

A Community Addresses Food Security Needs

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Abstract

In response both to changes in the political climate regarding welfare and an increasing demand for food assistance programs, Brown County University of Wisconsin Extension launched a research effort and action plan to address food insecurity. Using the USDA Household Food Security Survey, in 1998 and 1999 social work students at the University of Wisconsin-Green Bay surveyed at-risk populations in Green Bay to determine the prevalence of food insecurity. The 1999 survey respondents also identified reasons for their food insecurity and initiatives that might help. Using the survey results, the Brown County Food and Hunger Network developed and began implementation of an action plan to address the problem. This report provides the survey results and related action plan. It encourages others to initiate a similar process that mobilizes communities to address hunger and food insecurity.

Introduction

Food security initiatives are part of a national trend, fostered by the United States Department of Agriculture (USDA) Community Food Security Initiative launched in 1995, to embrace a more holistic approach to addressing hunger needs. The USDA Community Food Security Initiative focuses on recognizing and emphasizing USDA's partnerships with communities to help reduce hunger for the more than ten million American families who are food insecure. The initiative, whose goal is to cut domestic hunger in half by the year 2015, focuses on seven major areas:

- Creating new local infrastructures that boost food security, and expanding existing ones
- Increasing economic and job security
- Bolstering the federal nutrition assistance safety net (*USDA 1999*)
- Bolstering food and nutrition assistance
- Improving community food production and marketing
- Boosting education and awareness
- Improving research, monitoring, and evaluation.

There are many definitions and dimensions of food security. Food security has been briefly defined as “assured access to enough food for an active, healthy life” (*Anderson 1990*). More specifically, dimensions of food security for a household include “access to enough food, the food should be nutritionally adequate, it should be safe, and the household should be able to obtain it through normal channels” (*Hamilton and Cook 1997, ii*). All of these dimensions are important, but the primary measure for the study reported

“Even short-term food insecurity can result in disrupted family relationships, poor health and underdevelopment in children.”

on here focuses on whether the household has “enough” food, as perceived and reported by adult members of the household. When severe levels of food insecurity exist, the result is actual hunger for household members.

The national USDA food security survey in 1998 showed that about 10.5 million U.S. households (10.2% of all house-

holds) were food insecure, meaning they did not have access to enough food to fully meet basic needs at all times. About thirty-six million persons lived in these food-insecure households, with children accounting for nearly 40 percent of this group (*Bickel, Carlson, and Nord 1999*). Even short-term food insecurity can result in disrupted family relationships, poor health and underdevelopment in children (*Brown and Pollitt 1996; McDonald et al. 1994*). Despite the strength of the U.S. economy, this survey documented that in 1998 many American families and individuals still struggled to meet basic needs. The most often cited cause of undernutrition and hunger is poverty (*United Nations 1993; Skolnick 1995*).

In response to an increased demand for local food assistance programs and changes in the political climate with regard to welfare reform, a Wisconsin community took action. Nutritionists at the Brown County University of Wisconsin Cooperative Extension (UWEX) took the lead in investigating the extent of food insecurity among at-risk populations in the Brown County seat of Green Bay, Wisconsin. Brown County UWEX, the University of Wisconsin–Green Bay Social Work Professional Program and the Brown County Food and Hunger Network collaborated in implementing the USDA food security survey both in 1998 and 1999. The results of the study are being used to raise public awareness, address policy

issues, and develop effective programs, initiatives similar to those proposed by the USDA Community Food Security Initiative.

The 1998 survey addressed the question: “What is the prevalence of food insecurity among at-risk households in Green Bay, Wisconsin?” The primary questions guiding the 1999 research were:

- What is the prevalence of food insecurity among at-risk households in Green Bay, Wisconsin, and how does that rate compare to 1998?
- What are the reasons for respondents’ food insecurity?
- What types of initiatives would increase the availability and accessibility of food?

