



Addressing Food Insecurity in the Jefferson Area

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Prepared for CHiP of the Jefferson Area

Acknowledgements

For Professor Braithwaite, for her continued support over the course of the year and her inspiring dedication to problem solving with policy.

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Disclaimer:

The author conducted this study as part of the program of professional education at the Frank Batten School of Leadership and Public Policy, University of Virginia. This paper is submitted in partial fulfillment of the course requirements for the Master of Public Policy degree. The judgments and conclusions are solely those of the author, and are not necessarily endorsed by the Batten School, by the University of Virginia, or by any other entity.

Honor Code:

On my honor as a student, I have neither given nor received aid on this report.

A handwritten signature in black ink, appearing to read "Stephen F. Jones". The signature is fluid and cursive, with the first name "Stephen" and last name "Jones" clearly legible.

Table of Contents

ACKNOWLEDGEMENTS.....	1
GLOSSARY.....	3
EXECUTIVE SUMMARY	4
BACKGROUND	5
LITERATURE REVIEW.....	6
EVALUATIVE CRITERIA.....	10
POLICY ALTERNATIVES	11
OPTION 1.....	12
OPTION 2	14
OPTION 3	16
OPTION 4	18
COMPARATIVE ANALYSIS.....	20
TRADEOFFS	20
OUTCOMES MATRIX	21
RECOMMENDATION	23
WORKS CITED.....	24
APPENDIX A.....	28

Glossary

CHiP – Children’s Health Improvement Program of the Jefferson Area

FSW – CHiP Family Support Workers (used in Appendix A)

USDA – United States Department of Agriculture

SNAP – Supplemental Nutrition Assistance Program

CPA – Current Population Survey

FDA – Food and Drug Administration

Executive Summary

Of the 350 families enrolled with CHiP, 30% experience food insecurity prior to enrollment. After one year of enrollment, 27% of client families still report unmet food needs. CHiP understands that their current efforts of information dissemination regarding local food resources is not effective in reducing instances of food insecurity among their client families. As current policy stands, Family Support Workers only discuss local food resources and welfare programs with client families if the client families explicitly mention a lack of access to affordable food.

In this report I discuss four possible options for CHiP's consideration in their efforts to mitigate instances of food insecurity among their client families.

1. Let present trends continue
2. Expand the Backpack program in the Jefferson Area
3. Provide transportation to affordable grocery stores twice a month
4. Administer an extensive survey regarding food insecurity

CHiP Family Support Workers want to implement a program that will cause a significant decrease in reported instances of food insecurity once a family is enrolled with their programming. However, CHiP has certain organizational constraints to consider when deciding whether to implement a new program. Currently, CHiP has 12 Family Support Workers on staff who are each assigned 25 client families. Family Support Workers have other organizational responsibilities they are responsible for in addition to their full case load of client families which limits their effective bandwidth for beginning a new project.

I evaluate each option based on four criteria: cost, effectiveness, sustainability, and administrative feasibility. Costs include required funds, and a value of the time Family Support Workers and client families will spend implementing a new program. I define effectiveness as how many client families the option will successfully help in reducing instances of food insecurity and I define sustainability as whether CHiP will be able to successfully implement an option in the long term. Administrative feasibility assesses the bandwidth Family Support Workers have available to dedicate towards the implementation of an option.

After assessing each option based on these four criteria, I ultimately recommend expanding the Backpack program and administering an extensive survey to gather more data on the extent to which client families experience food insecurity.

Expanding the Backpack program is feasible if CHiP partners with a local food bank such as the Blue Ridge Area Food Bank. The Backpack program entails sending bags of food home with children from families that experience food insecurity at the end of a school week before weekends, breaks, and long holidays with enough food to supplement their diets while the children are not at school. Gathering more data on the extent to which their client families experience food insecurity is a high priority for CHiP. Family Support Workers want to better understand what major challenges client families face in attaining affordable food. CHiP can assess the responses to this survey and implement a plan targeted to overcome the challenges most frequently mentioned in the responses.

Problem Statement

In 2017, CHiP reported that 30% of their client families experienced food insecurity prior to enrollment. After one year of enrollment with CHiP, 27% of client families still report unmet food needs¹. Client families continue to experience food insecurity despite access to programming and support from CHiP Family Support Workers.

Background

Most households in the United States have access to affordable food, allowing for sustained and dependable active, healthy lifestyles. The US Department of Agriculture monitors households and the extent to which American households experience food insecurity with a focus on households with young children. A report from their Economic Research Service in 2011 found that 21 percent of households in the United States experience food insecurity, and in a proportion of these households, both adults as well as children experienced hunger (USDA, 2014).

Hunger is a known symptom of poverty, and 1 in 4 Charlottesville residents are affected by poverty (Bingham, 2018). In 2014, 30% of Charlottesville residents lived below the Federal Poverty Line. This is the highest rate of poverty in the Thomas Jefferson Health District and is notably higher than both the state average. A majority residents living below the poverty line are people of color, immigrants and refugees (Bingham, 2018). These subgroups of the population are also disproportionately affected by diseases related to nutritional deficiencies such as obesity, diabetes and high cholesterol (Bingham, 2018).

CHiP estimates that more than half of their families qualify for state and federal food programs like SNAP and TANF, but for various reasons may not enroll with these programs. Many of their client families have one or more undocumented immigrants, making them unqualified for enrollment with TANF or SNAP. Despite efforts to connect their client families with access to local food programs and other community resources based on expressed interest, client families are still met with obstacles related to reliable transportation and affordability. Even if these families can afford to purchase food at a grocery store, they often have no way to get there. CHiP works with an average of 350 families on an annual basis, including pregnant women and parents with young children aged 0-6.

