ASSESSING FOOD INSECURITY IN KENTUCKY

Janet S. Kurzynske
University of Kentucky
Suzanne M. A. McGough
University of Kentucky
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Hunger in America

Americans spend a smaller proportion of their wages on food than does most of the world. The U.S. government spends nearly $40 billion annually to combat food insecurity helping nearly one out of every six individuals. (FAS Online, Discussion Paper on Domestic Food Security, February 13, 1998) But despite this huge effort and the ability to produce more food than can be consumed, food insecurity exists. Food insecurity exists when individuals lack either physical and/or economic access to food that they need. (*Definitions Concerned with Food Security*, Nancy Leidenfrost, Hunger, Undernutrition and Poverty, USDA- Extension Service, 1993)

Until 1968, no comprehensive study existed which measured the nutritional status of the American people to determine the extent of malnutrition in the land of plenty. Beginning that year, several nationally representative nutrition and health surveys have included questions regarding hunger and food insecurity.

Among those is the National Health and Nutrition Examination Survey (NHANES). Beginning in 1971, NHANES has collected nutritional monitoring data not available from other sources. The most recent survey, NHANES III, found that between 1988 and 1994, 3.6% of participating households reported sometimes not having enough to eat and 0.5% reported often not having enough to eat.

In the 1989-1991 Continuing Survey of Food Intakes of Individuals (CSFII), 3.3% and 0.6 % respectively, were the response rates to the same NHANES III questions. In 1995, the US Census Bureau Current Population Survey (CPS) included a food insecurity survey. This survey determined that 7.8% of the US households were food insecure, 3.3% experienced food insecurity with moderate hunger, and 0.8% suffered severe hunger. Although the method used for the NHANES III and the CSFII surveys were less rigorous, the results indicate that food insecurity and hunger has changed little between 1989 and 1995. (ADA: Position: Domestic food and nutrition security, http//www.eatright.org/adap0398a.html)

These measures, however, were conducted before the sweeping changes brought about by welfare reform. The 1996 Personal Responsibility and Work Opportunity Reconciliation Act put into place programmatic as well as environmental changes in our nation's safety net for poor families. (*Assessing Food Sufficiency in the NHANES III,* Ronette R. Broefe; et al, Food Security Public Issue Education workshop presentation, March 1993) (*Nutrition in the Community,* Anita Yanochik Owen et al, Time Mirror/Mosby College Publishing, 1989, pages 175-180)

There are many factors that affect food security. Monitoring the level and characteristics of food insecurity is important for determining future public and private funding in Kentucky. This project looked at a relatively simple and inexpensive food insecurity survey method that could be repeated periodically.

Research Methods

The nature and extent of food insecurity were measured by random sampling of Kentucky households via the March/April and July 1999 Kentucky Survey. This survey is conducted twice a year by the University of Kentucky Research Survey Center. Trained, supervised employees of the Research Survey Center conducted telephone interviews using the Computer Assisted Telephone Interviewing System, ACS-Query. More than 1,260 interviews were completed from a Random Digit Dialing (RDD) sample which ensured that each residential telephone line in the state had an equal chance of being contacted. It is acknowledged that phone interviews have some disadvantages including the homeless population and households without phones. Demographics of the survey were compared with demographics of the state. The results were statistically weighted to reflect the population without phones. The sample included noninstitutionalized Kentuckians 18 years of age or older. The respondent was not necessarily the family head of house. The margin of error was approximately $\pm$3.9 percentage points at the 95% confidence level for both time periods of the survey. The response rate was 27.5% for the March/April survey and 28.6% for the July survey.

The Kentucky Survey includes research questions from faculty as well as sociodemographic questions on the respondents and their families. Food security questions were added to the Kentucky Survey. These questions were based on the NHANES III food security questions. (Attachment 1) Sociodemographic questions included but were not limited to: family insurance coverage, income, children less than 17, participation in the food stamps program or WIC, county of residence, self reported classification of residence, individual job status, sex, race, year of birth, education, and marital status. T tests were used to analyze the relationships between food insecurity and the sociodemographic questions included in the survey. Relationships were considered significant at $p<0.05$.

