the most helpful available option. That number increases among the underemployed: 25% of those with one part-time job rank transportation most helpful, while an additional 25% name it very helpful. Among the unemployed, the need is clear: 50% name transportation options most important, with an additional 11.9% ranking it in second place. Similarly, when looking at household employment, households with more employed family members list transportation as the most helpful option for their household. Among those who accessed pantries by means other than their own or a friend/family member’s vehicle, relative food security was significantly lower, while those relying on vehicles tended to be more stable (see Table 6).\(^\text{18}\) In addition to the data collected in the survey, several respondents indicated elsewhere (either in the margins, as an answer to an open-ended question, or in person to the interviewer) that transportation is a significant concern that needs to be addressed. One respondent specified

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\(^\text{18}\) Although those not relying on vehicles make up a very small portion of the population, and therefore cannot prove a strong relationship, the suggestion does warrant further research.
that, while they had access to their own vehicle, it is only useful when they have (and presumably can afford) gas.

As noted earlier, Richmond and Henrico’s public transportation system (GRTC) has sparse coverage in the less metropolitan/more rural areas of Henrico County. It is hardly surprising, then, that the respondents who reported using public transportation to get to the food pantry are exclusively clients at LAMB’s Basket (.9%), which is the most centrally located pantry in the sample population. LAMB’s Basket was also the only pantry with clients who reported using other forms of transportation (10.1%), several of which involved either the C-VAN or CARE service from the GRTC. Other than the 6.3% of clients who walked to the New Bridge pantry, all other respondents reported either using their own vehicles or relying on rides from friends and family to access the pantries.

Housing

As another fundamental need, housing is closely linked with both food and financial insecurity. A clear majority of respondents (68.9%) rent their places of residence as opposed to owning them (25%). Additionally, when asked whether they rent or own their homes, a small portion of respondents answered “N/A” (6.1%). This response may indicate homelessness, although it should be noted that some respondents may have understood the question as asking whether they themselves were the renters/owners and answered “N/A” despite living in a household rented/owned by somebody else. However, many of those who responded “N/A” reported higher levels of financial need, indicating that at least some of these respondents may lack reliable housing.

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19 Some clients wrote variations of “Henrico County” or “Social worker” under “Other” for this question. It is assumed that these responses refer to either the C-VAN or CARE programs. Other respondents were more specific.
The relationship between housing security and food security is abundantly clear, although the direction of causality is somewhat uncertain. Table 7 shows the strength of the connection, in which many of those with lower relative food security also rent their places of residence or answer “N/A.” Table 8, however, reveals a surprising pattern: food pantries may act as a stabilizing factor for struggling households, at least in terms of housing. Many clients who report using pantries more frequently (particularly on a monthly basis) own their residences, counter to the logic that more frequent clients should have higher levels of both housing and food insecurity. Yet even when controlling for relative security, the trend continues and even strengthens as shown in Tables 9.1 and 9.2. Only among the most severely insecure households does the trend seem to disappear, but among those experiencing relative stability and moderate food insecurity, more frequent pantry usage seems to correspond with higher rates of homeownership. While there is no evidence for causality, this phenomenon warrants further discussion and research.

**Childcare**

For families with children, access to affordable childcare programs can be critical. Among households with children, after school/summer childcare programs were ranked very highly. These rankings are highly correlated with the number of children in each household, with 100% of 3-child households naming it most helpful. Employment is also a strong indicator for preference. Of fully employed respondents, 72.7% ranked childcare options most helpful (none in this category rated it least helpful), compared with 33.3% of those employed in one part-time job and 37.9% of unemployed respondents. Among households whose children receive free and reduced lunches at school (24.3% of total households), 78.6% rent their residences. The relative food security among
this population is normally distributed, although those who answered that their children do not receive free/reduced lunches\textsuperscript{20} tend to have a more stable food situation.

**Healthcare**

Issues with health and healthcare are measured through two main mechanisms: observing those who identify themselves as unemployed due to disability, and those who participate in Medicaid programs. Those identifying as disabled experience moderate to severe food insecurity (61.8\% and 25.5\%, respectively), while those who responded that they were both retired and disabled had somewhat more stability. Similarly, relative security for those enrolled in Medicaid is normally distributed, with 58.5\% experiencing moderate insecurity and 22.6\% appearing relatively stable.

**Wage Insufficiencies**

The minimum wage variable described in the methodology provides a decent overview of the spread of hourly wages we can expect clients to receive. The data is predictably skewed towards lower wages, with 61.5\% of the 26 respondents eligible for wage analysis earning less than $15 per hour. Due to the low number of eligible respondents, no firm conclusions can be reached on this data; however, the indication that prevailing wages are insufficient is also evident elsewhere. When we observe relative food security as it relates to employment, certain sectors stand out as particularly vulnerable. On immediate analysis, food service/retail workers face relatively high levels of insecurity: 47.8\% are only moderately food secure, while 30.4\% are severely insecure. Housekeeping workers are also at a higher nutritional risk, with no workers reporting a relatively stable food environment and 33.3\% determined severely insecure. When we consider the type of employment households experience, the trend becomes more troubling. In

\textsuperscript{20} A category which includes only households with children, distinct from the “N/A” option
education, full-time workers are relatively stable, yet 12.5% still experience severe insecurity. Among part-time education employees, 50% are moderately insecure. Similarly, those employed full-time in food service and/or retail jobs are equally as likely to be severely insecure as stable, and underemployed workers (working at least one part-time job) face significantly higher levels of insecurity. Office workers, too, are equally likely to experience stability as severe insecurity when employed full-time. The stark prevalence of severity among what are thought of as stable positions is both intriguing and indicative of a deeper issue.

The Threshold Gap

Many respondents fall well below both the Federal Poverty Line and 150% thereof (hereafter referred to as the Revised Poverty Line, or RPL). When broken down into household size and compared to relevant thresholds, approximately 64.9% of 154 households\textsuperscript{21} fall below the FPL, while 87.7% fall below the RPL, leaving approximately 22.8% of clients in need ineligible for public assistance. Households containing four or more members are most severely impacted: an estimated 94% fall below the RPL for a four person household, and that number may in reality be larger based on how many members responding households actually contain.\textsuperscript{22} Based on these statistics, trends relating income and program enrollment are hardly surprising. As income rises, enrollment steadily drops for every program. Yet it is significant that insecurity still exists even among those enrolled in programs intended to stabilize a household’s financial situation. Several clients made explicit notes, either in the margins or as open-ended responses, that they were not eligible for needed benefits.