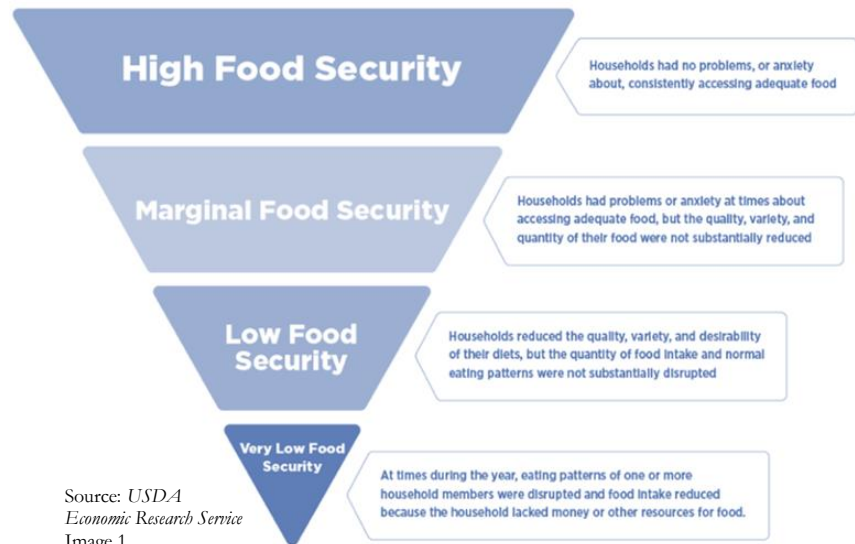
Family Support Workers make monthly home-visits to an average of 25 client families assigned to their case load. CHiP has a child health and development curriculum, and at every home-visit, the Family Support Workers review a lesson from this curriculum with their client families. During these meetings, client families have the opportunity to communicate any challenges they may be struggling with. If a client family mentions experiencing food insecurity, then their Family Support Worker will discuss local food resources available to them.

¹ Provided by CHiP.

Literature Review

The Demographics of Food Insecurity

The USDA defines food insecurity as a “lack of consistent access to enough food for an active, healthy life” (Feeding America, 2019). Roughly 42 million Americans live in food insecure households where in the last year they have had to drastically change their or their children’s diets because they are unable to afford healthy food options. Families that identify themselves as marginally food insecure generally do not allow for their children to experience hunger; only in extreme cases of high food insecurity do children also go without food. When these families do have access to food, children are fed first followed by adults. Only in households that report experiences of extreme food insecurity do children also experience hunger (USDA, 2013). Image 1 defines the varying degrees of food security. In this report, I focus on the 30% of client families that CHiP believes experience very low food security. These households must disrupt the eating patterns or habits of one or more members of their family due to a lack of access to affordable food.



Families of immigrants, minorities and refugees are twice as likely than the rest of the US population to live in poverty and experience food insecurity. Over 25 percent of CHiP’s client families are immigrants and report experiencing food insecurity even when enrolled with their programming. Gamblin (2017) includes households led by single mothers, African Americans, Latinos, Native Americans, undocumented immigrants and those with criminal records in his definition of immigrant, minority and refugee households (Gamblin, 2017). Minorities in the Jefferson Area that experience food insecurity identify with these racial and ethnic categories. CHiP also found that households with undocumented immigrants are ineligible for federal welfare programs designed to help mitigate food insecurity and are thus more likely than their American counterparts to experience food insecurity.

When the head of a household has less than a high school degree, that household is six and half times more likely to experience food insecurity when compared to a household with an adult who has at least a four-year college degree. Additionally, about 20 percent of households that report having an adult with a disability have children that experienced hunger within the past year, whereas only 9 percent of households with adults without a reported disability have children who experienced hunger (USDA, 2013). Unfortunately, these marginalized groups are also the least accessible members of a community. Reports published by organizations such as the USDA rarely include research on marginalized subpopulations, minorities, refugees and immigrants; leaving them especially vulnerable to the dangers of food insecurity and hunger. CHiP hopes to implement a

program that will supplement a client family's regular food supply regardless of whether they have caregivers that could be classified as some type of a minority.

Federal welfare programs that address food insecurity such as the Supplemental Nutrition Assistance Program (SNAP) were never meant to cover the full cost of food for eligible families. The programs aim to supplement a family's food supply with the expectation that the family will contribute what they can to their own household's food budget. However, 4 in 10 households that qualify for SNAP benefits in the United States have zero net income, which makes contributing to their own food budget nearly impossible (Waxman, 2018). Similarly to SNAP, CHiP wants to implement a program that will supplement a household's food supply on a regular basis.

Food insecurity also pertains to the disproportionate access to healthy food that exists across varying demographic boundaries within the same region. Blackwell (2016) highlights how rare it is for low-income families to have access to the same kind of healthy and nutritional options available in more affluent areas, and even when they are available these options are often unaffordable and thus unsustainable. In low-income neighborhoods, these disparities often manifest in the form of food deserts where residents are also more likely to be less educated, earn lower incomes and are more likely to be unemployed (Blackwell, 2016).

Community Eligibility

In 2010, legislation passed with wide bipartisan support that instituted 'community eligibility' which allows public-schools to provide their students with free lunches and breakfasts. By 2012, just two years after the rollout, schools in low-income neighborhoods served an estimated 8.5 million students with two guaranteed meals per day, Monday-Friday during the academic year. The schools are located mainly in low-income, high-need cities such as Baltimore, Chicago, Detroit and rural areas in Kentucky and Montana where most students qualify for free or reduced-price school meals. In April of 2016, Todd Rokita, chair of the House Subcommittee on Early Childhood, Elementary, and Secondary Education proposed a reauthorization bill that would reinstate applications and monitoring of student eligibility in the school lunch line (Neuberger, 2016). Restricting community eligibility would severely impact students whose only consistent access to food is through meals provided at school. Rokita's proposed legislation would have required that parents or guardians file extensive paperwork to document a child's eligibility for free or reduced breakfast and lunch (Neuberger, 2016).