As with the NHANES III Survey, respondents were asked to provide answers which represented themselves and their families. Thus, population estimates of food insecurity for individuals were based on self-reported food security of a family. Respondents were classified as food insecure if they responded that they or their families sometimes or often did not have enough to eat. Respondents who answered sometimes or often not having enough to eat were asked additional questions. (Table 1)

To get a richer picture of food insecurity issues in Kentucky, a brief assessment of the availability of food in the major regions of Kentucky was made. Using a small sample

(27) of Kentucky Expanded Food and Nutrition Education Program homemaker food recalls, foods typically eaten were assessed for availability and price in stores frequented by limited-resource families in four rural regions and one urban location. (Attachment 2) A brief survey of availability of emergency feeding sites and usage was conducted.

Kentucky Survey Results

Kentucky's Food Insecurity:

Table 1 shows the overall response to the Kentucky Survey food security questions. The data indicates that 6.5% or about 227,000 Kentuckians were food insecure with 1.1% responding positively to often not having enough to eat and 5.4% responding to sometimes not having enough to eat. More than 66% of those who were food insecure also responded experiencing at least one day without food or money to buy food during the past month. Of those indicating at least one day without food, 88.5% reported that this was due to not having enough money, food stamps, or WIC vouchers. Transportation problems contributed to lack food at a level of 16.7%. When respondents were asked if adults had skipped or cut the size of their meals because there was not enough money to buy food, 7.3% responded "yes."

Table 1 - Prevalence of Food Insufficiency in Kentucky as Measured by Questions on the

Kentucky 1999 Survey

Family Food Insufficiency Question	%

1. Describe food eaten by family	
a. enough food to eat (skip to question 4)	93.5
b. sometimes not enough to eat	5.4
c. often not enough to eat	1.1
d. b + c food insecure	6.5
2. Food insecure who had at least one day last month with no food or money to buy food	66.2
3. Reasons for no food or money to buy food	
a. lack of transportation	16.9
b. no working appliances	5.1
c. not enough money, food stamps, or WIC vouchers	88.5
d. any other reason	25.0
4. Adults cut size of or skipped meals because of not enough money	7.3
5. Children cut size of or skipped meals because not enough money (answered only if children less than 17 years in household)	0.8

Household Characteristics:

Household characteristics accounted for significant variations in food insecurity. Households with children had more than double the rate of food insecurity than households without children, 9.4% and 4.6% respectively. The good news, if you can say "good news," is that relatively few children have restricted food intake. Only 0.8% of the Kentucky children living in food insecure households had reduced meal size or skipped meals.

The percent of food insecure minorities was 14.5%, almost triple the non-Hispanic white level of 5.2%. Kentucky has a relatively small minority population. It is estimated that the 2000 Census will reveal a 7% Black and a 1% Hispanic population. The Kentucky Survey did not have a sample size large enough to separate the Hispanic population data from the Black population data.

Food insecurity was not significantly different among central cities, suburbs, small towns or rural areas even though those who live in rural areas are more likely to live in poverty than urban dwellers (22% vs 16%). (Garkovich, L. et al, *Welfare Reform and Its Implications for Kentucky's Families on the Economic Edge*, Social and Economic Education for Development, January 1997) However, there were some regional differences. Eastern Kentucky or what would be considered Appalachia was significantly more food insecure than the other regions. The North Central region was significantly more secure than any of the other regions. The North Central region includes the three metropolitan areas of the state. This region has the lowest unemployment rate in the state, Appalachia, the highest. (Kentucky Department for Employment Services, http//www.des.state.ky.us)

Even though Kentucky elderly are more than twice as likely to be impoverished than the national average (20.6% vs 11.7%), the survey data indicated that elderly families were significantly less food insecure than younger families. (Garkovich, L. et al, *Welfare Reform and Its Implications for Kentucky's Families on the Economic Edge*, Social and Economic Education for Development, January 1997) One percent of those 65 or older were food insecure, whereas 8.7% of those between the ages of 18 and 34, and 6.3% between the ages of 35 and 64 were food insecure. Safety nets specifically for the elderly, such as Social Security and Medicare, and different skills and behaviors probably help the elderly remain food secure. However, food insecurity may be under reported by this population for reasons such as pride, reduced appetite, and the decreased ability to taste and smell.