We may expect to find evidence of a threshold gap by examining program enrollment among clients. As previous studies discussed in Chapter 2 suggest, this gap is most clear among

\textsuperscript{21} Based on the number of responses for household size and income
\textsuperscript{22} Estimates are based on responding households containing exactly four members
Energy Assistance recipients. While financial need appears to be roughly normally distributed for most programs when controlling for enrollment, there is a definite skew towards higher need within the Energy Assistance category. 50% of recipients are deficient by approximately $101-$150 per month, and an additional 8.3% lack over $200. Interestingly, need tends to be slightly higher among households where members are enrolled in more programs, although at all levels the data is still roughly normally distributed. Clients enrolled in Energy Assistance and/or SNAP visit pantries with slightly higher frequency. These clients are not at any greater risk of heightened insecurity than those enrolled in other programs, however.

For 75% of relatively stable households using Energy Assistance, it is the only program used. For those with moderate insecurity, all use at least one other program, with the majority using two (62.5%) or three (25%) more. However, severely insecure households that rely on Energy Assistance use no other government programs at all. The explanation here lies once more in the threshold gap theory: when controlling for income, it becomes apparent that the majority of energy insecure households enrolled only in an Energy Assistance program have relatively higher incomes, while those enrolled in multiple programs tend to have lower household incomes. It is likely, then, that these one-program energy insecure households face the tradeoffs discussed earlier, in which they do not have sufficient income to fulfill all household needs, but they also do not meet federal, state, and/or local eligibility requirements for additional assistance.

Within the Nexus

The above issues have so far been discussed primarily based on their interactions with food insecurity. However, many of them are interconnected, with trends emerging between various nexus issues that suggest causal mechanisms at work. Regarding transportation, there is a clear relationship between owning a vehicle and program enrollment as those enrolled in fewer
programs show higher rates of car ownership. Those enrolled in Supplemental Security Insurance (SSI), Energy Assistance, and Medicaid had the lowest rates of car ownership (40%, 57.1%, and 59.6%, respectively). We can also gain a perspective of how respondents prioritize services by examining how they rank potential programs in different situations. Table 10 shows just such an example, in which respondents at higher levels of employment value childcare more highly. However, this trend is mitigated by access to transportation – those with access to their own vehicles tend to view childcare more favorably, while those without would prefer other programs more.

Among households whose children do not receive free and reduced price lunches, there is slightly more preference for transportation options. These households have less access to cars than their childless counterparts or households who do benefit from free and reduced lunches, and they also are more eager to learn about community programs and SNAP benefits. Among those households who do use free and reduced price lunches, however, there is evidence of greater nutritional deficit, as these households requested information about healthcare options at a higher frequency than their counterparts or the average respondent.

Among Medicaid enrollees, preferences shift once more. Transportation remains an important indicator, but the preferences expressed deviate little from those of the overall sample population. Medicaid recipients appear slightly more interested in food cooperatives/food hubs at the “very helpful” and “helpful” levels than the total population, and significantly less concerned with community gardens at the top level than others. Recipients were also more interested in learning about community programs than the average, and less concerned with information regarding SNAP. Community gardens, however, were far more popular among disabled and retired respondents (both as individuals and among overlapping groups).
Other Findings

Central to this study are respondents’ input, and the rankings question provides the best platform for respondents to weigh in on what would be best for themselves, their households, and their communities. Food cooperatives received the most support, with 82.5% of respondents ranking them most helpful. The next most popular category is community gardens, with 54% of respondents ranking it first. However, as noted above, childcare and transportation serve more crucial roles for different populations depending on their individual situations. A simple income analysis confirms the subjective nature behind ranking behaviors. While support for community gardens and food hubs/cooperatives remains relatively constant across a range of incomes, childcare tends to grow in popularity among higher incomes, suggesting that those with higher incomes work more and have fewer external concerns which would take precedence over childcare. Transportation, meanwhile, enjoys slightly more support among lower income groups, although this change is less pronounced.

Summary

The data collected for this study reveals several significant demographic disparities among respondents. These include racial and gender disparities which remain even when controlling for potential covariance. The nexus issues this study was designed to examine show patterns of correlation both with one another and with food insecurity, confirming the initial premise and offering opportunities for further studies to better understand the causal mechanisms and effects at play.
Chapter 5: Discussion of Case Study
Findings

Results and Implications

The nexus issues theorized in Chapter 2 of this study are confirmed by the survey results. Each problem is interconnected with others, and trends appear which are readily predicted and explained by existing literature and logic.

Building a Framework

The study of each individual nexus point, as well as a close examination of their interactions with one another, allows us to begin to construct relationships between them. Each nexus point does not necessarily bear equal weight; some are more fundamental than others. Housing and food insecurity form two foundations in this examination of household financial insecurity and poverty. Each represents a basic human need, and no research about any aspect of poverty, from its source to more obscure reaches, can be conducted without reference to one or both of these fundamental concepts. Their impacts are far-reaching, and insecurity in either can undermine security in all other areas. Energy insecurity – and similar issues created by the threshold gap – exists on a slightly higher tier. It is highly correlated with both food and housing insecurity, and it can greatly impact the health of a household’s occupants. However, it is more likely to arise out of an issue with one of the two most fundamental points, and is therefore afforded slightly less weight. Next are issues such as healthcare and transportation, which influence the severity with which a negative income shock or similar event is felt in a given household, and can tip the scales when all other factors remain equal. Finally, more surface-level issues such as employment and childcare make up the top level. These are heavily influenced by the more load-
bearing tiers, and while a lack of one can exacerbate more fundamental problems, they do not appear to be roots in and of themselves. With this framework in mind, we can begin to make sense of the data discussed in Chapter 4.

Transportation

Transportation is arguably one of the most pressing concerns expressed by pantry clients throughout the surveys. Access to and preference for transportation are both strongly related to employment patterns, and while there is no strong trend between access and food insecurity, clients’ preference for increased transportation options is highly related to their relative security. Access to transportation is also strongly correlated with non-nutritional factors such as enrollment in government programs and prioritization of affordable childcare programs. Residents’ reliance (and lack thereof) on Richmond’s public transportation system is also significant when considering broader implications. As discussed earlier, the GRTC’s transit system, while effective for those living within its service area, is notoriously inadequate elsewhere, particularly in the farther reaches of Henrico County. Significant improvements must be made if respondents’ concerns are to be addressed.

