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# SENIORS GOING HUNGRY IN AMERICA: A CALL TO ACTION AND WARNING FOR THE FUTURE

## HEARING

BEFORE THE

## SPECIAL COMMITTEE ON AGING
## UNITED STATES SENATE

ONE HUNDRED TENTH CONGRESS

SECOND SESSION

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# SENIORS GOING HUNGRY IN AMERICA: A CALL TO ACTION AND WARNING FOR THE FUTURE

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**WEDNESDAY, MARCH 5, 2008**

UNITED STATES SENATE,
SPECIAL COMMITTEE ON AGING,
*Washington, DC*

The Committee met, pursuant to notice, at 10:34 a.m., in Room SD-562, Dirksen Senate Office Building, Hon. Gordon H. Smith, Ranking Member, presiding.

Present: Senators Wyden, Salazar, McCaskill, Smith, and Dole.

## OPENING STATEMENT OF SENATOR GORDON H. SMITH, RANKING MEMBER

Senator SMITH. Good morning, ladies and gentlemen, we thank you all for being here. I want you to know that this Committee has a very special tradition of working in a bipartisan way, and Senator Kohl and I have long had that kind of relation.

So with his permission, we will proceed and then welcome some more of my colleagues. My colleague, Senator Wyden and the gentleman from Colorado, we welcome you as well, Senator Dole.

I want to extend also a personal welcome to Mr. Marcus Lampros, who will testify about the wonderful volunteer work that he does on behalf of the Loaves and Fishes Centers in my home State of Oregon. I look forward to hearing Mr. Lampros' testimony later this morning.

Bottom line, ladies and gentlemen, food is the most basic of human building blocks. You can't have sustained life without it. Yet in this country, millions of Americans do go hungry. As hard as that may sound to some ears, it is in fact the truth.

In fact, more than 35 million Americans are food insecure, meaning their access to food is limited by a lack of money and a lack of resources. They are some of our most vulnerable citizens, and many of them are seniors. Hence, the focus of this Committee.

In my home State of Oregon, hunger affects many seniors. Although the trend of hunger is improving in my State, there remain far too many who are on the brink of hunger or are receiving inadequate aid.

However, even with recent improvements in outreach and increased enrollment in programs to combat hunger, more than one in 10 Oregonians experience difficulty in purchasing food each year.

The problem of hunger in our Nation is one that I have long been concerned about and one that has led me, along with Senator Dole and Senator Lincoln, to Chair the Senate Hunger Caucus. I look forward to working again with these, my colleagues that I have mentioned, to ensure that seniors have better availability to the nutrition programs in the Older Americans Act.

Senator Lincoln and I and Senator Dole and others will work with the appropriators to raise funding levels for the congregate and home delivered meals that we will be talking about today.

We were successful in seeing a small increase in funding for these programs last year, but after many years of stagnant funding, there is much more that needs to be done.

I also want to thank the Meals on Wheels Association of America. This foundation does remarkable work that they have been doing to gather the funding and research to create the great report they are releasing today.

This report will help me and my colleagues to finally have a much better understanding of the specific causes, impacts and future trends of senior hunger in America. As the report mentions, since 2000, more than 11 percent, or roughly 5 million seniors, have experienced some form of food insecurity, with more than 750,000 persons actually suffering from hunger due to financial constraints.

We will learn today that there are certain risk factors for food insecurity, such as living with a grandchild, never married individuals, social isolation and persons who rent their housing. Surprising, seniors who are the on younger age range, between ages 60 and 64, are more likely than those who are 80 years and older to suffer from food insecurity.

Unfortunately, we know that while there are programs available to seniors, they are not always utilized. For instance, only a small percentage of seniors who are eligible for food stamps actually for and receive them.

The U.S. Department of Agriculture has done work to increase these numbers, and I look forward to hearing more from them today on their efforts. Taken as a whole, the statistics I have discussed this morning are staggering and they show us that more must be done.

The health consequences from lack of access to this most basic need are grave. Most importantly, they are preventable. Unfortunately, without change, we can expect this problem only to worsen.

As we will learn more about today the number of seniors expected to be food insecure by 2025 is estimated to be 9.5 million seniors, which is about 75 percent higher than the 2005 estimates.

However, I believe we won't have to wait that long to notice that hunger will quickly become an even greater problem in our Nation. So that with rising prices of grain, corn and gas, in the U.S. prices for food are also on the rise.

These rising prices make the balance of life that much more difficult and fragile for those seniors who want to stay in their homes and communities as they age.

Our own U.S. Capitol is adorned with displays and images of fields of plenty, of harvests of wheat. This remains a Nation of

bounty, and we must ensure that our hungry seniors can and do have access to the food and nutrition programs available to them.

Again, I look forward to learning more from our panelists about these issues and what options we as a government have in order to turn the current trend around. We must continue to work together to ensure our most vulnerable citizens are lifted from the threat of hunger and are able to thrive as healthy individuals.

I believe Senator Kohl will be joining us later, and so with the permission of my colleagues, why don't we go Democrat, Republican, and Democrat. Senator Wyden.

**OPENING STATEMENT OF SENATOR RON WYDEN**

Senator WYDEN. Thank you, Mr. Chairman, and congratulations to you and Senator Kohl for scheduling this important hearing and all the advocacy that you are doing for this particular issue.

It is my view that it is a moral blot on our country, a Nation so strong and good and wealthy, that we have so many older people going to bed at night hungry. Back in my youth, when I was co-director of the Oregon Gray Panthers, I served on the board of Loaves and Fishes, and I am very pleased that Senator Smith has invited Marcus Lampros to be here.

The Lampros family in Portland is involved in just about every good cause in our community, and we are very pleased that they are here.

The fact of the matter is, that this program is enormously important as it relates to nutrition, but also extremely important as it relates to the socialization needs of older people as well.

I was struck this past winter when my wife Nancy and I delivered meals for Loaves and Fishes. We got a chance to talk to a lot of the folks who get the meals that Loaves and Fishes delivers. The programs that we are going to hear about today very often are the only visitors that a lot of older people have, particularly on a holiday.

That was the case this year when Nancy and I visited. We were the only persons who were going to be in contact with these older people. So the point made by Senator Smith today about the benefits of these programs as they relate to hunger is absolutely right. But it is also clear that these programs perform a great need in terms of keeping older people connected to the community.

The only other point I want to mention is my sense that these programs are also vitally needed to prevent older people from eventually needing institutional care. Because just as sure as the night follows the day, if you don't have adequate nutrition, along with heat and other essentials, you are going to get sick.

So what we have is an opportunity here with a modest amount of help in areas like nutrition to keep older people from needlessly having to go into institutional facilities where there are a lot less happy, and it is much more expensive for the taxpayers.

So this is a cause that is morally right, but I would also offer up the judgment that it is economically right as well. So we congratulate all of our witnesses, particularly pleased to have Oregonians here, and look forward to working with you, Senator Smith, Senator Dole and Senator Salazar on this issue.

If ever there was a bipartisan cause in America, rooting out hunger among our seniors is it. So I look forward to working with our colleagues.

Senator SMITH. Thank you, Senator Wyden. Senator Dole.

**OPENING STATEMENT OF SENATOR ELIZABETH DOLE**

Senator DOLE. Thank you so much, Senator Smith, for holding this hearing today. This takes me back to my days when I was assistant to the president for consumer affairs years and years ago, and this was one of the issues that we were terribly concerned about then.

When I came to the Senate, my maiden speech was on this very issue, the problem of hunger in the United States and around he world. I often paraphrased David Broder of the Washington Post, because I think what he said is so appropriate.

Some issues just seem impossible to resolve, but this is not one of them. All we need is caring people and a caring government, and we can eliminate hunger in our lifetime.

So joining the Hunger Caucus, helping to set that up has certainly been a privilege for me and this remains a top priority. I want to thank Meals on Wheels Association of America for your passion, your commitment to feeding our seniors. You are indeed doing the Lord's work.

It has been a privilege to visit a number of your organizations in North Carolina and to see the good work that you folks are doing. In addition, I want to thank all of those who will be testifying.

In America, the land of prosperity and plenty, as my colleagues have mentioned, some people have the misconception that hunger plagues only far away, undeveloped nations. The reality is that hunger is a silent enemy lurking within one in 10 U.S. households.

In fact, in North Carolina alone, nearly 1 million of our 8.8 million residents are struggling with food insecurity issues. So again, one of my top priorities is addressing this far too prevalent problem that affects people of all ages and certainly including our seniors.

Millions of seniors are living on fixed incomes, as we have already heard. They don't have the means to purchase nutritious foods and other basic necessities. They have no choice but to buy what they can afford. Far too often, these are unhealthy choices. It is a sad fact that many of our senior citizens slip through the cracks with their nutritional needs going unmet and unnoticed.

I am very pleased that the proposed versions of the Farm Bill includes strong nutrition titles that go to great lengths to address hunger in America. In particular, I am encouraged to see the inclusion of funding for the Senior Farmers Market Nutrition Program that enables seniors to purchase fruits, vegetables and other nutritious foods at farmers markets.

I also welcome significant increase in funding for the Emergency Food Assistance Program, which benefits food banks the provide critical nutritional assistance to many disadvantaged Americans, and proposed changes to the Commodities Supplemental Food Program, again, which provides nutritious USDA commodity foods for the elderly and other vulnerable populations.

Of course, caring for seniors and other needy citizens should not fall solely on the shoulders of the Federal Government. Instead, we welcome and encourage public/private partnerships through programs such as Meals on Wheels and numerous food banks across the United States.

In North Carolina, I visited a number of our food assistance organizations around the State, and I am always impressed with the mission feel that they are on, the tremendous job they do to meet the needs of our less fortunate citizens.

One area I have been focused on is promoting food donations and incentivizing volunteers to participate in these charitable and necessary ventures. In fact, my food donation amendment was included in the Farm Bill that addresses four tax issues that will encourage food donations and volunteering to help the hungry.

For example, the amendment allows volunteers to receive a tax deduction for mileage incurred while transporting food donations. As a former president of the American Red Cross, I know firsthand the importance of volunteers. There would be no Red Cross without the 1.3 million volunteers, and I understand that many charities like Meals on Wheels depend on volunteers using their personal vehicles to deliver food to countless tables across the country.

In addition, volunteers who glean and transport food could benefit from this tax deduction measure. Excess crops that would otherwise be plowed under or thrown out are taken from farms and other entities and distributed to the needy.

Each year in this country, 96 billion pounds of good, nutritious food is left over or thrown away. Gleaning helps eliminate this waste.

I have gleaned with a number of organizations, and really most recently with the Society of St. Andrew in Harnett County, gleaning sweet potatoes back on October. It is a great thing to do.

So again, thank you, Senator Smith, for holding this hearing. I look forward to working with my colleagues to fight the battle against hunger. I feel fervently about this and regard you as partners and look forward to working with you.