Not surprisingly, there was a significant negative correlation between years of education of the respondent and food insecurity. This relationship was most dramatic between completing some high school and only completing grade school (7% vs 17% food insecure). However, obtaining a GED did not improve food security. A full 22% of GED recipients were food insecure. Unfortunately, Kentucky has consistently lagged behind the nation in graduation rates. Thirteen percent of Kentucky's teens are high school dropouts with a national ranking of 45. (Kentucky County Data Book, Kentucky Kids Count, 1994 & 1998) The Kentucky Education Reform Act of 1990 has devoted much attention to the entire education system including graduation rates. However, the near future does not look brighter. Dropout rates have continued to increase slightly between 1992 and 1998. (Kentucky Department of Education, http// www.kde.state.ky.us)

Nationally, the most frequent cause for food insecurity is poverty. Poverty is related not only to income but also to the family size that the income must support. The mean family size in the Kentucky Survey was 2.6 people. The data showed a break in food security when a family's income was less than $20,000 which was well above the poverty line of about $14,000 for a family of three. (Hunger Doesn't Take a Vacation - A Status Report on the Summer Nutrition Programs for Children, Seventh Annual Report, Food Research and Action Center, July 1999.) A full 10% of families with incomes of less than $20,000 were food insecure with only 2% of those with incomes above $20,000 being food insecure. Zimmerman et al determined that in 1998 a rural Kentucky family of three needed an income of $19,708.80 to survive without assistance. (Zimmerman, J. et al, *The Bottom Line: Making Ends Meet in Rural Kentucky*, Social and Economic Education for Development, January 1998) Even though unemployment and poverty rates have decreased, this does not ensure that families make enough money to support themselves.

Survey data was analyzed to determine if public housing, WIC, or food stamps protected a family's food security. More than 44% of those living in government subsidized housing were food insecure compared to 5.6% not in government subsidized housing. More specific to food security are the safety nets of WIC and food stamps. A full 22% of adults on food stamps skipped or reduced meals because of insufficient food. Only 6% of those not on food stamps skipped or reduced meals. A similar pattern was seen with WIC recipients. Almost 18% of WIC adult participants skipped or reduced meals with only 6.6% not on WIC. The relationship between the use of these safety nets and higher food insecurity may indicate that these are Kentucky's most vulnerable populations. It may also indicate that the safety nets are not adequate to prevent food insecurity or that the participants do not have the skills and behaviors to take full advantage of the assistance.

Discussion

Response rates to omnibus RDD telephone surveys have been declining industry-wide in recent years due to increased pressure from tele-marketers and technology changes such as caller identification. The response rate to the Kentucky Survey was still low. The Kentucky Research Survey Center believes that the main reason for this was the length of this year's survey (average 31.8 minutes). Less than desirable response rates are only problematic if the non-respondents are likely to answer the questions differently than those who participate. Examination of the demographics of the survey sample indicated that the respondents were very similar to other recent Kentucky Surveys, that is, they were very representative of the demographics of the state, with a small over-representation of higher income and educated people due to phone access. To compensate for this, results were statistically weighted to reflect the population without phones.

Data from two national food insecurity surveys have recently been released. In March 1998, NHANES III food insecurity data collected from1988 through 1994 was published. (Alaimo,K. et al, Food Insufficiency Exists in the United States: Results from the Third National Health and Nutrition Examination Survey (NHANES III)*, Am J Public Health,* 1998 V88 No 3*)* In addition, in September 1999 an Economic Research Service report on the data collected for USDA by the U.S. Bureau of Census in the more rigorous Food Security Supplement to the Current Population Survey (CPS Household Food Security Survey) was released.(Nord, M. et al, *An Economic Research Service Report, Measuring Food Security in the United States: Prevalence of Food Insecurity and Hunger, by State 1996-1998*, September 1999) This Household Food Security Survey was conducted September 1997 through August 1998 shortly after the changes in the welfare system and in the midst of increasing economic prosperity. In 1998, household incomes increased for the fourth year in a row. There was a significant

decrease in the national poverty rate to 12.7% with the South experiencing the greatest decline. (Economy At a Glance: Bureau of Labor Statistics web page www:stats.bls.gov/eag.table.html) This prosperity has continued into 1999. In Kentucky, unemployment rates have decreased from 5.6% in late 1997 to 4.1% in July 1999. (KY Dept. for Employment Services Labor Market Information)

Comparing trends from the Kentucky Survey results to the NHANES III Survey and the CPS Household Food Security Survey data yielded interesting information. However, several items need to be considered when making this comparison including the interrelationship between current and past welfare policies and economic conditions. Self-reported questionnaire data have limitations ranging from training of interviewers to the natural resistance of respondents. Furthermore, while the data collection methods of the surveys were different, the questions were similar but not identical, and national data is being compared to state data. The CPS Household Food Security Survey asks questions on both quantity and quality of food consumed while NHANES III and the Kentucky Survey only asked questions on quantity of food consumed.