Housing

An interesting trend emerged between housing and food insecurity which warrants careful and nuanced discussion, as well as further research. Housing and food insecurity are undoubtedly connected in a strong and likely codependent relationship. Stable housing accompanies relatively more food secure households, and those who visited the pantry more frequently – a logical indicator of increased need – and were either stable or moderately insecure also reported higher levels of homeownership. These findings are unexpected, and raise new questions about the role food pantries and similar charitable organizations play in stabilizing financial insecurity as a
whole. Logically, the relationship would play out as follows: when one pivotal nexus issue – here, housing security – is threatened, it sets the stage for a downward spiral as financial tradeoffs become more severe and less sustainable. Without stable housing, food security and health should both decline, setting off their own chain of events. However, if food security is a point in the nexus bearing the same weight as housing, then providing extra support here should stabilize the household’s overall situation enough to allow individuals to recover their losses and repair the damage. Assuming that this process of events is correct, it can be applied to any situation in which a nexus point comes under strain: locate and support a vulnerable nexus point of equal foundational value. The data available in this study does not allow for the confirmation of this theory – as is so often the case for case studies such as this – but it does provoke enough curiosity to warrant further pursuit.

Childcare

It is clear that affordable after-school and childcare programs are most beneficial for fully employed individuals with access to their own transportation. To address the issues created by a lack of access to childcare programs, we must consider its relationship to other nexus points in order to make efficient policy and a significant impact. Transportation, as a more fundamental factor, is an ideal lens through which to address this particular problem. Transportation programs aimed towards working parents can make childcare more accessible, particularly if there are troubles coordinating shift schedules with drop-off and pick-up times for existing programs. We can also continue to address childcare through food programs – FeedMore’s Weekend Backpack program is an excellent example of supporting households by focusing on children.
Healthcare

Healthcare is, in this construct, both a cause and an effect of broader insecurity. Health issues play into broader cyclical forces discussed earlier, and while the data confirms this relationship, few new trends are made evident. Further study, using more targeted questions examining the nature of respondents’ health issues and elaborating on the types of potential solutions (ranging from community clinics to government-subsidized healthcare options) may provide a clearer view of how exactly health concerns play a driving force within the broader nexus.

Wage Insufficiencies

Despite insufficient data to examine hourly wages in detail, the preliminary data collected does suggest what many scholars know to be true: the current minimum wage, much like the current FPL, is not an acceptable standard for income security. The current federal minimum has not been adjusted for nine years, and it has been longer still since it was indexed for inflation. Each year, bills are introduced to Virginia’s General Assembly in an effort to raise the state’s minimum, but to date they have all been unsuccessful. Due to the “Dillon’s Rule” method of government which governs Virginia’s legislative system, localities are not able to set their own minimums without explicit permission from the state legislature (Gillette, 962). One bill set forth in the 2018 General Assembly session, HB 39, sought to change this by allowing localities to set any minimum wage provided it did not fall below the federal minimum standard (Mark and Carrol Foy, HB 39). Should this bill be reintroduced, it may allow Henrico County to take action to correct the clear wage insufficiencies found through this survey. Education, Retail/Food Service, and Office Work are the three employment sectors that display the concerning trends of wage insufficiency clearly; these sectors are known for being traditionally low-paying. However, the presence of fully
employed clients experiencing any level – but particularly increased levels – of moderate to severe food insecurity is concerning.

The Threshold Gap

Issues surrounding the threshold gap are discussed at length in Chapter 2, and the data surrounding program usage confirms that federal eligibility standards are woefully inadequate. It is worth restating that an approximate minimum of 22.8% of clients surveyed fall below the RPL but remain above the FPL, effectively excluding them from public assistance despite having insufficient funds. This 22.8% represent what was theorized in Chapter 2 as the “threshold gap:” a population hidden from government poverty estimates and thus excluded from aid. The high prevalence of clients who fall into this gap helps explain the relatively low numbers of participants in public programs, as well as the popular interest in non-government programs such as food hubs/ cooperatives.

Among the programs clients do make use of, energy insecurity jumps out as a particularly pressing point of concern among food insecure clients. Although they are not a large portion of the sample itself, they disproportionately experience heightened levels of food and housing insecurity. Here, we find another potential indicator. Although not as easily seen and studied as food insecurity, it is clear from the data that energy insecurity is often indicative of other problems. Because it is slightly less fundamental than food or housing, those experiencing energy insecurity are perfectly poised to provide a better look at the phenomenon of the threshold gap, specifically. These are households where basic needs may be met, but only barely; their financial situation is precarious at best. By examining these cases in closer detail, we can better understand how and where eligibility requirements fall short of helping households and individuals find security.
Next Steps

In addition to the policy implications already discussed in relation to specific nexus issues, there is a great deal of opportunity for creative growth and solutions. As part of a public-private aid partnership, Henrico makes a yearly donation to FeedMore and similar programs, such as FISH – an organization which provides emergency aid such as food assistance (Henrico County 2018, 214). The county has also recently approved a $2 million Community Revitalization Fund to redevelop older neighborhoods (10). Using the money set aside for community revitalization, Henrico County has the opportunity to convert old and abandoned spaces in low-income neighborhoods into spaces for community gardens and urban agriculture. By working with the Richmond-based non-profit Tricycle, Henrico can foster the growth of green spaces in a way that promotes a sense of community and community food security, lowers crime, revitalizes an area, alleviates food insecurity, and promotes employment without straining the county’s budget. Tricycle’s Corner Store Initiative can further support the local economy and promote public health. Indeed, there are already some Tricycle-sponsored corner stores in Henrico County, mostly in the areas closest to the city. Further expansion, particularly into the more rural areas, could have far-reaching effects.

The county can also work with farmers from both within the county and from surrounding rural counties to promote farmers markets (at which SNAP benefits can be accepted to make fresh, healthy produce more accessible), expand urban agriculture programs, and potentially establish food hubs and cooperative. These provide affordable alternatives to pantries and government programs for those who wish to move away from such systems. In working with local health organizations and hospitals – such as those modeled in Boston – they can also address nutritional concerns and promote public health while simultaneously improving food access. These public-
private partnerships become increasingly important as we consider the dangers of the threshold gap. Investing in and supporting non-profit and community-run programs is an excellent way for local governments to ensure that residents have access to services, even if the county can do nothing to address eligibility concerns. The same is true in the case of wage insufficiencies. Although the county itself cannot legally change the minimum wage, it can incentivize small businesses to pay workers more, and local representatives can appeal to state legislators to pass legislation giving localities the freedom to set their own wages. For those clients who reported working in education, the county can allocate money to raise wages and salaries for school and other public employees. Finally, the county can work with the City of Richmond to expand GRTC routes and access into more rural areas.

