

THE IMPACT OF FOOD STAMP REFORMS ON ELDERLY IN MISSISSIPPI

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House Bill 3734 (1996) will cut food stamp benefits for households that include elderly members by \$2 billion over six years. Little attention has been paid to the effects of these cutbacks on low-income elderly. The purpose of this study was to explore the following issues: (a) whether the amount of food stamps currently received is adequate, (b) the effects food stamp reforms will have on the elderly, (c) the degree of hunger and food insecurity as well as the nutritional practices among low-income elderly in Mississippi, and (d) the characteristics of high-risk elderly populations.

Review of Literature

Food Stamp Reform

House Bill 3734 (1996) will cut food stamp benefits for households that include elderly members by \$2 billion over six years. On average, the 1.75 million households with elderly members will lose \$167 per year in food stamp benefits in 1998 and \$243 per year in 2002. In dollar terms, the average food stamp cut for elderly households is lower than for other families because elderly households typically include fewer people and, therefore, receive smaller average benefits (Center on Budget & Policy Priorities, 1996).

Little attention has been paid to the effects of these cutbacks. Furthermore, "relatively few studies have focused exclusively on evaluating the impacts of the Food Stamp Program on the nutritional status of elderly recipients" (Oliveira, 1998). Studying the impact of food stamp reforms on the elderly is particularly pertinent in Mississippi. According to U.S. Census data (MDHS, DAAS, 1996), the states with the highest poverty rates for Americans over age 65 are in the Southern U.S. The elderly in Mississippi have the highest poverty rate in the nation at 29% (MDHS, DAAS, 1996). The state of Mississippi has the highest number of households suffering from food insecurity in the U.S. (17.2%) and 12.1% of households outside of metropolitan areas suffer from food insecurity (USDA, 1997).

According to the Mississippi Department of Human Services, Division of Economic Assistance, 14.4% of all food stamp recipients in Mississippi are 55 years of age or older. This percentage is high considering the national average for elderly participants is 7% (USDA, 1998).

Hunger and Food Insecurity

Food insecurity has been defined as "the inability to acquire or consume an adequate quality or sufficient quantity of food in socially acceptable ways, or the uncertainty that one will be able to do so" (Wolfe, Olson, Kendall, & Frongillo Jr., 1996). Food insecurity exists "whenever the availability of nutritionally adequate and safe foods or the ability to acquire acceptable foods in socially acceptable ways is limited or uncertain" (Anderson, 1990). The levels of food insecurity defined by one study (Wolfe, et al., 1996) include: (a) compromised diet quality, (b) food anxiety, (c) socially unacceptable meals, (d) use of emergency strategies, and (e) actual hunger.

Persistently poor rural America low-income households, including those receiving food stamps, are at an increased risk of food insecurity (Morris, Neuhauser & Campbell, 1992). Further, food insecurity contributes to malnutrition in the elderly, which as a result exacerbates disease and decreases resistance to infection (Wolfe, et al., 1996). Federal programs to combat food insecurity reach only one-third of needy elders (Wellman, Weddle, Kranz, & Brain, 1997).

According to a 1993 national representative survey of the Urban Institute, by Burt (as cited in Wellman, et al., 1997) between 8% and 16% (2.5 to 4.9 million) of the elderly population have experienced food insecurity within a six-month period. Elders at 150% and more of the poverty level experienced some forms of food insecurity, yet were not poor enough to qualify for food stamps or other support programs. Duff states (as cited in Wellman, et al., 1997) that many older individuals often have to choose between paying rent or other bills, buying medications, or buying food.

Previous studies have identified the following risk factors of food insecurity in elderly populations as: having a limited income, being minority, living alone, having health problems, being male, having physical disabilities, being a Medicaid recipient, having restricted mobility, having limited access to transportation and grocery stores, experiencing frequent unexpected expenses/emergencies, and having high medical bills and/or medicine expenses. Food insecurity was reduced for elderly who used public and private food programs, had savings, benefited from family support, held religious beliefs, and practiced food management strategies (Wolfe, et al., 1996). The Food Stamp Program reaches those with higher rates of food insecurity, but many elders do not use such federal programs because they may not be poor enough to qualify for food stamps. (Wellman, et al., 1997).

