

Combatting Food Insecurity on a Mid-sized Public University Campus in the Midwest

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Abstract

The purpose of this paper is to share case study results on the impact of a campus garden and food pantry in relieving food insecurity. Students and faculty at a rural university in Western Kansas took steps to decrease food insecurity on the college grounds through the establishment of a campus garden and food pantry. Over a two-year period, the garden was relocated and expanded to provide easy access to faculty, staff, and students. The campus food pantry was enhanced to include fresh and frozen foods and well as staple items. Survey results showed an increase in participation of both the garden and food pantry over the two-year period.

Keywords: Food Insecurity, Hunger, College, Campus

Introduction

Students, faculty, and staff at a rural state comprehensive institution in Mid-western Kansas have been committed to addressing food insecurity issues faced by students, faculty, and staff. The Victor E. Garden was created to provide greater access to fresh produce for the campus community. A campus food pantry, known as the Tiger Food Exchange, was set up to provide access to food and information about food and hunger issues. The initial implementation of both the Victor E. Garden and Tiger Food Exchange were a result of students with a desire to combat perceived food insecurity on the college campus. In response to interest, the administration at this rural University formed the Campus Food and Hunger Initiatives Committee, comprised of faculty, staff, and students across several disciplines, and charged with

addressing food insecurity across campus.

Review of the Literature

Several studies have highlighted the concerns faced by food-insecure students. Project coordinators in this case study desired to create avenues for accessible food sources for students, faculty, and staff struggling with food insecurity. Martinez (2016) concluded that students in the California University system were more likely to experience food insecurity than a typical household. Food insecurity affects students in a number of areas. Reviewing both a suburban and urban community college, Maroto (2013) found that over 50% of participants were food insecure. In a further evaluation, Maroto's research noted that food insecurity was associated with poor academic performance at the suburban site. The location for the case study in this article was a rural mid-western University that lacks the resources of an urban setting. Project coordinators desired to incorporate resources into their University that may be more readily available to students in urban institutions. Further compounding the need for resources was the committee's aspiration to address the health concerns caused food insecurity. Laitner et al. (2016), found that students experiencing food insecurity have poorer health habits while Hughes, Serebryanikova, Donaldson, & Leveritt (2011), found food insecure students rated their overall health lower than other students who considered themselves to be food secure.

Food insecurity is a problem in many countries, and food insecure individuals in the U.S., as well as abroad, may rely on food banks to alleviate that insecurity. For example, Tarasuk, Dachner, & Loopstra (2012) examined research and survey results surrounding the use of Canadian food assistance programs in conjunction with social assistance programs. Those authors contend that though food banks do not completely resolve the needs of food insecure individuals, "the food bank legacy also appears intertwined with the social welfare state's deterioration in assuring adequate health and social security for its citizens" (p. 1414). This case study aimed to evaluate the use of a campus food pantry as a supplemental resource for food insecure individuals on a college campus.

Bazerghi, McKay, and Dunn (2016) conducted a systematic review of food bank use in addressing food insecurity. The authors note that "while food banks have an important role to play in providing immediate solutions to severe food deprivation, they are limited in their capacity to improve overall food security outcomes due to the limited provision of nutrient-dense foods in insufficient amounts, especially from dairy, vegetables, and fruits" (p. 732). Zick-Smith (2015) found that food rescues were a positive supplement for fruits and vegetables to food insecure individuals. A goal of the Tiger Food Exchange in this case study was

to increase fruit and vegetable consumption to students, faculty, and staff by utilizing the Victor E. Garden produce. The pantry in this case study addressed this issue by supplementing typical non-perishable food pantry items both through a Fresh Food Friday event and through supplementing the pantry supplies with fresh vegetables and herbs from the campus community garden.

Purpose of the Project

In 2014, the Campus Food and Hunger Initiatives Committee applied for and received a 2-year Healthy Living grant of \$66,000 from the Kansas Health Foundation. The project goal included: 1) increased production of sustainably grown garden produce in the campus community garden, 2) expansion of healthy and fresh food options available in the campus food pantry, and 3) the availability of critical educational workshops to help obese and/or food insecure households to make better food choices on limited budgets. The grant team consisted of faculty from a variety of disciplines including Agriculture, Nursing, and Political Science. Three student coordinators were hired to oversee the garden, food pantry, and marketing.