Pantries are also well-positioned to advocate for their communities. Every pantry involved in this study was run by faith-based organizations, which often act as local leaders. A coordinated advocacy campaign to the county Board of Supervisors can bring about a great deal of change, particularly if it is done so with the support of FeedMore. FeedMore, as a state-wide organization, is also in a position to advocate to the General Assembly for more sweeping measures – specifically, legislation that allows counties to set community-specific policies rather than relying on more vague state standards. Above all, organizations and governments alike should push for further research, investigating the trends suggested by this case study and examining other points in the nexus.
Chapter 6: Broader Conclusions

Measures of Success

The goal of this study is at once simple and ambitious: to find a way for a local government to gain an in-depth understanding of complex problems faced by its community and address it, all without straining the locality’s existing resources. To achieve this, the solutions must be targeted to address the community’s specific situation; rural solutions will not fix urban problems. Although we cannot now determine whether the solutions to the problems uncovered here are efficient and practical, the premise is sound. Through the use of a survey in a single Virginia county, a complex and nuanced problem was effectively broken down into a structured web of components, the relationships between which are now better understood and able to be addressed. The data collection methods were simplistic and inexpensive, with the total budget (inclusive of the costs of supplies, software, postage, and professional translation) not exceeding $1,000.

Future Improvements

This study is not without its flaws. A larger team of researchers would be able to ensure in-person distribution at each study site, which may somewhat bolster response rates and allow for additional information to be collected through informal conversations and observations. To truly observe all aspects of an issue, various surveys targeting different angles would provide the most information. In the case of food insecurity, such an approach might take the form of additional surveys for participants in government programs. Naturally, some questions will be unique to the target population, while others would be standardized across study groups to allow for effective comparisons.
Regarding the survey used in this case study, there are other methodological improvements which could be made. Misinterpretations indicate that some questions could be worded or placed differently for greater clarity, and different questions altogether might provide more detail about various nexus issues. Specifically, spatial data would provide a better perspective on how problems are distributed throughout the county, and how the transition from urban to suburban to even rural communities impacts the nexus. Time-series data would allow us to observe trends with more certainty and determine the exact direction of causality among tightly-related points, clearing the way for more targeted, direct, and efficient policies.

However, with the resources available and the need for a brief, comprehensive survey, the data collected was both sufficient and reliable. The overarching framework of a broad case study allows us to form a handful of theories about mechanisms and relationships within the problem at hand, which in turn points us towards future studies and creative potential solutions. Without this preliminary study, we would not know what data to collect in the future, nor could we be certain that resources would be well-spent chasing a theory that may not be relevant for our local community. This study has achieved its goal. It is possible for local governments to use simple data collection and analysis strategies to improve community policy.
Appendix A: Figures and Data Tables

Map 1: Henrico County and Surrounding Areas

Source: “Henrico County Fiscal Year 2017-2018 Approved Budget.” Henrico County, Virginia, n.d., “Henrico County Profile”

23 All tables are derived from the author’s calculations
Map 2: Income Distribution in Henrico

### Map 3: CARE Fare Areas Map


### Table 1: Children Reported in Households by Reported Household Size

<table>
<thead>
<tr>
<th>Children in Household</th>
<th>One</th>
<th>Two</th>
<th>Three</th>
<th>Four or More</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>59.0%</td>
<td>34.1%</td>
<td>15.4%</td>
<td></td>
</tr>
<tr>
<td>One</td>
<td>35.9%</td>
<td>58.5%</td>
<td>57.7%</td>
<td>18.4%</td>
</tr>
<tr>
<td>Two</td>
<td>5.1%</td>
<td>7.3%</td>
<td>23.1%</td>
<td>36.7%</td>
</tr>
<tr>
<td>Three</td>
<td></td>
<td></td>
<td>3.8%</td>
<td>16.3%</td>
</tr>
<tr>
<td>Four or More</td>
<td></td>
<td></td>
<td></td>
<td>28.6%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

<p>| N                     | 39   | 41   | 26   | 49   |</p>
<table>
<thead>
<tr>
<th>Financial Need</th>
<th>Responses</th>
<th>Percent</th>
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<tr>
<td>$50 or less</td>
<td>28</td>
<td>15.1%</td>
</tr>
<tr>
<td>$51 - $100</td>
<td>54</td>
<td>29.2%</td>
</tr>
<tr>
<td>$101 - $150</td>
<td>61</td>
<td>33.0%</td>
</tr>
<tr>
<td>$151 - $200</td>
<td>29</td>
<td>15.7%</td>
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<td>Greater than $200</td>
<td>13</td>
<td>7.0%</td>
</tr>
<tr>
<td>Total</td>
<td>185</td>
<td>100.0%</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Frequency of Use</th>
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</thead>
<tbody>
<tr>
<td>This is my first time</td>
<td>23</td>
<td>11.9%</td>
</tr>
<tr>
<td>2-5 months</td>
<td>59</td>
<td>30.4%</td>
</tr>
<tr>
<td>6-11 months</td>
<td>50</td>
<td>25.8%</td>
</tr>
<tr>
<td>12 months</td>
<td>62</td>
<td>32.0%</td>
</tr>
<tr>
<td>Total</td>
<td>194</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skipped Meals (Past month)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>87</td>
<td>50.3%</td>
</tr>
<tr>
<td>1-3 times</td>
<td>66</td>
<td>34.2%</td>
</tr>
<tr>
<td>4-6 times</td>
<td>17</td>
<td>8.8%</td>
</tr>
<tr>
<td>7-9 times</td>
<td>7</td>
<td>3.6%</td>
</tr>
<tr>
<td>10 or more times</td>
<td>6</td>
<td>3.1%</td>
</tr>
<tr>
<td>Total</td>
<td>193</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Availability of Healthy Food (per month)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>26</td>
<td>13.3%</td>
</tr>
<tr>
<td>A few days</td>
<td>53</td>
<td>27.2%</td>
</tr>
<tr>
<td>Several days</td>
<td>46</td>
<td>23.6%</td>
</tr>
<tr>
<td>Most days</td>
<td>47</td>
<td>24.1%</td>
</tr>
<tr>
<td>Always</td>
<td>23</td>
<td>11.8%</td>
</tr>
<tr>
<td>Total</td>
<td>195</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
Table 3: Severity Index Distributions