It is a campaign, as I have said, that can't be won in months or even a few years. But with a caring government and a caring people working together, ending hunger in America is certainly a victory within reach.

Thank you very much, Mr. Chairman.

Senator SMITH. Thank you. Senator Salazar.

## OPENING STATEMENT OF SENATOR KEN SALAZAR

Senator SALAZAR. Thank you very much, Senator Smith, and I also want to thank Chairman Kohl for putting a focus on this issue, which is so important from my point of view.

Having worked as attorney general for my State for 6 years, I try to put a focus on issues relating to the elderly. I always felt that the principal value that impelled me to do my work as attorney general, protecting our seniors, had to do with respecting our elders.

I think that the respect for elders is an American value that is timely and priceless and transcends generations. I know that in my

State, we have about 700,000 elder Americans. I also know that many of those 700,000 people are not well nutritioned.

We have, based on a 2005 study which was conducted by the Department of Health and Human Services, a finding that 56,857 of them are not able to eat two or more complete meals a day. So that is about 10 percent of the senior population in my State that doesn't have the food security that I believe that they should have.

In that same survey, it was found that there were 50,000 Coloradoans who had lost 10 or more pounds in the past 6 months without meaning to lose those pounds, and it had to do with the fact that they were not getting the amount of food that they should have had.

So it is an issue which is very much an issue of concern in my State of Colorado, and also those statistics, I think, can be well extrapolated around the country.

I would make two comments on things that I believe that we should do, and Ms. Houston and Mr. Walker, I think these are comments related to what I consider to be the Administration's lack of urgency with respect to acting upon these issues in a clear, effective and immediate way.

The first has had to do with our own efforts here in the U.S. Senate to try to include funding for food stamps programs, as we have moved forward with the economic stimulus package for the country. We attempted to do that in the U.S. Senate, the Administration pushed back very hard.

We knew that from an economic stimulus point of view, it made sense for us to invest more in food stamps. Certainly from a moral point of view in terms of the people that it helps, it would have also helped the senior populations of America, and that would something that I hope would have been endorsed by the Administration.

Second, the 2007 Farm Bill, which Senator Dole spoke glowingly about in terms of the nutrition programs that are included in there, from my point of view—and I have a sign on my desk that says "no farms, no food." I think it is a travesty and a shame that frankly we have not been able to get the Farm Bill across the finish line, in large part because of the opposition of the Administration.

When you look at the 67 percent of the money that is included in that Farm Bill over the next 5 years that goes to nutrition, the very essence of what we are talking about here with respect to food security and elder Americans, it is tied up in the language and the programs that would move many of the nutritional programs forward.

So I would hope, and I do this with the sense of great respect for the President and for the Department of Agriculture, that today can be part of a calling card to them that we need to get the 2007 Farm Bill finished and that we need to get that done in the next week or two before March 15 so that we can move forward with the food security programs that are in the nutrition title of the Farm Bill.

Thank you, Mr. Chairman.

Senator SMITH. Thank you, Senator Salazar. First witness will be deputy assistant secretary Edwin Walker. Mr. Walker will provide an overview of the programs and the Administration on Aging that

provide congregate meals for seniors as well as home delivered meals for those who are homebound.

He will be followed by deputy under secretary Kate Houston, and I understand Kate, that the pronunciation is correct?

Ms. HOUSTON. That is correct.

Senator SMITH. Okay. Ms. Houston is the deputy under secretary for Food, Nutrition and Consumer Services at USDA. She will update us on the programs that work to combat senior hunger such as food stamps and ways that we can ensure seniors are utilizing the programs available to them.

Edwin, take it away.

**STATEMENT OF EDWIN WALKER, DEPUTY ASSISTANT SECRETARY, ADMINISTRATION ON AGING, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, WASHINGTON, DC**

Mr. WALKER. Senator Smith, thank you and distinguished members of the Committee, thank you for inviting the Administration on Aging and my distinguished colleague, Kate Houston, from the U.S. Department of Agriculture to address you today.

Adequate nutrition plays an integral role in keeping adults healthy and independent as they age. It can prevent hunger and reduces the risk and presence of chronic diseases and disabilities.

Malnutrition, including being underweight or obese, is closely associated with decreased functionality and impedes independent living. Several million older adults in the U.S. lack access to the food needed to sustain health and reduce the risk of disability.

Nutrition services such as congregate and home delivered meals have always been one of the core elements of our national strategy for reducing food insecurity among the elderly. However, this is not the only thing we are doing to address this problem.

Key to enabling and empowering older adults to remain in their homes as well as to reduce hunger is access to comprehensive service and support systems. The Nutrition Program for the Elderly, or NPE, is a targeted program to reduce hunger and food insecurity and promote the health, well being and independence of older adults.

The NPE helps prevent deterioration of health status, reduces the need for more costly medical interventions, and participants like the meals they receive.

Socioeconomic factors impact the vulnerability of older adults. Being poor, near poor, having less education, living alone, being isolated and having an inadequate diet are indicators of an increased risk for poor nutrition and health.

Diseases like diabetes and other chronic conditions that change eating habits also contribute to making older adults vulnerable.

The federal NPE appropriation of $758 million is leveraged to a total of $1.3 billion with other funding from State and local governments, as well as private sources such as individual contributions and local program fundraising.

As a result, $238 million meals to 2.7 million older adults were provided in fiscal year 2006. Efficiency has consistently trended upward, and program participants indicate high satisfaction with the quality of the meals and the service delivery. For this, we applaud the Aging Services Network.

The Older Americans Act does not require that all people be served, but does require that services be targeted. The NPE is effectively targeted to those with greatest levels of food insecurity, those who are poor or near poor, socially isolated, functionally impaired and in poor health.

Despite the high level of need, the NPE, coupled with the home and community based services that compliment it, make a significant difference to a vulnerable population. For the majority of program participants, the program provides one-half or more of their total food intake and enables them to continue living in their own homes.

The Older Americans Act has brought consistency and quality to the nutrition program. The most recent reauthorization of the act strengthened not only nutrition services, but provided authority to give people more flexible options in addressing their health, nutritional and long-term care needs.

To help older adults and caregivers learn about and access needed services and supports, we have developed aging and disability resource centers, or ADRCs, single-entry points or coordinated systems of information and access. Initiated in Wisconsin, ADRCs are a perfect example of how a more comprehensive and coordinated approach to services and programs aids those at risk of losing their independence.

Since it is often difficult for homebound older adults to apply for Medicaid and food stamp benefits, the ADRC in Florida assists high risk individuals in accessing social, health and nutritional assistance.

In Oregon, evidence-based physical activity programs are offered through congregate nutrition sites that help older adults manage their chronic disease symptoms, change eating habits, take their medications properly and improve their ability to function physically and socially.

To assist in meeting the needs, AOA and the Aging Services Network collaborate with USDA programs. For instance, in Oregon, to improve access to food stamp benefits for hard to reach populations, we complete applications without a second trip to the office for a face to face interview, which is often difficult for individuals who are older, adults with disabilities and the home-bound.

Our programs also coordinate with other USDA programs to ensure that meals are provided in adult day care settings and to supplement meal programs with cash and commodities.

All of these collaborations enhance our ability to help older adults and their caregivers meet basic food and nutrition needs, maintain health and functionality, and remain at home in the community.

Thank you, Mr. Smith, for this opportunity. We look forward to entertaining your questions.

[The prepared statement of Mr. Walker follows:]

TESTIMONY OF

EDWIN L. WALKER
DEPUTY ASSISTANT SECRETARY FOR POLICY AND PROGRAMS
ADMINISTRATION ON AGING
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

BEFORE THE

SENATE SPECIAL COMMITTEE ON AGING

ON

MARCH 5, 2008

Chairman Kohl, Senator Smith, distinguished Members of the Committee, thank you for inviting me here today to represent the Administration on Aging (AoA) and to discuss programs under the Older Americans Act (OAA). I am pleased to be joined by our distinguished colleague from the United State Department of Agriculture (USDA), a significant partner in meeting the goals of the OAA.

The mission of AoA is to help older adults maintain their dignity and independence in their homes and communities through comprehensive, coordinated, and cost effective systems of long-term care across the United States. AoA does this by serving as the Federal agency responsible for advancing the concerns and interests of older people to promote home and community-based systems of care that are responsive to their needs and preferences.

Our strategic goals for keeping older people active and healthy include empowering older people and their families to make informed decisions and easily access existing health and long-term care options so that they may remain in their own homes with a high quality of life for as long as possible.

As the cornerstone of cost effective, comprehensive, coordinated, high quality, long-term home and community-based services, the OAA supports a nationwide network of public and private organizations, known as the national aging services network. This network, composed of 56 State Units on Aging (SUA); 655 Area Agencies on Aging (AAA); 243 Indian Tribal

Organizations; more than half a million volunteers; and thousands of local community service provider agencies, including more than 5,000 nutrition service providers, is a proven force in advancing healthy living and independence to over nine million individuals each year.

The programs and services authorized under the OAA support the implementation of comprehensive and coordinated service systems that form an integrated whole and provide a core foundation of supports that assist older individuals to remain independent, at home, and in the community.

Adequate nutrition plays an integral role in keeping adults healthy and independent as they age. It can prevent hunger and it reduces the risk of and presence of chronic diseases and related disabilities, maintains the immune system and supports better mental and physical health. Malnutrition, including being underweight or obese, is closely associated with decreased functionality which impedes independent living.

Several million older adults in the U.S. lack access to the food needed to sustain health and reduce the risk of disability. National estimates on food insecurity among older Americans varies, due to different survey methodologies. The USDA estimates that 1.5 percent of elderly households experience the most severe form of food insecurity – hunger. Given the large growth trajectory of the elderly population, it is important to understand the multiple factors that contribution to food insecurity in the elderly and the many different tactics and approaches we can deploy, and are deploying, to effectively address this issue.

Food security clearly requires adequate resources to buy food, but is also determined by a person's ability to access food and information on nutrition. Another critical factor that plays a role in food security includes a person's functional status. Limitations on physical mobility can interfere with the ability of seniors to shop and prepare food. About 20 percent of the elderly living in the community can not carry out instrumental activities of daily living such as making meals and shopping without assistance. Social isolation and depression can also contribution to food insecurity.

Nutrition services, such as congregate and home-delivered meals, have always been one of the core elements of our national strategy for reducing food insecurity among the elderly. However, this is not the only thing we are doing to address this issue.

Key to enabling and empowering older adults to remain in their homes and communities, as well as reducing hunger, is access; access to those supports and services that enhance quality of life. Access to service and support systems equals independence and choice. Choices and independence are the essence of the services the AoA supports and are embodied in the mission of the OAA. In FY 2006, just under 30 million rides were provided to older adults to access medical services, grocery stores and nutrition programs. In fact, 30 percent of nutrition service recipients utilize OAA transportation services to access congregate meal sites.

