

Good Neighbor Health Clinic Food Pantry Research
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I. Literature Review

Food insecurity is a major issue across the United States, with rural populations facing particular challenges in accessing sufficient and nutritious food compared to their urban counterparts (Waity 2015). The ramifications of this disparity become more concerning when one considers disadvantaged groups, including those lacking personal transportation, with low literacy levels, and experiencing poor health, as they often struggle to access and utilize available support resources. This disparity is notably pertinent to the community served by the Good Neighbor Health Clinic, where many patients fall into one or more of these vulnerable categories. Understanding the reasons behind the underutilization of food resources among rural residents, especially among patients of the Good Neighbor Health Clinic, necessitates a closer examination of the role of information accessibility as a persistent indicator influencing resource utilization.

Existing research highlights the critical connection between the availability of affordable, nutritious food and overall health. Studies demonstrate that the increased distance from supermarkets correlates with higher Body Mass Index (BMI). While dietary quality is related to a lack of transportation and closer proximity to convenience stores, the BMIs of study participants are not associated with dietary quality which means that different food access variables impact participant health (Dubowitz et al. 2015). Structural barriers unique to rural areas exacerbate food access issues, creating “food assistance deserts” in these communities due to dispersed populations that are either unable to physically access resources or limited awareness of available resources (Waity 2015). Moreover, food pantries and other nonprofits have experienced a rise in demand and a fall in financial backing which further strains these food assistance deserts in recent years (Bouek 2018). While governmental nutritional programs like SNAP aim to alleviate food insecurity, they often fall short in rural areas, leading to malnutrition and high obesity rates, making this an important topic for research (DeWitt, 2020).

While the availability of food pantries is necessary, the presence of food pantries does not equate access to them. Barriers such as stigma, physical ability to get to the resources, and lack of information about what resources exist restrain utilization (Purdam 2016). Social factors like dietary preferences, social ties, and social disorganization may further weaken access to food resources (Caspi et al. 2021; Desmond 2012). More importantly, long-term users of food pantries access additional resources more frequently than new or non-users, suggesting underlying factors restraining certain individuals from utilizing available resources within the same communities (Kicinski 2012).

Consequently, information is a prominent barrier to accessing available food resources, particularly among rural communities where reliance on community-run nutritional programs is more prevalent, acting as a bridge to gaps in access due to proximity and awareness. This means that if a food insecure rural inhabitant does not have a small-scale resource that engages in food support efforts, they may not know that resources exist at all (Molnar 2001). Studies show the effectiveness of providing information about assistance programs, like SNAP, to increase utilization rates. For instance, research by Daponte, Sanders, and Taylor (1999) emphasize that many eligible individuals do not capitalize on SNAP benefits due to a lack of knowledge about the program. However, when households were educated about the program, there was a noticeable increase in their willingness to utilize SNAP benefits. Recent research confirms that

by providing individuals with informative handouts about using SNAP benefits led to increased utilization of these resources and long term nutritional habits (Cohen et al. 2017). These findings illustrate the significant impact of information in increasing the use of food resources among eligible populations.

Understanding the challenges in rural areas that hinder information sharing about available resources is crucial. For instance, rural areas often lack adequate internet infrastructure due to fewer inhabitants spread across larger areas, making funding for general broadband access more demanding (Hollifield and Donnermeyer, 2003). While this is less of an issue in Hartford and surrounding towns like Hanover, it becomes critical to assess this in areas farther from the center of the Upper Valley. This impacts the ability of groups like GNHC to connect with members of the broader community. Promoting information about medical services, and an upcoming food pantry in the spring, is a particularly arduous task. As a result, food assistance resources must take into consideration the relationship between the existence of food resources and information about those resources that is specific to rural areas.

While a great deal of literature on food resource utilization identifies information as a barrier to access support services, there is no research that exists specifically to address how an intervention of providing information to at-risk populations in rural areas would impact their access to free food resources. In light of this gap, our proposed research aims to fill this void by examining the relationship between the availability of free food resources in the Upper Valley and the impact of information provision to patients at the Good Neighbor Health Clinic. Our primary research question is: How does the availability of free food in the Upper Valley, facilitated by information provided to patients, influence food access among the Good Neighbor Health Clinic's patients?