<table>
<thead>
<tr>
<th>Responses</th>
<th>Valid Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Uncategorized (Lower values are less severe)</strong></td>
<td></td>
</tr>
<tr>
<td>2.0</td>
<td>2</td>
</tr>
<tr>
<td>3.0</td>
<td>4</td>
</tr>
<tr>
<td>4.0</td>
<td>2</td>
</tr>
<tr>
<td>5.0</td>
<td>3</td>
</tr>
<tr>
<td>6.0</td>
<td>9</td>
</tr>
<tr>
<td>7.0</td>
<td>12</td>
</tr>
<tr>
<td>8.0</td>
<td>17</td>
</tr>
<tr>
<td>9.0</td>
<td>29</td>
</tr>
<tr>
<td>10.0</td>
<td>42</td>
</tr>
<tr>
<td>11.0</td>
<td>23</td>
</tr>
<tr>
<td>12.0</td>
<td>22</td>
</tr>
<tr>
<td>13.0</td>
<td>13</td>
</tr>
<tr>
<td>14.0</td>
<td>11</td>
</tr>
<tr>
<td>15.0</td>
<td>7</td>
</tr>
<tr>
<td>17.0</td>
<td>1</td>
</tr>
<tr>
<td>18.0</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>198</strong></td>
</tr>
</tbody>
</table>

**5 Categories**

<table>
<thead>
<tr>
<th></th>
<th>Responses</th>
<th>Valid Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure</td>
<td>8</td>
<td>4.0%</td>
</tr>
<tr>
<td>Somewhat secure</td>
<td>41</td>
<td>20.7%</td>
</tr>
<tr>
<td>Somewhat insecure</td>
<td>116</td>
<td>58.6%</td>
</tr>
<tr>
<td>Insecure</td>
<td>31</td>
<td>15.7%</td>
</tr>
<tr>
<td>Severely insecure</td>
<td>2</td>
<td>1.0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>198</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

**3 Categories**

<table>
<thead>
<tr>
<th></th>
<th>Responses</th>
<th>Valid Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stable</td>
<td>49</td>
<td>24.7%</td>
</tr>
<tr>
<td>Moderate</td>
<td>116</td>
<td>58.6%</td>
</tr>
<tr>
<td>Severe</td>
<td>33</td>
<td>16.7%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>198</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>
Table 4.1: Examination of Gender Disparity by Household Size and Children in Household (0-1 children)

<table>
<thead>
<tr>
<th>Gender</th>
<th>One</th>
<th>Two</th>
<th>Three</th>
<th>Four or More</th>
<th>One</th>
<th>Two</th>
<th>Three</th>
<th>Four or More</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>13.6%</td>
<td>28.6%</td>
<td>25.0%</td>
<td>22.9%</td>
<td>6.7%</td>
<td>44.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>86.4%</td>
<td>71.4%</td>
<td>75.0%</td>
<td>77.1%</td>
<td>93.3%</td>
<td>55.6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>22</td>
<td>14</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>35</td>
<td></td>
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</table>

Table 4.2 Examination of Gender Disparity by Household Size and Children in Household (2-4 children)

<table>
<thead>
<tr>
<th>Gender</th>
<th>Two</th>
<th>Three</th>
<th>Four or More</th>
<th>Three</th>
<th>Four</th>
<th>Four or More</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>10.0%</td>
<td>26.7%</td>
<td>33.3%</td>
<td>100.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>90.0%</td>
<td>73.3%</td>
<td>66.7%</td>
<td>100.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>15</td>
<td>0</td>
<td>0</td>
</tr>
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</table>
Table 5: Demographic Characteristics by Relative Food Security

<table>
<thead>
<tr>
<th>Demographic Characteristic</th>
<th>Security Index</th>
<th>Total</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Highest Educational Attainment</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than High School</td>
<td>36.0% 48.0% 16.0%</td>
<td>100.0%</td>
<td>25</td>
</tr>
<tr>
<td>High School/GED</td>
<td>26.8% 60.6% 12.7%</td>
<td>100.0%</td>
<td>71</td>
</tr>
<tr>
<td>Tech/Trade Program</td>
<td>24.5% 55.1% 20.4%</td>
<td>100.0%</td>
<td>49</td>
</tr>
<tr>
<td>2-year University</td>
<td>19.5% 61.0% 19.5%</td>
<td>100.0%</td>
<td>41</td>
</tr>
<tr>
<td>4-year University</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some College</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>100.0%</td>
<td>100.0%</td>
<td>1</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>27.0% 56.8% 16.2%</td>
<td>100.0%</td>
<td>37</td>
</tr>
<tr>
<td>Female</td>
<td>24.8% 59.7% 15.4%</td>
<td>100.0%</td>
<td>149</td>
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<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American/Black</td>
<td>37.2% 56.4% 6.4%</td>
<td>100.0%</td>
<td>94</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>25.0% 75.0%</td>
<td>100.0%</td>
<td>4</td>
</tr>
<tr>
<td>Middle Eastern</td>
<td>100.0%</td>
<td>100.0%</td>
<td>3</td>
</tr>
<tr>
<td>Native American</td>
<td>40.0% 60.0%</td>
<td>100.0%</td>
<td>5</td>
</tr>
<tr>
<td>White</td>
<td>17.6% 58.1% 24.3%</td>
<td>100.0%</td>
<td>74</td>
</tr>
<tr>
<td>Multiracial</td>
<td>80.0% 20.0%</td>
<td>100.0%</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>100.0%</td>
<td>100.0%</td>
<td>5</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-25</td>
<td>66.7% 33.3%</td>
<td>100.0%</td>
<td>6</td>
</tr>
<tr>
<td>26-35</td>
<td>29.4% 52.9% 17.6%</td>
<td>100.0%</td>
<td>17</td>
</tr>
<tr>
<td>36-45</td>
<td>19.2% 50.0% 30.8%</td>
<td>100.0%</td>
<td>26</td>
</tr>
<tr>
<td>46-55</td>
<td>28.6% 48.6% 22.9%</td>
<td>100.0%</td>
<td>35</td>
</tr>
<tr>
<td>56-64</td>
<td>27.3% 61.4% 11.4%</td>
<td>100.0%</td>
<td>44</td>
</tr>
<tr>
<td>65+</td>
<td>27.1% 64.4% 8.5%</td>
<td>100.0%</td>
<td>59</td>
</tr>
</tbody>
</table>
### Table 6: Relative Food Security by Pantry Transportation