Average food insecurity in the United States was 4.1% as measured in the NHANES III Survey and 10.1% in the 1998 CPS Household Food Security Survey. CPS Kentucky data estimated food insecurity to be 9.1% compared to the Kentucky Survey data showing a 6.5% food insecurity level. Kentucky is less food insecure than most states with similar poverty levels. This difference may be related to the resiliency of the families in Kentucky, small minority population (approximately 8%), low housing costs, or particular skills and behaviors present in Kentuckians.

In both the 1998 CPS data and the 1999 Kentucky Survey data household characteristics accounted for significant variations in food insecurity. United States and Kentucky households with children had more than double the rate of food insecurity than households without children. Black and Hispanic households, nationwide as well as in Kentucky, had almost three times higher rates of food insecurity than white non-Hispanic households. In the NHANES III Survey, 7.7% Blacks and 15.2% Hispanics were food insecure. If food insecurity continues to be a greater a problem for minorities, Kentucky could face an increasing issue as the minority population grows. Both the NHANES III Survey and the Kentucky Survey indicated that elderly are significantly less food insecure than younger populations.

Food insecurity was highest in the central cities (14.2%) and rural areas (10.6%) in the United States according to the 1998 CPS Household Food Security Survey. This pattern was the not found in Kentucky. Regional variations were evident, however. Community data is not available from the NHANES III survey.

There are government-sponsored safety nets available to those who are unemployed or have limited income. The National School Lunch Program was initiated in 1946 after poor nutritional status was apparent in many army recruits for World War II. Over the years the federal school nutrition program has expanded to include breakfast, after school snack, and summer nutrition programs. In Kentucky, 88.5% of the schools who offer free or reduced lunches have a breakfast program. Students qualify for the free meals if family

income is less than 130% of poverty level ($18,044 for a family of three). More than 52% of Kentucky children who participate in free or reduced lunch also participate in the breakfast program. Nationally this figure is only 41%. This certainly helps Kentucky families with children to remain food secure. However, the rural, remote geography of much of Kentucky makes transportation a limiting factor to participation in the summer nutrition program. Only 11.9% of Kentucky children who participate in free or reduced school meals participate in the summer program. With nearly one- quarter of Kentucky's children living in poverty, participation in school nutrition programs could make the difference in the family's and children's food security. Traditionally in Kentucky, food insecure individuals relied on family and friends in times of crisis. In addition, communities have formed local food security safety nets. Most areas in Kentucky have food pantries and/or soup kitchens. Typically, these are supported by civic organizations and the faith community. The economy and employment opportunities have been so strong in 1999, that these additional safety nets have not been used as much as usual, except in particular circumstances. Many communities have increasing job opportunities for Hispanic and migrant workers. These workers are often without family support and are more vulnerable to unfair labor practices. Food pantries are an important safety net for these individuals. Demand for these services may increase as more Hispanic workers are employed. In the United States, general factors that lead to food insecurity are finances and inability to access food. Food insecurity in Kentucky appears to relate to lack of money (88%) and to a lesser extent consumer transportation (16%). Neither non-working appliances nor availability of food was reported as significantly affecting food insecurity. However, a survey of rural grocery stores showed a limited variety of produce. Produce such as melons and greens often were not available despite being in season. Typically, these stores had only 10 feet of produce display cases. If families cannot access a variety of produce, health consequences can occur.

Using the Food Guide Pyramid food categories and the weekly Thrifty Meal Plan, "large" grocery stores in four rural regions and one urban location were surveyed to assess whether a family of four could afford food. Foods commonly eaten and available throughout Kentucky were priced during the summer of 1999. Food waste, guest meals, treats, and special occasions were not calculated into the plan. Initial data indicates that inner city and rural Eastern Kentucky weekly food costs were the most expensive, $92.96 and $94.36 respectively. South Central, North Central, and Western Kentucky food costs ranged from $70.00 to $83.72. The June 1999 Thrifty Meal Plan allows for $98.40 per week. Without school lunch, breakfast, and the summer feeding programs, families with children would be at risk for food insecurity.