In modernizing access to OAA services, AoA has focused on assisting States to develop Aging and Disability Resources Centers (ADRCs), State single points of entry and other enhanced local systems. These systems have assisted elders to receive over 37 million hours combined of

personal care, homemaker and adult-day care services; 3.9 million hours of case management to over 446,000 elders; 2.9 million outreach contacts; and over 13 million information and assistance service contacts.

**Addressing the Need – Nutrition Program for the Elderly**

Nutrition services under the OAA, commonly referred to as the Nutrition Program for the Elderly (NPE), is a targeted program to reduce hunger and food insecurity and promote the health, well being and independence of older adults. Today, I will discuss how OAA nutrition services are a part of a comprehensive set of social supports that addresses the needs of vulnerable, at-risk older adults and how the aging services network collaborates with programs and services funded by USDA to help meet not only the food and nutrition needs, but the broader long-term care needs of older adults.

AoA survey data indicate that the NPE helps prevent deterioration of health status, reduces the need for more costly medical interventions, and participants like the meals that they receive. AoA surveyed a random sample of program participants, with more than 3,500 older individuals providing self-reported results related to the NPE.

In addition, socioeconomic factors impact the vulnerability of older adults. Being poor or near poor, having less education, living alone, being isolated, having an inadequate diet, and being either a caregiver or care recipient are indicators of an increased risk for poor nutrition and health. Diseases like diabetes or other chronic conditions that change eating habits, depressed immune systems, oral health problems, using multiple medications, or sensory changes also

contribute to making older adults vulnerable. These factors impact the ability of older adults to access adequate food, maintain good health, and remain at home in the community.

The NPE provides meals and other nutrition services in group or congregate settings such as senior centers or faith-based settings as well as delivered to the home. The congregate nutrition program offers active social engagement, meaningful volunteer experiences, and access to evidence-based health promotion and disease prevention programs. Meals are typically available once a day, five days a week. Services such as health and nutrition screening, nutrition assessment, education and counseling are also available.

Home-delivered participants receive meals in their homes, often delivered daily. In rural or frontier parts of the country, meals may also be delivered as a weeks' supply of frozen meals.

Healthy, nutritious meals are consistent with Federally-recommended dietary guidelines. Meals are planned to meet regional food tastes as well as cultural or religious preferences and therapeutic needs.

The Federal NPE appropriation of $758 million is leveraged by at least $1.3 billion with other funding from public sources such as State and local governments as well as private sources such as individual contributions and local program fund-raising. As a result, 238 million meals to 2.7 million older adults were provided in FY 2006. Performance as measured by efficiency or clients per million dollars of OAA funding, has consistently trended upward. Sustaining this level of program efficiency continues to be challenging. At the same time, surveys of program

participants indicate high satisfaction with the quality of the meals and service delivery. The AoA applauds the aging services network for its comprehensive approach to addressing the health and long-term care needs of older individuals, including those who are malnourished, by streamlining access to services, leveraging additional resources and maintaining high levels of program efficiency and quality.

**Targeting Services**

The OAA does not require that all people be served, but does require that services be targeted to those in greatest social and economic need in order to address issues of hunger, food insecurity as well as health and well-being.

The NPE is effectively targeted at vulnerable populations who exhibit greater levels of food insecurity, including those who are poor or near poor, socially isolated, functionally impaired and in poorer health. AoA survey data indicate that as a result of the NPE, vulnerable participants improve their intake of healthy foods and nutrients.

About 40 percent of the home-delivered population report that they have three or more activities of daily living impairments. This is an indicator of high risk of loss of independence and possible nursing home placement.

The NPE serves older individuals who are in poorer health. While 39 percent of the U.S. population 65+, indicate that their health is good or excellent, only 15 percent of home-delivered participants reported the same. In fact, about 30 to 60 percent rated their health as poor or fair.

From one-third to one-half reported that they stayed in the hospital or nursing home overnight in the past year.

Older persons with a high rate of food insecurity are being served by the NPE. About 21 percent of home-delivered participants reported they did not have enough money or food stamps for food and about 10 percent of congregate participants indicated they did not have enough money to eat properly. In national AoA surveys, individuals indicated that they made choices between food, medicine, utilities, and other bills.

While only 10 percent of the U.S. 65+ population is in poverty, about 35 percent of participants in the NPE are below 100 percent of poverty. According to national AoA studies, about 90 percent of home-delivered and 80 percent of congregate participants are below 200 percent of poverty. About 30 percent of the U.S. 65+ population lives alone, but over one-half of the home-delivered population and about one-third of the congregate population live alone.

Despite the high level of need, the NPE, coupled with the home and community-based services that complement it -- such as streamlined access, transportation, case management, and caregiver supports -- make a significant difference in addressing the needs of a vulnerable population. Data from AoA national surveys show that these services effectively help older adults improve their nutritional intake and remain at home in the community. For the majority of program participants, the single meal that they receive five days a week provides one-half or more of their total food intake for the day. Because the NPE serves nutritious meals, the food and nutrients provided significantly impact older adults' overall diet and ability to maintain nutritional health,

and physical and mental well-being. Because of the program, the majority of participants report that they eat more balanced meals and are able to continue living in their own homes.

**Systemic Changes**

The OAA has brought consistency and quality to the nutrition program. The most recent reauthorization of the OAA strengthened not only nutrition services, but provided authority to give people more flexible options in addressing their health, nutritional and long-term care needs.

To help older adults remain in the community, AoA aims to improve the quality and comprehensiveness in our system of home and community-based long-term care and ensuring that it is responsive to people's needs and preferences. Multiple studies confirm that older adults prefer to receive care at home. To do this, older adults need to receive accurate information, assistance and access to reliable supports and services such as those provided and coordinated under the OAA to help them maintain health and functionality, reduce their risks for chronic disease and injury, and meet their long-term care needs.

To help older adults and caregivers learn about and access needed services and supports, the AoA has developed ADRCs. The premise of ADRCs is to create a single, coordinated system of information and access for all persons seeking social, health, and long-term care supports.

Initiated in Wisconsin, ADRCs are a perfect example of how a more comprehensive and coordinated approach to accessing services and programs aids those at risk of losing their independence and facilitates their ability to remain in the community and avoid impoverishment

and nursing home placement. ADRCs currently cover 957 counties across the country and provide individuals with information and access assistance to core OAA programs including the NPE as well as other programs.

In Wisconsin, the ADRCs provide an essential link not only to core supportive and nutrition services but also to evidence-based disease management interventions. ADRCs in Wisconsin are implementing the Stanford University Chronic Disease Self Management Program; falls prevention programs; and health literacy programs to help older adults, adults with disabilities and caregivers better manage chronic health conditions.

The Florida Department of Elder Affairs has implemented ADRCs throughout the State. In St. Petersburg, Florida, a resource specialist uses a laptop computer to aid homebound older adults in completing Medicaid and Food Stamp Program applications. Since it is often difficult for homebound older adults to apply for benefits, the program assists high risk, vulnerable older adults in accessing social, health, and nutrition assistance that they need to remain at home in the community.

In Portland, Oregon, the Stanford University Chronic Disease Self Management Program and Enhance Fitness, an evidence-based physical activity program, are offered through the congregate nutrition sites. These programs help older adults manage their disease symptoms by addressing depression, or changing eating behaviors, or taking their medications properly. Further, they help older adults improve their ability to function physically and socially, and to better communicate with their physician.

**Collaborations with United States Department of Agriculture Food and Assistance Programs**

Although the NPE provides essential support, many older Americans need additional assistance in order to eat more than once a day. To meet this need, the AoA and the aging services network collaborate with USDA programs.

For instance, the Oregon Department of Human Services, which includes the State Unit on Aging, was awarded a Food Stamp Program participation grant to improve access to food stamp benefits for specific hard to reach populations such as older adults and adults with disabilities. This grant will simplify the food stamp application process and use computer technology to reach applicants in senior centers or at home. Applicants can complete an application without a second trip to the office for a face to face interview which is often difficult for older or adults with disabilities as well as the homebound.

Our agencies in Illinois and Florida administer the adult component of the USDA Child and Adult Care Food program which provides meals in adult day care settings. In 35 States and tribal areas, the aging services network collaborates with the USDA funded Commodity Supplemental Food Program.

The Nutrition Services Incentive Program provides additional funding and commodities to States and Tribes for the provision of meals. The AoA and USDA collaborate yearly to assist States and AAAs access commodities.

These collaborations enhance the ability of AoA, USDA, and the aging services network to help older adults and their caregivers meet basic food and nutrition needs, maintain health and functionality, and remain at home in the community.

**Conclusion**

Thank you, Mr. Chairman, for the opportunity to speak to you today about the OAA's programs and the role they play in not only reducing hunger and food insecurity, promoting socialization, and addressing the health needs of older adults, but at the same time, emphasizing their integrated and comprehensive approach in helping older adults remain at home in the community.

Senator SMITH. Thank you, Mr. Walker. Ms. Houston.

**STATEMENT OF KATE HOUSTON, DEPUTY UNDER SECRETARY, FOOD NUTRITION AND CONSUMER SERVICES, U.S. DEPARTMENT OF AGRICULTURE, WASHINGTON, DC**

Ms. HOUSTON. Thank you, Mr. Chairman, and I appreciate the opportunity to come before you and members of the Committee today.

I am Kate Houston, deputy under secretary for Food, Nutrition and Consumer Services at the United States Department of Agriculture. No one in America should go hungry. FNS provides children and low-income people access to food, a healthful diet and nutrition education.

The elderly are a particularly vulnerable population, and we take the food security status of seniors very seriously. Improving access to nutrition assistance for the elderly is in fact one of the corporate priorities of the Food Nutrition Service this year.

I am pleased to be sitting at the table with the Administration on Aging, and I appreciate the testimony of Edwin Walker. I would also like to take the opportunity to thank the Meals on Wheels Association for supporting the important research that we are discussing today. I think it reaffirms a concern of USDA that far too many seniors experience some level of food insecurity.

I think there is broad agreement on the need to address food security among seniors. So today we should start talking about solutions.

USDA tracks the prevalence of food security among seniors and other subgroups on an annual basis. While the measures used by USDA are slightly different from those used in the Meals on Wheels report, we generally believe that the results are comparable.

In addition to the nutrition assistance programs funded through the Administration on Aging, the Food Stamp Program is the largest of USDA's nutrition assistance programs and is an important nutrition support for low-income seniors.

We also administer other programs that reach seniors, including the Child and Adult Care Food Program, which has an adult day care component; The Emergency Food Assistance Program, which supports food banks and food pantries across the Nation; and the Senior Farmers Market Nutrition Program.