<table>
<thead>
<tr>
<th>Security Index</th>
<th>Own Vehicle</th>
<th>Rides from Friends and Family</th>
<th>Public Transit</th>
<th>Walking</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stable</td>
<td>24.3%</td>
<td>24.4%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate</td>
<td>57.4%</td>
<td>60.0%</td>
<td>100.0%</td>
<td>66.7%</td>
<td>70.0%</td>
</tr>
<tr>
<td>Severe</td>
<td>18.4%</td>
<td>15.6%</td>
<td></td>
<td></td>
<td>33.3%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>N</td>
<td>136</td>
<td>45</td>
<td>1</td>
<td>3</td>
<td>10</td>
</tr>
</tbody>
</table>

### Table 7: Housing Stability by Relative Food Security

<table>
<thead>
<tr>
<th>Rent vs. Own</th>
<th>Security Index</th>
<th>Stable</th>
<th>Moderate</th>
<th>Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rent</td>
<td>54.3%</td>
<td>73.3%</td>
<td>75.8%</td>
<td></td>
</tr>
<tr>
<td>Own</td>
<td>39.1%</td>
<td>23.3%</td>
<td>9.1%</td>
<td></td>
</tr>
<tr>
<td>N/A</td>
<td>6.5%</td>
<td>3.4%</td>
<td>15.2%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>46</td>
<td>116</td>
<td>33</td>
<td></td>
</tr>
</tbody>
</table>

### Table 8: Housing Stability by Pantry Use

<table>
<thead>
<tr>
<th>Rent vs. Own</th>
<th>Months Visiting the Pantry in the Past Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>This is my 1st time</td>
</tr>
<tr>
<td>Rent</td>
<td>73.9%</td>
</tr>
<tr>
<td>Own</td>
<td>21.7%</td>
</tr>
<tr>
<td>N/A</td>
<td>4.3%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
<tr>
<td>N</td>
<td>23</td>
</tr>
</tbody>
</table>
Table 9.1: Housing Stability by Pantry Use by Relative Food Security (Stable-Moderate)

<table>
<thead>
<tr>
<th></th>
<th>Security Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rent vs. Own</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stable</td>
</tr>
<tr>
<td>1st time</td>
<td>2-5 months</td>
</tr>
<tr>
<td>Rent</td>
<td>44.4%</td>
</tr>
<tr>
<td>Own</td>
<td>44.4%</td>
</tr>
<tr>
<td>N/A</td>
<td>11.1%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
</tr>
<tr>
<td>N</td>
<td>9</td>
</tr>
</tbody>
</table>

Table 9.2: Housing Stability by Pantry Use by Relative Food Security (Severe)

<table>
<thead>
<tr>
<th></th>
<th>Security Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rent vs. Own</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Severe</td>
</tr>
<tr>
<td>1st time</td>
<td>2-5 months</td>
</tr>
<tr>
<td>Rent</td>
<td>100.0%</td>
</tr>
<tr>
<td>Own</td>
<td>18.2%</td>
</tr>
<tr>
<td>N/A</td>
<td>18.2%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
</tr>
<tr>
<td>N</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 10: Childcare Rankings by Transportation Access by Employment Status

<table>
<thead>
<tr>
<th>After School/Summer Childcare</th>
<th>Level of Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Employed Full-Time</td>
</tr>
<tr>
<td></td>
<td>Own Car</td>
</tr>
<tr>
<td>Most Helpful</td>
<td>72.7%</td>
</tr>
<tr>
<td>Very Helpful</td>
<td>18.2%</td>
</tr>
<tr>
<td>Helpful</td>
<td>9.1%</td>
</tr>
<tr>
<td>Least Helpful</td>
<td>40.0%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
</tr>
<tr>
<td>N</td>
<td>11</td>
</tr>
</tbody>
</table>
Appendix B: The Pantries

Five Henrico County food pantries were involved in this study: LAMB’s Basket, New Bridge Baptist Church Food Pantry, Three Chopt Presbyterian Church Food Pantry, Varina Episcopal Church Food Pantry, and Mt. Olive Baptist Church Food Pantry. All five are affiliated with FeedMore. This appendix profiles the pantries based on the exit surveys completed by pantry staff. (Brackets placed around presumed spelling errors)

LAMB’s Basket

Estimated households served per month: 400

Responses: 114 (28.5% of pantry clients; 56.4% of total sample)

Operating hours: Tuesdays, Thursdays, and Fridays 10 am – 12:45 pm

1. How has your client base changed over the last 10 years?
   a. Basically no. The same type of people is continuing to use us as their emergency feeding source. However, the nationalities have changed quite a bit. We used to see mostly Hispanic. [N]ow we primarily see Middle eastern and Slavic

2. How were you affected by the recession? Have things improved as the economy recovered?
   a. Our average totally annual head counts used to be over 20,000. Now they are closer to 15-18,000 annually.

3. In your opinion, what is the greatest challenge your clients face aside from food insecurity?
   a. No idea

4. What is the biggest challenge your pantry faces?
a. Our pantry operates on a “triangle” approach. Money, Food, and Volunteers. Remove any one of these items from the equation, and we are out of business. Right now our biggest challenge is communicating with the members of groups that do not speak English. If a client comes to the pantry who does not speak English without an interpreter, we will not help them. We cannot communicate so we are unable to assist them.

5. What areas/zip codes do you primarily serve?
   a. All zip [codes] in Henrico county are honored (but only Henrico county).

6. Are there any questions I have not asked that I should have?
   a. None I can [think] of. Looks like you did a great job. Hope you get a A+. I’d give you one.

New Bridge Baptist Church

Estimated households served per month: 80

Responses: 16 (20% of pantry clients; 7.6% of total sample)

Operating hours: 3rd Wednesday of every month, 11 am – 1 pm

1. How has your client base changed over the last 10 years?
   a. Our client base has increased over the last 10 years. I’ve only worked with the pantry for a little over 3 years. In that time, I’ve seen ebbs and flows. I volunteered intermittently many years ago and I can say the pantry has more than doubled with visitors.