This article focuses on the USDA Food Security Survey implemented at the local level and an action plan based on the results. Although the surveys were conducted in two consecutive years in Green Bay, the results described in this report are from the second, more comprehensive survey completed in 1999.

Methodology

A random sample of the at-risk population was drawn from programs in Green Bay that provide food assistance: the two emergency meal sites, six food pantries that agreed to participate, and the two Women Infant Children (WIC) offices. The final data set consisted of 541 households, yielding an overall response rate of 71 percent.

Twenty-five seniors in the Social Work Professional Program at the University of Wisconsin–Green Bay conducted interviews at the ten sites during a four-week period in spring 1999. Students interviewed respondents throughout each site’s hours of operation to help ensure that a broad range of individuals was interviewed. Each interview lasted approximately ten to fifteen minutes. The survey was translated into Spanish, Russian, and Hmong, and interpreters were available.

The Food Security Survey used in this study was developed by Tufts University Center on Hunger, Poverty, and Nutrition Policy for the USDA. Its reliability and validity as a measure of food insecurity have been established. We expanded the survey for purposes of the 1999 research to address issues of demographics, income, reasons for food insecurity, and solutions to this problem.

Since it is not possible to measure food insecurity directly, the Center on Hunger, Poverty, and Nutrition Policy developed a food security scale using nonlinear factor analysis, which takes

into account the behaviors and conditions depicting food insecurity that exist in a household. Each of the sixteen questions in the scale concerns hunger resulting from limited income. Food security scale values have been grouped into four categories for ease of comparison and discussion. The four categories and the percent of respondents are listed in Table 1.

Where appropriate, statistical tests of significance were conducted. We were primarily interested in differences among the four levels of food security. The two-tailed chi-square test was used to determine the likelihood that respondents' food security status was related to demographic variables, to reasons respondents were food insecure, and to initiatives that would increase the availability and accessibility of food.

It is important to keep in mind that the results represent households and not individuals. Also, some members in a household may be experiencing food insecurity while others are not.

Results

Below is a brief summary of the respondents' demographics, their food security status, reasons for food insecurity identified by the respondents, and finally, initiatives the respondents proposed would be helpful.

Demographics: Although respondents in this study represent a diverse group of individuals, most were female (82%), relatively young (81% younger than 40), and Caucasian (63%). Minorities were fewer in number but were disproportionately overrepresented in the sample compared to the population of Green Bay. Hispanic was the largest minority ethnic group (13%), followed by Hmong (10%), Native American (7%), African American (5%), and others (5%). Most respondents (76%) resided in households with children.

Respondents tended to be less educated than the general population of Green Bay, with more than a third (34%) not having graduated from high school. However, 30 percent of the respondents said they had some type of schooling beyond high school. Graduation rates were particularly low among minorities. Not surprisingly, respondents with more education earned more and were more likely to be employed.

Food Security Status: By one measure of food security previously mentioned, the 541 survey respondents were food insecure since they were acquiring food in a way that is not socially acceptable. For this study, however, the measure of food insecurity is whether households have enough food; by this definition, more than half of

**Table 1. Percentage of respondents by food security status
(N = 541)**

Status	Percent of Respondents
Food Secure: Households show no or minimal evidence of food insecurity.	44%
Food insecure without hunger: Food insecurity is evident in households' concerns and in adjustments to household food management, including reduced quality of diets. Little or no reduction in household members' food intake is reported.	34%
Food insecure with moderate hunger: Food intake for adults in the household has been reduced to an extent that implies that adults have repeatedly experienced the physical sensation of hunger. Such reductions are not observed at this stage for children in the household.	17%
Food insecure with severe hunger: Households with children have reduced the children's food intake to an extent that implies that the children have experienced the physical sensation of hunger. Adults in households with and without children have repeatedly experienced more extensive reductions in food intake.	5%

the respondents' households (56%) were food insecure. Table 1 reveals that of the food insecure, 34 percent were food insecure without hunger, 17 percent were food insecure with moderate hunger and, most alarmingly, 5 percent of the respondents' households were food insecure with severe hunger.¹