In 2006, approximately 2.2 million elderly received food stamp benefits comprising about 9 percent of total participants. Elderly recipients living alone received an average benefit of $74 per month. The average benefit for households with elderly persons was $91.

Individuals aged 60 and older participate in the Food Stamp Program at a rate that is substantially lower than other eligible groups. This is a significant problem and something that we are working to fix.

In 2005, the participation rate for eligible elderly individuals was 31 percent, compared to 60 percent for non-elderly adults and 65 percent for the population in total.

From 2001 to 2005, the participation rate for the elderly only rose by about three percentage points, while the rate for non-elder-

ly adults increased by 11 percentage points. This is something we need to fix.

We have found that the elderly are less likely to know whether they are eligible for the Food Stamp Program, the amount of benefits for which they qualify, and where to apply for benefits. One-third of eligible elderly say they would not apply for food stamp benefits even if they were eligible because of their desire for personal independence, the perceived cost of applying and participating, the low expected benefits, and of course, stigma.

The Food Stamp Program has unique eligibility policies that take into account the special circumstances faced by seniors. These policies make it easier for seniors to receive assistance.

FNS has undertaken a number of initiatives designed to encourage food stamp participation by eligible elderly. These initiatives provide information and raise awareness, simplify the program, and make the application process easier while maintaining the integrity of the program.

I would like to briefly mention a few of these activities. Between 2002 and 2004, we conducted pilot projects to test three alternative approaches. These approaches addressed simplified eligibility determination rules, one-on-one application assistance for the elderly, and a commodity alternative. The impact and cost of each model varied significantly.

USDA has also awarded grants to community-based organizations to increase participation among under-represented subgroups, including the elderly. These projects indicate the importance of partnerships with familiar community groups and teach us that the desire for privacy and independence among the elderly is sometimes more important than the benefits. Some seniors need intensive assistance to understand and complete the application process.

Another effort on the part of USDA to simplify the application process for seniors is the Combined Application Project. This project combines standardized benefits, minimal need for independent verification, and normally no need to go to the local office. This has produced a significant increase in participation among seniors.

Currently, 13 State agencies are operating CAP programs. Three additional States are approved but not yet implemented, and seven are pending. Overall, food stamp participation among SSI participants in CAP states is higher than in States that do not have the access to CAPs.

We also have additional activities such as standardized medical deduction demonstrations, and elderly disabled simplified application and simplified reporting demonstration projects.

Within the Food Stamp Program, FNS conducts outreach targeted to seniors at the national level and we support related efforts at the regional, State and local levels. The Food Stamp Outreach Coalition was formed to build and strengthen those very partnerships. Last year, the Coalition held a meeting specifically focused on the issue of outreach to seniors.

Mr. Chairman, I thank you for the work of the Committee and what you are doing to focus the Nation's attention on critical issues facing the senior population. USDA affirms our commitment to the pursuit of new ways to work with Congress, the States and our

communities, and our advocacy partners to reach our elderly population with critical nutrition assistance.

I am happy to answer any questions you have.

[The prepared statement of Ms. Houston follows:]

TESTIMONY OF

KATE HOUSTON

DEPUTY UNDER SECRETARY

FOOD, NUTRITION AND CONSUMER SERVICES

U.S. DEPARTMENT OF AGRICULTURE

BEFORE THE

SENATE SPECIAL COMMITTEE ON AGING

MARCH 5, 2008

Good morning, Mr. Chairman and Members of the Committee. I am Kate Houston, Deputy Under Secretary for Food, Nutrition and Consumer Services (FNCS) at the U.S. Department of Agriculture (USDA). It is a great pleasure for me to join you this morning to discuss the Federal efforts to provide nutrition support for elderly people in need.

USDA's Food, Nutrition, and Consumer Services is responsible for administering 15 Federal nutrition programs, which serve as the Nation's first line of defense against hunger and reach one in five Americans every year. The Bush Administration continues to demonstrate strong commitment to nutrition programs. Since 2001, funding for nutrition programs increased more than 75 percent to $60.1 billion in fiscal year 2008, and now accounts for over half of USDA's annual budget.

I want to underscore the Administration's commitment to ensure all eligible people know about and have access to the food and nutrition benefits of the programs we

manage. Under Secretary Nancy Montanez Johner makes outreach to seniors her highest priority, and she and I actively participate in many national and regional events to target seniors, and other underserved and disadvantaged groups.

I would like to describe the wide range of activities USDA conducts to raise awareness and promote program participation for older Americans in need, and to promote healthy eating among this growing segment of our population. First, I want to provide broader context for USDA programs as part of the Federal safety net for our Nation's seniors.

As Deputy Assistant Secretary Walker's testimony makes clear, the Federal government has a diverse range of programs designed to provide access to nutritious food for seniors in need. All individuals over age 60 are eligible for both congregate and home-delivered nutrition assistance provided by one of 655 Area Agencies on Aging, which are funded through the HHS's Administration on Aging. USDA works with AoA to provide some commodity support to these programs. USDA also provides meals to seniors at adult day care centers through the Child and Adult Care Food Program. In addition, individuals of all ages have access to The Emergency Food Assistance Program (TEFAP) at our nation's food banks and other local agencies.

The bulk of USDA's nutrition support for the elderly is provided through the Food Stamp Program, which serves over two million low-income seniors every month, providing $1.9 billion in food benefits to seniors every year – increasing their food purchasing power for foods meeting their individual needs and preferences. The average monthly benefit for a food stamp participant over age 60 who lives alone is $74 – far more than the $10 per month minimum benefit commonly perceived by many. In fact,

about as many senior participants receive the maximum food stamp benefit for their household size as receive the minimum.

In addition to the significant food benefits provided through the major programs, USDA is working hard to encourage health-promoting practices by seniors. A healthy life in our senior years is not only about having enough to eat; it requires making the right food and lifestyle choices to be able to stay healthy and active.

For example, we developed, and expect to release later this year, "Eat Smart, Live Strong: Nutrition Education for Older Adults," designed to increase fruit and vegetable consumption and physical activity among seniors participating in or eligible for FNS nutrition programs. Eat Smart, Live Strong uses a variety of incremental, educational approaches to promote two key behaviors: (1) increase fruit and vegetable consumption to three and a half cups per day, and (2) participate in at least thirty minutes of physical activity most days of the week.

FNS also encourages seniors to make fruits and vegetables an important part of their diets through the Senior Farmers' Market Nutrition Program. The program operates in thirty-eight States, the District of Columbia, six federally recognized Indian tribal governments, and Puerto Rico. The program provides coupons for seniors to buy fruits and vegetables at local farmers markets.

Mr. Chairman, while our programs are effective in helping low-income people attain a healthier diet, one of our most important goals, and also one of our greatest challenges, is reaching more eligible seniors with the benefits they need. In recent years, thanks in part to FNS outreach, we have seen strong growth in the overall rate of food stamp participation. From 2001 to 2005, the participation rate among eligible persons

increased from 54 to 65 percent. However, eligible individuals, those aged 60 or more, remain seriously under-served. The participation rate for elderly people is substantially lower, and has grown more slowly, than other eligible groups. In 2005, the participation rate for seniors was 31 percent compared to 60 percent for non-elderly adults, and 88 percent for children.

Facilitating access to nutrition assistance programs by seniors is a top priority for the Under Secretary and me. By using existing channels and trusted community partners to deliver outreach information, we can provide additional food assistance to isolated and needy seniors.

FNS works successfully with States and community and faith-based organizations to implement outreach activities, with nearly 800 activities in fiscal year 2007, including many to improve services to seniors.

For example, Under Secretary Johner and I had the privilege recently of visiting the Little Havana Nutrition and Activity Center in Miami, Florida. The service the dedicated staff provides to seniors is worthy of praise and admiration. At the center, seniors danced to live music, walked on treadmills, played dominos, participated in group exercises designed to improve their fine motor skills and ate healthy, culturally appealing meals in the large dining facility. Not only did the seniors enjoy a healthy lunch, but those deemed most in need were given a meal to eat once they left the center. We were very pleased to learn that the Center has a full time staff of outreach workers who meet with seniors on an individual basis and help them initiate their Food Stamp Program application process.

In addition to focusing our efforts on improving access to our nutrition assistance programs, low-income seniors often have special needs and face unique challenges to make use of nutrition program benefits. USDA is focused on several critical ways to identify and respond to seniors' needs and perspectives.

Under Secretary Johner recently hosted a roundtable discussion with local, state and federal agencies to identify the best actions to take to improve Food Stamp Access to seniors in the Rio Grande Valley of Texas. Senior Adult Day Care Centers have grown in prominence in South Texas within the last few years. Although seniors are provided with a nutritious lunch on weekdays, many of them do not eat during the weekends that that the centers are closed. A survey found that a majority of the seniors were ill informed about the amount of benefits available to them and the application process. This roundtable discussion gave us insight into the need to provide seniors in these locations with the information to assist them in applying for the Food Stamp Program.

We also have found that many seniors are reluctant to take part in the Food Stamp Program because they may have identified food stamps with "welfare" or may resist help from the government. Seniors also may not understand the entitlement nature of the program and worry that by accepting food stamps they are taking benefits away from children and families. In the past, the stigma associated with food coupons may account, in part, for why our more discrete commodity programs have had more of a following among seniors in spite of limited, "one size fits all" food items. I am pleased to report that with the elimination of paper coupons, food stamp debit cards have enabled seniors, and all other recipients, to privately and discretely use their benefits to shop at grocery stores.

With regard to the special needs of homebound or isolated seniors, Food Stamp Programs regulations and policy provide for a wide range of options to meet their needs. Community-based organizations may assist them informally in the application process by getting applications, helping to fill them out, helping collect verification documents, and mailing or delivering the application to the State agency. Alternatively, homebound people may formally appoint another person to serve as their authorized representative to act on their behalf. Any person who faces a hardship in getting to the office for a face-to-face interview is entitled to a telephone or in-home interview instead. A homebound person may also designate an authorized representative to make food stamp purchases on their behalf; a separate card is issued to the authorized representative, sometimes called a secondary card holder, to use on behalf of the client.

Over the last several years, FNCS funded a number of pilot projects, participation grants, and outreach grants to encourage food stamp participation among the elderly population. Our efforts have been successful, as they provide information and raise awareness about program eligibility, test program simplifications to make it easier to apply, and test changes in the nature of the benefit to make the program more appealing to elderly clients.

Also over the last several years, the Department has expanded the number of States with Combined Application Projects (CAPs). These projects simplify the application process for elderly and disabled individuals that receive Supplemental Security Income (SSI). By using SSI income information, simple Food Stamp Program applications, that require minimal information, are used to provide these individuals with standardized benefits.