II. Methods

Measures and Research Methods

The research aims to explore the relationship between specific variables within the context of free food availability and access among patients at the Good Neighbor Health Clinic in the Upper Valley (*See Figure 4, Conceptual Model*). The independent variable (IV) in this study is the 'availability of free food in the Upper Valley,' operationally defined as the number of food pantries within the Upper Valley region. This variable serves as a representative measure of the overall availability of free food resources within the area. The dependent variable (DV), 'people accessing free food resources,' is operationally defined as the number of patients attending the Good Neighbor Health Clinic who have utilized free food from these pantries within the past six months.' This metric gives insight into the actual utilization patterns of available food resources by the clinic's patient population. Additionally, the mediating variable (MV), 'information about food resources,' is operationally defined as the number of food pantries in the Upper Valley that patients at the Good Neighbor Health Clinic have knowledge of or have heard about. This operational definition aims to quantify the level of awareness regarding existing food resources among the clinic's patients.

The proposed method is a three-phase survey-based experimental design, intending to address limitations in assessing the impact of food availability. Phase 1 will begin three months before the GNHC food pantry opens. This phase would primarily focus on collecting data from the survey. Once the food pantry opens, the second phase will begin. GNHC staff will continue to gather data from the surveys but we expect to see a change with an additional food pantry

available at the clinic. Phase 3 begins three months after the GNHC food pantry opens. During this phase, survey responses that meet certain criteria (See *Figure 5, Experimental Instructions Sheet*) will trigger a doctor intervention where they provide patients with a flier about available food resources (See *Figure 3, Phase 3 Intervention Handout*) and discuss the patients' information gaps on the topic.

This methodology will allow GNHC to track response changes over the three phases, providing insights into how the introduction of the food pantry and doctor interventions affect patients' knowledge and utilization of food resources. This sequential approach helps to detect any immediate effects upon pantry opening, and also tracks the potential impact after the pantry has been open for some time. However, the experimental design also poses several limitations. The phases occurring across different seasons may introduce confounding variables, such as seasonal transportation issues, that influence patients' access and utilization of food pantries.

When discussing this research proposal with the GNHC team, we were told to keep the survey under four questions for time purposes and ensure the questions were comprehensible regardless of the patients' reading levels. Because of these limitations, our survey includes three questions: 1, "Which of the following food pantries have you heard of before?" 2, "Which of the following food pantries have visited in the last 6 months?" and 3, "How long does it take you to get to the closest food pantry?" Question 1 operationalizes the mediating variable of information. Question 2 operationalizes the dependent variable. Question 3, which acts as a bonus question, will give information about travel difficulty, a potential alternative mediator than our proposed mediator of information (See *Figure 1, Phase 1 Survey* and *Figure 2, Phase 2 and 3 Survey*). In this setting, the independent variable, availability of food resources, is not subjective. Because of this, we propose operationalizing it in a few different ways depending on what is easiest for the GNHC team. The GNHC staff could choose to measure it as the number of food pantries open in the Upper Valley. They could also measure it as the total food given away by food pantries in the area. Because availability of free food in an area is not a matter of opinion, we decided that a question targeting this variable should be left out of the survey.

While we believe that this experimental survey approach is the best method given the context of our research and the limitations, it is important to note how that impacts the validity and reliability of the data. Surveys are generally a useful tool in research because they are generalizable, can cover a wide variety of topics, and can address a variety of research questions at once. Because of the limited length of our survey, these benefits are limited. However, a common weakness of surveys is that people report things they think they do, not necessarily what they actually do, but because our survey is primarily trying to understand information about food pantries and people cannot incorrectly know what they know, as long as people do not choose to lie on the survey question 1, at a minimum, should be valid and reliable across the phases.

Sampling and recruitment

The target population of the study comprises patients attending the Good Neighbor Health Clinic, primarily low-income, underinsured, or uninsured individuals from the Upper Valley. Given the diverse nature of this population, including both regular and sporadic attendees, constructing a sampling frame is not feasible. Thus, a non-probability sampling approach is most suitable, specifically convenience sampling. This sampling technique aligns with the practicality of targeting individuals readily available within the clinic's waiting room. Further, conducting the study within the waiting room of the GNHC allows for easy access to the

intended demographic. By distributing surveys alongside routine medical forms during the patients' clinic visits, researchers can efficiently gather responses with minimal disruption to the clinic's operations.

