Greater Susquehanna Valley United Way
ENST 411: Food Insecurity
Final Report

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Abstract

Last year in ENST 411, a group of students uncovered a problem of "hidden hunger" within the population of the Greater Susquehanna Valley. This type of hunger is a result of food insecurity, which is defined by the USDA as "a household-level economic and social condition of limited or uncertain access to adequate food"[1]. We partnered with the The Greater Susquehanna Valley United Way nonprofit organization with the goal of creating practical tools that it can utilize to combat this community issue in Northumberland, Snyder, and Union Counties. The major components of this project include, a literature review of problems associated with food insecurity and research findings about food pantry best-practices, interviews with food pantry operators, a comprehensive online calendar with food pantry hours of operation and subsequent address lookup list, GIS map of food insecurity in the region and factors that contribute to the issue, identification of regions with both low concentrations of food pantries and high need for these services.. Ultimately, the goal of this project was to expand food availability across the Susquehanna Valley and lay the groundwork for eliminating a stigma around food subsidies by providing United Way with tools to address the problem.

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[1] Coleman-Jensen, A. Gregory, C., and Rabbitt, M. (2014). *Definitions of food security*. Retrieved from http://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/definitions-of-food-security.aspx

Introduction

For this project, we collaborated with The Greater Susquehanna Valley United Way non-profit organization. United Way is focused on serving the needs of residents in Northumberland, Snyder, and Union Counties. President & CEO of United Way, Joanne Troutman, observed through her work that food insecurity is a substantial issue in this region of central Pennsylvania. United Way has prioritized contributing factors to food insecurity including drug & alcohol abuse/addiction, at-risk-teens, access to public transportation, access to early childhood education, poverty, and diversity. As United Way attempts to invest in the community and address these concerns, it continues to uncover that food insecurity is an underlying community concern as well. Therefore, United Way partnered with Bucknell University students from the ENST 411 class last year to further explore the problem of food insecurity. The research completed by this group of students affirmed that food insecurity is a prevalent issue in the counties United Way aims to serve. Moreover, the research uncovered the problem of "hidden hunger" among residents, a lack of food banks in the region, and a stigma associated with welfare such as affordable food programs and services.

United Way continues to develop the tools and means needed to adequately address food insecurity associated with the individuals they are attempting to assist. Thus, we aimed to build off of the research completed by last years ENST 411 students to design practical solutions that United Way could utilize to aid people in need of affordable food. Through our partnership with United Way we aimed to jumpstart efforts to solve this troubling community concern.

Community We Served

Our project focused on serving food insecure residents across Union, Snyder, and

Northumberland counties in Pennsylvania because these are the areas that the Greater

Susquehanna Valley United Way works to assist. However, there was initially a more specific

goal of identifying a community with the greatest food insecurity needs from GIS mapping that

would then be targeted as the location for ap{ 'hqqf 'r cpv{ 'pggf gf 'kp'yj g'eqo o wpkv{. While

in the process of pinpointing this location, United Way cpf 'c'r ct{pgt 'ku'eqpukfgtkpi a former middle school

building on Fairmount Avenue in Snyder County. President of United Way, Joanne Troutman,

spearheaded the purchase because she believes that this facility has the ideal physical space and

utilities to successfully transform it into the robust hco km{ center that United Way has been

envisioning. This center eqwrf 'r quukdn{ include a food pantry and fresh food pharmacy;

therefore, the food pantry best-practice conclusions that we have determined from our literature

review and interviews will be directly applicable to this center. Thus, this portion of the project

will have the most significant impact on the residents of Snyder county who will be the primary

benefactors of the new facility. Nevertheless, universal issues associated with food insecurity

that we identified in the literature review, GIS map and aimed to address with the calendar will

still be useful in solving food insecurity more broadly across Union, Snyder and Northumberland

counties as United Way continues to combat the issue.

Conceptual Framework

Food insecurity in the Susquehanna Valley region of Pennsylvania is an issue faced by

many individuals and families. It is, however, not an isolated concern that can be addressed and

solved on its own. Food insecurity is often viewed as the result of a lack of production or availability of food, or the inability of residents to afford food that is available. However, food insecurity is a challenge comprised of many factors that take shape in different forms that all relate to accessibility or distribution of food, instead of availability alone. It is sometimes difficult to understand the link between food insecurity and its underlying factors. For example, as concluded by the previous ENST 411 student researchers that worked with United Way, one limiting factor for access to food for many residents of Susquehanna Valley is transportation to and from locations where food is distributed, rather than an actual lack of available food. Therefore, for this project, it was necessary to identify the wide-range of factors that contribute to food insecurity in order to effectively treat the sources of the problem.

Methods

The methods employed in this project are both qualitative and quantitative in order to provide robust information and tools to be utilized by United Way to address the complex issue of food insecurity in Union, Snyder, and Northumberland counties.

We employed the following methods to achieve the stated goals of this project:

1. Conducted a literature review of universal issues associated with food insecurity, food pantry best-practices and food insecurity related specifically to rural regions

2. Conducted interviews with food pantry operators

3. Created a GIS map of factors that contribute to hidden hunger

4. Started a Bucknell item drive

5. Created a comprehensive calendar of food pantry operational hours and locations.

Literature Review

Introduction

Throughout the scope of this project, we believed it would be valuable to conduct research about issues related to food insecurity in general and investigate more specifically how food pantries can best address citizens' hunger needs. As we did research, we attempted to understand the broader problems our project has attempted to address and discover more narrow information about food pantry best-practices that United Way can apply to their own hqqf r cpv{. Moreover, we sought out sources that not only relate to food insecurity universally, but also to food insecurity in rural areas in order to have a more direct correlation to this project. While this research was in part conducted to provide our group members with background knowledge about food insecurity, we ultimately hope that United Way finds some of these sources and research findings valuable to the organization in its effort to address food insecurity in central Pennsylvania.

Coates, Jennifer , Edward Frongillo, Beatrice Rogers, Patrick Webb, Parke Wilde, and Houser
   Houser. "Commonalities in the experience of household food insecurity across cultures: what are measures missing?" (2006).

This paper hypothesizes that there is a common "core" to the household food insecurity experience that goes beyond insufficient food quantity and transcends culture. The paper employs an exploratory approach to identify cross-cultural commonalities of the food insecurity

experience as captured in 22 scales and related ethnographies derived from 15 different

countries. The analysis confirmed that insufficient food quantity, inadequate food quality, and

uncertainty about access to food were a significant part of the food insecurity experience in all

sampled cultures. Moreover, concerns about social unacceptability emerged in all ethnographic

accounts as well. The paper's finding that there are domains that are common to all or most

countries measures suggests that it is no longer necessary to develop food insecurity scales

entirely ''from the ground-up.'' This evidence also suggests, though, that the US HFSSM (and

therefore translations of the US HFSSM) does not adequately represent all potentially important

domains and subdomains of the food insecurity experience. Since this study has universal

findings, we can be confident that these food insecurity experiences apply to people in the

Greater Susquehanna Valley.

Daponte, Beth Osborne, Gordon H. Lewis, Seth Sanders, and Lowell Taylor. "Food pantry use

      among low-income households in Allegheny County, Pennsylvania." *Journal of Nutrition*

      Education 30, no. 1 (1998): 50-57.

This article offers data on a Pennsylvania county outside of the geographical range of our

project. It is an examination of who uses food pantry services and who does not, as well as an

examination of who is likely to be a repeat user of a food pantry, which is a theme we are trying

to determine through our interviews. The research explained in this article, once again, correlates

food insecurity to low-income regions of Pennsylvania. It utilizes face-to-face and phone call

interviews with patrons of food pantries. These interviews revealed that patrons "report difficulty

adequately feeding their families, and pantry use appears to be evolving into a chronic issue

rather than one of short-term emergency." Additionally, this research interestingly reveals the

average length that one is likely to be a repeat patron of a food service location, which is

approximately two years. Daponte et. al highlight, "pantry use is highest among

African-American households, single-headed households with children, and households with low

levels of education. Regression analysis indicates, however, that pantry use is higher among

these groups only because these households are generally the poorest," which is, again, an echo

of ENST 411 research that revealed low-income regions are at the highest risk for food

insecurity. Furthermore, this research's findings coincided with the conclusions of the ENST 411

group last year that lack of vehicle access is correlated to limited access to food pantries.

Fiese, Barbara H., Brenda Davis Koester, and Elaine Waxman. "Balancing Household Needs:

     The Non-food Needs of Food Pantry Clients and Their Implications for Program

     Planning."*Journal of Family and Economic Issues*35, no. 3 (2013): 423-31.

Fiese et. al. analyze the need for food pantries to provide non-food items to low-income patrons.

While affordable food availability continues to be an ongoing problem that communities are

attempting to address, it is so often ignored that these same people cannot afford basic household

needs. The article identified 12 of the most needed non-food items as soap, toilet paper, hygiene

products, toothpaste, diapers, laundry detergent, cleaning supplies, paper plates, cookware toys

and batteries. Fiese et. al. also noted that in order to cope with a lack of these items, individuals

will dilute products such as soap and laundry detergent, replace items such as toothpaste with

baking soda or even steal products such as toilet paper from public facilities. The uncertainty of not having enough of these essential products takes a deep physiological toll on people. Throughout our project, we wanted to focus on how to maintain dignity for those seeking food pantry services. One way to do this is to provide non-food items at food pantries so that patrons do not have to face further stress and ostracization from not being able to afford other necessities.

Frank Schilbach, Heather Schofield, and Sendhil Mullainathan The Psychological Lives of the

      Poor American Economic Review: Papers & Proceedings 2016, 106(5): 435–440

      http://dx.doi.org/10.1257/aer.p20161101

Adequate nutrition is found to have an effect on a person's natural bandwidth. Bandwidth, in this context, refers to a person's second system decision-making process, which is slower and more deliberate than a person's first system decision-making process, which is intuitive, effortless, and more prone to mistakes. When people are stressed they have less bandwidth and therefore are more likely to rely on their System 1 decision-making skills and are more likely to make flawed decisions. A study done by Schofield measured the effect of inadequate nutrition to measure bandwidth. The test found that those with lower and insufficient calorie intakes did 12 percent more poorly than those who were adequately nourished. Schofield also found that malnourished people were more likely, when given the choice between carrying a lighter load today or a heavier load tomorrow with both trips receiving the pay tomorrow, to carry the lighter load today with delayed payment. This suggests a meaningful reduction in discount rates for effort in their

professional activities. Overall, this study shows that malnutrition can affect people's economic

decisions thus perpetuating a continued cycle of poverty and malnutrition. Hopefully then, by

increasing access to food in Union Snyder and Northumberland counties, United Way can

alleviate some the stress involved in food insecurity that leads to malnutrition.

