

## **A University-Community Partnership to Combat Food Insecurity among College Students**

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This paper describes a university-community partnership focused on alleviating food insecurity among college students. The on-campus food pantry served more than 800 student clients during its first academic year. The pantry is run by a large group of student, faculty and staff volunteers, and receives food and volunteer support from community partners and student organizations. Results of an analysis of pantry intake data revealed that during its first year of operation, the pantry served a student population that is majority graduate and international, who live with two or fewer persons per household, and whose food insecurity was reported as occasional. The discussion describes how the results of the study are guiding efforts to better serve students facing food insecurity and to strengthen internal and external partnerships necessary for the long-term success and sustainability of the pantry. Directions for future research are also discussed.

Hunger and food insecurity are affecting growing numbers of college and university students in the United States, which poses a significant threat to their personal well-being as well as their academic success. This problem has spawned a wide range of campus and community partnerships focused on finding innovative responses to the problem and its many effects. These efforts have been supported by civic and professional organizations, including Campus Compact. In 2015, North Carolina Campus Compact launched a Food Access Learning Community for staff and faculty engaged in food access/hunger alleviation activities on its member campuses. They estimate that 90% of their member institutions are involved in formal efforts to address hunger and food insecurity.

While these efforts have taken many forms, one of the most common has been the establishment of a food pantry on or near campus. This paper reports on the implementation and results of a student food pantry that opened on the UNC Charlotte campus in Fall 2014. First we review the emerging literature on the status of hunger and food insecurity among college students and the proliferation of food pantries in response to the problem, both at national and state levels. Then we describe the university-community partnership and the collective efforts that resulted in the creation of the pantry. Finally, we report the results of a study that explored the following research questions: (a) Who are we serving at the pantry? (b) What is the pattern of pantry usage? (c) How can we better serve our student clients?

### **What is Food Insecurity and How Many College Students Are Affected?**

Food insecurity is defined by the USDA as “a lack of access to enough food for an active, healthy life” (United States Department of Agriculture, 2013). The construct is measured on a food scarcity continuum, ranging from “high food security” to “very low food security” (USDA, 2013). Food insecure categories include the following: reduced caloric intake, reduced food quality, lack of variety in diet, disrupted eating patterns, and hunger.

While national data estimate the prevalence of food insecurity to be about 15% of U.S. households (USDA, 2013), there is less clarity about its incidence among the college student population (Cady, 2014). One study of food insecurity at a large public university in the Southeast reported a rate of 14%, which mirrors the national data (Gaines, Robb, Knol, & Sickler, 2014). However, all other studies examining food insecurity among college students have found its incidence to be above the national level, ranging from 19% at Bowling Green State University in Ohio (Koller, 2014) and California State University Sacramento (Hanna, 2014); to 21% at the University of Hawaii (Chaparro, Zaghoul, Holck, & Dobbs, 2009); to 32% at a University of California school (Lerer, 2013); to a high of 59% at Western Oregon University (Patton-Lopez, Lopez-Cevallos, Cancel-Tirado, & Vasquez, 2014). One recent study focused on food insecurity among first-year students living on-campus in dormitories found some level of food insecurity reported by 34% of respondents during a 30-day period (Kolowich, 2015).

Unfortunately, the problem appears to be even more serious among community college students. A large study just published in late 2015

reported that over half (52%) the students at 10 community colleges across the nation reported some level of food insecurity, with 20% of them reporting very low levels of security, indicating hunger (Goldrick-Rab, Broton, & Eisenberg, 2015). Similar levels of food insecurity (56%) were reported among a sample of community college students from two diverse campuses (Maroto Snelling, & Linck, 2015).

The wide range in prevalence reported across studies is no doubt attributable to many factors, including geographic location, type of institution, and study methodology, including inconsistent ways of measuring food insecurity (Cady, 2014). There is also the possibility of under-reporting of the problem across the board, due to the potential sense of stigma associated with hunger and poverty (e.g., Kolowich, 2015; Plantz, 2014; Resnikoff, 2014).

Regardless, the collective findings thus far make it clear that the rate of food insecurity among college students is much higher on average than the rate for the general population (Kolowich, 2015). Another clear trend in the data is that students of color and other underserved student populations are disproportionately affected by the problem. One study reported the rate of food insecurity at 31% for African American students and for 23% for Hispanic students, compared to 19% for white students (Goldrick-Rab, Broton, & Eisenberg, 2015). Another found that Native Hawaiian, Pacific Islander, and Filipino students experienced higher rates of food insecurity than majority students (Chaparro, 2007).