Respondents' food security status varied significantly by gender, age and ethnicity ($p < .001$). Overall, males were significantly less food secure than females (29%, compared to 47%). Respondents between the ages of thirty and sixty tended to be less food secure than younger and older respondents. Individuals in their forties

¹ The results of the 1998 survey were similar to those of the 1999 survey with 44 percent food secure, 36 percent food insecure without hunger, 14 percent food insecure with moderate hunger and 6 percent food insecure with severe hunger.

and fifties were particularly food insecure. Minority groups were more food insecure with hunger (54% of Hmong, 41% of Native Americans, 34% of African Americans, and 29% of Hispanic respondents) than Caucasians (15%).

Not surprisingly, level of education, employment status and hourly wage were significantly correlated with households having enough food. Food insecurity varied significantly by education level completed ($p < .001$). Well over half of the respondents (58%) who had completed education beyond high school were food secure compared to 30 percent of those who had completed less than the ninth grade.

Food security status for respondents less than sixty-five years old varied significantly by employment status ($p < .05$). Seventy-seven percent of food secure respondents reported being employed sometime during the last year, compared to 48 percent of those who were food insecure with severe hunger. Similarly, more than half of the respondents reporting food insecurity with hunger were unemployed, compared to 31 percent who were employed. In contrast, almost half of the food secure respondents were employed full time, compared to 38 percent of the unemployed respondents.

Respondents' food security also varied significantly by their hourly wage ($p < .01$). The lower the hourly wage, the more likely the respondent would be food insecure with hunger or food insecure without hunger.

Reasons for Food Insecurity

The respondents who indicated they did not have the kinds of food they wanted or needed were presented with a set of reasons and asked which ones applied to them. Table 2 shows a significant correlation with food security status and some of the reasons given. Food secure respondents were more likely to indicate that they did not have the kinds of food they wanted or needed because of diet and time factors. On the other hand, food insecure respondents were more likely to choose not having enough money and the lack of availability of food as reasons.

Respondents who indicated that their households did not have enough food to eat were presented with a somewhat different set of reasons and also asked which ones applied to them. Table 3 reveals that virtually all respondents who were food insecure with severe hunger indicated they did not have enough food because they did not have enough money for food. The households food

Table 2. Percentage of respondents by food security status who responded “yes” to each reason for not having the kinds of food they want or need

Reasons why respondents don't have the kinds of food they want or need	Food Secure	Food Insecure w/o Hunger	Food Insecure w/Hunger	Total (n = 211)
Not enough money for food□	55%	77%	90%	72%
On a diet*	26%	10%	10%	15%
Kinds of food we want/need not available*	19%	30%	43%	28%
Good quality food not available□	9%	23%	41%	21%
Not enough time to purchase food□	48%	22%	30%	32%
Not enough time to prepare food*	52%	31%	45%	40%
Don't know how to prepare available foods*	11%	9%	24%	12%
Kids won't eat what I prepare*	22%	34%	56%	35%
Don't like preparing food	23%	16%	20%	19%
Too hard to get food (because...)□	4%	19%	33%	16%
No car□	4%	13%	43%	14%
Childcare problems□	2%	11%	32%	11%
Bus driver won't allow me to ride on the bus	1%	1%	5%	2%
Work schedule□	3%	5%	35%	10%
No grocery store in the area	0%	4%	15%	5%
Can't get to pantry during open hours□	4%	6%	32%	10%
Variety of good food not available here*	7%	21%	32%	18%
Total	32%	48%	20%	100%

*p < .05; *p < .01; □p < .001

Table 3. Percentage of respondents by food security status who responded “yes” to each reason for not having enough food