Hamelin, Anne-Marie, Micheline Beaudry, and Jean-Pierre Habicht. "Characterization of

household food insecurity in Quebec: food and feelings." *Social science & medicine* 54,

no. 1 (2002): 119-132.

This article incorporates information from the perspective of households and families that

experience food insecurity and offers a more subjective view of the issue. Interviews with those

who experience food insecurity in "low-income households from urban and rural areas in and

around Québec City, Canada" were a major qualitative component of this research. The two

main points of this research are listed as follows:

    1) its core characteristics: a lack of food encompassing the shortage of food, the

unsuitability of both food and diet and a preoccupation with continuity in access to enough food;

and a lack of control of households over their food situation

    2) a related set of potential reactions: socio-familial perturbations, hunger and physical

impairment, and psychological suffering.

The first point is an echo of our research as it aims to define food insecurity and address its main

causes, but the second provides an opportunity to connect our research with broader topics, such

as the psychological toll that families and individuals experience when faced with food

insecurity. This type of connection is important to make in order to preserve the dignity of those who face insecurity by no fault of their own, and to acknowledge that this is a humanitarian issue and not just a research topic. This emphasizes the significance of our research in that we are addressing a livelihood and possibly dire subject in terms of human health.

Kuhls, J.p., D.l. Habash, J.e. Clutter, C.k. Spees, and K.n. Wolf. "The Ideal Food Pantry as Designed by Food Pantry Customers."*Journal of the Academy of Nutrition and Dietetics*112, no. 9 (2012).

Kuhls et. al. highlight the problems with standardized food/box pantry style food distribution. After conducting a 64 food pantry client survey, they concluded that food pantries are not adequately addressing the wants and needs of the patrons they are serving. Moreover, they found that food pantry clients were extremely grateful to be asked about their food preference since they usually do not get a voice in the food distribution process. Patrons overwhelming agreed on two main preferences. The first is for food pantries to provide more fresh food rather than canned/boxed food. Second, patrons want more choice in what food they were receiving from the food pantry. Overall, Kuhls et. al. found that food pantry clients' ideal facility design is similar to a grocery store. Again food pantries in the greater Susquehanna area as well as United way can take note of these patron preferences and attempt to adopt them into their mode of operation.

Mader, Erin, and Heidi Busse. "Hungry in the heartland: using community food systems as a

strategy to reduce rural food deserts." Journal of Hunger & Environmental Nutrition 6.1

(2011): 45-53.

This article details the specific struggles that rural communities face. The authors argue that "in rural communities, food access, availability and pricing hinder residents' abilities to purchase fresh produce and healthy food options". The authors suggest that the solution to the problem is to "design community-based food systems that are culturally appropriate, locally driven, and meaningful to local stakeholders. With a locally driven, participatory approach to changing food environments, true barriers to food access can be better understood and effective strategies designed". Sustainable changes can be made at the individual, community and policy levels to improve nutrition and create healthier food options in rural areas with limited access. From this article, we can conclude that the integrating community gardens and Amish communities into the solution for food insecurity in central Pennsylvania area may be successful as locally driven initiatives.

Pothukuchi, Kameshwari. "Community Food Assessment: A First Step in Planning for

Community Food Security."*Journal of Planning Education and Research*23, no. 4

(2004): 356-77.

This source was also extremely useful because it was a study of how to best plan for implementing and identifying best local practices. Pothukuchi defines "community food security" as "a situation in which all community residents obtain a safe, culturally acceptable,

nutritionally adequate diet through a sustainable food system that also maximizes community

self-reliance and social justice." I thought this quote was useful to our project because it

contained elements of dignity, social justice, and developing a long- term solution that ends with

self-reliance, not just an immediate hunger relief. Pothukuchi also identifies several streams of

food production and distribution and the problems these often face in being translated to

community-level initiatives. Finally, Pothukuchi uses several community assessments as well as

geospatial analyses to identify that the most effective methods for implementing a solution

include examining and documenting community assets as a method for community planning, and

including community visioning throughout the process. Pothukuchi's research methods of

small-scale analysis, ground up approach and asset-based community management point of view

are valuable since it parallels how United Way aims to address food insecurity

Quandt, Sara, and Pamela Rao. "Hunger and Food Security Among Older Adults in a Rural

Community." *Human Organization* 58, no. 1 (1999): 28-35.

doi:10.17730/humo.58.1.q28k2506ur45215h.

While government policies over the last several decades have addressed issues of nutrition for

the elderly, elders still face problems of under nutrition and food insecurity. This study assesses

the level of food insecurity and identifies predictors among 192 elders 65 years and older in rural

Appalachia. Twenty-four percent of elders interviewed report one or more food insecurity

predictor which include health, social, and material barriers. On logistic regression, taking three

or more prescription drugs, eating alone, and income that is less than 150% of the poverty level

are the strongest predictors of food insecurity. This study is significant to note because we received data that many patrons served at food pantries in the Greater Susquehanna Valley region are elders. It is important to take into account how different demographics affect vulnerability to food insecurity. Therefore, when addressing food insecurity issue in the central Pennsylvania region it will be important to take into consideration particular unique difficulties that elders come across in accessing food and attempt to remediate them.

Schafft, Kai A., Eric B. Jensen, and C. Clare Hinrichs. "Food Deserts and Overweight

Schoolchildren: Evidence from Pennsylvania*."*Rural Sociology*74, no. 2 (2009): 153-77.

Schafft et. al. discuss the correlation between childhood obesity and food deserts in rural regions of Pennsylvania. Like our project, this research utilizes Geographic Information System (GIS) techniques to identify food desert areas. This research also parallels the work completed in our project by dividing food desert areas by school district. Schafft et. al. utilize public school students to "to determine the extent to which the percentage of a school district's population residing within a food desert is positively associated with increased incidence of child overweight among students within the district." This source provides an opportunity to open our project to future research that links food desserts or food insecure regions to health problems such as obesity, as well as other health problems. Additionally, this article discusses how obesity rates within food deserts are more common within areas that are "structurally and economically disadvantaged." This relates to last year's ENST 411 research when they found that transportation, or lack there of in poorer districts, was a limiting factor to proper nutrition.

Moreover, the findings of this research demonstrate the importance of providing low-cost or free nutritional food through means such as food pantries.

Thomas, Jeff. "How To Run A Food Pantry." End Hunger in America. 2015.

https://www.endhungerinamerica.org/publications/how-to-run-a-food-pantry/.

Thomas provides context into the significance of providing people with adequate access to food. He outlines how lack of affordable food can lead to various problems within communities, families and individuals themselves. Thomas concludes that food drives, food rescue, purchasing and food banks are the three main ways that food pantries receive food. Moreover, Thomas highlights the importance of choosing a food pantry facility in which the food can be adequately stored and preserved. One significant problem with food pantries are their operating hours, so he recommends that food pantries make their hours of operation during non-business hours since most individuals in need of emergency food services work during these times. There are two major distribution models for food pantries: standardized food/box pantry and client choice pantry. Thomas suggests that food pantries adopt some hybrid between the two. Overall, Thomas thinks that citizens, especially those working in the emergency food industry, should communicate their need for affordable food access to elected officials in an attempt to get more involvement from those in power to facilitate major change. These suggestions are important to note and compare with the qualitative results we get from interviews. Perhaps the food pantries we interview and the new center that United Way gpxlukqpu can avoid encountering food pantry operation problems by adopting some of these best practices.

Walker, Renee E., Christopher R. Keane, and Jessica G. Burke. "Disparities and access to healthy

food in the United States: A review of food deserts literature." Health & place 16.5 (2010): 876-884.

This article discusses the role the local food environment plays in residents' ability to purchase affordable, healthy and nutritious foods and highlights the role that food deserts play in malnutrition and hunger. The article discusses how the definition of a food desert has changed over time. The original definition was coined in the early 1990's by a resident of a public housing sector in Scotland and has since developed to describe the lack of access to nutritious food due to availability, affordability, distance, or limited places to shop in a given area, urban or rural. An important argument from this article is that "the expansion of these supermarkets have forced the smaller, independent, neighborhood grocery stores to close, thereby creating areas where affordable, varied food is accessible to those who have access to a car, or those able to pay public transportation costs" (Guy et al., 2004). This is particularly pertinent to central PA, as many of the rural areas have become depressed after the collapse of the coal industry.

Walker, Renee E., et al. "Factors influencing food buying practices in residents of a low-income

food desert and a low-income food oasis." Journal of Mixed Methods Research 5.3 (2011): 247-267.

This article evaluates previous research on food access and nutrition. The authors found in their research that proximity to a supermarket influences access to healthy foods. However, the research also revealed a gap in the information about factors which influence food buying practices within areas with limited supermarket access. Thus, their study identifies these factors and explores how they are related and influence healthy eating. In the results section, the authors highlight the importance of the cost of food, individual income, and budgeting as the most salient factors for influencing food buying practices. Overall, there are a variety of factors that play into food buying practices and lack of access to good foods.

Conclusions

Universal Findings Related to Food Insecurity:

1. There are a few major things that all, or at least most, food insecure individuals and communities face across regions and cultures; therefore, some solutions to food insecurity can be applied in a top-down approach since they do not need to be specifically tailored. These universal problems include, addressing low quantity and quality of affordable food and combating psychological problems associated with people who have uncertain access to food.

2. Regions with high food insecurity overlap with low-income and low-vehicle access areas.

3. Malnutrition affects individuals' decision-making abilities, especially economic decisions; thus, food insecurity perpetuates the cycle of poverty.

4. There is a correlation between areas with higher rates of childhood obesity and food insecure regions.

5. There exists a need to raise awareness about food insecurity and frame it as a humanitarian issue in order to maintain dignity for those who are seeking assistance.

Findings Related to Food Insecurity in Rural Areas:

1. In rural communities in particular, there is an increased importance for addressing food insecurity issues at a local level. From this finding we can presume that community gardens and the Amish farming community may be especially essential to solving food insecurity in Union, Snyder and Northumberland counties as local means to combat the problem.

2. It is important to recognize the demographic food insecure people in rural areas because certain groups, such as elders, may be more at-risk than others.