Some schools in the Jefferson Area have also adopted similar policies. For example, Clark and Jackson-Via Elementary Schools located in the City of Charlottesville offer free breakfast and lunch to every student (Charlottesville City Schools). Children who attend these schools live in the surrounding neighborhoods that are marked by poverty and households that earn well below the federal poverty line. In cases where families lack sustainable access to affordable food, the two meals provided at school may be the only ones these children can regularly rely on. At other schools where free and reduced priced meals are not universal, families can apply using the "Free and Reduced Meal Price Application Form" that is processed through the individual counties. The School Nutrition Network sponsors these free and reduced priced meals through the USDA to provide food for students who qualify. These programs protect a child in school, but, over breaks and long holidays, many students experience some degree of hunger if their families run low on food (School Nutrition Network).

Charlottesville Food Justice Network

In the past, Charlottesville residents raised concern over the fact that many locally run non-profit organizations working to combat food insecurity do not address the racial disparities that only exacerbate the issue. Low-income, nonwhite residents experience food insecurity to a higher degree and are more susceptible to chronic diseases that result from inadequate access to healthy foods (“What Will Solve Charlottesville’s Food Access Problem?”, 2018). Roughly 25 percent of all households in Charlottesville do not earn enough income to cover the rising costs of food, housing, and necessary living expenses; while about one in six residents do not have access to the foods necessary for leading a healthy and active lifestyle. CHiP reports that a majority of their client families are nonwhite and about 25 percent of them are immigrant minorities. CHiP’s collected efforts to try and mitigate food insecurity among their client families has not created the impact they hoped for. Now, CHiP is looking into how they can directly help their client families that identify as racial and ethnic minorities. CHiP hopes to implement a program that will directly target the obstacles their client families report as major challenges to attaining affordable food.

In October of 2018, the City Council awarded the Charlottesville Food Justice Network \$65,000 to work towards addressing the racial and health disparities manifested by instances of high food insecurity. The Charlottesville Food Justice Network implemented the Food Equity Initiative with this funding (“What Will Solve Charlottesville’s Food Access Problem?”, 2018). The Food Justice Network partners with the City Planning Commission in an effort to better understand how transportation and urban planning play a key role in addressing food insecurity in the City of Charlottesville. Should CHiP decide they want to partner with another local non-profit to mitigate food insecurity in the Jefferson Area, they could look to organizations that have similar mission statements.

The Unknown Impact of Disabilities

Households with an adult who is disabled are more likely to experience food insecurity, however it is still unclear why this is the case (Gunderson & Ziliak, 2014). Varying disabilities require varying degrees of care, which could potentially take away from the resources used to provide healthy food. Each household with a disabled parent or child requires vastly different methods of care. The only way to capture how each disability affects a household’s ability to access affordable food would be to conduct separate studies on each different disability (Gunderson & Ziliak, 2014). CHiP would do well to know if certain disabilities or illnesses plague their client family, and how these disabilities create challenges for providing consistent access to food for the rest of their household.

Triggering Food Insecurity

Households with incomes below the poverty line usually experience food insecurity. Kaushal et al. from Princeton used data from the Fragile Families and Child-Wellbeing Study to conclude that, when income is controlled for, mothers in food-secure poor households are in better mental and physical health and are also less likely to report spousal or substance abuse as compared to mothers in food-insecure poor households. Food-insecure poor households are also more likely to have poorly educated mothers and are more likely to report cases of depression (Nepomnyaschy, 2014). However, Gunderson and Ziliak are skeptical of these findings, and point out that samples are often restricted to households that inaccurately report their income (Gundersen & Ziliak, 2014).

Gunderson also found a link between child-care arrangements and food insecurity. He collected and analyzed data from children who attend a child-care facility or receive care from someone other than

their parents. His analysis shows that these children can typically be assumed to be receiving about two-thirds of their meals outside of the home at these third-party care facilities. Compared with children who are cared for only by their parents, children at child-care centers or enrolled in Head Start are less likely to experience food insecurity (Heflin et al., 2012). This research is especially pertinent to defining the level of food insecurity that CHiP's client families experience because many of the children from these households also rely on receiving meals at school. These same children often go hungry at home due to severely lacking food supply.

Evaluative Criteria

I will evaluate four options CHiP can implement to address the issue of food insecurity among their client families using the following criteria: **cost, effectiveness, sustainability, and administrative feasibility.**

Costs: Projecting costs is especially important to CHiP. The Family Support Workers will choose to implement an option that minimizes costs, while also maximizing reach. CHiP communicated that they have limited funds for this project, but given a sustainable alternative, they will work hard to accommodate future implementation. All costs are measured in US dollars.

Effectiveness: I evaluate each option based on how likely it is to successfully mitigate food insecurity among the greatest number of client families. CHiP aims to help their client families overcome the challenges they face when trying to attain affordable food. Effectiveness will be evaluated on a “high,” “medium,” and “low” scale. High meaning that the option would positively impact a large number of client families and low meaning that the option would not reach enough families to be worth the trouble of implementation.