What accounts for this higher than average rate of food insecurity among college students? Many factors have been identified. One is the disconcerting fact that students go to

college to gain economic advantage, but often face increased economic hardship arising from lost income while attending school (McKenna, 2016; Plantz, 2014). Intensifying the problem is the dramatic rise in the cost of a college education. Tuition has risen an estimated 27% at public colleges and 14% at private schools in the past decade (Eltman, 2014). Another commonly cited factor contributing to the problem is the higher numbers of low-income and first-generation students attending college today than in the past (Sifferlin, 2014). Finally, there is persistent economic fall-out from the recent recession and rise in unemployment, which is augmented by recent cuts to student financial aid, food assistance programs, and other governmental supports, even as the cost of food continues to rise (e.g., Patton-Lopez, Lopez-Cevallos, Cancel-Tirado, & Vasquez, 2014; Radcliffe, 2014; Resnikoff, 2014). One researcher recently summed up the problem, stating that “College is making students poor. They are trading off food to cover their tuition” (Goldrick-Rab in Colarusso 2015, p. 6).

### **Effects of Hunger and Food Insecurity on Students**

There are many well-documented negative effects of food insecurity and hunger on child academic success and adult cognitive functioning (e.g., Cady, 2014; Maroto, Snelling, & Linck, 2015). Decades of studies examining the effects of hunger on K-12 students have identified many problems, including memory deficits, lower math and reading scores, behavioral problems that interfere with academic success, and retention and graduation rates (Cady, 2014). More recently, empirical studies of college students are reporting similar detrimental consequences of food insecurity and hunger on their academic success. One study of community college students found that

food-insecure students reported significantly lower GPAs than food-secure students (Maroto, Snelling, & Linck, 2015). Chaparro (2009) found that students at a university in Hawaii perceived food insecurity to affect their energy level and health status.

Another health concern found to be associated with food insecurity for college students is the stress that arises from economic uncertainty and not knowing where the next meal is coming from (Bahrapour, 2014). Indeed, there appears to be a strong relationship between food insecurity and a range of mental health problems, including stress, depression, anxiety and suicidal thoughts (Goldrick-Rab, Broton, & Eisenberg, 2015). Several recent studies of college students in Australia have reported adverse effects of food insecurity on both academic and health outcomes. One study (Gallegos, Ramsey, & Ong, 2013) found that 80% of students felt that their studies were compromised by their food insecurity and related factors, and two other Australian studies found that food-insecure students report poorer overall health than food-secure students (Hughes, Serebryanikova, Donaldson, & Leveritt, 2011; Micevski, Thornton, & Brockington, 2013).

Besides these direct negative effects of food insecurity on academic and health outcomes of college students, there are many indirect effects with potentially serious consequences for student retention and graduation. Food insecurity and its associated factors can force students to make decisions that interfere with academic success and degree completion, including working too many hours, not purchasing textbooks and other learning materials, and not maintaining continuous enrollment (e.g., Goldrick-Rab, Broton, & Eisenberg, 2015; McKenna, 2016).

Due to the alarming rate of food insecurity among college students and the severity of its effects, efforts to address the problem have seen a dramatic rise in recent years. This is evidenced by the proliferation of campus food pantries opening across the nation. There are currently 276 active member institutions of the College and University Food Bank Alliance (CUFBA), a national organization consisting of campus-based programs focused on alleviating food insecurity, hunger and poverty among college and university students in the United States (<http://www.cufba.org/member-info/>). There are 13 institutional members of CUFBA representing North Carolina campuses, and several other 2- and 4-year institutions in the state report the presence of a food pantry on their campuses. As best we can estimate, all of the campus food pantries in North Carolina have opened since 2012. As part of this trend, the Niner Student Pantry opened on the campus of UNC Charlotte in 2014.

### **The Niner Student Pantry**

#### **Developing Partnerships**

In many ways, the motivation to open a campus food pantry for students was ignited by our partnership with Campus Compact and its “Statewide Challenge to End Hunger” that was launched in 2011-2012. UNC Charlotte sent a team of faculty and students to the 2012 “NC Campuses Against Hunger Conference” hosted by NC Campus Compact to “explore hunger-related issues and discuss ideas and initiatives to fight food insecurity” (<http://www.elon.edu/e-web/org/nccc/>). After learning at the conference that several state institutions employed on-campus food pantries as a food access strategy, our team included the exploration of a

student food pantry in its proposal to the campus community following the conference in the fall of 2012. No one on our team had experience opening or operating a food pantry, so the authors of this paper participated in the NC Campus Compact-hosted webinar, “Establishing and Maintaining a Campus-Based Food Pantry.” We immediately joined CUFBA, and began benchmarking with other CUFBA members, especially Virginia Commonwealth University (VCU), to learn best practices in opening and operating a pantry. As we learned more about the scope of the project, we quickly saw the need to strengthen and develop new internal and external partnerships to help us turn vision into reality.