Surprisingly, only 35% of elderly Americans who were eligible for food stamps actually applied for and received them in January 1994 (Weimer, 1997). Reasons for the low use of food stamps include difficulties associated with applying for them, a belief that they are ineligible, and elderly generally qualify for smaller amounts. These smaller allotments may not allow elderly-headed households to acquire a nutritionally adequate diet (Weimer, 1997).

Nutrition Issues

Many elderly have poor nutritional intakes that leave them susceptible to chronic, life-threatening diseases. Studies from Dwyer, Posner, Jette, Smith, and Miller (as cited in Schoenberg, Coward, Gilber, & Mullens, 1997), detected that approximately 80% of all older adults have chronic medical conditions that could be improved with proper dietary intake. However, a number of elders choose not to use food stamps because of the negative image of welfare and pride. They feel food stamps are not worth the trouble for \$10 per month (Wellman, et al., 1997).

"There is also evidence that rural elders have poorer health profiles than their urban counterparts" (Schoenberg, et al., 1997). Nationally, food stamp participation rates are significantly lower in rural counties even given the same poverty levels (Hirschl & Rank, 1991). Just over half, 52%, of older Mississippians live in rural areas (MDHS, DAAS, 1996). African Americans, especially rural African Americans, manifest a pattern of high risk for poor nutrition (Schoenberg, et al., 1997).

The nutritional risk of older African Americans is of particular concern to health analysts because of the disproportionate incidence of morbidity says Edmonds (as cited in Schoenberg, et al., 1997). African Americans represent 28% of the over 60 population in Mississippi, and 49% of the African American elderly in the state live below the Federal Poverty line (MDHS, DAAS, 1996). According to Butler and Heyer's study (as cited in Buchowski & Sun, 1996), the highest rate of poverty, 73%, is that of African American women aged 85 and older living alone.

Phase One – Qualitative Investigation

Research Methodology

Data collection for this project took place in two phases. For phase one of the project, gerontology students conducted face-to-face interviews with elderly. A qualitative mode of inquiry was considered most appropriate given the exploratory nature of the investigation and to gain a rich understanding of hunger and food insecurity from the perspective of the low-income elderly in the situation. In-depth interviews were employed as they are useful to seek new ideas, underlying themes, and patterns. The information gleaned from this phase of the data collection was later used to develop a telephone survey.

Interview Process. As part of the course requirements for the Fall 1998 Consumer Aspects of Aging class at Mississippi State University, five graduate and five undergraduate students were required to observe one interview conducted by either the instructor or graduate assistant and conduct six interviews observed by either the instructor or graduate assistant. The instructor and graduate assistant conducted five pilot interviews in mid-September to test the interviewing instrument. All students were required to participate in a three-hour interview training seminar and each student's

interviews were observed by either the instructor or the graduate assistant to ensure consistency in interviewing techniques.

The interview process was qualitative. All interviews were audio taped. Student interviewers were trained to avoid leading the participants into answers. Participants were encouraged to come up with their own language and ideas to open-ended questions (refer to Table 1 for specific interview questions). Students were conversational with the participants and often asked the questions in ways more easily understandable for the participant. Students were also encouraged to ask for clarification on answers and observe non verbal communication. Each interview took approximately 10 to 15 minutes. After each interview, students were required to write their impressions and observations, making note of emerging themes, subjective feelings, and their own behavior. They were also asked to record any striking nonverbal expressions made during the interview.

Table 1. Interview Questions.

Topic/Questions	Response
<p><u>Hunger</u></p> <p>We are doing this survey to see if people in this community are getting enough food to eat – especially people on food stamps. Do you know of people who have trouble getting enough food to eat? Has this ever happened to you? Do you ever feel that way now? How could this be different?</p>	<p>12.9% experienced hunger</p>
<p><u>Insecurity</u></p> <p>Do you ever feel unsure about where your next meal will come from? Can you tell me about that? What is that like? How often do you go to the store? Are you able to manage that all right? How do you get there?</p>	<p>14.5% experienced food insecurity</p>
<p><u>Nutrition</u></p> <p>Tell me a little bit about your meals. Do you eat three meals a day? What would you typically eat in a day? If you could change your diet, how would you do that? How would it be different? What is keeping you from eating like you want?</p>	<p>12.9% had overall poor nutrition habits</p>
<p><u>Food Stamps</u></p> <p>Is there a place in the community where you can</p>	<p>20 (32.3%) received food</p>