Sustainability: CHiP expressed they are willing to partner with another non-profit organization in the Jefferson Area to mitigate labor and costs associated with implementing a new program. A partnership will make the implementation of any option more sustainable. Family Support Workers hope to implement a program that will be highly effective in the long run. Sustainability will be ranked on a “high,” “medium,” and “low” scale based on whether or not CHiP could implement the option successfully in the long run. High meaning that the option would be successful for the foreseeable future and low meaning that the option would only be successful in the short run if at all.

Administrative Feasibility: Family Support Workers must have the bandwidth to coordinate, implement and sustain the program CHiP ultimately chooses to implement. I evaluate each option based on how well CHiP could feasibly implement an option and the organization’s ability to effectively manage the program for the foreseeable future. CHiP currently has 12 Family Support Workers that each work with an average of 25 families in the Jefferson Area. I consider each Family Support Worker’s limited time and resources in the evaluation of all options. Administrative feasibility will be ranked on a “high,” “medium,” and “low” scale related to the current available bandwidth of Family Support Workers.

Policy Alternatives

CHiP works closely with their client families and builds relationships with residents of the Jefferson Area who seek their help. As an organization, CHiP hopes to keep any new programs they implement on a small scale until they can assess effectiveness and program sustainability in real time. CHiP understands that many of their client families face food insecurity even while enrolled in their programming. CHiP expressed interest in collecting more holistic data in an effort to better understand the scope of the obstacles their families face in their access to food. To date, the only quantitative analysis CHiP has conducted originates from asking families in a survey one-year after enrollment whether they experienced food insecurity at any point since the beginning of their enrollment. From this one survey question, CHiP understand that upon enrollment, 30% of their client families report having experienced food insecurity. One year after enrollment, this number only drops to 27% meaning that 27% of CHiP's client families experience food insecurity despite their programming efforts.

To guide CHiP in their efforts to mitigate food insecurity, I propose four mutually exclusive alternatives.

1. Let present trends continue
2. Expand the Backpack Program
3. Provide transportation to affordable grocery stores
4. Implement extensive survey

Option 1

Continued Information Dissemination regarding Local Food Resources

CHiP Family Support Workers make a variety of resources available to families when they first enroll with CHiP. Family Support Workers offer these resources only once a family explicitly expresses an interest in learning more about these local programs. These resources include opportunities for affordable food through local food banks such as the Blue Ridge Food Pantry and Charlottesville's Loaves and Fishes (Loaves & Fishes Food Pantry Inc., 2018). They also inform their client families of the public transportation available to them at subsidized and low costs. However, given the stagnant rate of families who report having experienced food insecurity in the last year, these efforts do little to lessen the burden of hunger among families from the Jefferson Area. Continuing with this form of information dissemination among clients in Charlottesville, Louisa, Fluvanna and Albemarle Counties will keep families, children and adults alike in a state of food insecurity.

Various food banks provide families with supplementary access to food on a monthly basis. However, the food deserts that populate Charlottesville and the surrounding counties make food security programs difficult to implement and sustain. This is an obstacle that other similar programs have faced in the past, though now other non-profit organizations such as the Charlottesville Food Justice Network are brainstorming ways to address food insecurity together with combined resources. Should CHiP choose to continue solely with their routine of information dissemination to client families who explicitly inquire, they could also begin to work closely with other organizations in Charlottesville with the goal of reaching a larger audience.

During holidays such as Thanksgiving and Easter, CHiP Family Support Workers will distribute bags of food from the limited donations they receive. Packing and distributing these bags requires minimal resources on behalf of CHiP because they do not have to pay for any of the food and distribution occurs during home-visits or client meetings that would have occurred anyways. While these food bags do help supplement a client family's food supply, their availability and distribution are inconsistent; meaning that not all client families receive bags on these holidays.

Analysis

Option 1: Let Present Trends Continue			
Annual Costs	Effectiveness	Sustainability	Administrative Feasibility
\$4,147.20	Low	Low	High

Table 1

Cost: CHiP does not currently have an informed estimate of how many resources they use in upholding this current practice. As policy stands, only families who explicitly ask about local food resources are connected to them by CHiP Family Support Workers. All costs are estimated with a focus on the 30% of CHiP families that report being food insecure. CHiP provides aid to roughly 350 families per year, and of these 350 families roughly 105 experience food insecurity. In driving to client families for home visits once a month and spending time speaking about food resources, CHiP Family Support Workers and client families use about \$4,147.20 annually. This figure comes

from combining vehicle wear and tear, the cost of gas, and lost wages. Lost wages include the opportunity cost of time spent discussing local food resources that CHiP Family Support Workers could have spent dedicated towards other organizational efforts and client families could have spent earning income at work. A detailed breakdown of this estimate can be found in Appendix A.

Effectiveness: Current efforts on behalf of CHiP Family Support Workers do little to decrease the percent of client families who report experiencing food insecurity. CHiP expressed that they do not see information dissemination as an effective option for addressing food insecurity in the Jefferson Area. CHiP wants to learn about what kinds of programs other non-profit organizations are implementing to directly address food insecurity. While 30% of client families report experiencing food insecurity before enrolling with CHiP, 27% still report experiencing food insecurity one year after enrollment. This stagnant rate shows that information dissemination is minimally effective in helping client families mitigate instances of food insecurity.

Sustainability: While CHiP can choose to continue having these discussions with client families who explicitly ask for more information regarding local food sources at a relatively low cost, this option will do little to address the alarming rate of food insecurity in the Jefferson Area. This option ranks low on sustainability because it will not be successful in decreasing food insecurity in the long run.

Administrative Feasibility: CHiP Family Support Workers discuss local food programs with client families during home-visits that would have occurred anyways. This option ranks high in administrative feasibility because Family Support Workers have the bandwidth to continue these short conversations with client families.