2. How were you affected by the recession? Have things improved as the economy recovered?
   a. My family did okay through the economic changes. There were a couple of job losses due to downsizing, but both were prepared and both bounced back quickly.
3. In your opinion, what is the greatest challenge your clients face aside from food insecurity?
   a. Financial security, which can affect economic ability to receive proper foods, create proper diets, and maintain proper health.

4. What is the biggest challenge your pantry faces?
   a. Space. Our visitors wait outside because we have such a small space in which to serve them.

5. What areas/zip codes do you primarily serve?
   a. 23223 Richmond/Henrico County

6. Are there any questions I have not asked that I should have?
   a. Regarding this survey, I would have asked if the volunteers also use the pantry. In our case, the volunteers are mostly seniors on fixed incomes.

Three Chopt Presbyterian

Estimated households served per month: 50

Responses: 26 (52% of pantry clients; 12.9% of total sample)

Operating hours: Tuesdays 5:30 pm – 7 pm

1. How has your client base changed over the last 10 years?
   a. No significant change

2. How were you affected by the recession? Have things improved as the economy recovered?
   a. Statistics have been kept since 2013 when our pantry became a FeedMore partner agency. Number of families served has remained constant except for a surge in 2015.

3. In your opinion, what is the greatest challenge your clients face aside from food insecurity?
   a. Paying utilities and rent
4. What is the biggest challenge your pantry faces?
   a. Having sufficient number of volunteers to shop. FeedMore is only open during the day so all our volunteers (shoppers) are in their late 60’s and 70’s

5. What areas/zip codes do you primarily serve?
   a. 23229, 23294, 23060, 23233, 23238

6. Are there any questions I have not asked that I should have?
   a. Transportation issues for clients is an important factor in our ability to serve them. No bus stop near us.

**Varina Episcopal**

Estimated households served per month: 60

Responses: 18 (30% of pantry clients; 8.9% of total sample)

Operating hours: 1st and 3rd Monday of each month 5 pm – 6 pm

1. How has your client base changed over the last 10 years?
   a. We have doubled the number of families served, and we serve more senior citizens

2. How were you affected by the recession? Have things improved as the economy recovered?
   a. I have not noticed any real effects with or without the recession

3. In your opinion, what is the greatest challenge your clients face aside from food insecurity?
   a. Health services

4. What is the biggest challenge your pantry faces?
   a. Finding volunteers to pick up food reliably from donating stores

5. What areas/zip codes do you primarily serve?
   a. 23231

6. Are there any questions I have not asked that I should have?
a. No.

Mt. Olive Baptist

Estimated households served per month: 60

Responses: 28 (46.7% of pantry clients; 13.9% of total sample)

Operating hours: Wednesdays 11 am – 11:30 am

1. How has your client base changed over the last 10 years?
   a. No change, just more people coming

2. How were you affected by the recession? Have things improved as the economy recovered?
   a. Yes, we are getting more donations from the stores

3. In your opinion, what is the greatest challenge your clients face aside from food insecurity?
   a. Healthy food is always an issue

4. What is the biggest challenge your pantry faces?
   a. No real challenges

5. What areas/zip codes do you primarily serve?
   a. 23227, 23228, 23059, 23060

6. Are there any questions I have not asked that I should have?
   a. No.
Appendix C: The Survey

1. How many members are in your household?
   a. One [31.5%]
   b. Two [26.4%]
   c. Three [15.7%]
   d. Four or more [26.4%]

2. How many generations live in your household?
   a. One [46.3%]
   b. Two [36.3%]
   c. Three or more [17.4%]

3. What is your household’s annual income?
   a. Less than $15,000 [58.4%]
   b. $15,001-$25,000 [22.6%]
   c. $25,001-$35,000 [10.0%]
   d. $35,001-$45,000 [4.7%]
   e. $45,001-$55,000 [1.6%]
   f. $55,001-$65,000 [2.1%]
   g. Over $65,000 [0.5%]

4. How many children/dependents live in your household? [26.1% None]
   a. One [39.5%]
   b. Two [19.1%]
   c. Three [6.4%]
   d. Four or more [8.9%]

5. Do you rent or own your place of residence?
   a. Rent [68.9%]
   b. Own [25.0%]
   c. N/A [6.1%]

6. How did you get to the food pantry today?
   a. Own vehicle [69.4%]
   b. Rides from friends and family [23.0%]
   c. Public transportation [0.5%]
   d. Walking [1.5%]
   e. Bike [0.0%]
   f. Other (please name _________) [5.6%]

7. Do you have a car that you regularly use?
   a. Yes [73.3%]
   b. No [26.7%]

8. In the last year, how many months have you or a member of your household used a food pantry?
   a. This is my first time [11.9%]
   b. 2-5 months [30.4%]
   c. 6-11 months [25.8%]
   d. 12 months [32.0%]

9. How much money do you have for food each month?
   a. $0-$50 [41.1%]
   b. $51-$100 [28.1%]
   c. $101-$150 [13.5%]
   d. $151-$200 [10.9%]
   e. More than $200 [6.3%]

10. How much money do you need for food each month?
    a. $0-$50 [3.7%]
    b. $51-$100 [16.3%]
    c. $101-$150 [42.6%]
    d. $151-$200 [19.5%]
    e. More than $200 [37.9%]

11. In the past month, how often have you or a member of your household had to skip a meal?
    a. Never [50.3%]
    b. 1-3 times [34.2%]
    c. 4-6 times [8.8%]
    d. 7-9 times [3.6%]
    e. 10 or more times [3.1%]

12. In a given month, how often do you feel that your household has access to an adequate variety of healthy foods?
    a. Never [13.3%]
    b. A few days [27.2%]
    c. Several days [23.6%]
    d. Most days [24.1%]
    e. Always [11.8%]

13. What is your employment status?
    a. Employed, full-time [15.3%]
    b. Employed, part-time (one job) [11.6%]
    c. Employed, part-time (two or more jobs) [1.1%]
    d. Unemployed [72.1%]

14. If employed, do you work in (please select all that apply)
    a. Education [5.4%]
    b. Retail/Food Service [11.4%]
    c. Office Work [4.0%]
    d. Trade (cosmetology, carpentry, etc.) [2.0%]
    e. Agriculture [0.5%]
    f. Other (please name: _________) [7.9%]
    g. N/A [43.6%]
15. If unemployed, are you…  
[1.6% Retired and looking for jobs; 2.7% Retired and disabled]
   a. Looking for jobs [14.2%]  
   b. Disabled [30.1%]  
   c. Retired [20.8%]  
   d. Not looking/gave up looking [0.5%]  
   e. Caregiver [3.8%]  
   f. Other (please name _________) [3.8%]  
   g. N/A [23%]