Tiger Food Exchange

The Tiger Food Exchange is housed in the campus' Forsyth Library, and it provides an accessible, safe, and educational environment in which students, faculty, and staff can readily access healthy food as well as nutrition information. The library provides a centrally secure location for the food pantry. The pantry, which originally supplied only non-perishable goods such as canned fruits and vegetables, was expanded to include a space for fresh, refrigerated, and frozen foods. Both a refrigerator and freezer are now present in the pantry, and the pantry storage space houses two additional chest freezers. Meat is either donated or purchased through local vendors or from the University farm. The Tiger Food Exchange also provides a space to distribute garden produce.

The Fresh Food Fridays program is available during the school year on Fridays. Project staff and volunteers distribute fresh foods such as fruits and vegetables, string cheese, or yogurt cups. On occasion, project staff and volunteers prepare breakfast burritos, soups, or other small meals. Crockpots and hot plates are available in the Tiger Food Exchange for food distribution events. Over time the pantry has benefited from a wide range of community donations. These donations come from both the campus community as well as local businesses and churches. Vendors, including the campus food service provider, have been charitable in donating produce, refrigerated items, and canned goods that are nearing expiration.

The addition of a large office and storage space not only made it possible to add chest freezer space, but it also provided space for excess canned goods as well as toiletry and other donated items. The food pantry itself now has a smaller display of available products, which has reduced the opportunity for abuse and theft. When the entire stock of food was available in the pantry, we had experienced a minor problem with visitors to the pantry taking excessive volumes of food at one time as well as efforts to vandalize the chest freezer to access frozen meats. The smaller selection of available items in the pantry has diminished these abuses, and pantry staff are readily able to monitor the shelves and replenish as needed from items in storage. Food drives have become an amazing source of stock for the pantry. Faculty and staff participate in a food drive during the fall convocation while many student organizations hold food drives throughout the year.



Figure 1: Food donations in the pantry.



Figures 2-4: Fresh produce in the pantry refrigerator, canned goods in the pantry, and a meal served in the pantry courtesy donations from several local businesses, campus food service, and the Kansas Health Foundation grant.

Victor E. Garden

The Victor E. Garden provides the campus community gardening greenspace as well as a place to enhance gardening information and skill. The garden also provides healthy produce for the campus community. The Healthy Living grant provided relocation of the garden to a scenic, accessible area of campus. The garden space was expanded to increase the production and variety of vegetables, and raised beds were built to help with weed control. A storage shed and small greenhouse serve to house supplies and start plants. Drip irrigation and mulch make the garden more water efficient. A committee led by the garden student coordinator determines which types of vegetables to plant each year. The garden contains a variety of season extenders which allow students to start seedlings in early spring. Garden workdays and evenings are scheduled and shared with the campus community through emails. Easily available to consumers by walking or driving, patrons wishing to partake in produce volunteer time helping in the garden. An artistic bicycle rack is present to allow for bike access. The garden yields a variety of vegetables including herbs, peppers, tomatoes, squash, onions, carrots, and lettuce.



Figure 5: Spring raised beds with peppers and potatoes

Educational Workshops

Eight educational workshops over the two-year grant period offered students, faculty, and staff the opportunity to learn about healthy, low-cost eating. The educational topics included: 1) eating on a budget, 2) low-fat holiday cooking, 3) freezer cooking, 4) gardening in Kansas, 5) avoiding the Freshman 10, 6) safe canning, 7) crockpot cooking and 8) the history and future of the Victor E. Garden. Workshops were marketed across campus via email and through marketing flyers. These flyers were given in bulk to instructors for distribution in their courses.

Early in the two-year grant period, faculty determined that participation in educational workshops was lower than expected. Faculty prepared healthy meals in conjunction with the workshops to enhance attendance.

Workshop coordinators tailored menus around the topic presented. These efforts dramatically increased workshop attendance.

Evaluation Methods

Over the two-year period, coordinators evaluated the Victor E. Garden and Tiger Food Exchange through a Food Habits survey. Initially, these surveys were handed out at the Student Health Center. Due to initially low response rates, a revision to the Institutional Review Board (IRB) protocol allowed the grant team to distribute the surveys at both the Tiger Food Exchange and at the educational workshops. The Food Habits survey examined participants' eating habits and evaluated their use of the Tiger Food Exchange, Fresh Food Fresh Fridays, educational workshops, and the Victor E. Garden. Participants were

asked to estimate their

fruit and vegetable intake and to determine if their health was affected by insufficient access to healthy foods.