Reasons respondents don't have enough food	Food Insecure without Hunger	Food Insecure with Moderate Hunger	Food Insecure with Severe Hunger	Total (n = 171)
Not enough money for food	84%	95%	100%	91%
On a diet	6%	7%	24%	10%
No working stove available*	22%	4%	18%	14%
No working refrigerator available*	20%	4%	24%	15%
Not able to cook or eat due to health problems	4%	6%	33%	10%
Not enough time to prepare food□	52%	15%	33%	31%
Don't know how to prepare available foods	34%	18%	14%	22%
Too hard to get food (because...)*	38%	58%	67%	52%
No car□	26%	31%	50%	31%
Childcare problems□	18%	35%	44%	30%
Bus driver won't allow me to ride on bus with packages	0%	6%	25%	7%
Work schedule□	24%	29%	20%	25%
No grocery store in the area	18%	18%	30%	21%
Can't get to pantry during open hours□	28%	33%	38%	31%
Don't have my own apartment/ house	16%	6%	14%	12%
Total	38%	42%	17%	100%

*p < .05; □p < .001;

Total percentages include responses from food secure individuals.

Table 4. Percentage of respondents by ethnicity who responded “yes” to each reason for not having enough food

Reasons respondents don't have enough food	African American (n = 12)	Hmong (n = 44)	Hispanic (n = 19)	Caucasian (n = 72)	Native American (n = 24)
Not enough money for food	100%	89%	90%	92%	100%
On a diet	0%	17%	0%	14%	8%
No working stove available	20%	12%	23%	8%	0%
No working refrigerator available	20%	30%	13%	6%	0%
Not able to cook or eat due to health problems	0%	31%	0%	8%	0%
Not enough time to prepare food	40%	36%	23%	29%	31%
Don't know how to prepare available foods	0%	30%	39%	8%	17%
Too hard to get food (because...)	50%	68%	55%	46%	40%
No car	50%	36%	30%	27%	39%
Childcare problems	20%	43%	53%	11%	10%
Bus driver won't allow me to ride on bus with packages	0%	20%	0%	4%	8%
Work schedule	40%	39%	27%	14%	17%
No grocery store in the area	17%	37%	7%	18%	25%
Can't get to pantry during open hours	50%	44%	23%	22%	42%
Don't have my own apartment/house	0%	13%	10%	13%	8%
Total	4%	20%	23%	40%	9%

insecure with severe hunger were significantly ($p < .001$) more likely than those with moderate or no hunger to not have enough food because of childcare problems, no car, and/or inability to get to the pantry during open hours. The food is available in stores and food and meal programs, apparently, but access seems to be a problem for this population. The food insecure households without hunger or with moderate hunger were significantly ($p < .001$) more likely than those with severe hunger to indicate time to prepare food and work schedule as factors contributing to not having enough food. This may be because the less severe food insecure respondents were more likely to be employed than the food insecure with severe hunger.

In testing for significant variation in reasons for not having enough food by ethnicity, there was no significant difference in the responses of different ethnic groups. It seems that all ethnic groups have similar reasons for not having enough food (Table 4). Significant variation in reasons for not having enough food exists because of the extent of food insecurity, not ethnicity.

Initiatives Identified to Alleviate Food Insecurity: Respondents were also presented with several food assistance initiatives and

Table 5. Percentage of respondents by food security status who said that each initiative would help them get the food they need (n = 491)

Initiatives	Food Secure	Food Insecure w/o Hunger	Food Insecure w/Hunger
Improved transportation□	15%	30%	46%
Different pantry hours□	2%	20%	44%
Different WIC hours	12%	13%	14%
Community gardens□	13%	25%	41%
Traveling food pantry□	5%	24%	51%
Traveling grocery store□	22%	36%	48%
Grocery store downtown□	19%	23%	32%

□ $p < .001$

Table 6. Percentage of respondents by ethnicity who said that each initiative would help them get the food they need (n = 491)