<p>get help with meals?</p> <p>IF YES–Have you ever used that resource?</p> <p>IF NO–Would you like to learn more about available resources?</p> <p>Do you currently receive food stamps?</p> <p>IF YES–How would your life be different without food stamps? Is the amount of food stamp assistance enough? What would you buy if you had more food stamps?</p> <p>IF NO–Why not? Have you received food stamps in the past?</p>	<p>stamps</p>
<p style="text-align: center;"><u>Risk Factors</u></p> <p>Are there health problems that require you to eat a certain way? How often do you go to the doctor?</p> <p>Do you take much medicine? How do you pay for these things? What is the biggest drain on your budget?</p> <p>Do you have family nearby? What are some ways you make the food money last through the month? What is your age? Ethnicity (observe) Gender (observe)</p>	<p>See Table 2 for breakdown</p>

Sample. Volunteers for the study were recruited from three congregate meal programs and five low-income senior activity programs. These sites were located in either Choctaw, Webster, Lowndes, Oktibbeha, or Clay County Mississippi. Seniors at each site were given a brief description of the research project and informed that their participation was voluntary and they would remain confidential. Before beginning the interview, participants were read and asked to sign an informed consent form and permission to audio-tape record the interview was obtained.

The locations for these interviews were selected because of their geographic proximity to the 10 Mississippi State University students who conducted the interviews. Another reason for the selection of this sample was the directors of these sites gave permission for the interviews.

The sampling procedures resulted in a purposive sample of 62 low-income elderly. Of the sample, 20 individuals were currently receiving food stamps. All participants were over the age of 55 with 20 being age 55 to 65, 24 being age 66 to 75, 15 being 76 to 85 and one participant over the age of 86. Fifteen participants were White and 47 were African American. Nine participants were men and 53 participants were women.

Data interpretation. Students transcribed the interviews from the tapes and wrote their personal observations from each interview. The transcriptions were analyzed and coded based on the three levels of food needs (hunger, food insecurity, nutrition), demographic characteristics (gender, community, age, ethnicity), food stamp receipt, risk factors (health, medication, budget drain, grocery store access), and supporting factors (Medicaid, food stamps, family support, food management strategies, and religion).

The objective of the data analysis was to identify themes, categories, or patterns in the answers provided by the participants. Therefore, descriptive coding was employed following recommendations by Crabtree and Miller (1992). Step one, data preparation, included data entry by the students. Field notes were typed and interviews were transcribed. Cleaning the data included checking for spelling errors and inconsistencies, minor editing for clarification, and formatting. Step two, data identification, included dividing text data into analytically meaningful and easily locatable segments. Step three, data manipulation, included searching for particular data elements (word, phrases, or data segments) and sorting or retrieving them. The last step, data analysis, included identifying themes, trends in the data. Steps three and four were completed during class time.

Overview of the Findings

Hunger. Some elders identified themselves as experiencing hunger due to lack of money to pay for food. "You just be hungry because you can't afford the food that you really need." All respondents who identified themselves as hungry were experiencing health problems, "I ain't got no health, no I ain't – real disgusted." These people were less likely to be on Medicaid. Most identified that they had problems getting to the store usually due to lack of transportation.

"I have to have a ride to go to the store...otherwise I get what I can bring back in my hands."

Food insecurity. Other respondents weren't necessarily hungry, but admitted not being secure about their next meal, "maybe sometime twice out of a month...I went to a neighbor and a few friends." Most respondents experiencing food insecurity were also experiencing health problems and taking medications.

Poor nutrition. Even though several respondents admitted to engaging in poor nutritional practices eating "junk, or something I shouldn't be eating," for the most part, they seemed to understand what foods they should be eating. "I would buy...plenty of juice, plenty of fruit...but, you is unable to buy that stuff it's so high." "I'd buy chicken, good meat is so

high...and fish, greens, green beans, squash, I like things like that." Many were not eating the foods they wanted due to perceived high prices of fresh produce and meat.