Option 2

Expand the Backpack Program

The Blue Ridge Food Bank has already implemented the Backpack program in Albemarle County and Fluvanna County at Greer Elementary and Central Elementary, respectively. Over the course of the last two school years, enrollment in the program has nearly doubled, indicating that the Backpack program is successful in providing food that supplements a families' food supply (Foreman-Trice, 2018). The only guaranteed meals many of the students enrolled at these schools can rely on are provided by the public-school system through free and reduced priced meals. Children who qualify for these subsidized meals can rely on eating at least twice during the school day. The issue of food insecurity, arises then, when the children go home and their families struggle with a low food supply. In an effort to provide students with some reliable source of food once they leave school, administrators with the Backpack program distribute bags of food on Friday afternoons before weekends twice a month and before breaks and long holidays. These bags contain food to be consumed over the course of the weekend, break or holiday and are packed with a handful of well-balanced meals. This option directly aims to decrease the number of times a child goes without food at home.

The Backpack program requires distribution sites partner with a local non-profit organization for tax purposes and recommends partnering with a food bank to subsidize the cost of food for each bag. CHiP should partner with one or more local non-profits to successfully implement a similar program in public schools in Charlottesville, Albemarle, Fluvanna and Louisa counties. Partnering with the Blue Ridge Food Bank to assemble the food bags will mitigate costs for CHiP. Starting a new site of the Backpack program at other public schools in the Jefferson Area would be easiest in partnership with the Blue Ridge Food Bank because this organization already has experience with program implementation. A school-to-home food delivery program like the Backpack program provides children in these families with consistent access to nutritious food even when they are not guaranteed the meals that their schools provide.

Another aspect of this option that is important to note, is the fact that it does not rely on families providing their own method of transportation to access the food. Children who walk or ride the bus to school because their families do not have access to reliable transportation can still participate in this program because they do not need any additional form of transportation – they already go to school every day. This option circumvents the obstacle that many families in the Jefferson Area face. Many families cannot afford to own a car, which makes accessing affordable grocery stores even more difficult. This option uses methods of transportation that are already in place to get supplemental food home to families that experience food insecurity. Families that are already enrolled with CHiP are eligible to participate in the program.

Analysis

Option 2: Expand the Backpack Program			
Annual Costs	Effectiveness	Sustainability	Administrative Feasibility
\$22,665.00	High	High	Medium

Table 2

Cost: This option requires that CHiP spend an estimated \$22,665.00 in resources for successful implement. Table 2 includes the valued time of CHiP Family Support Workers that could be spent on organizational efforts other than implementing the Backpack program. This estimate also includes value estimates for the time spent assembling and distributing the food bags that could have been spent on other CHiP affiliated projects. There are minor costs involved that comes with the time it takes to inform and enroll a family that is interested in partaking in the Backpack program. This estimate also assumes all 30% of families that initially report experiencing food insecurity are interested in participating in the Backpack program. These costs can be mitigated by partnering with the Blue Ridge Food Bank. Another organization's involvement would provide more employees which would then reduce costs for CHiP. The Blue Ridge Food Bank will also provide volume discounts for purchased and donated food. This in turn would decrease the cost per food bag distributed to students. I provide a detailed breakdown of the estimated \$22,665.00 in Appendix A.

Effectiveness: This option ranks highly in effectiveness. Expanding the Backpack program to include other public schools in the Jefferson Area would regularly subsidize a family's food supply and directly reduce the frequency with which they experience food insecurity. Implementing a program in the very place that these children attend school every day makes client family participation easier to coordinate. This option rates high in effectiveness because it helps CHiP actively work towards reducing the number of families that experience food insecurity after enrollment with their programming.

Sustainability: This option is highly sustainable. The Backpack Program is already successful at Greer Elementary and Central Elementary located within the Jefferson Area. Partnership with local non-profit organizations also makes this option highly sustainable. Two organizations working together with the same goal of decreasing food insecurity increases resource accessibility and hours of available manpower from employees of both CHiP and the Blue Ridge Area Food Bank. Partnering with the Blue Ridge Area Food Bank also significantly reduces the financial burden on CHiP because they will subsidize the food that goes in the bags. Lower costs allow for sustainable success.

Administrative Feasibility: Food bags should be distributed twice a month at the schools CHiP plans to expand to. This option would require that Family Support Workers dedicate an estimated 2 hours per distribution cycle towards assembling the food bags and an additional 2 hours distributing the bags to families. Family Support Workers have the time and resources available to support this option. This option ranks medium in administrative feasibility because initial implementation will require extensive coordination efforts with the Blue Ridge Area Food Bank.

Option 3

Provide Families with Transportation to Grocery Stores Twice a Month

Many low-income families enrolled with CHiP cannot feasibly get to areas in their communities with affordable grocery stores because they do not have a reliable means of transportation. If client families cite a lack of reliable transportation as a reason for experiencing food insecurity, Family Support Workers should offer an additional time outside of the regular home-visit to coordinate a ride to the closest affordable grocery store. Families that experience extreme or moderate food insecurity should coordinate two rides per month to the nearest affordable grocery store with Family Support Workers.

This option would provide consistent access to food, but still keeps the families from being a part of the solution. Driving client families to grocery stores would help maintain their autonomy, as families would be able to choose how they feed their children and spouses. During these grocery trips, Family Support Workers could still implement a health curriculum lesson that teaches valuable lessons on how to properly maintain a balanced and nutritious diet. When families go to a grocery store with their assigned Family Support Worker, they would learn how to find affordable food, how to compare prices across brands, and how to feed their families on a limited budget.