There are distinct advantages and disadvantages associated with convenience sampling in this context. Its primary advantages include easy accessibility to the target population and the practical alignment with time and resource limitations. However, the approach comes with inherent weaknesses, such as the potential for sampling bias due to non-random selection, which may impact the representativeness of the collected data. Additionally, findings derived from convenience sampling may lack broad generalizability beyond the specific population attending the Good Neighbor Health Clinic, limiting the extrapolation of results to a wider context or demographic.

In terms of recruitment, integrating the survey with other clinic forms during patients' visits is essential. Patients visiting the clinic will be provided with a paper copy of the survey questions along with the routine medical forms issued by the clinic. This integration of the survey with other necessary paperwork during their visit is anticipated to promote higher participation rates. The survey, comprising only three questions, will be part of the patients' paperwork during phases one and two, set aside for later data collection. During phase three, these surveys will be handed to the doctor to review and discuss with the patients. Based on the patients' responses, the doctor will offer information or assistance accordingly. There is no set sample size for this survey, but it will be constrained by the time frames in our three-staged approach.

Data Interpretation

Because of the limited amount of data that can be collected from 3 survey questions, the data analysis relies on the 3 phase structure of the experiment and some external research. Phase 1 of the experiment acts as the control of the experiment, providing baseline behavioral data. Phase 2 is a secondary baseline. This phase will give the GNHC team information about how people respond to the opening of the GNHC food pantry without the introduction of targeted intervention. The GNHC team should expect to see an increase in individuals saying they are aware of GNHC's food pantry and that they visit it during this phase. Phase 3 will allow researchers to understand the impact of the intervention based on the changes from phase 2. Changes in the responses to question 1 and 2 as well as changes in food pantry food turnover rate between phases 1 and 2 will demonstrate how availability of food, as mediated by information, impacts the accessing of food in GNHC food pantry. GNHC staff can also reach out to other food clinics in the area to get an even more robust idea of how this experiment impacted participant behavior.

In addition to the sociological mechanisms the first two survey questions can measure across the three phases, the third bonus question about how long it takes participants to get to the nearest food pantry can provide GNHC with information about barriers their patients might face as well as providing a potential explanation if there are no significant changes in food pantry access by participants after phase 3 begins.

Unfortunately, because the three phases of this survey experiment happen at different times and there is no randomization, there is the potential for confounding variables to impact results and causality can not be assessed.

III. Ethical Considerations

When researching a stigmatized topic on a vulnerable population, there are some ethical issues that must be addressed as outlined by the Belmont Report. The patients at Good Neighbor Health Clinic are under- or uninsured, a financially precarious position that demands addressing respect for persons. GNHC staff should remain cognizant of the slight risk the survey information poses if patients want to seek out any or additional health insurance in the future by never putting a patient's name on a survey and keeping all responses confidential. Additionally, stigma around food insecurity and food assistance can make it uncomfortable or emotionally distressing for patients to discuss this issue. To avoid emotional harm, we attempted to phrase all survey questions in a neutral tone. When considering beneficence, this study is dedicated to bridging the gap between food availability and food accessibility to pinpoint the gaps distinct to the Upper Valley. Thus, the benefits to the patients that need these resources outweigh the minimal risks that may arise. Moreover, GNHC informed us that many of their patients read at a grade school level or below and that some are not comfortable writing at all. With this in mind, along with the minimal risk this survey poses to respondents, we created a short, simply phrased disclaimer rather than a consent form to inform respondents of our research. With regard to justice, those who participate in the experiment and are given handouts during the doctor intervention will be the people who demonstrate the largest gaps in information and will directly benefit from increased knowledge of resources.

IV. Feasibility and Significance

In designing this research, we considered and addressed multiple barriers to make the research feasible for the GNHC. These barriers included the low socioeconomic status, low literacy level, and the rural setting of the Upper Valley. To ensure practicality, our research design accounted for these barriers by implementing strategies such as minimizing stigma in the doctor intervention during phase two, using only three concise and easily understandable questions in the survey, and tailoring the study to be relevant to the Upper Valley and suitable for distribution at the GNHC. The significance of our research stems from insights gained during the literature review. It revealed that spatial disparities in rural areas disproportionately affect food access compared to urban areas. Concurrently, information barriers significantly hinder rural population's access compared to the urban population. Therefore, we believe that GNHC's integration of a pantry into the health clinic can bridge the gap for rural residents. By co-locating food resources with healthcare services, this approach addresses distance-related issues by accommodating individuals visiting the GNHC for health reasons and diminishes information barriers through the natural synergy between health and wellbeing-focused services. The importance of this research lies in its direct impact on improving health outcomes through increased access to nutritious food, specifically in the Upper Valley where large variations in socioeconomic status may lead to disparities in knowledge about food pantries. It is also important to note that there are gaps in the literature about the accessibility of food pantries in rural areas such as the Upper Valley and an even greater gap in how information mediates access to food. Therefore, the research will add to academic knowledge and potentially provide insights that other researchers can draw from when doing research in other rural communities. More practically, introducing more food pantries within existing institutions, such as health clinics, may attract greater usage, improving overall health. If our research substantiates this relationship, it may serve as evidence for future policy design around food assistance resources and help combat food insecurity in rural areas on a larger scale.