3. The rise of large corporate grocery stores has forced many local grocery stores out of business, which overall decreases access to food, especially in rural regions where these larger stores tend to be more spread out.

Food Pantry Best-Practices:

1. Food pantries ought to provide non-food items as well because individuals who cannot afford food likely also cannot afford non-food necessities.

2. Patrons prefer to have the ability to choose what food they receive at food pantries, rather than being given a set list of items. The freedom to choose which food they receive helps maintain a sense of dignity amongst patrons because it provides them with a sense of autonomy in an otherwise dependent relationship with the food pantry.

3. Food pantries should attempt to have a reliable and sustainable stream of food entering the facility so that supplies do not run low.

4. The operating hours of food pantries should be catered to the needs to working individuals and thus remain open during non-business hours.

Interviews

One of the primary methods United Way requested we employ were interviews with food pantry operators in order to uncover information that is not publicly known or available except through information gathered in the field. Before starting the interviews we received approval from the Institutional Review Board at Bucknell University (see Appendix J) to make sure that our project design was ethical and created a document to document approval from the people that we interviewed (for the ones that we conducted over the phone, we received verbal consent) [See Appendix K]. We conducted 4 interviews with food pantry operators, including the Salvation Army of Milton, Neighbors Helping Neighbors in Watsontown, Oak Groves United Methodist Church in Shamokin, Loaves and Fishes in Selinsgrove (part of the Union-Snyder Community Action Agency who run four food pantries). The full transcripts for these interviews can be found in the Appendix E. We developed and grouped interview questions into 6 different categories: background information, information about food sources, information about food distribution, information about pantry staffing, information about patrons, and personal questions about how food pantry operators perceive the success of their pantries and how they view the problem of food insecurity in general. We have provided some sample questions below, and the complete list of interview questions can be found in Appendix D.

1. What are your hours of operation?

2. What are your busiest hours of operation?

3. How many patrons do you typically serve in those hours?

4. Where do you get your food from?

5. What food do you provide?

6. Would you be willing to keep or share you inventory lists?

7. Do you receive funding for the food? Do you take donations?

8. Do you ask for financial credentials before giving out food?

9. How do people get to the food bank? Do most people walk, bike, or drive? Do you deliver?

10. What towns does your pantry primarily serve? Would you be willing to share data on where your patrons come from?

We developed these categories in the hopes that each would provide a different kind of information. Background information was largely just double-checking the accuracy of operating hours for the purposes of making an accurate calendar. Questions aimed at food sources and food distribution were utilized to mainly gauge restrictions on the food pantry. Different types of food pantries (privately versus publicly funded) have different stipulations about what kinds of food they can accept, and what credentials individuals need to provide in order to receive food allocations. The next category, focused on staffing, was employed to understand further stresses on the pantry, especially in understanding if they have problems finding or maintaining volunteer staff and how this affects their overall operation or operational hours. Next, we asked questions

about the patrons themselves. The primary goal of this grouping of questions was to understand where patrons are coming from, where they are being served, and how they are getting there. We were actually able to get a list of patron zip codes for four different pantries (see Appendix C), which proved to be extremely useful information in our GIS mapping of the issue. Finally, we asked questions about personal perception. Here, we were interested in gauging ideas for what people who work with food insecurity everyday think about the problem, whats trends they have noticed, and what solutions they think would be best. We believed that the volunteers and operators of food pantries could offer invaluable insight into the problem and solutions for food insecurity, and could speak from personal experience about what are and aren't the best practices for combating it. Furthermore, the personal aspect of these interviews added an integral dimension of compassion to our project for both the work that food pantry operators do and the people they serve. The opportunity to observe and be a part of these community spaces expanded our personal understanding of the complicated network and processes involved in combating local hunger. Finally, we went through these interviews, and identified several common themes throughout them. We pulled these trends out and expanded upon them, as can be seen in the "Results" section of this paper.

GIS Mapping

In order to understand the problems of hunger and poverty on a geospatial level, we created, with the help of Janine Glathar, a GIS map of different layers representing population density, poverty levels, and the physical locations of food pantries in the area. Margaret Benson, Bucknell University Class of 2015, had already created a map containing much of this

information. Her map, named "SnyderUnionNorthumberland (SUN) Food Landscape 2015" contained layers that depicted census tract populations, low income census tracts, information about vehicle access, census tracts that are both low income and low vehicle access, the locations of food bank services, SNAP retailers, farmers markets, and county assistance centers, as well as containing layers that outlined each county and the Susquehanna River.

We double checked the metadata in the existing layers to ensure that all information was correct, and then added four layers of our own (Janine Glathar was able to give us access to all of the metadata layers for Margaret Benson's map, and was able to make us owners of a duplicate version that we could manipulate). The first layer we added was an additional layer on food pantry services, as provided by the United Way group, (see Appendix B for the full list). Many of these service locations were not on previous layers. Since United Way was interested in working with food pantries and emergency food service locations rather than hot meal programs and were primarily concerned with the pantries we were given, we thought it would be important to have all of these specific locations on the map. Therefore, we created a layer of updated food pantry addresses.

The next layer we added was a layer depicting locations of all grocery stores in the area. To create this, we used the metadata from a pre-existing Margaret Benson map layer, and simply cross-checked the addresses on the existing grocery stores. Furthermore, we used a GoogleEarth search engine to check for grocery stores in each of the towns and municipalities in the Snyder-Union-Northumberland tri-county region. We chose to use GoogleEarth technology to update Margaret Benson's work because we found that even the newest records in government databases were missing information. For example, almost no governmental source of metadata

included the New Giant that is located right outside Lewisburg on Rt. 15. Therefore, we decided GoogleEarth would give us the most accurate results from what we knew to be true as well as what existing records contained. Therefore, we checked and updated for new grocery store locations and added them to the map.

Next, we received patron information from one of the interviews, indicating where patrons are coming from and where they are being served. Rather than link this information to a specific food pantry, we manipulated the data into two different levels: one of which shows the number of individuals served per town, and the other shows the municipalities in which each town falls, and the number of patrons served by municipality (see Appendix C). We then coded each town to visually represent where most individuals are being served, with towns that have a higher volume of patrons served appearing larger on the map. We also had this data broken down by number of households served, number of children served, number of adults served, and number of senior citizens served. We decided to make the map layer based on the total number of individuals served in each town, and created graphs for all the rest of the sub-categories. We decided to create graphs instead of making different map layers because we thought the map layers would have appeared redundant. Since towns that served the most individuals generally also served the most adults, children, and senior citizens, changes between these towns' sizes on a map layer would have been subtle and difficult to decipher. Therefore, we kept all of this information in a digital excel format, and made graphical representations of the data instead (see Appendix B and C).

Finally, we broke this information down into an ArcGIS StoryMap, a tool similar to a powerpoint for ArcGIS programs. The storymap (shown in its entirety in the Appendix F) is an

electronic breakdown of the map layers with a general brief description of the importance of the layers, and what the information on the map is telling us. This resource has been shared with Joanne and the United Way Group and is also linked to our updated version of Margaret Benson's original map (instructions on how to access these maps provided in Appendix A). In this way, Joanne and her community partners will be able to access the map and manipulate the layers themselves as well as receiving a broken down version of the map layers and some of our preliminary conclusions about areas of highest need.

This map will prove to be an essential tool for Greater Susquehanna Valley United Way as they continue to address local issues of poverty because it will allow them to see where need is in the region, and to see where resources are and where they aren't. Understanding the geography of poverty and hunger in relation to existing community assets helps both our group and United Way understand pathways for redistribution of food in the area. The map layers clearly expose some of the underlying factors of hunger, such as transportation and poverty, that we had seen in previous 411 research, and which can be furthered in the future.

Calendar

Our project included the creation of a calendar showing which food pantries are open throughout the week and the times that they are open (see Appendix G) to be displayed on United Way's website, with the possibility of being printed and distributed to patrons. This aspect of our project was important because it was one element that could directly affect patrons in an everyday setting. While the GIS map, literature review, and interviews will provide United Way with valuable information that can later be applied to the patrons, the calendar and address

lookup list have a more immediate impact on those suffering from food insecurity in central PA by giving them a resource to find relief from hunger. It provides community members with information on where they can go to receive food each day and the times in which these food pantries are open, thus allowing viewers to plan according to their work or home life schedules. This tool will give the community information about their daily options, which could make the difference in being able to receive food for some community members.

The calendar is organized by the first, second, third, and fourth week of every month, with specific hours given for when that location is open on that specific day. If a pantry location is open the first Monday and Wednesday of every month, for example, it will appear only on the first Monday and Wednesday time slot of week one. This indicates that the pantry will not be open the other three weeks of the month, but will re-open the first Monday and Wednesday of the following month. The calendar was organized in this way because we found, through interviews, that a large percentage of patrons struggle to find food pantry locations that are open past their work hours, as they cannot leave work to pick up food without losing hours or pay. We hope patrons will be able to utilize this map by using it alongside their work and home life calendars to identify what times they have free to visit a food service location.

Following this, we also created a lookup list tool for patrons to use alongside the calendar. Once a patron has identified when they can visit a pantry based on the hours the patron is free and the pantry is open, the patron can then use the address lookup tool to find the address of the service location. The lookup list provides the street address as well as the county, because we also found through interviews that many pantries only serve patrons that live within their county or school district, so this is limiting to patrons. If a patron finds that a food pantry is

outside their county, they may need to return to the calendar and locate another pantry that has hours that fit their schedule that is within their county. These tools are designed to help patrons become more familiar with food service locations in their county and surrounding region, as well as their operational hours so that patrons may more readily integrate the pantry's hours into their own schedules. These tools were also designed to work in tandem with the GIS story map in the hope that in the future this story map will be available to patrons to help visually show on a map where food pantries are located.