Initiatives	African American (n = 35)	Hmong (m = 66)	Hispanic (n = 55)	Caucasian (n = 286)	Native American (n = 54)
Improved transportation□	48%	50%	36%	17%	47%
Different pantry hours□	30%	42%	18%	13%	31%
Different WIC hours	5%	26%	19%	10%	6%
Community gardens*	30%	41%	21%	21%	37%
Traveling food pantry□	44%	27%	11%	19%	40%
Traveling grocery store	41%	38%	24%	32%	41%
Grocery store downtown□	59%	21%	22%	21%	38%

*p < .05; □p < .001

asked to identify the ones that would help them get the food they need. Table 5 shows that all but one of the proposed initiatives, the associated level of food security, varies significantly. More than half of the respondents who were food insecure with hunger (51%) believed that a traveling food pantry would help them obtain food. People who are hungry are most likely interested in free, easily accessible food. Accessibility actually seems to be the predominant issue for food insecure respondents with hunger, as they indicated a traveling grocery store and improved transportation as the next most favored initiatives.

Although interest in most of the proposed initiatives varied significantly by ethnic group (Table 6), high percentages of ethnic groups representing people of color (African American, Hmong, Hispanic) indicated that improved transportation, a traveling food pantry, and a traveling grocery store would help.

Action Plan to Address Food Insecurity in Green Bay

Following the completion of the 1999 survey, Brown County UWEX nutritionists with the Brown County Food and Hunger Network coordinated the development of an action plan based on the survey results. The proposed initiatives in the Brown County plan are organized according to the USDA categories to allow tracking of local projects in comparison with national efforts. Following are the USDA goals and Brown County's proposed initiatives in each category. Survey data support the planned initiatives.

1. Create new local infrastructures that boost food security, and expand existing ones.
 - Enhance the structure and capacity of the Brown County Food and Hunger Network to include a broader membership and active committees to implement the proposed initiatives.
 - Network with other community agencies and groups that address the needs of low-income populations to efficiently coordinate efforts to alleviate poverty and its effects.
2. Increase economic and job security.
 - Develop a program to increase financial assets and education levels as a means of escaping poverty.
 - Ninety-one percent of respondents who sometimes or often did not have enough to eat during the last year reported that one of the reasons was that they did not have enough money to buy food (see Table 3).
 - The higher the education level of a respondent, the more likely the respondent would be food secure.
 - Respondents with more education were more likely to be employed, sixty-four percent of respondents who were high school graduates were currently employed compared to 44 percent of those without high school diplomas.
 - Respondents with more education earned more than those with less education. The median wage was \$8.00 per hour for those with an education beyond high school, \$7.27 per hour for those with a high school diploma, and \$7.10 per hour for those without a high school diploma.
 - Large percentages of respondents had not completed high school: 34 percent overall, 56 percent of Native Americans, 52 percent of African Americans, and 35 percent of Hispanics.
 - Advocate for creating living wage employment.

- The lower the hourly wage, the more likely the respondent would be food insecure with hunger.
 - Respondents who reported earning the median hourly wage or less for this sample were nearly as food insecure as unemployed respondents.
3. Bolster the federal nutrition assistance safety net.
- Implement a food stamp outreach program to inform households of their eligibility.
 - Only 41 percent of households with no employed adult reported that they received food stamps during the previous year.
 - Only 56 percent of households with children and no employed adult reported that they received food stamps during the previous year.
 - Based on household size and income requirements 35 percent of households with one employed adult and not receiving food stamps were eligible.
 - Market the school and summer breakfast and lunch programs.
 - Only 16 percent of households with school age children received summer lunches in the park during the previous year.
 - Only 5 percent of respondents with school age children received summer breakfasts at the resource centers during the previous year.
 - Only 67 percent of respondents with school age children received reduced or free school lunches during the previous year.
4. Bolster food and nutrition assistance provided by nonprofit groups.
- Establish a traveling nonprofit grocery and/or food pantry.
 - More respondents food insecure with hunger reported that a traveling food pantry would most help them get food (51%) than any other proposed initiative; the second-highest-rated option was a traveling grocery store (48%, see Table 5).
 - Coordinate food pantry locations and hours of operation citywide.
 - Food security varied significantly by the ability of respondents to get to the pantry during open hours as a reason for not having enough food (see Table 3).
 - Forty-four percent of respondents food insecure with hunger reported that different pantry hours would help them get enough food (see Table 5).