Analysis

Option 3: Provide Transportation to Affordable Grocery Stores			
Annual Costs	Effectiveness	Sustainability	Administrative Feasibility
\$219,571.20	Medium	Low	Low

Table 3

Cost: This option is extremely high in cost due to the high price of gas, the wear and tear on cars that will occur if CHiP Family Support Workers use their own cars, and the time it would take client families and Family Support Workers alike to complete the round-trip to and from the grocery store.

Effectiveness: Directly providing transportation to families that otherwise would not be able to get to a grocery store would decrease overall reports of food insecurity among CHiP's client families. However, with this option client families still go without reliable transportation whenever their Family Support Worker does not drive them to a grocery store. Becoming too reliant on this option will hurt client families in the long run because they will not know how to handle emergency cases of food insecurity. This option ranks medium in effectiveness because it will mitigate some instances of food insecurity in the short run, but cannot be successful in the long run.

Sustainability: Due to the high cost of this option, and the numerous hours that Family Support Workers would need to dedicate towards driving client families to affordable grocery stores when they could be doing something else, this option ranks low in sustainability. This option requires complicated schedule coordination to find a time when both the client family and the Family Support Worker are available to spend 2 hours driving to and from the grocery store. The estimated annual costs also make this option unsustainable in the long run.

Administrative Feasibility: This option ranks low in administrative feasibility because CHiP Family Support Workers do not currently have the bandwidth required to implement this option. They have many other organizational responsibilities and program coordination in addition to the regular home-visits they conduct. Family Support Workers would not be able to take on this additional responsibility given how busy they already are with other projects.

Option 4

Administer Extensive Survey One Year into Enrollment

Current best practices at CHiP include administering a survey to client families one year after enrollment aimed to get a better understanding of their experience. This survey helps CHiP Family Support Workers assess how they can best help their families. CHiP should administer an additional survey that solely focuses on gaining a more holistic view of a family's experience with food insecurity. The survey should include questions similar to the following:

- On a weekly basis, how often do you experience a lack of food?
- If you do not experience this lack on a weekly basis, how often do you experience food need?
- When you need food, what options come to mind of where you could get access to affordable food?
- What options are there in your neighborhood for affordable food?
- Where is your closest affordable grocery located relative to your home?
- What is the biggest obstacle you face in attaining food when supply has run low (i.e., low on funds, transportation logistics, lack of affordable grocery stores, proximity to affordable grocery stores)?
- Who in your family experiences hunger most often?
- Do adults experience hunger more often than children?
- Does one spouse go without food more often than the other to accommodate for the lack of food?
- If CHiP could help with one major obstacle you face in attaining food, what would it be?
- How do you help alleviate hunger in your own household?
- How often do you restrict food or go without food on a monthly basis? On a weekly basis? (if appropriate)
- Does any member of your household have a serious disability or health condition that requires significant care? Does this care monopolize resources that could otherwise be used to provide adequate food for the household?

Questions like those listed above will help CHiP gain a better understanding of the challenges client families face on a regular, semi-regular, or inconsistent basis. The answers families provide to a survey similar to the one presented above would help create a program that specifically addresses the main obstacles households face in attaining food. CHiP can decide what kind of a program to implement once they have a better understanding of the extent to which their client families experience food insecurity.

Analysis

Option 4: Administer Extensive Survey			
Annual Costs	Effectiveness	Sustainability	Administrative Feasibility
First Year: \$2,708.75	Medium	High	High
Subsequent Years: \$1,658.75			

Table 4

Cost: I estimate that implementing this option requires low funding from CHiP. The first year would require more funding than subsequent years due to the initial costs related to publishing a survey. A team of Family Support Workers would likely spend about 40 hours total of paid work time towards creating the initial survey. Then, CHiP will need to test the survey and ensure reliable results before making it available to all client families. These initial costs make the first year of implementation about \$1,000 more expensive than subsequent years. The first year would cost an estimated \$2,708.75. Costs associated with this option decrease to about \$1,658.75 per year after the first year. These costs include the value of time spent both by Family Support Workers administering the survey and client families completing the survey. I have included a detailed breakdown of costs associated with printing and materials in Appendix A.

Effectiveness: This option ranks as medium in effectiveness. A survey would help CHiP gain a better understanding of the extent to which their client families experience food insecurity, but it would not directly reduce food insecurity. In order to make this option useful, CHiP would have to collect and assess the data and then decide what kind of a program they want to implement given the responses from their client families. With a more holistic understanding of the obstacles their client families face in attaining food, they can choose to implement a targeted program that directly addresses the obstacles most commonly cited in the survey responses.

Sustainability: Once CHiP Family Support Workers create this survey, they can easily give it to their client families to complete during a home-visit. Surveys are easy to provide to client families and make this option highly sustainable into the foreseeable future.

Administrative Feasibility: This option ranks highly in administrative feasibility. An additional benefit from administering these surveys during a home-visit allows for a higher degree of comfort. A family is more likely to be honest about their experience with food insecurity when they feel comfortable and safe in their own home. Family Support Workers can provide their client families with the survey during a visit that would have occurred anyways. Family Support Workers currently have the bandwidth to implement this survey.

Comparative Analysis

Tradeoffs

There are significant tradeoffs associated with implementing any of the options I discussed. First, allowing present trends to continue would not significantly decrease the prevalence of food insecurity among CHiP's client families. However, sticking with the status quo means that Family Support Workers do not need to cut costs from any other projects to cover the costs of implementing a new program. Letting present trends continue also frees up time for both Family Support Workers and client families to pursue other organizational projects and interests. Neither CHiP nor their client families would have to reallocate or dedicate their time and resources towards implementing a new program. Choosing this option, however, would leave the issue of food insecurity unaddressed among CHiP's client families.