Bucknell Targeted Item Drive

Finally, we recognized a need to start an item drive on Bucknell's campus. One main motivation for launching an item drive was a desire to spark awareness on campus about the various volunteer opportunities that are present outside of Lewisburg. Throughout the interview process, we observed that Lewisburg, in general, receives much more help than the surrounding areas, even though some towns, such as Milton are only 10 minutes away. We wanted to not only make Bucknell Students aware of the extent of the problems of hunger and food insecurity in central Pennsylvania, but also to inform the campus about all the different things United Way is doing, and how students can make a difference. To accomplish this, we created a fact sheet (see Appendix I) citing food insecurity facts from the Central Pennsylvania Food Bank in Williamsport and included the number to the Union-Snyder Action Committee for interested students to become involved with volunteering. To collect items for the drive, we distributed boxes in three locations around campus: the Elaine Langone Center (ELC) outside of the Bison, in the Women's Resource Center, and outside of the Office of Civic Engagement in Bertrand

library. We decided to make the drive a targeted item drive rather than just food drive because many pantry operators expressed the necessity for other non-perishables, such as personal toiletries in addition to food. We created a flyer (see Appendix H) with all of this information, attached it to the boxes themselves, and forwarded it in our email exchanges to get the Greek community and the rest of campus involved with our drive.

Furthermore, we chose to conduct an item drive because of a personal connection we developed to the topic of study. It felt disingenuous to study problems of food insecurity, take personal time away from food pantry operators through interviews and understand the complexity of the issue and then not try to help or give back in any way. Therefore, we distributed the items collected from the drive to the volunteers we interviewed as a way of showing our gratitude for their involvement in the process. While we were not able to get through to the on-campus student-led United Way group, we hope the next ENST 411 class will be able to maintain the strong relationship between Bucknell and United Way and continue to improve student involvement in local initiatives.

Results

Geospatial Analysis and Food Desert Areas

In our geospatial analysis of the aforementioned tri-county region, there were three prominent areas where income and vehicle access are very low, and very few food resources exist. These circled areas can be better seen "highest need" slides of the StoryMap (see in Appendix G). Two areas were located in the western regions of Union and Snyder county and another was located in lower Northumberland county. We classified these areas as being the

"highest need" areas because they had the lowest vehicle access and income, and there are almost no food resources for stretches of about 20 or more miles. While last year's 411 class was able to identify the problem of "hidden hunger" and how it related to problems in access to transportation, we have expanded on this research to reveal where the problems may be the most acute. Our storymap, not only highlights these regions, but also layers them as compared to various types of food resources including SNAP retailers, grocery stores, farmers markets, county assistance centers, and food pantry locations.

We believe that a meals on wheels program could be a good solution to this problem, as problems in transportation are a huge factor in food insecurity in central Pennsylvania. Conceivably a future addition to the map could be to map the circumferences, or travel zones for each Meals on Wheels program. We did not focus as much on these types of services, but perhaps further work could go into understanding if Meals on Wheels programs only travel certain distances, where they are permanently located, and if their presence would make a difference to our "highest need" areas.

Trends from the Interviews

Federal Funding versus Charity

One of the main trends that we saw in how food pantries were operated was whether it was federally funded or if it was run by charities. Food pantries that receive grants from the government have stricter guidelines for what foods that they can give to recipients and who can benefit from the food pantry's services. The Feds runs the Emergency Food Assistance Program

(TEFAP) that help to supplement the diets of low-income Americans, including the elderly, by providing them with emergency food and nutrition assistance at no cost. The amount of food or grants for food that each State receives out of the total amount of assistance that is given is based on the number of unemployed people and the number of people with incomes under the poverty line. The State then allocates the funds, usually to food pantries or soup kitchens, to distribute the food. Funds are also given to other types of local organizations, such as community action agencies to distribute food as well.

Local agencies are to give people forms that they fill out and bring back to the agency. At that point, the agencies give those forms back to the government who either verifies or denies the applicant assistance. Out of the four food pantries that we spoke to that receive funding, no one has ever had to be denied. The eligibility requirements for recipients to receive food assistance include automatic qualification if already in one of these programs: Temporary Assistance to Needy Families (TANF), Supplemental Nutrition Assistance Program (SNAP), Supplemental Security Income (SSI), Women, Infants and Children (WIC) Program, MEDICAID or have a total household income that does not exceed income eligibility guidelines (185%) of federal poverty guidelines. Recipients must show proof such as a pay stub, social security check, or some sort of program identification.[2]

The funded food pantries place orders at grocers that are usually specified by the government. All of the food pantries that we spoke with did not have facilities to store fresh foods so nonperishable items are bought and given to recipients. However, at Neighbors Helping Neighbors, the director spoke about how some of the farmers in the area will bring excess fresh

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[2] "The Emergency Food Assistance Program(TEFAP)." Food and Nutrition Service. Accessed May 10, 2017. https://www.fns.usda.gov/tefap/frequently-asked-questions.

produce to them to give to people who came to the pantry and at Five Barley Loaves, they also take produce from community gardens saying that often it is some of the only fresh produce that the people get. The operators at Five Barley Loaves also create a uniform "menu" to give to each recipient generally consisting of a fruit, a vegetable, pasta, and protein. They try their best to be as uniform as possible because "you'd be surprised how people compare what they receive". The funded food pantries also receive donations from the public, which generally include any non-perishable regardless of if it is 'healthy'.

The food pantries that rely on private donations are more susceptible to running out of food to serve. The Salvation Army is well run and well known and receives donations from people and businesses. Five days a week they hold a bread pantry that serves food from Panera, Chipotle, Starbucks, and Giant who all donate leftover food (mostly bread and pastries) to the Harvest Program. They also receive damaged palettes from Weis. The only stipulations that they have for the donations that they receive are that they are non-perishable because there is no room to store perishable items. They also try to avoid "nonsense" items, which are items that can't be made into a meal. The Oak Grove United Methodist Church Food Panty also runs on only donations. They receive nonperishable goods from community members who donate them and also money that is donated. The operator expressed that sometimes food does run low at their pantry, but they try their best to keep it stocked. They save money for the food pantry so that when the pantry is running low, they can buy more food.

Food Trends

In different regions of the country, there are different taste preferences for food. In central Pennsylvania, this is no different. Some items that we are preferred in this region are cabbage, apple butter, and beans. Donations that are most desired by food pantries are non-perishable items that are rich in protein, including peanut butter, canned tuna and chicken, almonds, and shelf stable milks. Also, single serve Macaroni and Cheese, shelf stable 100% fruit juice, and individual fruit cups are in high demand.[3] One problem facing many food pantries are that certain items tend to be popular and in high demand thus the pantries perpetually are in low supply of that item. The one item that almost all of the pantries mentioned as a very popular item was peanut butter.

While a few of the pantries do take fresh food, they generally stay away from it due to the lack of space available for storing or canning the foods. Many institutions, worry about the liability of donating fresh or perishable items to nonprofits. However, the Bill Emerson Good Samaritan Act was enacted in 1996 by Congress to protect food banks and their donors from liability as long as both parties were unaware of the fact that such food would harm someone. [4]

Locations Can Determine Resources

Another theme that wove throughout our interviews was that the location of the food pantry determined what resources they had access to. For example, the women who worked with Five Barley Loaves also ran three other food pantries in other locations. They explained to us

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[3] **Most Needed Items. (n.d.). Retrieved May 10, 2017, from http://www.centralpafoodbank.org/Food-Donations/Most-Needed-Items**

[4] **U.S.Cong., Comm. on Economic and Educational Opportunities. (1996, October 1). [Cong. PUBLIC LAW 104–210 from 104th Cong.]. Retrieved from https://www.gpo.gov/fdsys/pkg/PLAW-104publ210/pdf/PLAW-104publ210.pdf**

that the one that operates in Lewisburg is more efficient than the other ones because of the

resources, such as money, canned donations, and volunteer hours that Bucknell University and

Lewisburg community donates. The location in Milton, which is only 10 minutes away, operates

less smoothly they suspect because less people from Bucknell and the Lewisburg community

donate their time there.

The Neighbors Helping Neighbors pantry is located in a more rural setting and because of

this, farmers often donate excess goods to them, which the operator says she just leaves on the

counter for anyone to take including the people who volunteer there and the workers at The

County Highway office (where they operate out of). Additionally, one thing that we learned

through a community member when we were presenting our research was that because this

region does support a large Mennonite community and farm lands that often the Mennonite

farmers would leave out surplus goods on tables outside for anyone to take. In the morning the

food is always gone. Many who are food insecure know about this resource and take advantage

of it.

Transportation

The food pantries that we spoke with do not deliver goods or provide transportation to

the pantry. The Salvation Army did try to provide transportation to the pantry from CVS for two

people from each family after the patrons requested it, however no one signed up. We theorize

that the reason for this is because only two spots were available per family on the bus this may

have pay posed a problem for families with more than one child who do not have the resources to

leave multiple children at home while they grocery shopped. Many of the patrons of the food

pantries either drove to the pantries or car-pooled with others there.

Hours of Operation, Frequency of Patrons, and Relationships

With the exception of Salvation Army who is open three days a week, every week and

provides emergency food services every day of the week, the majority of food pantries are open

one day either biweekly or monthly (please refer to calendar). For the most part, the pantry's

recipients remain constant throughout the year and return as often as allowed by the pantries for

food. Because of this many of the operators have developed relationships with the recipients,

making the pantry a welcoming and friendly place. The only pantry that indicated a change in the

frequency of their patrons was Neighbors Helping Neighbors who said that in the winter months

there are more patrons than in the spring and summer months. When asked why the operator

thought that this was, she responded that she believes that many of the people that come to the

food pantry can support themselves with the food that they produce during these months, but

need supplemental food in the winter months. This could be representative of poverty and food

insecurity amongst farmers in the United States.

Many of the Operators expressed that they and other volunteers or workers formed

relationships with the people that come to the food pantries because they see them on a regular

basis. The Oak Grove United Methodist Church operator spoke about how they try to foster a

sense of community between the people who use the pantry by setting up a prayer group with

refreshments for thirty minutes before the set pickup time. She said that many of the people who

use the pantry are elderly and do not get to socialize often so instead of the pantry just serving the food insecure, it also became a pleasant place for people to chat with one another.

Limitations

Our main limitation for this project was predicted to be time, however we found that by dividing the goals of the project among team members, we reached each of our outlined goals. This was a large project that involved contacting multiple sources and scheduling times to set up interviews with them. When we met with Joanne, she told us that it may be difficult to get a hold of the people that we will be interviewing as many of the food pantries are open only once a week and that when they are open they are extremely busy. As we knew this was going to be a limitation, we were proactive and persistent with contacting food pantry operators right away. We were active and successful at first, but fell somewhat stagnant in the middle. Since our project was heavily reliant on the participation of the food banks for information, limited contact with food pantries due to lack of response proved to be the largest hindrance of the project. However, by the end of the semester we were able to contact 4 pantry operators. While we did not contact as many pantries as we hoped, the information we received proved to be the useful in verifying food pantry hours and addresses needed for the creation of the calendar, identifying potential best practices to relate to our literature review research, and establishing personal connections with community members. We found that our opinions and views of these centers were most changed by the face-to-face interviews we conducted, and to see the passion and

empathy these operators have for their communities. For example, one of the most emotionally influential interviews was with Valerie, the head operator of the Milton Salvation Army. She shared a very personal story of how she was once homeless and food insecure, which led her to want to help others who may find themselves in a similar situation.