The first partnership began serendipitously at the PACE (Pathways for Achieving Civic Engagement) Conference hosted by NC Campus Compact at Elon University in early 2014. During a conference event, one of us happened to mention our efforts to open a student pantry to our colleagues from the Office of University Advancement. She told us that she had just met with an alumnus serving as Regional Community Relations Specialist at Food Lion, a large regional grocery chain headquartered nearby. They had just launched Food Lion Feeds, a hunger relief initiative committed to providing 500 million meals to the hungry by the end of 2020, and they were actively seeking partners for this effort. Upon returning to campus, University Advancement staff hosted a meeting between faculty and staff pantry organizers and Food Lion staff that culminated in a formal Memorandum of Understanding (MOU) making Food Lion the pantry’s Official Grocery Sponsor for the 2014-15 academic year.

The MOU outlined the terms of the partnership, which included Food

Lion's commitment to donate half of the amount of food needed to support the pantry during its first year of operation. This donation came via two tractor-trailer loads of Food Lion branded products delivered to campus, first in August and again in January. Additionally, Food Lion would provide and install grocery shelving in the pantry, as well as a large contingent of employee volunteers to come with each delivery to stack and stage the food. In exchange, UNC Charlotte agreed to support and promote the Food Lion Feeds initiative by: (a) recognizing Food Lion as the official grocery sponsor of the pantry, (b) placing Food Lion's logo on all pantry signage and marketing materials, (c) providing opportunities for Food Lion to participate in pantry events through provision of volunteers and branded materials, and (d) providing Food Lion the opportunity to distribute marketing information at pantry events and to pantry clients.

True to the terms of our partnership, Food Lion provided vital support to the pantry during its first year of operation. Approximately 50 Food Lion employees, all wearing Food Lion Feeds T-shirts, participated in the first tractor-trailer delivery to stock the pantry's shelves. They also helped train students and staff in the finer details of grocery staging and donated 100 Food Lion Feeds reusable grocery bags for distribution to pantry clients. Later, Food Lion participated in the Niner Student Pantry's grand opening, which included presentations from the UNC Charlotte Chancellor and a representative from Food Lion corporate headquarters. Besides formally recognizing the Niner Student Pantry as a new addition to campus services, the grand opening was also used as a vehicle for showcasing other food scarcity campus initiatives, including Sow Much Good (a nationally-recognized program created by a

Charlotte alumna); the UNC Charlotte Community Garden; the Campus Food Recycling Program; Stop Hunger Now; and Zero Waste Stadium. Following a brief program attended by university administrators, faculty, staff, students and community supporters, student volunteers provided guided tours of the new pantry space.

Even though our Memorandum of Understanding ended after the first academic year, our partnership with Food Lion remains strong and is supported by a grant from the Food Lion Charitable Foundation. In addition to this ongoing support, we now have developed relationships with other grocers and retail outlets in the university area, and have accepted donations from at least a half dozen retailers in the past year. In addition to this generous community support, our internal partnerships continue to provide at least half of the food distributed by the Niner Student Pantry. We estimate that over two dozen university offices and student organizations have conducted formal food drives on behalf of the pantry. Both the Office of University Advancement and the Graduate College have chosen the pantry as their designated charity, and the Charlotte Research Institute conducted a unit-wide food drive on behalf of the pantry in partnership with their industrial partners.

Besides providing much-needed food for distribution at the pantry, these partnerships are vital to our goal of raising awareness about the problem of food insecurity and engaging the community in collaborative efforts to address the problem. The internal partnership with University Advancement also continues to support the success and sustainability of the pantry. They have established a Niner Student Pantry fund that allows donors to make financial contributions to

support the pantry, and they include the pantry as a designated recipient for campus-wide fundraising events such as Niner Nation Gives and the annual Giving Green Campaign. The department's Office of Community Relations has provided us with much visibility and media coverage, helping us raise both funds and awareness. Truly, our story speaks truth to the saying that "it takes a village." Without the support and guidance from our internal and external partners, the Niner Student Pantry would never have opened its doors.