Table 2. Risk Factors and Supporting Factors for Food Problems of Low-Income Elderly

	Food Problems		
	Experiencing Hunger (12.9%)	Experiencing Food Insecurity (14.5%)	Poor Nutritional Habits (12.9%)
Risk Factors			
Health	100% experiencing health problems	88.9% experiencing health problems	87.5% experiencing health problems
Medication	87.5% taking medications	77.8% taking medications	87.5% taking medications
Biggest drain on Budget	Utilities mentioned by 50%	Utilities mentioned by 44.4%	Utilities mentioned by 25%
Grocery store Access	75% have problems getting to the store	44.4% have problems getting to the store	12.5% had problems getting to the store
Support Factors			
Medicaid	50% on Medicaid	66.7% on Medicaid	50% on Medicaid
Food stamps	62.5% on food stamps	44.4% on food stamps	37.5% on food stamps
Family support	100% had family nearby	88.9% had family nearby	87.5% had family nearby
Food	Cook enough to last awhile, shop sales, only	Cook enough to last awhile, don't waste	Do without, shop sales, buy in bulk, make

Management Strategies	buy when run out	food, shop sales, buy in bulk	things like soup
Religion	37.5% mentioned that the Lord would provide	22.2% mentioned that the Lord would provide	0% mentioned religion

Other findings from this study show that those elders who were on food stamps were receiving very low amounts per month. Of those receiving food stamps, most received only \$10 per month. This low amount lead many respondents to identify that they really did not need that assistance anyway. "...send me \$10 in the mail and I carried them back down there and...said I don't want no headache about no \$10 worth of food stamps...now what can you do with \$10?...you keep them and spend them, I don't want them."

Food Stamps Received Number

\$10/month 11

\$11 - \$100/month 4

Over \$100/month 3

Did not say 2

TOTAL 20

Of the 42 respondents not currently receiving food stamps, the most commonly cited reason was that they felt they would not qualify for the assistance (14 respondents). Several others offered no explanation (8 respondents) or had just never tried to apply (6 respondents). Four respondents said it was not worth the hassle for \$10 per month. Three were on food stamps intermittently and three no longer qualified because they lived alone.

Most of the student interviewers agreed that they perceived a great need among these people, but the elderly themselves did not. Most of the elderly interviewed did not feel they had real issues of food insecurity, but all of them seemed to live from month to month (or day to day) with difficulty. Some (9 respondents) of those denying hunger or food insecurity cited their "trust in the Lord." "I know that He will provide my every need."

This phase of the study was designed to be an exploratory look at the food issues affecting low-income elderly in Mississippi. Further research was necessary to more specifically define the issues surrounding food insecurity and the impact of food stamp reforms on elderly. The second phase of this research project was completed in the spring semester of 1999. A telephone survey was developed based on information gleaned from this study.

Phase II – Quantitative Investigation

Research Methodology

Procedure. Information collected from the qualitative investigation conducted in Fall 1998 was used to design a telephone survey. Twenty-one undergraduate students from an Introduction to Gerontology class at Mississippi State University were required to complete 10 telephone surveys each. Students were required to attend a one-hour training session and were provided with detailed information on how to conduct the telephone interview.

Instrument. A telephone survey was used to collect the necessary information due to time and money constraints. According to Fox, Heimendinger and Block (1992), administering surveys over the telephone has the advantage of reaching a large number of individuals, considering that 97% of the US population owns a telephone. Traditional survey methods for collecting and analyzing dietary information from large populations can be both time consuming and expensive. Another reason a telephone survey was chosen as the data collection method for this study was safety. According to Leighton, et al., (as cited in Fox, 1992) there is good correlation between the same instrument administered over the telephone and face-to-face.

Variables. Questions were asked based on risk factors such as physical limitations, transportation, cooking equipment, and support. The demographic variables collected with this survey were: (a) gender, (b) education, (c) ethnicity, and (d) food stamp receipt. Degree of hunger/food insecurity was measured using a sub-set of questions from food insecurity research done at Cornell (Radimer, 1990). The USDA Food Security Module was not used because of the length of the questionnaire and many of the questions did not apply to an elderly audience. Nutritional risk was measured by the DETERMINE Checklist developed by the Nutrition Screening Initiative. Participants were categorized as being at high, medium, or no nutritional risk based on their score (NSI score).

Sample. A telephone/mailling list was purchased from Metro Mail which included 10,000 names of people in Mississippi, 55 years of age or older, with household incomes at 150% of the poverty level or below for a family of two. Dillman methods were used to randomize the telephone calls (Dillman, 1978). Outcome of the telephone call was recorded for each attempt.

Results

Sample. Between January and May of 1999, 675 people were contacted by telephone, and 212 of those contacted participated in the study. The other 463 people contacted either refused the interview, terminated the interview before completion, or were not eligible due to income or age.