Significance

Our final research findings and tools created in this project will contribute significantly to solving the issue of food insecurity in the Greater Susquehanna Valley region, especially since it was built off of work completed by former ENST 411 students. Research findings such as the literature review of universal issues associated with food insecurity, food pantry best-practices and food insecurity related specifically to rural regions, interviews with patrons, and the GIS map of factors that contribute to hidden hunger are all valuable pieces of information that will provide United Way with insight into trends and contributors to food insecurity in the region. The literature review, interviews and GIS map make up a substantial part of our project because although it does not directly resolve issues related to food insecurity, it provides United Way with a necessary background knowledge about how solutions can be applied and tailored specifically to the region based on the information we uncovered, which will ultimately combat hidden hunger.

Additionally, this project will more directly impact food insecurity through the food drive and pantry hours calendar and lookup list. The Bucknell canned food drive, paired with the hunger fact sheet provided at each donation location, will help increase awareness among the student body and Bucknell community of the issue of hidden hunger surrounding our campus.

Collecting donations and distributing them to food pantry locations will also directly help patrons because many food service locations do not receive federal funding and depend entirely on donations. These donations will increase the supply that food pantries have to distribute to patrons. Similarly, the food pantry hour calendar and address lookup list could be available to distribute directly to patrons, should United Way wish to print and distribute them to food pantry locations to give to patrons. This calendar and address list will help patrons become more familiar with food pantry hours and addresses, helping them to determine when and where they can access food.

Conclusions and Recommendations: Where do we go from here?

Conclusions on best practices for food services can be seen in conclusions from the literature review in the "Methods" section of this report. However, we also have recommendations of what future ENST 411 classes could potentially do to aid this problem:

1. More research on Fresh Food Pharmacies

   We were unfortunately unable to visit the Fresh Food Pharmacy located at Geisinger Hospital in Danville. The United Way Organization expressed interest in making a fresh food pharmacy a part of their planned community center. Therefore, further research into how these are operated would be extremely helpful to their and their community partners' goals for an all-encompassing family center.

2. More research on Meals on Wheels programs

   We believe that understanding the problem of hunger geographically could be greatly improved with increased research on Meals on Wheels programs, how they

operate, and where they go. As mentioned earlier, we identified several areas that are low income, have very few food resources, and where access to transportation is a huge problem. One possible solution to food insecurity in these areas could be a Meals on Wheels program or some sort of mobile food service. Further research into how these programs operate, and how to make them a long-term solution, rather than sources of one occasional meal could be extremely beneficial to solving food insecurity in the region. With United Way's new plans for a community center, some sort of mobile food service may be something they would strongly want to consider to combat the problems of vehicle access in the area.

3. Spreading awareness about food insecurity in the region

As already discussed in our motivation behind launching an item drive on campus, we believe that future ENST 411 students could work to educate the Bucknell community and other community members across Union, Snyder and Northumberland counties about food insecurity in the area since we have found that the scale of this issue is not well known when speaking with community members. In order to positively effect change in regards to "hidden hunger", more individuals must first become aware of the problem and then become directly involved in fixing it. This means more volunteers at food pantries, greater number of local food drives, and an overall sense of compassion for this humanitarian issue. An education program or initiatives about food insecurity could spark a more robust community movement to address this troubling problem.

Acknowledgements

Appendix

Appendix A: Accessing the Storymap

How to Access the StoryMap Online

The StoryMap can be accessed online through ArcGIS online. The StoryMap is titled "Greater Susquehanna Valley United Way/ENST 411: Food Insecurity (May 2017)". We have provided a direct link to the map below.

Direct link to the map:

https://bucknell.maps.arcgis.com/apps/MapSeries/index.html?appid=640b6c62919b4a768e9c35d48bde5cc1

Once on the map, click through the different tabs on the webpage to see/read all of the different slides, and the legend will appear if it is clicked on the right side of the map pages. The map is public so everyone will have access to it, regardless of whether or not you own an ArcGIS online account. The StoryMap requires internet to work (it cannot be used offline).

Appendix B: Total Food Pantry List

Total Food Pantry List/Addresses as given by United Way

Name	Street	City	State	Zip
His Disciples Food Pantry	32 N Front St	Sunbury	PA	17801
Salvation Army at Sunbury	40 South 4th St	Sunbury	PA	17801
Trinity UMC Food Pantry	300 6th St	Northumberland	PA	17857
West End Food Pantry	279 Greenview Drive	Stroudsburg	PA	18360
HandUp Foundation	262 Willow St	Milton	PA	17847
Mifflinburg Food Pantry at Mifflinburg United Methodist Church	279 Market St	Mifflinburg	PA	17844
Lewisburg Food Pantry at First Baptist Church	51 S 3rd St	Lewisburg	PA	17837

Mazeppa Church	3200 Johnson Mill Rd	Lewisburg	PA	17837
Hope's Haven	13765 Old Turnpike Road	Millmont	PA	17845
Meals on Wheels	4234 Dorney Park Rd.	Allentown	PA	18104
Loaves and Fishes at St. Paul's UCC Church	400 North Market Street	Selinsgrove	PA	17870
Salvation Army-Milton	30 S Center Street	Milton	PA	17847
Oak Grove UMC Food Pantry	133 Oak Grove Drive	Paxinos	PA	17860
Northumberland County Housing Authority	50 Mahoning Street	Milton	PA	17847
Neighbors Helping Neighbors	1815 Eighth St.	Watsontown	PA	17777
Five Barley Loaves	10 East Specht Street	McClure	PA	17841
Grace Covenant Church	99 Cafe Ln.	Middleburg	PA	17842
Meals on Wheels	129 N Market St.	Selinsgrove	PA	17870
Trehab Food Bank (Susquehanna County) 1	81 Industrial Drive	Montrose	PA	18801
Trehab (Susquehanna County) 2	1226 Main Street	Susquehanna	PA	18847

Appendix C: Number of Patrons Served by Town

Breakdown of Patrons Served by Town

Town	#Households	#Children	#Adults	#Seniors	Total Individuals
Lewisburg	170	123	200	92	415
Middleburg	129	96	174	75	345
Mifflinburg	108	68	123	63	254
Selinsgrove	93	65	118	45	231
McClure	79	56	122	28	211

Beaver Springs	48	54	82	14	150
Beavertown	47	55	83	11	149
New Columbia	25	3	40	14	88
Millmont	23	12	34	13	59
Winfield	13	23	31	2	56
Port Trevorton	15	10	22	12	44
Shamokin Dam	12	10	21	7	38
Penns Creek	11	13	15	6	34
Mt Pleasant Mills	13	3	18	5	26
Allenwood	7	4	11	4	19
West Milton	7	6	7	3	16
White Deer	5	6	3	1	13
Freeburg	4	2	5	4	11
Troxelville	3	2	5	4	11
Richfield	4	1	5	4	10
New Berlin	6	0	1	8	9
Swengel	2	0	3	1	4
Hummels Wharf	1	1	1	1	3
Hartleton	1	0	0	2	2
Kreamer	1	0	0	2	2
Paxtonville	1	0	0	1	1

Appendix D: Full Interview Questions

Background:

1. Can you verify that your current hours of operation are _____?
2. Can you verify that _____ is the current location of where you operate?

Questions about food sources:

3. Where do you get your food from?
4. Are there guidelines for what you accept from donors?
5. Do you receive funding for the food? Do you take donations?
6. What specific foods are hard to come by
   a. What foods do you always have enough of?
   b. What foods do never have enough of?
   c. Why?

Question about food distribution:

7. Do you keep a food log? If yes, would you be willing to share it? If no, would you be willing to do one or allow us to do one?
8. What are your strategies to provide a balanced and nutritional diet to your patrons?
9. Do you have access to a full service kitchen or a storage facility? Are you able to can?

Questions about staffing:

10. How are you staffed? Do you have a paid staff or are they all volunteers?
11. Do you struggle to get volunteers? Where do you find them?
12. Are you partnered with any other organizations?
    a. Would you be willing to enter into a partnership with other food pantries in the area? Manna for the many

Questions about Patrons:

13. Approximately how many patrons do you typically serve during your operating hours?
14. Do you ask for financial credentials before giving out food?
    a. Are there restrictions on who you give out food to?
    b. Or a limit on how many times an individual can receive food?
15. What towns does your pantry primarily serve? Would you be willing to share data on where your patrons come from?
    a. Would you be willing to provide a list of zip codes for who uses this food pantry?
16. Do you know how people get to your food pantry? Do most people walk? Bike? Drive? Do you deliver?

Question about Pantry performance and perception:

17. Food insecurity is defined as "a household-level economic and social condition of limited or uncertain access to adequate food." (USDA) In your opinion, ware the major causes of food insecurity in the region?
18. What do you think are this food pantry's strengths in addressing food insecurity/hunger in this region?
    a. What helps you succeed in these practices?
19. Do you think there are any strategies your pantry could implement to better address these issues?
    a. What resources would be most useful to you in solving these issues?
20. Is there anything that you want to tell us that we failed to address in this interview?

Appendix E: Full Transcripts of Interviews with the Food Pantries

<u>**Interview With Oak Grove United Methodist Church**</u>

Background:

1. Hours of operation

 No specific hours- if there is someone who donates or brings get in food they can get in touch with Bonnie.

2. How is the food pantry staffed?

Staff of about 4/5, pastors husband comes now and then, first month of weds they use volunteers to package (church is a max of 35 people). Would have to take it to the board to consider partnering with other organizations.

Questions about food sources:

3. Where do you get your food from?

Receive donations of food and money from the community to run program.

4. Are there guidelines for what you accept from donors?

Accept anything but has to be non perishable, if someone donates perishables they give them out on a special day.

5. What specific foods are hard to come by?

Usually don't give anything fresh out, mostly non- perishables, cereal, crackers, cookies, tomato sauce, cans, glass jars.

6. Do you keep a food log?

No food log/inventory, but when they see that they are low on something someone goes out and purchases it. Sometimes have the money for purchasing food, sometimes they do not.