In rural communities, only large grocery shopping trips are worth the travel to the larger, less expensive store. When just a few items are needed the "mom and pop" stores are frequented. Many of these "mom and pop" stores stock their shelves with food and supplies bought at the large, regional store. No reasonably priced transportation of food stuff is available into small, remote communities. Numerous issues arise when evaluating this situation including: food safety, variety, cost, and transportation to remote rural areas.

Conclusions

The Kentucky Survey on food insecurity patterns closely mirrored national survey data. Vulnerable populations were the impoverished, those with less formal education, families with children, minorities, and those already using safety nets. As long as Kentucky and the nation enjoy a strong economy, the occurrence of food insecurity will remain relatively small. Just this fact may create a complacency to the issue. To ensure future food security, permanent changes in the social and economic structure of communities so that family earning power enables adequate food supply and community food security activities such as gleaning, safety net awareness, nutritional guidance, and food production must be supported. It appears that the Kentucky Survey is a relatively inexpensive, expedient method to monitor food insecurity trends in Kentucky.

Attachment 1

Kentucky Survey Food Insecurity Questions

1. Which of the following BEST describes the amount of food eaten by you and your family: you have ENOUGH to eat, you SOMETIMES have NOT ENOUGH to eat, or you OFTEN have NOT ENOUGH to eat?

(Interviewer: This question refers to the availability of food, not the choice to eat less if you are dieting)

Go to question 4 if respondent answers enough to eat.

2. Thinking about the PAST MONTH, how many days did you or your family have no food or money to buy food?

3. Which of the following reasons explains why you and your family have this problem:

because of transportation problems?

because you did not have working appliances for storing or preparing foods, such as a stove or refrigerator/

because you did not have enough money, food stamps, WIC vouchers to buy food or beverages?

are there any other reasons?

4. Thinking about the PAST MONTH, did you (or other adult members of your family) ever skip meals or cut the size of your meals because there was not enough money for food?

5.Are any of your children 16 years old or younger?

If no, skip question 6.

6.Thinking about the PAST MONTH, did you cut the size of your children's meals of did they skip meals because there was not enough money or food?

Attachment 2

Food Cost Survey

price the lowest cost brand

carrots

leafy greens

lettuce, iceberg

onions, white

potatoes, white baker

oranges

cantaloup (in season)

cabbage

apples, Delicious

bananas

grapes

watermelon (in season)

corn, whole kernel can

sauerkraut, can

lima beans, can

peas, can

green beans, can

mixed vegetables, can

oatmeal, quick, box

cereal, regular, box Cheerios of similar

cake mix, white

waffles, plain, frozen

baking mix

cereal, frosted flakes

spaghetti, box

flour, white, all purpose

bread, white

cornmeal, bag

grits, box

biscuits, can

macaroni and cheese, box

ravioli, can

cheese, American, sliced

TV dinner

spaghetti sauce, jar

soup, vegetarian vegetable, can

pizza, cheese

soup, tomato

salmon

eggs, large

dry beans, pinto

tuna

fish, breaded sticks

peanut butter

bologna

chicken, fryer parts cut up

sausage, fresh

ground beef, fresh

roast beer, round/rump/butt

pork chops

ham

hot dogs

margarine

catsup

salad dressing, Italian, bottle

sugar, granulated

sugar, brown

lard

jelly, grape

cinnamon, ground

salt, iodized

cooking oil, vegetable

chili seasoning mix

syrup, pancake

pickles

coffee, instant

tea bags, regular

milk, 2%

soda, regular, name brand

soda, regular, generic

fruit ade, unsweetened, dry mix

juice, citrus blend, can

potato chips, regular

popcorn, microwave

popcorn, regular pop

ice cream, vanilla

crackers, "nabs"

snack cakes

doughnuts

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Address of authors: 733 Red Mile Road, Lexington, KY 40504
Phone: 606 255-8640
Email: jkurzyns@ca.uky.edu and smcgough@ca.uky.edu