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Appendix

Figure 1, Phase 1 Survey

<p style="text-align: center;">Survey Disclaimer</p> <p><u>Study Summary:</u> These questions will help us learn about food pantry use in our area. You do not have to answer if you do not want to.</p> <p><u>How will your privacy be protected?</u> We will not put your name on the information you write here and we will not share it with anyone outside of Good Neighbor Health Clinic staff.</p> <p>We will not put your name on the information you write here and will not share it with anyone outside of our team.</p>
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Question 1: Which of the following food pantries have you heard of before?

- Upper Valley Haven – Hartford, VT
- LISTEN Food Pantry & Program Offices – Lebanon, NH
- Lighthouse Food Shelf – Sharon, VT
- Community Food Shelf – Woodstock, VT
- Community Resource Room and Food Pantry – Plainfield, NH
- Hartland Food Shelf – Hartland, VT
- Others: _____

Question 2: Which of the following food pantries have visited in the last 6 months?

- Upper Valley Haven – Hartford, VT
- LISTEN Food Pantry & Program Offices – Lebanon, NH
- Lighthouse Food Shelf – Sharon, VT
- Community Food Shelf – Woodstock, VT
- Community Resource Room and Food Pantry – Plainfield, NH
- Hartland Food Shelf – Hartland, VT
- Others: _____

Question 3: How long does it take you to get to the closest food pantry?

- 0-15 minutes
- 16-30 minutes
- 31-45 minutes
- 46-60 minutes
- 61-90 minutes
- 91-120 minutes
- over 2 hours

Figure 2, Phase 2 and 3 Survey

Survey Disclaimer

Study Summary: These questions will help us learn about food pantry use in our area. You do not have to answer if you do not want to.

How will your privacy be protected?

We will not put your name on the information you write here and we will not share it with anyone outside of Good Neighbor Health Clinic staff.

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- Lighthouse Food Shelf – Sharon, VT
- Community Food Shelf – Woodstock, VT
- Community Resource Room and Food Pantry – Plainfield, NH
- Hartland Food Shelf – Hartland, VT
- Good Neighbor Health Clinic Food Pantry – Hartford, VT
- Others: _____

Question 2: Which of the following food pantries have visited in the last 6 months?

- Upper Valley Haven – Hartford, VT
- LISTEN Food Pantry & Program Offices – Lebanon, NH
- Lighthouse Food Shelf – Sharon, VT
- Community Food Shelf – Woodstock, VT
- Community Resource Room and Food Pantry – Plainfield, NH
- Hartland Food Shelf – Hartland, VT
- Good Neighbor Health Clinic Food Pantry – Hartford, VT
- Others: _____

Question 3: How long does it take you to get to the closest food pantry?

- 0-15 minutes
- 16-30 minutes
- 31-45 minutes
- 46-60 minutes
- 61-90 minutes
- 91-120 minutes
- over 2 hours