The second option, expand the Backpack program, will take require that CHiP reallocate parts of their budget to find enough money to fund a new Backpack site. They will also need to dedicate sufficient time towards coordinating with the Blue Ridge Food Bank at the start of implementation until they have defined all aspects of the partnership.

CHiP also understands that their Family Support Workers do not currently have the bandwidth to offer their client families transportation to affordable grocery stores. Family Support Workers are already responsible for an average of 25 families each and would need to dedicate a significant amount of time towards coordinating transportation with the families that report experiencing food insecurity. CHiP does not have an adequate budget or enough time to dedicate towards effectively expanding the Backpack program and providing transportation to affordable grocery stores in a successful manner.

Administering an annual survey requires only concentrated periods of time from CHiP's Family Support Workers. This option would require extensive time at the beginning of implementation, as designing an effective survey does require careful word choice, audience pretests and data accumulation and assessment. Once the survey is completed, Family Support Workers would only have to revisit the structure of the survey before each annual distribution – this would require significantly less time than the initial time investment. Furthermore, annual distribution of the survey is relatively low in cost. CHiP Family Support Workers should put forth significant effort into ensuring their client families submit responses to the survey so that enough responses are recorded to be useful in data analysis.

Outcomes Matrix

Criteria	Options			
	Let present trends continue	Expand Backpack Program	Provide Transportation to Affordable Grocery Stores	Administer Extensive Survey
Annual Cost	\$4,147.20	\$22,655.00	\$219,571.20	First Year: \$2,708.75
				Subsequent Years: \$1,658.75
Effectiveness	Low	High	Medium	Medium
Sustainability	Low	High	Low	High
Administrative Feasibility	High	Medium	Low	High

Table 5

Table 5 summarizes each option previously discussed and their respective evaluations based on estimated annual cost, program effectiveness in reducing food insecurity, long term sustainability and administrative feasibility. CHiP expressed that their current best practices do little to address the worsening degree of food insecurity among their client families and hope to do more in the future. For this reason, I have not chosen to recommend let present trends continue. CHiP is optimistic about the impact they can make by implementing a program that directly helps their client families.

The row displaying annual costs for each option shows that the costliest option for CHiP would be to provide transportation to affordable grocery stores for their client families. Originally, I thought that providing transportation on a small scale to client families that experience extreme food insecurity would be a feasible option for CHiP Family Support Workers. However, upon further analysis, the option proves too costly and is not sustainable or administratively feasible. Providing transportation to a grocery store requires a minimum 2 hours of a Family Support Worker's paid time per family they drive. I ranked this option low on administrative feasibility due to the amount

of time wasted in driving each family in need of transportation to an affordable grocery store. Family Support Workers have more important organizational responsibilities they must fulfill and other families they must also tend to. High gas prices and the extensive wear and tear on a car make this option unsustainable.

Expanding the Backpack program, while slightly costly, would positively impact a majority of CHiP's client families that report experiencing food insecurity. I ranked this option high in effectiveness due to the success already documented at Greer Elementary in Albemarle County and Central Elementary in Fluvanna County. Partnership with the Blue Ridge Area Food Bank will help mitigate costs per food bag and makes the option sustainable. CHiP will need to reallocate programming funds to ensure that they can continue to implement the Backpack program well into the future. Family Support Workers have the bandwidth to coordinate with the Blue Ridge Food Bank and can spend 4 hours total each distribution cycle assembling and distributing the food bags to children at their respective schools.

CHiP also expressed that they hope to collect more data regarding the extent to which their client families experience food insecurity in an effort to better understand their greatest challenges. CHiP can collect this data by implementing a survey, which has low costs and ranks high in high administrative feasibility. After compiling and assessing the responses to this survey, CHiP can better understand how to target their limited resources towards addressing the challenges their client families face in attaining affordable food.

Recommendation

Administer Extensive Survey & Expand the Backpack Program in the Jefferson Area

I recommend implementing option 2 of expanding the Backpack Program in the Jefferson Area and option 4 of administering an extensive survey. Combining these two options into an action plan will help CHiP address the greatest challenges of food insecurity among their client families.

Expanding the Backpack program will require partnership with the Blue Ridge Area Food Bank for smooth implementation. The Blue Ridge Area Food Bank is willing to enter into partnership with local non-profits. Starting a new site of the Backpack program entails reaching out to Eileen Emerson of the Blue Ridge Area Food Bank who will assess an organizations ability to sustain such a program. Once a new site is approved, CHiP will need to secure funding and coordinate with the Blue Ridge Area Food Bank to obtain purchased and donated food for the distribution. I recommend expanding the Backpack program in schools where a large percentage of CHiP client families already send their children to school. CHiP should consider expanding into public schools located in Louisa County and the City of Charlottesville, given that the Backpack program already exists in Albemarle County and Fluvanna County. Once CHiP Family Support Workers begin to see success at the new sites and have considerable feedback from the survey (discussion below), they can decide whether they are willing to continue expanding to more schools.

Keeping in mind CHiP's extensive caseload, Family Support Workers do currently have the bandwidth to expand the Backpack program. Distribution cycles should occur every two weeks, during which Family Support Workers would need to dedicate 4 hours of their time towards coordinating the assembly and distribution of food bags with the Blue Ridge Food Bank. This option will directly benefit their client families and CHiP will see a decrease in the number of client families who report that their children experience hunger due to lack of access to affordable food.