To date, Florida, Louisiana, Massachusetts, Mississippi, New York, North Carolina, Pennsylvania, South Carolina, Texas, Virginia, Kentucky, and Washington have implemented CAPs. New Jersey, Wisconsin, Arizona and South Dakota have been approved to operate projects and plan to implement soon. FNS is working with West Virginia and to get their CAP proposal approved. Five additional States are expected to submit CAP plans: Michigan, Idaho, Maryland, New Mexico, Rhode Island and Utah. In aggregate, these projects have added tens of thousands of new participants to the Food Stamp Program.

USDA utilizes best practices and positive examples to generate ideas, creativity, and enthusiasm for food stamp outreach and avoid "reinventing the wheel." Mr. Chairman, I brought handouts with me today to describe a few of the promising practices we collected from across the country.

The FNS food stamp web site provides connections to the outreach ideas and other important materials and resources, including those focused on seniors.

FNS also conducts targeted outreach to seniors at the national level and supports related efforts at the regional, State, and local levels. The agency uses radio advertising to spread the word about the nutrition benefits of food stamps and help dispel myths. The advertising portfolio includes spots aimed directly at older individuals which air on stations with large senior audiences. Our national outreach efforts also include the "Step 1" pre-screening tool, a photo gallery of copyright-free images, educational materials in nearly 3 dozen languages, posters, flyers, and brochures, television and radio public service announcements; and tool kits with step-by-step guidance on outreach strategies

and partnership development. FNS provides training and technical assistance to State agencies and encourages State outreach plans to include strategies targeted to seniors.

CONCLUSION

Mr. Chairman, as we age, our needs and our financial circumstances change. Living on a fixed income is never easy, and certainly not when one is coping with limited mobility, dietary restrictions, chronic medical conditions, or other challenges that younger people may not have. Many of our nation's seniors may be isolated from their families, live in unsafe neighborhoods, and may experience difficulty getting to the grocery store. Some may not speak English or understand how or where to go for help. We know that in spite of these challenges, our nation's seniors want to care for themselves, remain independent, and maintain good health well into old age.

At USDA, we recognize the contribution our nutrition programs can make for a person's health and wellbeing. We are committed to reaching out to all low-income Americans—from pregnant moms and infants to senior citizens—because we know good nutrition pays off well into a person's future.

Mr. Chairman, I thank you for the work this Committee is doing to focus our nation's attention on critical issues facing our senior population. The caring staff at USDA reaffirms our commitment to the pursuit of new ways to work with Congress, the States, our communities, and our advocacy partners to reach our elderly population.

Mr. Chairman, thank you again for the opportunity to share the work of USDA with you today. I look forward to answering questions from you and other Members of the Committee.

Senator SMITH. Kate, I suppose from the beginning of the Food Stamp Program there has been a certain stigma attached to it that makes folks reluctant to take advantage of it. I don't know how to break that down, but I guess we got to look for new ways to try and do that if we are going to make sure we address this issue of food insecurity.

I think the food insecurity issue is going to go up because obviously the numbers of seniors is going to go up. If anyone has checked the grocery store lately, the cost of near everything has gone up because so much food is being diverted into fuel.

Are you seeing more people apply now? Is the use going up?

Ms. HOUSTON. We have seen increases in participation among those who are eligible. As you can probably appreciate, our data do lag somewhat behind, so we don't have information that may reflect some of the economic downturns that we are seeing right now.

But we will have access to those data in the near future.

Senator SMITH. When does that report come out? I am just curious.

Ms. HOUSTON. Around June of each year.

Senator SMITH. June of each year. It reflects the whole year? The whole preceding year?

Ms. HOUSTON. It is a 2-year lag. In June 2008, the Food and Nutrition Service will release participation rates for 2006.

Senator SMITH. Two-year lag. Okay.

Ms. HOUSTON. As soon as we have the new report out, we would be pleased to provide a copy to the Committee.

Senator SMITH. I would appreciate that. Edwin, under Title III of the Older Americans Act that provides the funding for nutrition programs like Meals on Wheels, we have learned that despite the increasing numbers of seniors and the increasing levels of seniors who are facing hunger, many nutrition programs are able to serve fewer seniors than in recent years. Is that because of the flat funding that has occurred for so long?

Mr. WALKER. Yes, Senator, it is because of the flat funding. But we are, as I indicated in the testimony, and certainly in the written version, which goes into more detail, we could not applaud our Aging Network more for the degree to which they leverage additional funding.

Senator SMITH. From private sources.

Mr. WALKER. From private sources and from State and local sources.

Senator SMITH. What are the net dollars? Are they going down? Because of the leveraged dollars from the private sector, when you combine public and private dollars available, are they going down or are they going up?

Mr. WALKER. Well, thanks to the generosity of the Congress, the dollars have gone up.

Senator SMITH. This last year, we got a small increase.

Mr. WALKER. There was an increase in the last year.

Senator SMITH. That was the first time in a long time.

Mr. WALKER. We can provide you the details over the past 10 or so years which can show you the track record in terms of how the dollars have progressed and increased.

Senator SMITH. Whatever those dollars are from the public sector, say there is one dollar of public money, how many dollars of private money does that leverage?

Mr. WALKER. Well, as a general rule in the Older Americans Act, we leverage about two dollars for every dollar in federal investments. For homebound services, that goes up to three dollars.

Specifically in home-delivered meals, it is about $2.50 for every dollar of federal money invested. For congregate, it is about, I think $1.40 for every federal dollar invested.

Senator SMITH. So has the amount of private contributions, have those been going up as federal funding has been flat funded?

Mr. WALKER. I would actually have to check the figures on that, because—

Senator SMITH. I would be very interested to know that. The American people are very generous and what I am really getting at, though, is what is happening to the net dollars available from any source arrived, public or private, is it all flat or is it going up, or going down?

Mr. WALKER. Those are figures that I would have to pull for you and I would be happy to provide them to you.

**Ten Year Comparison of Title III and Other Expenditures for Congregate and Home Delivered Meals: 1997-2006**

| | Congregate | | Home Delivered | | Totals Congregate & Home Delivered | |
|---|---|---|---|---|---|---|
| Fiscal Year | Title III Expenditures | Other Expenditures | Title III Expenditures | Other Expenditures | Title III Expenditures | Other Expenditures |
| 1997 | $244,817,804 | $303,092,809 | $139,997,413 | $322,037,808 | $384,815,217 | $625,130,617 |
| 1998 | $241,595,101 | $306,530,776 | $147,694,212 | $362,516,298 | $389,289,313 | $669,047,074 |
| 1999 | $245,668,160 | $311,649,477 | $148,529,986 | $352,775,063 | $394,198,146 | $664,424,541 |
| 2000 | $249,264,571 | $314,155,372 | $165,005,321 | $368,943,580 | $414,269,892 | $683,098,952 |
| 2001 | $260,706,844 | $330,342,351 | $173,665,162 | $424,044,927 | $434,372,006 | $754,387,277 |
| 2002 | $260,147,177 | $331,747,571 | $192,486,136 | $433,826,627 | $452,633,313 | $765,574,198 |
| 2003 | $277,910,853 | $343,807,527 | $210,747,511 | $450,711,279 | $488,658,364 | $794,518,806 |
| 2004 | $251,273,704 | $361,964,947 | $202,987,962 | $467,217,933 | $454,261,666 | $829,182,880 |
| 2005 | $245,142,360 | $337,556,029 | $197,244,657 | $449,237,233 | $442,387,017 | $786,793,262 |
| 2006 | $253,628,653 | $351,909,340 | $201,606,399 | $497,744,495 | $455,235,052 | $849,653,835 |

Source: Administration on Aging State Program Reports

Senator SMITH. I would be very interested to know that. I think that would tell a story, but my questions are really focused on my fundamental concern that our population is aging, cost of fuel, cost of food are all going up.

We have got to give thus focus or we are going to have a growing food insecurity problem among older Americans. That is just unacceptable in the United States of America, for crying out loud.

So I would sure hope that this Congress, I am just curious—do you know what the President's request was in his budget, offhand? Was it an increase for this year?

Mr. WALKER. The President's budget for fiscal year 2009 is the same level as fiscal year 2008.

Senator SMITH. Well, I hope we can better that in the Congress. Senator Wyden, I am sure you will help me in that. You always do, you are a real champion of seniors.

Kate, I understand the program participation for seniors in food stamps has increased by about a third from 2002 to 2006. I understand there are various reasons for this increase that include the outreach efforts from the USDA, and I applaud you for that.

But with the increased rates of population, there has not necessarily been an increase in the totality as a percentage of older Americans, despite their eligibility. Are there any other reasons why more people aren't signing up?

Ms. HOUSTON. Well, you are correct that while the needle is moving in the right direction, it is not moving fast enough. It tends to get a little stuck, particularly for seniors.

We know that there are specific barriers that relate to the unique circumstances of older Americans, and we are trying to target those specific barriers so that we can make better strides in increasing participation among those who are eligible.

For example, there is myth that there is a $10 maximum benefit for seniors for food stamps. That certainly is not true.

We know that there are transportation limitations that might occur for seniors. A lot of the modernization projects that are ongoing in many States enable seniors to apply for benefits through gateway organizations, such as senior centers or other places where they may be able to receive assistance in applying for benefits, we are also seeing a lot more online transactions.

Senator SMITH. How about just—what is the focus in terms of customer service, quality control and dealing with people? Is there a focus on that? Can there be any improvement in.

Ms. HOUSTON. There certainly is, and some of the grant programs that we have been funding through the Food and Nutrition Service provide specialized assistance to the elderly to help them sign up and obtain food stamps. We know that added assistance often can make a difference that enables them to get assistance through the program.

I might also add that the Administration's Farm Bill proposal does include some specific provisions that we believe would be helpful to improve program access for seniors. I know some comments were made in opening statements regarding the Farm Bill.

We continue to work with Congress and have made a priority to get the Farm Bill passed and signed into law this year.

We have proposed a name change for the Food Stamp Program, given that we have moved to an electronic benefits system. We think that the name "food stamps" has a stigma, particularly among the elderly, that we can now eliminate given that we are no longer using paper coupons in the program.

We also propose to exclude retirement savings accounts when determining the income eligibility of adults, and we think particularly for seniors, this is an important proposal.

We would continue program participation grants that are focused specifically on how we can increase participation among elderly and other population groups.

Senator SMITH. Well, we talk about stigma and I am hoping that at least those who do come to USDA for food stamps, they are greeted with some dignity. I am not saying you have to have a Wal-Mart greeter out front, but I do think quality control and human relations is something to keep a focus on so that these folks who are in need are not discouraged from enjoying their eligibility for these programs that are designed to address the very problem this hearing is focusing on. Senator Wyden.

Ms. HOUSTON. We try to, if I might add, not make there be any kind of thinking about the Food Stamp Program as a welfare assistance program. This is really a nutrition assistance program.

I think that distinction is important, particularly among the elderly, who tend to be less interested in wanting any help from the government. But if they see it as nutrition assistance, they may be more willing to participate.