Figure 3, Phase 3 Intervention Handout

Upper Valley Food Resources



Upper Valley Haven
Hartford, VT
(802) 295-6500



Community Food Shelf
Woodstock, VT
(802) 457-1185



Hartland Food Shelf
Hartland, VT
(802) 738-0383



LISTEN Food Pantry &
Program Offices
Lebanon, NH
(603) 448-4553



Community Resource
Room and Food Pantry
Plainfield, NH
(802) 457-1185



Good Neighbor Health
Clinic
Hartford, VT
(802) 295-1868

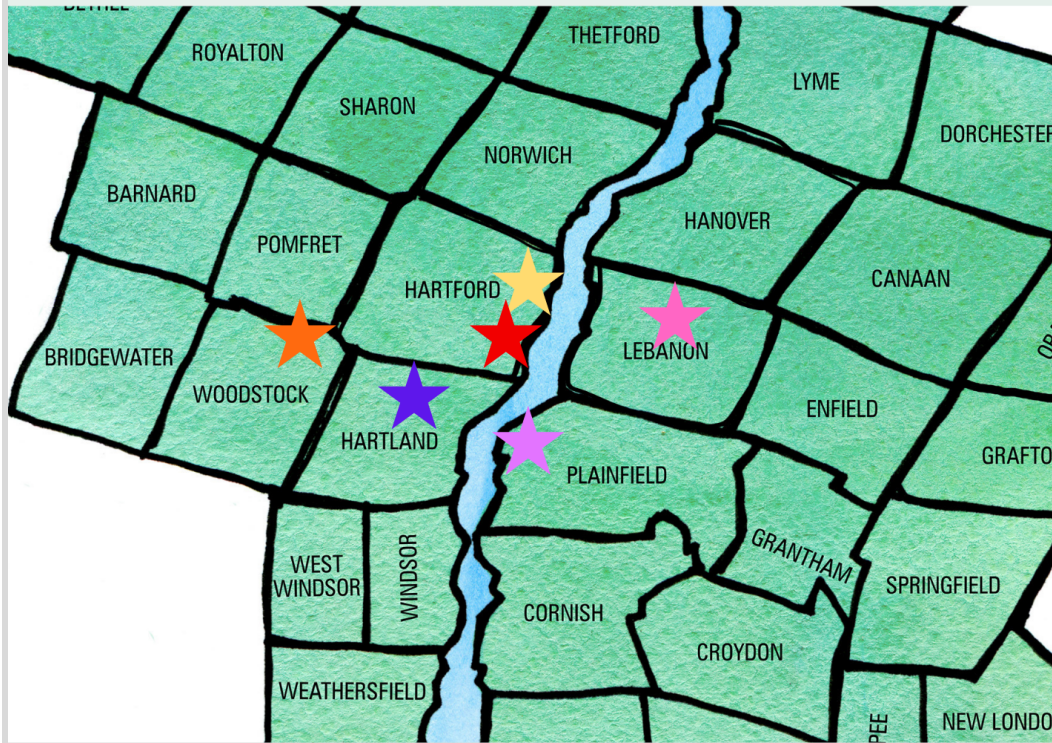


Figure 4, Conceptual Model

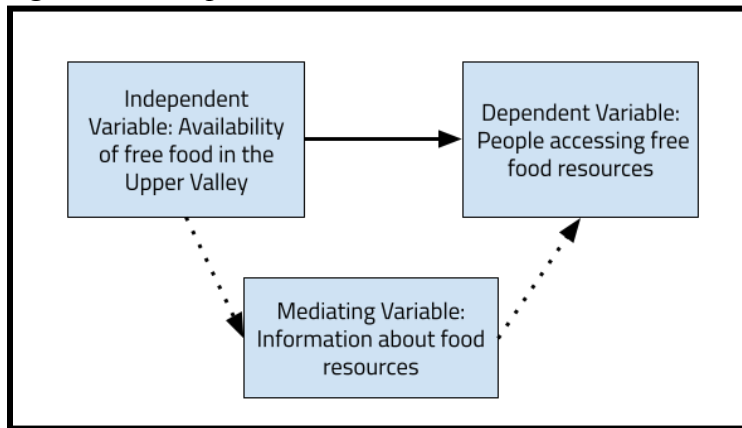


Figure 5, Experimental Instructions Sheet

Experiment Instructions

Phase 1: Months 1-3

- Give patients phase 1 survey with all other pre-appointment paperwork
- Collect all surveys and place them together so the data can be aggregated into a spreadsheet

Phase 2: Months 4-6

- Give patients phase 2 and 3 survey with all other pre-appointment paperwork
- Collect all surveys and place them together so the data can be aggregated into a spreadsheet

Phase 3: Months 7-9

- Give patients phase 2 and 3 survey with all other pre-appointment paperwork
- Have doctor look at survey during the check up
- Different patient responses will trigger different actions from the doctor
 - If patient is familiar with 2 or fewer food pantries, **give them the provided handout**
 - If patient is familiar with many food pantries (greater than 3) but does not go to any, have a brief conversation about if there are factors keeping them from accessing resources, provide handout if it would be helpful given the context