7. Do you have trouble receiving food donations?

Runs well, steady flow of donations.

8. Do you have any strategies to provide nutrition?

No

9. Do you have access to a kitchen or food storage facilities?

Yes, but it's called the "arc" more for social activities at the church, where Sunday school is held.

Questions about Patrons:

10. Approximately how many patrons do you typically serve during your operating hours?

9 and 15 people come every Friday - serve about 30 people total

11. Do you ask for financial credentials before giving out food?

They take a photo ID and do a registration, bill that they would receive (form of ID) and a drivers license and ask for that every time that you come, need to also have a place of residence.They keep a registration of patrons served. Donations from the food drive are distributed one bag per family once per month.

12. What towns do you primarily serve?

Shamokin and coal township, Mount Carmel

Question about Pantry performance and perception:

13. Food insecurity is defined as "a household-level economic and social condition of limited or uncertain access to adequate food." (USDA) In your opinion, ware the major causes of food insecurity in the region?

> *It is a depressed area, very little thriving business, a lot of people are on welfare or disability.*

14. What do you think are this food pantry's strengths in addressing food insecurity/hunger in this region?

> *They try to make it church oriented, structure has changed throughout the years, used to have a lot of returning people, open up prayer and it would be a socialization; however, only have a couple people now that run it so its from 6-7 1st Friday of every month and package beforehand. They socialize with the people who come in; however they do not force religion on the people who come.*

15. Do you think there are any strategies your pantry could implement to better address these issues?

> *Pretty successful, runs well, need to open it up a little more, some advertising, website and Facebook page, going this Saturday to a seminar on websites so they can get the word out better.*

Questions about transportation

16. How do most people get to the food pantries?

> *People have to drive to get there, many people come together, get a ride from someone if they don't have transportation.*

Interview with Barley Loaves

Background:

1. Verified hours of operation and location listed

> *The same as the information already provided.*

2. How is the food pantry staffed?

> *The food pantry is all volunteers, coordinator- responsible for staffing people. Students come and help out frequently. community action agency: paid employee; 25 staff, some full time, some part time, they partner with many organizations to provide a variety of services, but can't provide all of the services that people need; open to how can we make things more efficient- open to finding out what that would mean.*

Questions about food sources:

3. Where do you get your food from?

> *a.) The pantry receives money from the government. They use this money to order a list of food each month that is later distributed.*
> *b.) The food pantry has other sources of income: council of churches, involved in all food pantries; not totally dependent on state and federal funding. They accept donations of money and food. Rely on donations.*

4. Are there guidelines for what you accept from donors?

The pantry receives mostly canned foods, boxed foods, non perishables; they do take donations from community gardens, like produce which is some of the only produce people are able to come by.

5. Are there nutritional guidelines?

There are guidelines (they have a list that the food pantries prefer) Some pantries get food from central pa food bank; when they send out their list, it gets checked to make sure that requested foods are on the acceptable list. Some of the food that is donated by the public is not on the list; however, is still accepted. The food pantry has a four quarter log of what foods they order and said they would share everything they were legally able to. State and federal funded foods are more complex. Food is broken down into categories: meat, poultry, grains, pb, vegetables.

6. How is food stored?

"Here at the agency do not store food; usually things are donated to the food pantries; all pantries have freezers and space to store things, unsure if any of them would have the capability to store fresh produce. Community action is involved with a new facility in Lewisburg and plan in the future to be able to utilize"

7. What specific foods are hard to come by?

The food pantry sets up a menu which includes a fruit, a vegetable, and a pasta; they try as best as possible to give out to be uniform donations to all patrons- "You'd be surprised how people compare what they receive" so they try to give the same to everyone.

8. What foods do never have enough of?

Canned meat (not necessarily not enough but it is donated and consumed quickly)

Questions about Patrons:

9. Approximately how many patrons do you typically serve during your operating hours?

Provided us with figures for 2016:
- *Snyder county serves 1,088 people*
- *400 households*
- *Union county served 15,000 unduplicated = 1,546 people*
- *divide by age groups; children, adults.*

10. Do you ask for financial credentials before giving out food?

State food purchase program does not require people to show their income: they use self declarations: this program never asks for income. The elder share program (for people who are 60+ asks for their financial credentials). No restriction on who can receive food. They take the word of the patrons.

No limits on how many times someone can come; they can come for every distribution, guidelines of where they can go (which pantry) are by school district. They are more liberal in Snyder county about who they serve. (ie. not strict about checking school district). Food pantry services are offered on certain days but food is available for emergency food services. Emergency food services are located in Sellingsgrove and are run by the church; they have different volunteers but operate at the same location. The Mifflinburg coordinator that handles the pantry is also in charge of emergency food. She calls or email for emergency food which is then passed onto someone who figures it out. There is a separate place in Lewisburg for emergency food. People in Lewisburg are

familiar with whats going on and know who to call, people can call anytime no questions asked. In Sellingsgrove they serve emergency food every 3 months. Emergency food is meant to be supplemental for emergencies only.

Question about Pantry performance and perception:

11. Food insecurity is defined as "a household-level economic and social condition of limited or uncertain access to adequate food." (USDA) In your opinion, ware the major causes of food insecurity in the region?

Loss of employment; adequate employment; many people have more than one job and it doesn't quite reach, many elderly people, difficult to make everything stretch, might stretch through the month but not intended to stretch through the month.

12. What do you think are this food pantry's strengths in addressing food insecurity/hunger in this region?

The food pantry is reliable; people know when food is available, and can count on them. They are kind to people, if they know they have a need beyond food they help, build relationships with the people they are working with.

13.What helps you succeed in these practices?

a.) lots of communication because there is a lot of moving parts in the process, ordering food, getting it to the people.

b.) commitment to the people that are involved- there to serve the community "best community volunteers"

c.)when they see a need they have tweaked their systems; well oiled machines- out in mcclure moved from one location to another, small building so they've had to change how they've set up their distribution, talked about it and looked it over and seen how things would have worked better and keep trying new things. always open to ideas.

d.) do have people whose eyes are open and look at the situation and try to make improvements.

14. Do you think there are any strategies your pantry could implement to better address these issues?

No. They are efficient in the way they operate.

Questions about transportation

15. How do most people get to the food pantries?

Most people have cars because you get several bags of food usually; some people come on a bicycle. Students help people carry bags to their cars

16. Are there delivery options?

No delivery options, patrons have to come to pick up the food; some of the food pantries have provisions; "relationship thing": workers identify someone who really needs it and has no support system, out of a small town kind of a thing would go deliver the food.

Interview with Salvation Army, Milton

Background:

1. Can you verify that your current hours of operation are

Tuesday, Thursday, Friday 9:30am -1:30pm, with emergency food services available every weekday.

Questions about food sources:

2. Where do you get your food from?

Community donations exclusively. Bread pantry Monday-Friday: Panera, Chipotle, Starbucks, and Giant all donate leftover food to harvest program. Mostly bread and pastries (just sign in no check). Also receive damaged palettes from Weis.

3. Are there guidelines for what you accept from donors?

Non-perishables only because they do not have room to store; meat (ie. tuna, chicken, peanut butter, soup)

4. Do you receive funding for the food? Do you take donations?

No funding

5. What specific foods are hard to come by?
   a. *Canned meat is in most demand but is not hard to get donated*
   b. *What foods do you always have enough of?*
      N/A
   c. *What foods do never have enough of?*
      Canned meat (not necessarily not enough but it is donated and consumed quickly)
   d. *Why?*

Question about food distribution:

6. Do you keep a food log? If yes, would you be willing to share it? If no, would you be willing to do one or allow us to do one?

Yes in order to know if they have repeat clients; no more than 5-10 patrons a month. Sheet tracks names, addresses, dates of visits

7. What are your strategies to provide a balanced and nutritional diet to your patrons?

Try to avoid "nonsense items" which are single serve items that cannot be made into a meal. They want to provide full meal at once with balanced diet.

8. Do you have access to a full service kitchen or a storage facility? Are you able to can?

Pantry in basement where they keep all donated food. Full kitchen for youth program but not used for the pantry or for everyday food distribution. Does not act as a coup kitchen to provide hot meals.

Questions about staffing:

9. How are you staffed? Do you have a paid staff or are they all volunteers?

Just Valerie 9 (case manager), husband Joel (community outreach director) and pastor (boss). Paid staff. Sometimes they get community service to get people to clean the pantry but volunteers are not in short supply nor can they interact with patrons.

10. Do you struggle to get volunteers? Where do you find them?

Not struggling to get casework volunteers

11. Are you partnered with any other organizations? Would you be willing to enter into a partnership with other food pantries in the area?

> *No, because they need approval from national Salvation Army to be partnered with another organization. Supplement for hand up but not partners.*

Questions about Patrons:

12. Approximately how many patrons do you typically serve during your operating hours?

> *10-15 a month*

13. Do you ask for financial credentials before giving out food?

> *First time patrons need photo ID to prove address, repeat patrons need to bring proof of income. No questions asked for first time. Salvation Army tries to help them manage their income versus their expenses and help them get food stamps, and act as a short term solution for their hunger.*
> *Photo ID for where they live; repeat visitors needs to bring proof of income; so they you can help them get food stamps*
>> a. Are there restrictions on who you give out food to?
>> *Certain areas divided by school district: Watson, Milton and Lewisburg school district*
>> b.Or a limit on how many times an individual can receive food?
>> *Try to give them over resources so that they do not have to rely on them.*

14. What towns does your pantry primarily serve? Would you be willing to share data on where your patrons come from?

> *Wattsontown school district, lewisburg and milton school district*
> a.) Would you be willing to provide a list of zip codes for who uses this food pantry?
> *Technically supposed to be by zip code, but simplified*

15. Do you know how people get to your food pantry? Do most people walk? Bike? Drive? Do you deliver?

> *Walk or rides from neighbors; but, trying to start transportation program because there no way to get there. Mostly walking, get rides from neighbors. There is NO public transportation. Tried last summer to give rides 2 days a week from CVS for two people from each family after much demand for this, but no one ended signed up.*
> *(She indicated that only two spots were available per family on the bus so this pay pose a problem for families with children who do not have the ability to leave multiple children at home while they grocery shop).*

Question about Pantry performance and perception:

16. Food insecurity is defined as "a household-level economic and social condition of limited or uncertain access to adequate food." (USDA) In your opinion, ware the major causes of food insecurity in the region?