Senator WYDEN. Senator Smith, thank you, and I thought your questions were very helpful. Let me just kind of pick up on some of them.

Mr. Walker, every time I go to a Meals on Wheels program, they always tell me they have a very long waiting list. Can you give me a sense, looking at our country as a whole, how many older people are on these waiting lists?

Mr. WALKER. Thank you for the question, Senator. There is no national system of maintaining waiting lists. We have heard anecdotally that, many programs do use waiting lists as one method of prioritizing their services to those who are most in need.

However, there are no standards for maintaining waiting lists. They vary around the country, even within States by providers, and so there is no way for us to determine on a national basis the number of people on waiting lists or that waiting lists would represent the universe of people who are not receiving services.

Senator WYDEN. Wouldn't it be useful to have something that would even give us a ballpark idea of how many people are on these waiting lists? I think your point is valid that there are different kind of systems, but it would seem to me that you all, with your connections into all of these programs, could accumulate this information and come to the Congress. It would be very useful to have this information as we try to make this bipartisan case to get additional funding. Do you disagree with that?

Mr. WALKER. No, I don't disagree. But I would say that the Older Americans Act and, as you all have pointed out, has always enjoyed strong bipartisan support.

There is a real sense of ownership at every level, the federal, State and local level, into the program. There's ownership related to the program. People feel that it is not a welfare program, it never has been, and therefore there is a real affinity which accounts for the degree of participation by seniors themselves, in terms of volunteering their time, donating their resources, and in terms of identifying the degree of need that exists.

We have looked at a variety of things, and we believe today's study that you will hear about is one additional tool available to us to identify and highlight the degree of need today, the degree of need that we can project in the future, and it can assist us and our programs in determining how best to target the resources that we have available to us.

Senator WYDEN. That all sounds plenty useful to me. I certainly think that you are right about the affinity that the Congress feels for this program. But I still don't understand why it wouldn't be useful to have a ballpark number of how many people are on these waiting lists, because I think that would send a message to the Congress that there is a lot of heavy lifting to do.

Is this something that you think you could take on now and try to pull together for us? Because I know I would like to have it. I would like to be able to use that with other senators, to be able to say, look, there is this huge, huge waiting list out there across the country, and I think it would help us make the case.

Mr. WALKER. Certainly. We operate this program in partnership with the 56 State units on aging, the 655 area agencies on aging, the more than 29,000 local service providers, in excess of 5,000 who are nutrition service providers, and the 243 tribal organizations representing more than 300 tribes.

We would be very interested in attempting to find out more about the unmet need. However, we would have to use the caveat that waiting lists are not kept by every program. We don't even have a sense of how many programs keep them. But it would be one indicator.

Senator WYDEN. How long do you think it would take to be able to give to this Committee, the Chairman and Senator Smith, our ranking minority member, even a ballpark idea of how many people are on these lists?

Mr. WALKER. I think that by working with our partners throughout the entire network, we could work on methods, including waiting lists. But I would not want to limit it to waiting lists because I think that your question really speaks to the need as opposed to a mere number on a waiting list.

Senator WYDEN. That is fine. I just know that every time I go to a program, this is the first thing they tell me. They say, Ron, we have this enormous waiting list. So could you have this for us in, say, 90 days?

Mr. WALKER. Senator, we would be more than pleased to provide you all of the data we have from other studies that have taken place. I don't believe we have the ability to go to every provider in order to find out whether or not they have a waiting list and how many people are on their waiting list as an average number per year within a 90-day period.

Senator WYDEN. I want to ask some other questions, but I find this a little odd. There is a network of federally-funded programs, Meals on Wheels, we have names, addresses and phone numbers, and it would seem to me fairly straightforward to send them an e-mail saying that the Senate Special Committee on Aging would like to have an idea in a general way of how many people are on your waiting list.

I hope you will do it. I want to move on to some other areas.

Mr. WALKER. Certainly.

Senator WYDEN. Ms. Houston, give me your sense, if you would, of how your efforts are increasing the percentage of older people who are using the Food Stamp Program. It seems to me you all have undertaken a number of efforts in the last few years, and just take the last 5 years.

In the last 5 years, as a result of your efforts, what has been the increase in the percentage of older people who are using the food stamp program?

Ms. HOUSTON. From 2001 to 2005, we have seen an increase of three percentage points in the use of the program among elderly. This is significantly slower growth than we have seen for the food stamp population as a whole. Between the same period of time, the total increase has been about 11 percentage points.

So we know that we have specific work to do with this population, which is why we have placed, as a corporate priority at the Food and Nutrition Service, emphasis on how we can increase participation among the elderly.

We have a number of initiatives that are underway specifically designed to address this issue, and I would be happy to provide you detailed information about a wide range of activities that are ongoing in this regard.

**Supplemental Information Requested for Oral Testimony of**
**Kate Houston, Deputy Undersecretary for Food, Nutrition, and Consumer Services**
**before the Senate Special Committee on Aging, March 5, 2008**

The following information describes initiatives to increase participation by seniors in the Food Stamp Program (FSP):

**Food Stamp Policies**

- The Food Stamp Program (FSP) has special eligibility policies that take into account the unique circumstances faced by seniors. In addition, special procedural requirements are in place that can help seniors obtain food stamps.

- The special eligibility requirements include:
    - Deduction of medical expenses
    - No gross income limit (that is, income before deductions)
    - No limit on the amount of shelter expenses (rent or mortgage and utilities)
    - Exemption from work requirements
    - Exemption from time limits for able-bodied adults without dependents
    - Higher asset limit ($3000 instead of the regular $2000)
    - Separate status as an applying unit if the senior is unable to prepare meals separately because of a disability
    - Special eligibility status for those seniors who reside in federally subsidized housing for the elderly

- Special eligibility status for those seniors who receive Supplemental Security Income (SSI) because of their age and low income

- The special procedural requirements include:
  - Certification periods up to two years (instead of the regular one-year maximum)
  - Interviews over the telephone, instead of at the food stamp office
  - In 4 states, interviews with volunteers at community-based organizations (rather than at Food Stamp offices)
  - Prohibition against discrimination against clients based upon age
  - Ability to apply for Food Stamps through the Social Security Administration when applying for Supplemental Security Income (SSI)

## Demonstration Projects

- The **Combined Application Projects (CAPs)** make it easier for elderly SSI recipients to receive benefits by reengineering the food stamp application process. The combination of standardized benefits, minimal need for independent verification, and normally no need to go to the local offices has produced significant increases in participation by seniors. Currently, 13 State agencies are operating CAPs.

- **Demonstration Projects.** The FSP has approved demonstration projects that test solutions to barriers to participation. Nine State agencies are operating one or more of the following types of demonstration projects to test ways to better serve elderly households:

  - **Simplified Application Projects** waive normal interview and verification requirements for seniors in households with no earned income. .

Participating households need only file a simple annual contact form to maintain food stamp eligibility.

- **Simplified Elderly Reporting Projects.** Waivers permit a modified version of simplified reporting for elderly households with no earnings to test whether simplifying reporting requirements for seniors will increase their participation in the FSP and whether it will reduce the administrative burden on State agencies.

- **Standardized Medical Deduction Projects.** FNS waives the requirement that food stamp households containing elderly members are entitled to a deduction from household income for actual costs of allowable medical expenses incurred by the elderly members that exceed $35 a month. A standard medical deduction replaces actual costs of medical expenses in excess of $35 a month for elderly members. Households with medical costs greater than the standard may choose to claim actual expenses. These demonstrations increase and simplify seniors' access to the FSP and enhance workload efficiency for State agencies.

## Grants

- **Participation Grants**: The 2002 Farm Bill authorizes up to $5 million per year, for fiscal years 2003 through 2007, for grants encouraging participation by eliminating barriers caused by the complexity of application and certification procedures. Through 2007 we have awarded 29 grants to state agencies or non-profit organizations in 26 states. The solicitation for fiscal year 2008 grants was released on February 14 with a deadline of May 15, 2008. This year's grants are subject to availability of funds.

- **Outreach Grants**: FNS requested proposals for at least $1 million in outreach grants in FY08 for public and private nonprofit community and faith-based organizations to improve awareness of the FSP for low-income households. Specifically the grants target the two most significantly underserved populations in the Food Stamp Program, seniors and Hispanics. The deadline for applications is February 2008 with award announcement projected for the following July. Research has shown that most of the grantees are able to continue their projects in some fashion following the expiration of grant funding. FNS has awarded outreach grants each fiscal year since 2001, with exception of fiscal year 2003.

## Other Notable Activities

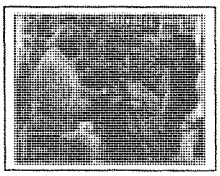
- **Collaboration with SSA, Medicare Part D Outreach:** Since 2004, an outreach message has been included at the bottom of the SSA letters about the Medicare Part D low income subsidy. SSA is the highest referral source to the national toll free number (other than radio advertising.) This is the message:

  > **Nutrition Assistance May Also Be Available**: You may also be eligible for food stamp benefits. These benefits can help you stretch your food dollars to buy nutritious food for better health. For more information, contact your local social services office or call the Food Stamp Program information line at 1-800-221-5689.

- **Outreach Plans:** States can also choose to target messages to seniors through their outreach plans. State agencies can be reimbursed at the 50 percent rate for reasonable and allowable outreach activities. We encourage all States to submit outreach plans. Development of an outreach plan can lead to partnerships with clearly defined strategies to further goals to raise awareness of nutrition assistance and the benefits of the FSP among seniors. Currently, there are 27 State outreach plans. Of the 27 State outreach plans, 22 specifically target seniors.

# Food Stamp Program Outreach Activities Targeted to Seniors

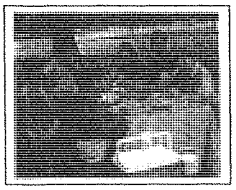
Increasing participation in the Food Stamp Program (FSP) is a Food and Nutrition Service (FNS) priority. Outreach is one way to share information about the nutrition benefits of food stamps with the diverse range of potentially eligible clients. FNS conducts outreach at the national level and supports outreach at the State and local level through the provision of materials and tools that providers can customize or use "off-the-shelf."



The FSP is a Federal program that is State or County administered. Food stamp outreach coordinators located in FNS regional offices keep State food stamp agencies informed about national outreach efforts and provide technical assistance with State and local outreach activities. This enables State agencies to provide good customer service to applicants who learn about the nutrition benefits of the FSP through national, State or local outreach efforts. Many current and future national outreach activities are targeted towards seniors, a group which has traditionally underused the FSP.