- Investigate the establishment of meal site programs for diverse ethnic groups.
 - A larger percentage of respondents at meal sites were Caucasian (75%) than at food pantries (44%) and at WIC (66%).
 - There were no Hmong respondents at the meal sites. Overall, the Hmong respondents were the most food insecure group, which suggests that they could benefit from programs providing meals.
- Increase the variety of foods available at pantries to better serve ethnic minorities.
 - Fifty percent Hmong, 33 percent Hispanic and Native American, and 27 percent African American respondents who did not have the kinds of food they wanted or needed said one reason was that a variety of good food was not available at the site where they were interviewed.
 - Fifty-four percent Hispanic, 46 percent African American, 36 percent Native American, and 29 percent Hmong respondents who did not have the kinds of food they wanted or needed said one reason was that the kinds of food they wanted or needed were not available at the site where they were interviewed.
- 5. Improve community food production and marketing.
 - Expand the community gardens.
 - Forty-one percent of food insecure with hunger respondents reported that community gardens would help them get the food they need (see Table 5).
- 6. Boost education and awareness.
 - Inform the general public of the prevalence of food insecurity and needs of people who are food insecure to mobilize support for action.
 - Expand the community resource fair to inform at-risk populations of available food resources.
 - Educate at-risk populations on how to prepare food.
 - Twenty-three percent of Hmong and 50 percent of Hispanic respondents who did not have the kinds of food they wanted or needed said one reason was that they did not know how to prepare available foods.
 - Thirty percent of Hmong and 39 percent of Hispanic respondents who did not have enough food said one reason

was that they do not know how to prepare available food (see Table 4).

7. Improve research, monitoring, and evaluation.

- Assess public transportation system to food outlets and monitor progress on proposed changes.
- Fifty percent of respondents food insecure with severe hunger reported that one reason they did not have enough food is that it was too hard to get food because they did not have a car (see Table 3).
 - Forty-six percent of food insecure with hunger respondents reported that improved transportation would help them get the food they need (see Table 5).
- Monitor the establishment of a downtown grocery or year-round market.
 - Fifty-nine percent of African American and 38 percent of Native American respondents reported that a grocery store downtown would help them get the food they need (see Table 6).
- Investigate why households at risk for food insecurity are unable to seek aid at food assistance sites.
 - Forty-six percent of respondents who were food insecure with severe hunger reported they knew of at least one person who needed but did not get assistance at their site.

Conclusion

The Brown County Food and Hunger Network and individual agencies have initiated many of the strategies in the action plan. The increased public awareness has prompted local groups to address the issue. Most recently Brown County UWEX received a grant from USDA to coordinate a project with the network to assist the Hmong population, the most severely food insecure, in addressing their needs. With all the new initiatives, within a short time after the development of the plan it became clear that a paid coordinator was needed. The network continues to seek local funding to support this position.

In summary, the Green Bay survey results provide evidence of a severe problem with households at risk for food insecurity. Many are food insecure with hunger even though they are receiving food assistance. Although the survey results are specific to particular at-risk populations in Green Bay, Wisconsin, the demographics,

prevalence rates, reasons, and proposed initiatives could apply to other communities and prompt action. Not only may the actual results be helpful to other communities, but we hope that this report encourages others to duplicate the survey and planning process as a means to address hunger and food insecurity at the local level.

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