> *Depends on the household; have an income but have a house to pay for so they run into trouble when affording groceries. As long as people know the right way to go about it, it is accessible. Those who live in public housing have fine access and ability to pay for it. There are many pantries around so accessibility is not the issue, it is income versus expenses*

17. What do you think are this food pantry's strengths in addressing food insecurity/hunger in this region?

> *Trust system; they don't ask a million questions; not a bunch of loopholes*
>
> *Trust. It is a very personal experience. Patrons sit down with Valerie for one on one interviews.*

>> a.) What helps you succeed in these practices?
>>
>> *There are just a few workers so they feel comfortable asking for help.*
>>
>> *Personalized experiences. They are more comfortable asking for help from a someone they see as a friend*

18. Do you think there are any strategies your pantry could implement to better address these issues?

> *No. They are efficient in the way they operate.*

>> e. What resources would be most useful to you in solving these issues?
>>
>> *Nothing other than transportation for people to get here*

19. Is there anything that you want to tell us that we failed to address in this interview?

> *No*

Interview with Neighbors Helping Neighbors

Background:

1. What are your hours of operation?

> *9-11 the 1st + 3rd wednesday every month*

Questions about Patrons:

2. Approximately how many patrons do you typically serve in those hours?

> *Winter: pick up Spring: drop down; people don't need if they have in the spring + maybe month comes by and people come in spring- thanksgiving*

Questions about Food Sources:

3. Where do you get your food from?

> *Food bank orders from Emmlers; federal funding; donations do come in and put in savings- so when need food they get what they need.*

4. What food do you provide?

> *Canned food- soup beans corn vegetables, sometime people bring things from garden and they sit on table for what people want.*

5. Are there guidelines for what you accept from donors?

> *Accept all donations but if not taken by employees. They serve out of county highway.*

6. Do you receive funding for the food? Do you take donations?

> *Yes and yes.*

7. Would you be willing to keep or share you inventory lists?

> *Inventory slip + photocopy of it- sent to feds*

Questions about Food Distribution:

8. Do you ask for financial credentials before giving out food?

Once you open up, the government takes over and you give them papers, income tax on it etc. If a patron is rejected by the feds then they have to tell them but no one has been thus far.

9. Are there restrictions on who you give out food to? Or a limit on how many times an individual can receive food?

Feed as many as allotted to area that they serve (Tri-county). State marks out territory to serve. Lady from Danville once came and she doesn't reside in one of the counties that they serve so they had to reject her.

Questions about Transportation:

10. How do people get to the food bank? Do most people walk, bike, or drive? Do you deliver?

Most come with somebody that brings them; carpooling and does not deliver because if you start then everyone wants you to.

Question about Pantry Performance and Perception:

11. What do you think would best improve this food pantry?

Thinks that it runs smoothly. People have worked together basically since its opening.

12. What does this food pantry do best?

Works together, is nice to each other, and communicates when they can't come in so that other arrangements can be made.

13. What helps you succeed in these practices?

First she first took over, she told the staff that because she was new and didn't know much about running a food pantry, that she needed them to be helpful, understanding, and patient.

Appendix F: Screenshots of the Storymap

StoryMap

Screenshots of the storymap are attached. The storymap can only be used online, so we included screenshots as we could not get another format of it. Every tab (18 tabs total) on the actual StoryMap is interactive. Legends can be clicked on and seen in every tab, although not every legend is shown in our screen shots, and the map can be pulled with the mouse.
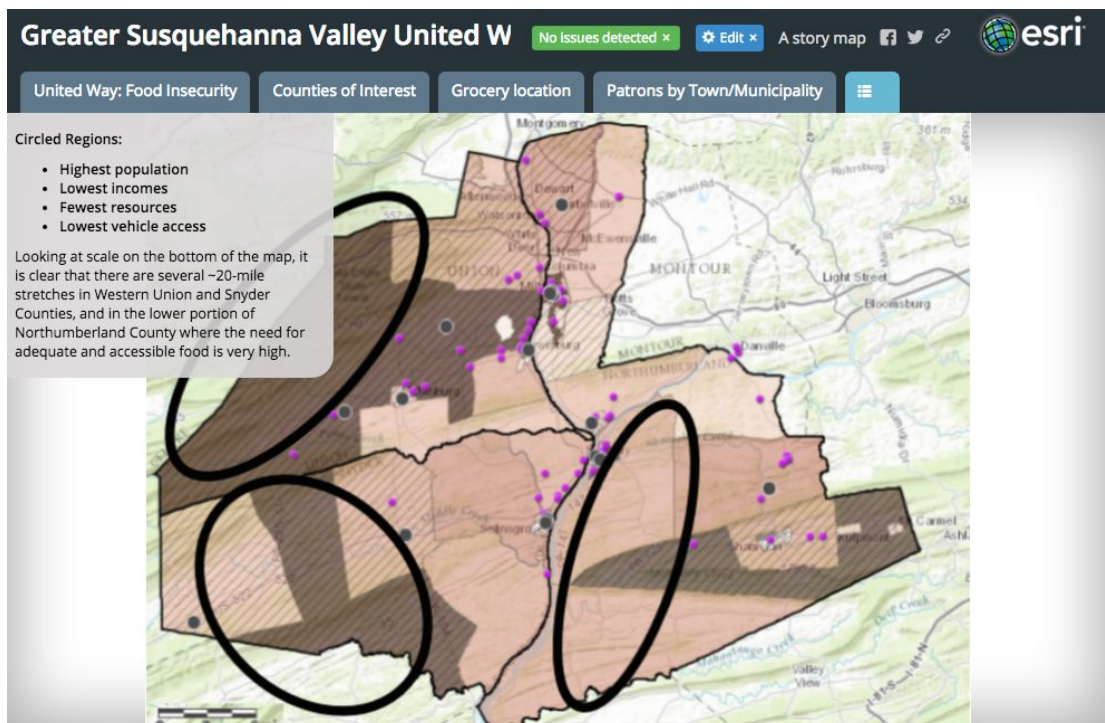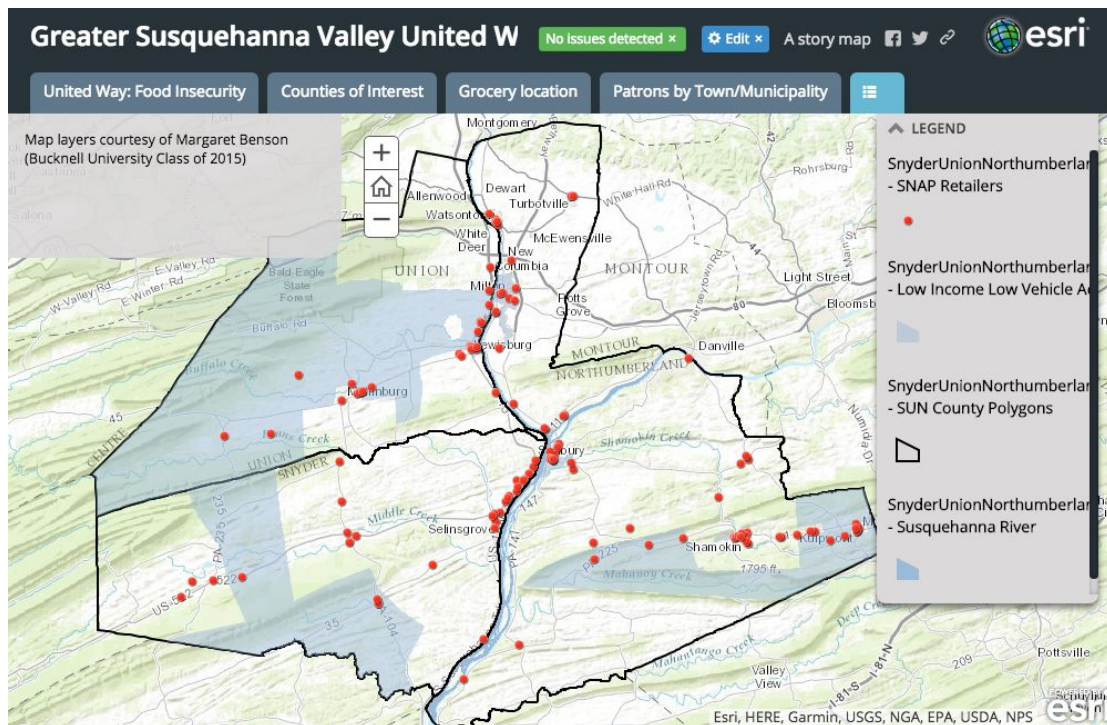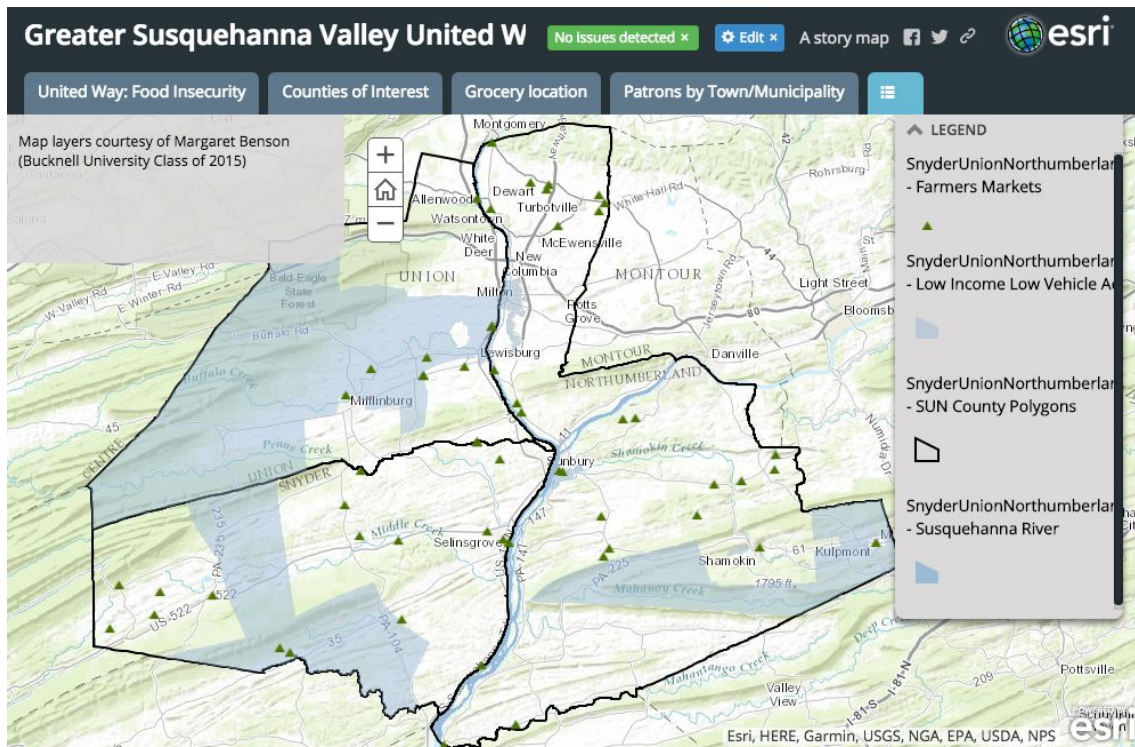
Slide 1

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Greater Susquehanna Valley United W No issues detected × Edit × A story map esri

United Way: Food Insecurity | Counties of Interest | Grocery location | Patrons by Town/Municipality

LEGEND

In order to identify "food desert" areas or areas with little to no food access, it is important to look at where resources are and are geographically and the characteristics of populations in these areas.