## Current National Outreach Resources and Activities

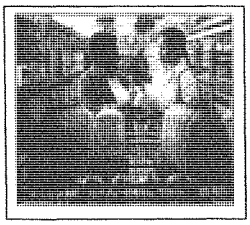
- **Overview:** The outreach website connects providers to all food stamp outreach materials and resources, including those targeted to seniors. Check it out at http://www.fns.usda.gov/fsp/outreach/default.htm .
- **National Media Campaign:** Radio ads air for four months each year. FNS extends its investment greatly due to donated and bonus time. Ads targeted to seniors air on top ranked stations in many of the locations selected for the campaign.
- **State Outreach Plans:** Outreach is an allowable administrative cost and State agencies can be reimbursed at the 50 percent rate for their allowable outreach activities. States often reach out to seniors and other underserved populations through these efforts. We encourage all States to submit outreach plans.
- **FSP Outreach Grants:** One million dollars is awarded each year in small grants to public or private non-profits including community organizations and faith based organizations. Grantees test outreach strategies to reach their target audiences. Some grantees specifically target the elderly. Others may not specifically target this audience but the messages nevertheless reach this group. A list of our outreach grants can be accessed at http://www.fns.usda.gov/fsp/outreach/grants.htm.



- **FNS Toll Free Number:** Effective outreach strategies require a toll free number. Our number is used by organizations conducting outreach and often for our national activities Callers to the toll free number can hear messages in English or Spanish.
- **Pre-screening Tool:** The "Step 1" pre-screening tool is available in English and Spanish. This tool tells users if they may be eligible for food stamps benefits and how much they could receive. Users may pre-screen themselves for benefits privately. The tool can be found at www.foodstamps-step1.usda.gov

As of February 28, 2008

- **Library of Photographs:** Photographs of elderly individuals and their families can be downloaded and used by local groups or others to develop local outreach flyers. Go to: http://grande.nal.usda.gov/foodstamp_album.php



- **Library of Translated Materials:** Outreach informational materials in 34 languages are available for download by State and local offices and outreach partners: http://www.fns.usda.gov/fsp/outreach/translations.htm

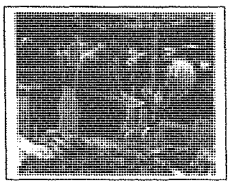
- **Outreach Printed Materials:** English and Spanish language posters, flyers, envelopes with checklists of verification documents, and other outreach materials for States and local outreach providers are available for free. Many of these posters feature seniors. The materials can be located at: http://www.fns.usda.gov/fsp/outreach/default.htm .

- **Outreach Toolkits:** These toolkits offer templates and ideas for outreach. It can be used by organizations targeting seniors. It contains a promising practice section that describes outreach activities that have worked in other communities. The toolkits are available at http://www.fns.usda.gov/fsp/outreach/tool-kits.htm .

- **Ready to Use PSAs:** Public Service Announcements for both television and radio are available in English and Spanish for State and local outreach providers to use in their outreach efforts. These can be viewed at: http://www.fns.usda.gov/fsp/outreach/radio/default.htm (radio) and http://www.fns.usda.gov/fsp/outreach/psas.htm (television).

- **Recipe Finder:** A searchable database containing culturally diverse, affordable, healthy recipes is available for outreach providers. The recipe database can be found at http://recipefinder.nal.usda.gov/.

- **Outreach Coalition:** The coalition provides a forum for outreach providers to exchange ideas and share materials. Organizations participate in the national Coalition. There is also a distribution list to share news and innovations in outreach with local outreach providers.



- **Outreach Email Address:** An FNS email address (fspoutreach@fns.usda.gov) is available for service providers who have questions on the toolkits or other FNS outreach resources.

Senator WYDEN. My light is on, and extra points for candor. I appreciate your really giving us concrete numbers about the gap. I would just wrap up by saying, what do you think in terms of the most recent initiatives that you have taken on? What do you think are the most promising efforts for closing the gap?

In other words, as Senator Smith has indicated, we are going to have to make some choices and certainly we want to do as much as we can as quickly as possible, what do you think would be the recent initiatives that would be most likely to close the gap?

Ms. HOUSTON. Well, for several years we have been funding program participation grants. Those grants are helpful because they give us information about unique pilots and demonstration activities around the country and what they have done to make improvements in participation.

One of the model programs that we think has been particularly interesting and that we would like to see replicated is called MiCafe. Through this program, trained application assistants locate seniors at places like senior centers and then they do a facilitated enrollment.

So instead of having the seniors go to the food stamp office, they can actually fill out the application at places where they already go, where they feel comfortable, where they know the people, where they feel a sense of privacy.

This eliminates transportation needs. It breaks down barriers with regards to the use of technology. If we can identify ways in which we can support what we know about seniors and their culture, and then get them the benefits that way, we will see improvement in participation.

Senator WYDEN. Thank you. Thank you, Mr. Chairman.

Senator SMITH. Thank you, Senator Wyden. I think your questions were very helpful, too, and I think they point up a need that we have to have more information so we can better guide, frankly, what kind of budgets we ought to be producing, what kind of budgets the Administration ought to be asking for.

What I would suggest is that the minority and majority staffs of the Aging Committee work with the Administration Meals on Wheels program to perform a survey so that we can get at least a ballpark number, because I think we have pointed up a real need in order for us to be better able to meet our responsibility in these programs that will, by a matter of demographics, they will be growing.

So with Senator Kohl's permission, I will visit with him as well, and I know my staff is anxious and ready to go on this.

Thank you, Edwin Walker, Kate Houston, we appreciate you very much, your service and what you have done to help us to understand these vital programs.

Ms. HOUSTON. Thank you very much. Thank you.

Senator SMITH. Our second panel, we are pleased to welcome Marcus Lampros, who is the present of Lampros Steel, Portland, OR. Mr. Lampros is also a volunteer with the Loaves and Fishes centers, a program, and Senator Wyden, in my home State that serves congregate and home-delivered meals.

He will discuss his work as a volunteer and the needs of local programs like Loaves and Fishes. Loaves and Fishes, in fact, has

35 meal sites in Multnomah, Washington, and Clark Counties, and serves 5,000 meals daily, and more than 1.3 million meals each year.

Our second witness will be Dr. James Ziliak. He is director of the Center for Poverty Research at the University of Kentucky. He will present the work that he, along with Professor Craig Gunderson of Iowa State University performed to author the Meals on Wheels Association of America Foundation funded study. It is entitled "The Causes, Consequences and Future of Senior Hunger in America."

Then we will hear from James Weill. He is president of Food Research and Action Center. He will discuss the work and advocacy that FRAC on behalf of those who go hungry across the Nation.

Then Robert Blancato, he is executive director of the National Association of Nutrition and Aging Services Programs. He has discussed the needs and struggles that many meal programs face and provide recommendations for improvement and a range of programs that aid seniors.

Finally, last but not least, Jan Jones. She is senior vice president of communications and government relations of Harrah's Entertainment, Inc. She will discuss the corporate response to hunger and the need to have not only government intervention in the problem but also the necessity of mobilizing private contributions to combat senior hunger.

Marcus, good to see you. Take it away.

**STATEMENT OF MARCUS LAMPROS, PRESIDENT, LAMPROS STEEL, INC., PORTLAND, OR**

Mr. LAMPROS. Good to see you, Senator Wyden, Senator Smith. Thank you very much for everything you do for our great State. You are champions, both of you.

Thank you for the opportunity to testify before the Committee today. My name is Marcus Lampros, and I volunteer for Loaves and Fishes, the Meals on Wheels people in Portland, OR, and I am here on behalf of the Meals on Wheels Association of America.

Our senior meal program in Portland serves 5,000 meals per day, or 1.2 million meals each year to elders in northwest Oregon and southwest Washington. We provide this vital service with a $9 million operating budget. Almost half of that is supported from government sources. We are one of the few programs in the country that does not have a waiting list.

For the past 15 years, our staff and board of directors has been planning for the aging of the baby boomers. In 2003, we constructed a State of the air central kitchen, and we have been adding and upgrading our 35 meal sites each year.

As our community population ages, we are experiencing significant increases in demand for food and project by 2019, we will double the amount of meals that we deliver.

Our kitchen, which is one of the largest non-profit facilities in the Nation, is equipped to prepare over 12,000 meals a day, or more than 3 million meals a year.

Let me tell you about our typical client. She lives alone in her own home, she doesn't have the money to buy all the food she needs to maintain an adequate diet.

Our community based Meals on Wheels program gives homebound seniors like her the option to remain healthy and independent in their own home. Without this valuable, basic service of hot meals, these people would be placed in costly care facilities.

It should be noted that if half of our 5,000 daily clients, just half of them, had to turn to nursing homes, just in the Portland area, the additional cost would be $100 million. Much of the financial burden would fall upon the Federal Government.

If you extrapolate that figure nationally and replicate programs like Meals on Wheels in Portland, you could the American people billions of dollars a year. Remember, the Portland senior program feeds 5,000 people a day, 1.3 million people each year on only a $9 million budget.

How the heck do we do it? In a word, volunteers. Meals on Wheels in Portland depends upon 7,500 volunteers every year to serve and deliver meals. Each day, we have enough volunteers to fill a Boeing 747.

That is right, every single day, 500 volunteers show up to work at our local meal sites and deliver hot meals in our area. We estimate that we receive over $25 million a year in free volunteer labor. This in itself tells all of you and prospective donors that we are a good investment for the community.

Last, we provide more than just a hot meal. We also provide fellowship and dignity to our clients. Throughout my 20 years of service with Loaves and Fishes Meals on Wheels, over 100 of my clients were able to pass their final days in the comfort and security of their own home.

I delivered meals to Joe and Helen for 10 years. Joe was disabled and confined to a wheelchair. One day, he wife, Helen, the healthier of the two, died suddenly.

When Joe answered the day and told me the sad news, he was certain that he would have to move to a nursing home. But with help from a friend and our commitment to continue to deliver meals, Joe was able to continue living at his home for 5 more years.

By sharing stories like these with colleagues, friends and relatives, each week someone new steps up to volunteer and make a difference in the lives of seniors. The Meals on Wheels people make a difference in hundreds of thousands of lives across the country.

I am particularly proud of our Portland, OR program, which is the model for the entire country. In Oregon, our investments, our staff, our supporters are laying the foundation and creating a template which will serve the millions of elderly Americans coming our way.

With your help and the continued support of our donors and volunteers, seniors in our community will have the opportunity to spend more time in their own home as they grow older.

Thank you again for the opportunity.

[The prepared statement of Mr. Lampros follows:]

**Remarks for Marcus Lampros**
**March 5, 2008**
***Senate Special Committee on Aging, Washington, D.C.***

Senator Smith, Chairman Kohl and members of the Committee, thank you for the opportunity to testify. My name is Marcus Lampros and I am a volunteer for Loaves & Fishes Centers, Inc. in Portland, Oregon. Our senior meal program serves 1.3 million Meals-On-Wheels and congregate meals to elders in northwest Oregon and Southwest Washington annually. We accomplish this service with a $9 million operating budget, 45% of which is supported from governmental sources. We are one of the few programs in the nation that does *not* have a waiting list for meals.