CHiP should seek to implement an extensive survey with a series of questions similar to those I previously listed. Survey responses will help CHiP concentrate their limited resources towards alleviating some of the most-common challenges client families report. During the pretest phase, before widespread distribution, CHiP Family Case Workers should consider whether printing the survey or administering it electronically would get a higher response rate among client families. CHiP should aim to have a response rate between 40 and 60% among their client families to be able to target their resources and efforts appropriately. Due to the nature of food insecurity, the survey will have to include open and close-ended questions. Open-ended questions are more difficult to compile and assess, and CHiP Family Support Workers will have to dedicate significant time towards interpreting these responses (M. Questionnaire Design, 2019).

After the initial effort of creating the survey, annual distribution of the survey is feasible for Family Support Workers keeping in-mind the size of their case load and other organizational responsibilities. The responses to this survey will also serve to map how trends of food insecurity change over time among CHiP's client families. CHiP Family Support Workers should reassess the questions on the survey each year and discuss whether anything should be reworded to better target a specific aspect of food insecurity.

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Appendix A²

Option 1: Providing Families with Local Food Resources	
Driving Costs	
Price of gas (mpg)	\$ 2.50
Wear and tear on car (per mile for small sedan)	\$ 0.37
CHiP employee wages (per hour)	\$ 17.50
Time each CHiP FSW spends speaking to food insecure families about resources (30 mins per family)	4
Miles Driven (per Family Support Worker)	80
Total Cost of Driving (per Family Support Worker)	
= (price of gas + wear and tear) * total miles driven	\$ 229.60
Total Lost Wages per Family Support Worker (annual)	
= employee time * employee wages	\$ 70.00
Client Family Involvement	
Time spent in meetings with Family Support Worker discussing food resources	0.5
Client family lost wages* (hourly)	\$ 11.50
Total Lost Wages (annually)	
=time spent in meeting * lost wages	\$ 5.75
Assumptions	
CHiP Family Support Workers use small sedan cars for transportation	
April 2018 price of gas	
Client families are at 138% of the federal poverty line (with a five-person household)	\$ 49,600.00
Total Cost of Implementation per CHiP FSW	\$ 345.60
Total Cost of Implementation should all 30% of food insecure CHiP client families ask for resources	\$ 4,147.20

² All sources used in the cost projections are included in the Works Cited section.

Option 2: Expand the Backpack Program	
Logistics and Coordination	
Time spent informing and enrolling families in the Backpack Program on behalf of each FSW (hours)	8
Time spent training for participating in the Backpack Program (hours)	0.5
Time spent assembling Backpacks (one hour every two weeks during the academic year)	20
Time spent distributing Backpacks (one hour every two weeks during the academic year)	20
Lost Family Support Worker wages (hourly)	\$ 17.50
Total lost wages per Family Support Worker (annually)	\$ 848.75
Cost of Assembling the Backpack	
Cost of Backpack (per household annually)	\$ 160.00
Assumptions	
BackPacks have enough food to supplement for a five-person household with three children & two parents	
75% of client families who are food insecure with children enrolled in Jefferson Area public schools will participate	78
Total Costs	
Total costs of Backpacks (annually)	\$ 12,480.00
Total lost wages per Family Support Worker (annually)	\$ 848.75
Total Costs should all 30% of food insecure CHIP client families choose to enroll and participate in program	\$22,665.00

Option 3: Transporting Families to Affordable Grocery Stores Twice a Month	
Driving Costs	
Price of gas (mpg)	\$ 2.50
Wear and tear on car (per mile for small sedan)	\$ 0.37
CHiP employee wages (per hour)	\$ 17.50
Total hours CHiP FSW spend driving client families to affordable grocery stores (twice a month all year)	384
Total miles driven by CHiP FSW on grocery runs (annually)	2,880.00
Total Cost of Driving per CHiP FSW	
= (price of gas + wear and tear) * total miles	\$ 8,265.60
Total Lost Wages (annual)	
= employee time * employee wages	\$ 6,720.00
Client Family Involvement	
Time spent going to affordable grocery store with CHiP FSW (twice a month all year)	36
Client Family lost wages (per hour)	\$ 11.50
Total Lost Wages (per year)	
= time spent going to grocery store (annually) * client family lost wages	\$ 414.00
Assumptions	
CHiP Family Support Workers utilize small sedan cars for transportation	
April 2018 price of gas in Charlottesville, VA	
Assume affordable grocery stores are roughly 8 miles away from client family homes	
Client families are at 138% of the federal poverty line (with a five-person household)	\$49,600
Total Cost of Implementation per CHiP FSW	\$ 18,297.60
Total Cost of Implementation should all 30% of food insecure CHiP client families choose to participate in program	\$ 219,571.20

Option 4: Implement Extensive Survey on Client Food Insecurity	
One-time start up cost required for CHiP employees to create survey	
Time required to create survey (hours)	40
Time required to test survey (hours)	20
Total time required to compile and assess data (hours)	40
Lost wages (hourly)	\$ 17.50
Total time	100
Total lost wages	\$ 1,750.00
Annual Costs for CHiP	
Time required to compile and assess responses (hours)	40
Lost wages (hourly)	\$ 17.50
Total lost wages (annually)	\$ 700.00
Client Family Involvement (time recorded in hours)	
Time required to complete the survey (hours per year)	0.5
Lost wages (hourly)	\$ 11.50
Total lost wages per family (assume 157 of 350 client families answer the survey - 45% response rate)	\$ 902.75
Printing & Materials	
Printing cost per page	\$ 0.08
Printing cost per survey	\$ 0.16
Total printing cost for all client families	\$ 56.00
Assumptions	
Assume each survey is 2 pages long	
Assume 350 client families served per year	
Assume a 45% response rate to the survey	
Assume client families are at 138% of the federal poverty line	\$49,600.00
Total cost of implementation (year 1)	\$ 2,708.75
Total cost of implementation (subsequent years)	\$ 1,658.75