16. How many people in your household are employed?  
[31.8% None]
   a. One [46.5%]  
   b. Two [15.3%]  
   c. Three [2.5%]  
   d. Four or more [3.8%]

17. Are you enrolled in any government programs?  
If so, which ones? (please select all that apply)
   a. TANF [3.0%]  
   b. Energy Assistance [6.9%]  
   c. Medicaid [26.2%]  
   d. SNAP [37.6%]  
   e. None [36.6%]  
   f. Other (please name _________) [6.5%]

18. Are the children in your household currently enrolled in free or reduced lunch programs?  
   a. Yes [24.3%]  
   b. No [26.6%]  
   c. N/A [49.2%]

19. What non-government programs, if any, do you or members of your household use?  

20. Which of the following would most benefit members of your household? (please RANK 1-4 with 1 being most helpful)  
   a. Community gardens [54%]  
   b. Food cooperatives [82.5%]  
   c. After school/summer childcare programs [44.0%]  
   d. Increased transportation options [43.1%]

21. Are there any other programs you feel would help your household? Please name:

22. Which of the following would you like to have information about available at the pantry? (please select all that apply)
   a. Free and reduced school meals [6.4%]  
   b. Community (non-government) programs [28.2%]  
   c. SNAP (food stamps) [15.8%]  
   d. Healthcare options [27.2%]  
   e. Housing [29.7%]  
   f. Other (please name _________) [6.4%]

23. What is the highest level of education you have completed?  
[5.9% Some college]
   a. Less than high school [13.4%]  
   b. High school or GED equivalent [38.0%]  
   c. Technical/trade school [5.9%]  
   d. 2-year college [20.3%]  
   e. 4-year college or more [16.0%]  
   f. Other (please name _________) [0.5%]

24. What is your gender identity?  
   a. Male [19.9%]  
   b. Female [80.1%]  
   c. Other (please name _________) [0.0%]

25. What is your race?  
[2.7% Multiracial]
   a. African American/black [50.3%]  
   b. Asian [0.0%]  
   c. Hispanic/Latino [2.1%]  
   d. Middle Eastern [1.6%]  
   e. Native American [2.7%]  
   f. White [39.6%]  
   g. Other (please name _________) [1.1%]

26. What is your age?  
   a. 18-25 [3.2%]  
   b. 26-35 [9.1%]  
   c. 36-45 [13.9%]  
   d. 46-55 [18.7%]  
   e. 56-64 [23.5%]  
   f. 65+ [31.6%]

Thank you for taking the time to complete this survey!
Appendix D: Survey Notes and Open-ended Responses

Several questions ask respondents for open-ended input. The following are their verbatim responses, with some brackets added for clarity. Common responses, given their own categories in the general analysis, are provided once with relevant percentages. Responses that appear only two or three times are recorded once.

Responses to Question 6: Other (please name)
- Henrico County
- Care Van
- Social Worker
- Social Services
- HAMHDSYM
- Henrico Mental Health
- Counselor
- ASEFI Sani

Responses to Question 14: Other (please name)
- Healthcare (18.8% of valid “other” responses)
- Housekeeping/Cleaning (18.8%)
- Disability
- Vantiral
- Care
- Mental health
- Self-employed
- Caregiver
- Graveyard
- Warehouse
- Day work

Responses to Question 15: Other (please name)
- Vantiral
- Temporarily [unemployed]
- Mental illness
- Studying
- ASFI sani
Responses to Question 17: Other (please name)
- WIC (15.4% of “Other” responses; 1.0% of total responses)
- SSI (38.5% of “Other” responses; 2.5% of total responses)
- Extra help for prescriptions
- Humana
- Feedmore
- I don’t qualify
- Medicare
- $46.80

Responses to Question 19: What non-government programs, if any, do you or members of your household use?
- Food bank
- Lamb’s [Basket], nothing else right now
- Lamb’s Basket
- Churches
- FeedMore
- Social Sec
- Food Bank(s)
- Clothes closet
- Mt. Olive
- Pantry’s food
- OLOL. Food Pantry
- I do not qualify
- Medicaid
- Medicaid/SNAP
- HUD Housing
- SSI
- Humana

Responses to Question 21: Are there any other programs you feel would help your household? Please name.
- Food
- Medicaid
- Utility Assistance
- Projects for families
- Health insurance
- My disability getting approved
- Gardens
- More food pantries – close by
- Income help of some sort, with home repairs, air conditioning, and heating or water. Something of that nature.
- Mental / health
- Housing for those who have mental disability, could live with less supervisor but housing especially for young adult more of housing for single individual
- Food stamps, utility assistance
- Rent
- Daycare
- English classes
- Yard work
- Food stamps
- ? Not really familiar with any programs
- Help with child care cost
- FeedMore
- Medicaid prescription help
- Food pantry
- Housing
- More money
- Unknown
- Mt. Olive
- Helping with bills
- Raise minimum dollar amount to qualify for food stamps. I make $30,000 and cannot eat. I cannot pay all my bills I have no loan debt. Rent to high car payment etc.
- Jobs
- SSD Approval
- Healthcare – Dentist
- Other food pantry
- Increased transportation
- Real estate tax relief program looking into
- Temporary housing help from time to time
- Mortgage assistance
- Extra-curricular and athletic programs for children/teens and families at low-cost or free
- Getting a car
- After school program free
- Jobs/daycares
- SNAP
- Job employment services
- Medical

Responses to Question 22: Other (please name)
- Clothing
- Clothes
- Dental care
- All agencies available in my community 23227

Responses to Question 23: Other (please name)
- Some college/1 year of college (5.9% of total responses)
- Master’s Degree


Olson, Christine M. “Nutrition and Health Outcomes Associated with Food Insecurity and Hunger.” The Journal of Nutrition 129, no. 2 (February 1, 1999): 521S-524S.


“Richmond, Virginia Food Policy Task Force: Report and Recommendations to Improve Food Access in the City.” Richmond, Virginia Food Policy Task Force, July 2013.
Rose, Donald. “Economic Determinants and Dietary Consequences of Food Insecurity in the United States.” *The Journal of Nutrition* 129, no. 2 (February 1, 1999): 517S-520S.