### **Mission, Goals and Logistics**

On September 30, 2014, the Niner Student Pantry held its "soft opening" following a single email announcement that was sent to all faculty and staff, expecting a very small response from students. We were overwhelmed (literally and figuratively) when approximately 75 students showed up for food on opening day. During the rest of the 2014-15 academic year, the Niner Student Pantry distributed approximately 10,000 food items to more than 800 student clients. In the summer of 2015, the university purchased a house that was located on campus, and it was made available for use by the Niner Student Pantry at the beginning of the 2015-16 academic year. A team of faculty, staff, and students worked with community volunteers to re-purpose the house, beautify the yard, and stock the shelves with food before re-opening the pantry in August 2015.

The Niner Student Pantry exists to "ensure food security, human dignity, and well-being on campus by providing in-need students with healthy, culturally-appropriate, emergency food." Our goals include: (a) serving students' food insecurity needs, (b) raising awareness and educating the campus and community about food insecurity, and (c) providing an on-

campus site for service learning. We serve any student who does not have a university meal plan. We adapted our client intake process from VCU, which consists of a volunteer (student, staff, or faculty) greeting student clients and asking them to complete a paper client intake form. The form includes demographic questions and questions about the student's level of food insecurity, and at the bottom is a food insecurity pledge that students sign before receiving their shopping bags and being invited to take up to 12 items during their visit. Our hours of operation currently are Mondays from 2-5 p.m. and Thursdays from 8:30-10 a.m. and 2-5 p.m. Students are allowed to visit the pantry once a week. Besides a large delivery from Food Lion once each academic year, the majority of the food in the pantry has come from food drives held by campus units and student organizations, and by individual donations. Through our partnership with University Advancement, we have benefitted from campus-wide fundraising campaigns which have allowed us to purchase kitchen appliances that we hope will enable us to expand our food offerings in the future to include fresh foods and perishable items.

### **Case Study of Year One: Method and Results**

The purpose of the case study was to answer the following questions: (a) Who are the students being served by the Niner Student Pantry? (b) What is the pattern of pantry use among these students? (c) How can we use this information to better serve student food needs? To answer these questions, we used the client intake forms that were completed each time a student shopped at the pantry during the 2014-15 academic year. Permission to use client intake forms for research purposes was obtained by the authors through the IRB approval process.

The data entry process was complicated by changes made to the client intake form midway through the year. The original form contained confusing questions that were later changed for clarity. This problem resulted in incomplete data on student status (undergraduate or graduate student) and residency status (domestic or international student). However, the analysis of client intake forms provided important information related to our research questions.

Between opening day at the end of September and closing day at the end of June, the pantry recorded 827 client transactions. Of these, approximately 39% were repeat clients, indicating that we served 504 unique students. Of the 39% of clients shopping more than once at the pantry, the visits ranged from 2 to 17, with a mode of 2 visits. Twenty percent of clients used the pantry between 3 and 5 times during the academic year.

Although data on student status and residency were incomplete due to unclear questions on the form, analysis revealed that 62% of the 660 clients reporting their status were graduate students and 38% were undergraduate students. Of the 362 clients reporting their residency status, 71% were international students. Of the 648 clients reporting the number of adults living in their household, 46% were living alone; 12% were living with one other adult, and 16% were living with 3 or more other adults.

Two questions on the client intake form asked questions related to the students' frequency of food insecurity and their need for food assistance. Results revealed that 62% of clients reported their need for food assistance as "ongoing" while 19% indicated it as a "one-time" occurrence. Nineteen percent did not respond to this item. The highest percentage (49%) of students responded that they

experienced food insecurity "occasionally," while 15% chose "rarely," 17% chose "frequently" and 7% reported they experienced food insecurity "very frequently."

In terms of pantry usage patterns, results indicated that the largest number of students visited the pantry during its first week of operations (N=125). For the remaining weeks of fall semester (through final exam week), the pantry served an average of 35 clients per week. During winter break, the pantry opened for two days, and served only 13 clients. During spring semester, the pantry served an average of 28 clients weekly through the week of finals, ranging from a low of 11 the last week of April to a high of 41 the last week of January. During the summer, pantry open hours were reduced to one day per week, and during that time served an average of 12 clients per week.

### **Discussion and Conclusions**

The case study of pantry intake data answered our first two research questions by helping us understand the client and usage profile at the pantry during its first academic year of operation. The study revealed that we served a student population that is majority graduate and international, who live with two or fewer persons per household, and whose food insecurity was reported as occasional. In terms of usage patterns, we served slightly more clients weekly during fall semester than spring semester, and that usage dropped dramatically after the first week of operation. Client usage also dropped significantly during summer hours.