The data collection effort resulted in a sample size of 212. Of the sample, 19.4% were currently receiving food assistance, 49.5% had less than a high school education, 47.9% were White and 49.3% were African American, 22.6% were male and 77.4% were female.

Correlations. A Pearson Correlation was run on all variables. Transportation, health status, food stamp receipt, ethnicity, education, and whether or not the individual had adequate pots and pans were significantly correlated with Insecurity Score at $p < .01$. Only education was significantly correlated with NSI Score.

Table 3. Correlations with Food Insecurity Risk and Nutritional Risk.

Variable	Insecurity Score	NSI Score
Transportation	-.201	
Health Status	.208	
Food Stamp Receipt	.387	
Ethnicity	.327	
Education	-.249	-.212
Pots & Pans	-.186	

Current food assistance. The first two objectives of this study were to look at whether the amount of food stamps currently received is adequate and to question the effects of further food stamp reforms on the elderly. These objectives resulted in the first hypotheses for this study. Low-income elderly living in Mississippi, currently receiving food stamps will have lower levels of hunger/food insecurity and nutritional risk than those not receiving food stamps. This hypothesis was tested by performing an ANOVA comparing the means of the hunger/food insecurity scores for both groups. An ANOVA was also run comparing the means for the Nutrition Screening Initiative scores (measure of nutritional risk) for those on food assistance and those not on food assistance. Findings were significant at the $p < .05$ level for the food insecurity scores, indicating the opposite of what was expected, food stamp recipients had a significantly higher risk of food insecurity and/or hunger than non-recipients. The mean score for the NSI was not significantly different for food stamp recipients and non-recipients.

Table 4. Food Insecurity and Nutritional Risk by Food Stamp Receipt.

	Food Stamp Recipients (N=39)	Non Recipients (N=165)	Significance Level
Food Insecurity Score	10.26	6.65	.000
NSI Score	11.54	8.79	.074

Since the NSI also allows categorization of subjects into groupings of high, moderate, or no nutritional risk, that data was used to run a Chi-Square analysis of NSI category for food stamp recipients and non-recipients. In this case, the results were significant. The majority of food stamp recipients were found to be at high nutritional risk. The test had a p-value of .004.

Table 5. NSI Risk Categories by Food Stamp Receipt.

NSI Category	Food Stamp Recipients	Non-Recipients
No Risk	0 0%	18 11%
Moderate Risk	2 5.1%	32 19.6%
High Risk	37 94.9%	113 69.3%

Characteristics of high-risk elderly. Two other objectives of this study were to look at the degree of hunger and food insecurity as well as the nutritional practices among low-income elderly in Mississippi and to investigate the characteristics of high-risk elderly populations. This resulted in the second hypothesis for the study. There will be risk factors of low-income elderly in Mississippi that predict level of hunger, food insecurity, or nutritional risk. A regression analysis was run to determine the best model predicting nutritional risk and another was run to determine the best model predicting high hunger and food insecurity. For food insecurity, the variables with the highest prediction were ethnicity, whether or not the individual was currently receiving food assistance, and

whether or not the individual owned adequate pots and pans for cooking. No significant model was found using NSI score as the dependent variable.

Table 6. Regression with Food Insecurity as Dependent Variable.

Independent Variable	B	Beta	t	Significance Level
Food Stamp Receipt	3.061	.328	5.213	.000
Ethnicity	1.822	.425	.270	.000
Pots & Pans	-3.244	-.137	-2.202	.029
R ² =.243, Adj. R ² =.217, F(3, 21.179)*, p=.000				

*p < .05

Some risk factors of elderly at high levels of food insecurity/hunger were identified. High food insecurity was classified as those with scores of 12 or higher (20 being the highest possible score, 5 being the lowest possible). Chi-square analysis and crosstabs were used to determine differences between high-risk and low-risk elderly. P-values of .05 or less were considered significant. As detailed in Table 7, elderly with high food insecurity risk scores were more likely to: (a) have little education, (b) be African American, (c) be receiving Food Stamps, (d) have gained or lost 10 pounds in the past six months without wanting to, (e) rank their own health status as poor, (f) eat fewer than two meals per day, (g) often not have enough money to buy food, (h) not have adequate cooking utensils for cooking such as pots and pans, and (i) have tooth or mouth problems that caused problems in eating.