This map layer includes many of the features mentioned previously but also includes a layer that indicates where there is low vehicle access.

Esri, HERE, Garmin, USGS, NGA, EPA, USDA, NPS

Slide 11

Greater Susquehanna Valley United W No issues detected × Edit × A story map esri

United Way: Food Insecurity | Counties of Interest | Grocery location | Patrons by Town/Municipality

Circled Regions:

- Highest population
- Lowest incomes
- Fewest resources
- Lowest vehicle access

Looking at scale on the bottom of the map, it is clear that there are several ~20-mile stretches in Western Union and Snyder Counties, and in the lower portion of Northumberland County where the need for adequate and accessible food is very high.

Slide 12

Slide 13

Slide 14

Slide 15

Slide 16

Slide 17

Slide 18

Appendix G: Calendar and Address Lookup List

Full Calendar

Sample Calendar Days- First and Second Wednesday and Thursday of Every Month

Wednesday	Thursday
- God's Chuckwagon 10AM-4PM - Manna for the Many 1PM-3PM - Salvation Army Coal Twp by appointment - Salvation Army Sunbury 9AM-4PM by appointment - Salvation Army Sunbury 'Freinds Feeding Friends' Hot Meal 5PM-6PM - Hand Up Foundation 9AM-3PM - Neighbors Helping Neighbors 9AM-11AM	- God's Chuckwagon 10AM-4PM - Manna for the Many 6PM-8PM - Shepherd's Table Food Pantry 5:30 PM-7PM - Shepherd's Table Hot Meal 4:45PM-5:45PM (doors open at 2PM) - First Reformed UCC Soup Pl 4:30PM-5:30PM - Salvation Army Sunbury 9AM-4PM by appointment
- Salvation Army Coal Twp by appointment - Hand Up Foundation 9AM-3PM	- Mt. Carmel Area Food Pantry 5PM-6PM - Shepherd's Table Hot Meal 4:45PM-5:45PM (doors open at 2PM) - First Reformed UCC Soup Pl 4:30PM-5:30PM

Address Lookup List

Name	Street	City	State	Zip	County
Five Barley Loaves	10 East Specht Street	McClure	PA	17841	Snyder
Grace Covenant Church	99 Cafe Ln.	Middleburg	PA	17842	Snyder
HandUp Foundation	262 Willow St	Milton	PA	17847	Sunbury
His Desciples Food Pantry	32 N Front St	Sunbury	PA	17801	Sunbury
Hope's Haven	13765 Old Turnpike Road	Millmont	PA	17845	Sunbury
Lewisburg Food Pantry at First Baptist Church	51 S 3rd St	Lewisburg	PA	17837	Union
Loaves and Fishes at St. Paul's UCC Church	400 North Market Street	Selinsgrove	PA	17870	Snyder
Mazeppa Church	3200 Johnson Mill Rd	Lewisburg	PA	17837	Union
Meals on Wheels	4234 Dorney Park Rd.	Allentown	PA	18104	Susquehenena
Meals on Wheels	129 N Market St.	Selinsgrove	PA	17870	Snyder
Mifflinburg Food Pantry at Mifflinburg United Methodist Church	279 Market St	Mifflinburg	PA	17844	Union
Neighbors Helping Neighbors	1815 Eighth St.	Watsontown	PA	17777	Sunbury
Northumberland County Housing Authority	50 Mahoning Street	Milton	PA	17847	Northumberland
Oak Grove UMC Food Pantry	133 Oak Grove Drive	Paxinos	PA	17860	Sunbury
Salvation Army at Sunbury	40 South 4th St	Sunbury	PA	17801	Sunbury
Salvation Army at Milton	30 S Center Street	Milton	PA	17847	Sunbury
Trehab (Susquehanna County) 2	81 Industrial Drive	Montrose	PA	18801	Susquehenena
Trehab Food Bank (Susquehanna County) 1	1226 Main Street	Susquehanna	PA	18847	Susquehenena
Trinity UMC Food Pantry	300 6th St	Northumberland	PA	17857	Sunbury
West End Food Pantry	279 Greenview Drive	Stroudsburg	PA	18360	Union

Appendix H: Flyer for Food Pantry

Bring What You

Can!

ENST 411 is holding a targeted item drive to help those in need!

❖ How can you help?
Please bring in non-perishables to the boxes located in the Bertrand Library, by the uphill side of the ELC, and in the Women's Resource Center (next to the student space)

❖ What can you bring?
- Canned soup, vegetables, or fruits
- Dry goods such as pasta, rice, peanut butter/jelly
- Baking goods: flour, sugar, cake mix, pancake flour, etc.
- Beverages: coffee, tea, cocoa, powdered drinks
- Household items such as shampoos/conditioner, body soap, laundry detergent, deodorant, and dish soap

Commonly needed items include: Peanut Butter (to go size), shelf-stable 100% fruit juice, canned chicken and tuna, shelf-stable milk 8oz, single serve Macaroni and cheese, almonds, individual fruit cups 4oz

~ Please try to avoid products packaged in glass containers~

Appendix I: Food Insecurity Fact Sheet

Hidden Hunger in Central Pennsylvania

1.) There are over 1,000 programs operating in Central Pennsylvania that address food insecurity.
2.) 49,486 unique clients are served in a typical week and 453,060 are served annually. Additionally, 17,116 unique households are served in a typical week and 156,181 are served annually.
3.) 63% of clients identify themselves as white, 14% as black or African American, and 21% as Hispanic or Latino.
4.) Among all clients, 29% are children under age 18, and 13% are seniors age 65 and older.
5.) 65% of client households have incomes that fall at or below the federal poverty level. 2.41% of client households have annual incomes of $10,000 or less, and 29% have annual incomes of $10,001 to $20,000.
6.) 33% of households report at least one member with diabetes; 58% of households report at least one member with high blood pressure. 70% of households chose between paying for food and paying for medicine or medical care at least once in the past 12 months.
7.) 10% of all clients have attained a high school degree or general equivalency diploma (GED), and 16% of all clients have some college beyond high school degree or two year college.
8.) 19% of households have an adult member that had worked for pay in the last 12 months; 6% of client households have no adults in the workforce
9.) 58% of client households currently receive benefits through the Supplemental Nutrition Assistance Program (SNAP, formerly the Food Stamp Program).
10.) 19 % of households have an adult member that had worked for pay in the last 12 months; 6% of client households have no adults in the workforce (this includes seniors).

Bucknell Students could make a HUGE difference….Get involved!

Contact Union-Snyder Action Committee at (570) 374-0181 or (877) 497-1257 to Volunteer

Get out of the bubble and into the community!

Appendix J: IRB Approval

IRB Research Project Approved: 1617-088

1 message

matthew.slater@bucknell.edu <matthew.slater@bucknell.edu>   Mon, Feb 27, 2017 at 10:06 AM
To: slr027@bucknell.edu
Cc: aw021@bucknell.edu

IRB #: 1617-088
Title: Susquehanna Valley Food Insecurity
Level of Review: EXEMPT

Dear Sara Rosenberg,

The IRB has reviewed the above referenced proposal and determined that it is exempt from further review under 45 CFR 46.101(b)(2). I'd request one minor change: On your consent form, please provide my contact information as IRB chair in case subjects have any general questions or concerns about the research and their rights as subjects.

Please keep in mind that any protocol modifications/deviations will require the submission of a new IRB proposal.

Please keep this correspondence with other important documents related to your project.

Good luck with your project.

Sincerely,

Matthew Slater
Associate Professor of Philosophy and IRB Chair
tel. 570-577-2767 | IRB Website: http://my.bucknell.edu/script/irb/

Appendix K: Consent Form

We are working with Susquehanna Valley United Way to survey food banks to understand how they

receive their supply of food, who they are serving, and how efficiently they are operating.

Consent: You have been asked to participate in a study about food insecurity in the central Pennsylvania

region (including Lewisburg, Milton, Sunbury, and Selinsgrove). This project is for our class at Bucknell University in the Environmental Studies Department. We are partnering with Greater Susquehanna Valley United Way in order to inform them about food insecurity in the area and to better understand what they can do to address the issue. Your participation is voluntary and if you agree to be interviewed, you can quit at any time or choose to not answer questions if you do not want. This information will be kept confidential and each response will only be associated with the organization you represent. If you have any questions or concerns about your participation in this study you can contact us, our professor, United Way, or the Institutional Review Board (IRB) Chair at any time. Our contact information is:

Annie Garvin: 978-835-5154, afg010@bucknell.edu
Hannah Paton: 845-417-8513, hep009@bucknell.edu
Colleen Alexander: 240-498-9341, caa017@bucknell.edu
Catherine Morgan: 609-902-6787, clm037@bucknell.edu
Sara Rosenberg: 609-213-0594, slr027@bucknell.edu
Amanda Wooden, Bucknell University professor, aw021@bucknell.edu (570)-577-3464
Joanne Troutman, Greater Susquehanna Valley United Way president, jtroutman@gsvuw.org, (570)-988-0993.
Matthew Slater, IRB Chair, 570-577-2767, matthew.slater@bucknell.edu

By signing this, you confirm that you are over 18 years of age and consent to being interviewed.

Name (please print): _____

Signature: _____

Date: _____