How does this information help to inform our third research question: how can these findings be used to better serve student food needs? The primary

insight gained from the study is that we are serving a very small percentage of the total student population on our campus that, based on previous research, may experience food insecurity. As noted above, research reports that food insecurity among college students ranges from 14% to 59%, and its incidence is higher than the general population of Americans. However, we served only 8% of the 5,022 graduate students and less than one percent of the eligible 22,236 undergraduates (those not on a meal plan) enrolled during the academic year of the study. This represents a sizable gap between students' needs and students served by the pantry. Another gap identified in the study is between the 62% of clients reporting an ongoing need for food assistance and the majority of clients visiting two or fewer times during the academic year.

There are several explanations for these gaps, and we are exploring each of them as potential opportunities to close the gaps:

- Lack of awareness of the pantry, its location, hours of operation, and its eligibility criteria.
- Lack of understanding among students of their risk for food insecurity, its levels as defined by the USDA, and their eligibility (and genuine need) for services such as those offered by Niner Student Pantry.
- Potential stigma that may prevent some students in need from seeking help in such a visible way on campus.
- Lack of variety and/or perceived desirability of the foods available at the pantry.
- Lack of ethnic and cultural diversity present in the food choices available at the pantry.

- Lack of consistent food offerings (many items run out quickly) and low or inconsistent over-all quantity of items (limited by the physical size of the space during our first year in an academic building).
- Lack of knowledge about how to prepare the foods available, and /or to integrate them into diverse diets.
- Location of the pantry (2<sup>nd</sup> floor of a classroom building that is not centrally located or easy to find).
- Limited hours of operation (a total of 6 hours weekly during the first academic year).

Of course, understanding the extent to which each of these is a potential factor requires additional research and we are currently planning qualitative studies of our clients, as well as surveying students who are not clients. In the meantime, we have made several changes in response to these findings, and based on our anecdotal experiences working at the pantry. These include:

- Relocation of the pantry to a larger space which is located closer to off-campus student housing and the commuter parking lots.
- Expanded hours of operation, including a morning shift.
- Expansion of food choices, focusing on more culturally diverse foods.
- Revision of the client intake form asking clients to identify foods they would like the pantry to offer.
- Efforts to maintain more consistent stock and more consistent and diverse offerings.



- A new pantry website with updated information on services, eligibility, and hours of operation.
- Other efforts to increase awareness, including signage, flyers, and emails to faculty and staff for referrals.
- Partnership with the on-campus community garden to offer fresh produce at the pantry (limited success due to timing of produce availability).

These efforts have been in effect for one semester, and we continue to monitor the impact of the changes and to explore other improvements in the pantry and other strategies to better meet the food security needs of all students.

Current concerns and activities include better understanding the demographic profile of our clients, and expanding our community partnerships to diversify our food offerings based on this demographic profile. Data from this study identified that most of our clients are international students, and anecdotal experiences at the pantry have revealed a high percentage of these students are from Southern India. This has led us to pursue a new partnership with the Ghandi Indian Market, a grocer located adjacent to the east campus entrance and very near the pantry. We are in preliminary discussion with the owner of the market, who welcomed the partnership and agreed to provide a detailed list of high demand food items among his customers and free cooking demonstrations by his chef, who also happens to be a UNC Charlotte alumnus. We anticipate that these steps may lead to an expanded partnership in which we purchase culturally diverse foods at reduced cost (wholesale as opposed to retail) to offer our clients, in exchange for publicity and promotions provided by the pantry.

Looking ahead, we plan to use the results of this study to expand and strengthen our internal partnerships as well. Because our findings revealed such high numbers of international graduate students using the pantry, we will expand our partnerships with the Graduate College, the Office of Graduate Admissions, the Center for Graduate Life, and the Graduate Student Association to explore ways to better understand and serve this group of students. We also plan to focus more on student volunteers and how to enrich the volunteer experience for them while training them to better serve clients and minimize stigma; helping clients learn how to use the food items in the pantry through cooking demonstrations, recipe cards, and menus; and exploring additional services that we may provide (including referrals to off-campus community partners) to better meet the full range of client needs.

Finally, we are planning additional research to examine how our move to the new larger site has impacted our clients, and another study of our student volunteers to assess how the pantry is providing an on-campus site for service learning.

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