Table 7. Characteristics of Elderly at High-Risk and Low-Risk of Food Insecurity.

	Variable	Low Food Insecurity	High Food Insecurity
Education, p=.006	Less than 9 th Grade	41 24.0%	23 56.1%
Ethnicity, p=.000	African American	70 41.2%	34 82.9%

Food Stamp Receipt, p=.000	Receive Food Stamps	23 13.9%	17 41.5%
±10 pounds in past 6 months, p=.000	Yes	59 34.7%	23 56.1%
Health Status, p=.009	Ranked own health poor	17 9.9%	9 22.0%
Meals per day, p=.006	Eats fewer than 2 meals per day	40 23.4%	17 41.5%
Money to buy food, p=.001	Often does not have enough money to buy food	56 32.9%	25 61.0%
Pots and pans, p=.020	Does not have adequate cooking utensils	2 1.2%	3 7.3%
Tooth and mouth problems, p=.000	Has tooth or mouth problems interfering with eating	43 25.3%	22 53.7%

Discussion

From the results of phase one, it appeared that the major food issue affecting low-income elderly was the lack of sufficient money to purchase healthy foods including fresh produce and meat. This is an issue that can be addressed through policy changes in amount of food assistance awarded to the elderly. Some of the recommendations that may address these problems include increasing the amount of food stamps to the elderly or offering more varieties of food assistance programs to the elderly.

Other issues that were observed include lack of access to transportation, poor overall health, and lack of nutrition education. Easier access to public transportation, programs such as Meals on Wheels, and home delivery programs for the elderly may be possible solutions. Poor health in conjunction with hunger, food insecurity, and poor nutrition is not a surprising finding. Nutrition education and resource referral may be one way to

address this problem. Targeting nutrition education programs specifically to low-income elderly should be a goal for nutrition educators.

Heightened public awareness of the high incidence of hunger and malnutrition among the elderly is also needed along with increased attention to the poor nutritional status and unique needs of the elderly.

Implications. The first hypothesis for this study was that low-income elderly living in Mississippi currently receiving food stamps would be at lower levels of hunger, food insecurity, or nutritional risk than those not receiving assistance. Researchers anticipated finding that among low-income elderly, those currently on Food Assistance would be better off. The findings were the opposite of this however, indicating that the amount of food assistance received by elderly is not adequate. Findings in the preliminary qualitative study found that most elderly receiving food assistance (55%) were receiving approximately \$10 per month. At the current levels, a cut back may have negative impacts on the elderly.

The second hypothesis was that there would be risk factors of low-income elderly in Mississippi that predict level of hunger, food insecurity, or nutritional risk. The regression model showed that indeed three factors were found with significant levels of prediction of food insecurity/hunger. The first variable was whether or not the individual received food assistance. Again, if an individual was currently receiving food assistance, they were more likely to be suffering from food insecurity or even hunger. Ethnicity was the second variable found to predict food insecurity/hunger. African American elderly in Mississippi are more likely to be suffering from food insecurity/hunger. Lastly, if the individual did not have access to adequate cooking utensil such as pots and pans, they were more likely to suffer from food insecurity/ hunger. This may reflect the lower income levels of this audience. Participants in the study were not asked their exact income, only if they fell below a certain annual amount indicating they may qualify for food stamps.

Limitations of study. Since a telephone survey was used to survey this audience, a portion of the elderly suffering food insecurity and hunger may have been missed in the sample – those without telephones. Using telephone surveys to collect the data may be a perceived weakness of the data. However, with the time and budget constraints of this project, this method resulted in a sample size of 212 individuals. A response rate of 31% was achieved. Research has shown that there is no significant difference in the quality of data obtained from telephone surveys and personal interviews. The anonymity of the telephone may have even encouraged respondents to be more truthful in their responses. It is also acknowledged that statistics show that 97% of US households own telephones. It is highly likely that the three percent without telephones encompass many low-income elderly.

In summary, findings indicate that indeed hunger and food insecurity exist in Mississippi. Cut backs in the already low food assistance for elderly may have serious negative consequences. The risk factors of elderly experiencing food insecurity and hunger in

Mississippi include: being African American, having lower levels of education, receiving Food Stamps, experienced recent changes in weight, poor self-reported health, eating fewer than two meals per day, often being without enough money to buy food, lacking adequate cooking utensils, and having tooth or mouth problems.

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