The educational workshops included pre- and post-surveys to evaluate each workshop. Before the educational workshops, participants were asked to rate their diet and to evaluate if the upcoming workshop had the potential for learning new information. Following the workshop, participants were asked if they would make a change in their lifestyle as a result of the workshop. Both surveys were approved by the University's IRB.

Results

The grant team wished to measure the number of survey respondents reporting no fruit or vegetable intake each day. During the first year of the grant, 13% of respondents reported eating zero fruits each day. During the second year of the grant, 8.7% of respondent report eating zero fruits each day. Likewise, during the first year of the grant, 17% of respondents reported eating zero vegetables each day. During the second year of the grant, only 6% of respondents reported eating zero vegetables each day. Project initiatives aimed at increasing fruit and vegetable consumption included: 1) stocking the Tiger Food Exchange with canned fruits and vegetables, 2) growing fresh vegetables in the Victor E. Garden, 3) distributing Victor E. Garden produce in the Tiger Food Exchange, 4) offering the Fresh Food Friday program, 5) posting nutritional information that emphasized the importance of eating fruits and vegetables, and 6) offering educational programming that emphasized the value of eating fresh fruits and vegetables.

Additionally, the grant team desired increased use of the Tiger Food Exchange. Information regarding student, faculty and staff use of the Tiger Food Exchange was collected as part of a food insecurity survey conducted each year for four consecutive years. In 2015, 12.8% of the respondents reported that they had accessed the Tiger Food Exchange and 5.8% of the respondents reported that they had accessed the Victor E. Garden. Campus participation was encouraged through numerous efforts to raise campus-wide awareness of the Victor E. Garden and Tiger Food Exchange. Activities included: 1) communication efforts (social media, news media, web presence, local news stories, weekly campus-wide emails), 2) adding food and hunger information/activities to the "First 40 Days" Freshman Experience program, 3) educational programs, 4) Fresh Food Friday programs, 5) relocating the pantry to a visible spot in the library, and 6) re-locating the garden to a significantly more visible location on campus. The Food Insecurity Survey has not been administered since 2015, so it is not known whether pantry usage has increased, but anecdotal evidence suggests that awareness and use of the pantry have increased since 2015.

Finally, the grant team wished to increase healthy eating habits across the campus community. This

objective was measured through a survey question that looked at the participants' eating habits. During the first year of the grant, 19% of participants reported that they did not engage in healthy eating habits. During the second year of the grant, 13.8% of participants reported that they did not engage in healthy eating habits. Factors that contributed to the success of this objective include: 1) the availability of food in the Tiger Food Exchange, 2) the popularity of the Fresh Food Fridays program, 3) the purchase of pork and other meats made available through the pantry, 4) the purchase and posting of nutritional posters in the pantry, and 5) educational programming.

Limitations

Surveys were handed out at the Student Health Center, Tiger Food Exchange, and during educational workshops. Surveys, though voluntary, were available to students, faculty, and staff each time they entered a venue. The grant team acknowledges that while the surveys showed positive results for each objective, the research design did not allow for tracking of individual results. Therefore, participants were not tracked from year one to year two and may have answered the survey more than once.

Conclusions & Applications to other Venues

Campus use of and support for this project has been fantastic. Sustainability of the projects has been assured through the enhanced financial commitments of the institution and the local community. Keys to success included the employment of reliable student coordinators and clear communication with the campus community regarding pantry needs and volunteering opportunities. The grant team is excited to continue this project with the support of the student body and institution.

Project coordinators offer this case study as an important contribution to the literature, offering a successful model for combatting food insecurity on a college campus. Project coordinators assert that this model applies to a variety of venues across the world. The implementation of a food pantry and community garden can be translated to other settings including workplaces, churches, community social service programs, and schools. The help-and-take philosophy allows for the continuation of resources despite limited financial support from the institution. Ingredients for success include available land and water as well as participants willing to collaborate for a community effort. As seen in this case study, the results can increase fresh food and vegetables to food insecure individuals.

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