Loaves & Fishes Centers' Board of Directors has been planning for the aging of the baby boomers for the past 15 years, constructing a state-of-the-art kitchen in 2003 and upgrading meal sites. We are experiencing significant demands for nutritional support and project that we will *double* the number of meals we serve by 2019. Our kitchen, one of the largest nonprofit facilities in the nation, can prepare 10,000 meals daily or more than 2.5 million meals each year.

I became involved with Loaves & Fishes Centers when a senior, who was a community leader in our neighborhood, asked me to volunteer to deliver Meals-On-Wheels in 1990. Thelma Skelton had created a senior meal program prior to the Older American's Act and prior to the establishment of Loaves & Fishes Centers. Thelma influenced me as a young man to truly be part of my community. I have been active in the meal program since then and it was my honor in 2006 to chair a capital campaign to build a new meal site in Southeast Portland named Thelma Skelton Loaves & Fishes Center.

Let me tell you about our typical client. She lives alone in her own home, and often lacks the income to buy all the food she needs to maintain an adequate diet. Once accustomed to cooking for a large family, she is no longer motivated to cook or care for herself. She's lonely and isolated and lacking transportation to access basic services. She may be experiencing mild dementia. Due to long-term poor nutrition she may have mental issues that cloud her judgment. Loaves & Fishes Centers' 35 meal sites, which typically serve low-income seniors, are gathering places where our elders can remain connected to the community.

Our community-based Meals-On-Wheels program gives homebound seniors the option to remain healthy and independent and in their own home. Meals-On-Wheels clients lack access to food because of an impairment or disability not always because of a financial need. Without this valuable basic service of a hot meal and daily visit by a volunteer, hospital discharge planners and case managers would be forced to place elders in very costly care facilities.

Loaves & Fishes Centers depends on 7,500 volunteers every year to serve and deliver meals. Many of them are seniors themselves, giving back with purposeful and meaningful work in their communities. Each day, 500 volunteers work at our local meal sites and deliver hot meals to homebound seniors.

As a business owner I believe Meals-On-Wheels provide a conduit to the community. It provides individuals the ability to directly volunteer in their neighborhood and for their city. This

volunteerism grows in numbers as local companies see how simple it is to make a difference. At my business, Lampros Steel, we have adopted a route in our neighborhood. Each Wednesday someone from our office delivers meals to 20 homebound seniors. During our first delivery, one of my employees commented, "You mean to tell me someone has been driving around this area for the last 10 years delivering meals and we haven't even noticed?" I am proud to say as an individual and as a business owner our participation in the largest volunteer organization in the city brings us all a sense of satisfaction.

Someone from my accounting department calculated that if each of the 7,500 Loaves & Fishes Centers volunteers worked four hours a week, 50 weeks a year at $15 an hour it calculates to 1.5 million *free* hours or $22 million of *free* labor per year! This, in itself, tells all of you and prospective donors that we are a good investment.

Throughout my 18 years of service with Loaves & Fishes Centers, I have seen approximately 100 people spend the last years of their lives at home. I delivered meals to Joe and Helen for 10 years. Joe was disabled and in a wheel chair and Helen was healthy and caring for him—they were very poor. One day, Helen died suddenly leaving Joe all alone. Joe, in tears, told me that his wife was all he had and now that she was gone he would have to move to a nursing home. I told him that he could stay at home if he found a roommate – pointing out to him that he had a spare bedroom. In turn, this person could help pay the rent and take care of the incidental things Joe needed. Most of all I would still be there to deliver his meals. Joe lived at home for another five years.

Another meals recipient, Judy, would leave her door open and let me come in and put her meal on a TV tray. All day long she knitted sweaters and scarves for her relatives, always sitting and sleeping in the same chair throughout the day. Once a day someone would come by and check on her—not spending too much time. Last summer she turned 100 years young and finally had to move to an assisted care home. Without hot meals each day, Judy would have had to move many years before.

I also deliver to little Isabelle who stands just 4'9". Recently, as she walked wearily to unlock the security door to let me in with her meal, she fell right before my eyes and hit her head on the glass door. Isabelle knew that if she was to stay in her home, she would have to get up and unlock the door to let me in. With a black eye and bump on her head, she did just that! I am still checking on her and delivering to her each week. She is my longest stay-at-home recipient—I have been delivering to her for more than 12 years!

These are just a few stories of the seniors I see each week. Without our volunteer services most of the people we deliver to would have to find nursing homes or other government services to fulfill their daily needs. I am very proud of our organization and believe that it is the model for the entire country. By sharing my stories with friends and relatives, it seems each week someone I know wants to volunteer to make a difference. Loaves & Fishes Centers, The Meals-On-Wheels People in Portland Oregon is the difference. We are laying the foundation for a future generation, an unprecedented numbers of elderly. With our help each one will have the opportunity to spend more time in their own home as they grow older.

Senator SMITH. Thank you, Marcus, that is a very inspiring story. Good news for Oregon because of your work and the work of Loaves and Fishes.

Senator WYDEN. Might have to put you in charge of the Federal Government. No waiting list. [Laughter.]

Mr. LAMPROS. No waiting list. I was interested to hear you say that, but we are one of the few. Joan wanted me to make sure everyone knew that.

Senator SMITH. James, I understand Craig Gunderson is here. I failed to mention him. I think he is here to backstop you. Okay, we will see if you need him.

**STATEMENT OF JAMES ZILIAK, DIRECTOR, CENTER FOR POVERTY RESEARCH, DEPARTMENT OF ECONOMICS, UNIVERSITY OF KENTUCKY, LEXINGTON, KY**

Mr. ZILIAK. Mr. Chairman, Senator Wyden, I thank you for the opportunity to appear before you today.

My name is James Ziliak, and I am a professor of economics at the University of Kentucky and director of the Center for Poverty Research.

The center is a non-partisan, non-profit research organization and is one of four poverty research centers funded by the Assistant Secretary for Planning and Evaluation in HHS.

My co-principal investigator, Professor Craig Gunderson of Iowa State University, and I are here to discuss the results of our study on senior hunger in America. Funding for this study was generously provided by the Meals on Wheels Association of America Foundation and underwritten by Harrah's Foundation. The views expressed are our own and do not necessarily reflect the views of any sponsoring organization or agency.

Hunger is serious threat facing five million, or 11 percent of all seniors age 60 and over in the U.S. Despite this important public health threat, we know very little about the extent, causes, consequences and future of senior hunger in our Nation. The purpose of our report was to fill in some of the gaps in our knowledge.

Our study paints a portrait of senior hunger in America that is at once familiar and surprising. The familiar being that seniors are more likely to be at risk of hunger if they are living at or below the poverty line, if they are a high school dropout, an African-American or Hispanic, divorced or separated, socially isolated.

The surprising being that seniors are more likely to be at risk of hunger if they are relatively young seniors between the ages of 60 and 64, or if they are living with a grandchild.

Also surprising are the staggering differences in hunger risk across age, education, race, family structure and social support networks. Controlling for other factors, we find that seniors in their mid-80s are over one-third less likely to be at risk of hunger than seniors in their mid-60s.

A high school graduate is 20 percent less likely to be at risk of hunger compared to a high school dropout. A college graduate is 40 percent less likely.

On the other hand, African-American seniors are 75 percent more likely to be at risk of hunger than white seniors. Never mar-

ried seniors are 20 percent more likely to be at risk at hunger compared to married seniors.

Seniors living with a grandchild or who are socially isolated are each about 50 percent more likely to be at risk of hunger. Our results highlight a sizeable population facing an unmet food need that is likely to grow significantly with the baby boom generation entering their 60s.

The next part of our report examines the health related consequences of hunger risk among senior Americans. After controlling for other factors, we find that seniors facing the risk of hunger are significantly more likely to have lower intakes of energy and major vitamins, more likely to be in poor or fair health, more likely to have limitations in activities of daily living.

For example, a senior at risk of hunger has the same chance of an ADL limitation as a senior at no hunger risk that is 14 years older.

We conclude by offering predictions on the possible scope of senior hunger in America in the year 2025, when the demographic bulge of retirees will be at its peak. In 2025, an estimated 9.5 million seniors will experience some form of food insecurity, or about 75 percent more than in 2005; 3.9 million seniors will be at risk of hunger, a 50 percent increase; 1 million seniors will suffer from hunger, a 33 percent increase.

Although these are about the same percentages of the senior population as today, the substantial growth in numbers at risk of hunger is alarming and highlights an additional challenge with the looming retirement of baby boomers.

Making projections 20 years into the future should always be accompanied with some caveats. For example, our projections of hunger may be too low if there is something unique about current retirees born before the Great Depression. Alternatively, if the combination of strong economic growth and enhanced public policies reduced poverty substantially in the future, or if there are significant improvements in education attainment, it is possible that our estimates of hunger will be too high.

Moreover, we recognize the influence of elderly nutrition programs such as Meals on Wheels and the Food Stamp Program have on alleviating senior hunger. Expansions of these and related nutrition programs could lead to future reductions in hunger.

This report is but a first step in improving our understanding of senior hunger in America, and much work remains to be done. We again thank the Committee for the opportunity to share the results of our research.

We hope our findings will serve as a springboard for additional research on the causes of hunger identified here and for further policy discussions on the provision of food assistance to ensure that no senior will be at risk of going without safe, adequate and nutritious food.

Thank you.

[The prepared statement of Mr. Ziliak follows:]

**Embargoed until released at 12:00pm March 5, 2008**

**Testimony**

**of**

**Professor James P. Ziliak**
**Carol Martin Gatton Endowed Chair in Microeconomics**
**Director, Center for Poverty Research**
**University of Kentucky**

**on the issue of**

**"The Causes, Consequences, and Future of Senior Hunger in America"**

**before the**

**United States Senate Special Committee on Aging**

**March 5, 2008**

UK
UNIVERSITY OF KENTUCKY

**Embargoed until released at 12:00pm March 5, 2008**

Mr. Chairman, Senator Smith, and members of the Committee, I thank you for the opportunity to appear before you today. I extend a special thanks to Senator Smith for calling this hearing to discuss the problem of hunger among senior citizens in our nation. My name is James Ziliak, and I am a Professor of Economics at the University of Kentucky and Director of the Center for Poverty Research. The Center is a nonpartisan, nonprofit research organization and is one of four poverty research centers funded by the Office of the Assistant Secretary for Planning and Evaluation in the U.S. Department of Health and Human Services.

My co-Principal Investigator, Dr. Craig Gundersen, who is an Associate Professor at Iowa State University, and I are here today to discuss the results of a research study we conducted along with Dr. Margaret Haist of the Center entitled "The Causes, Consequences, and Future of Senior Hunger in America."[1] Funding for the study was competitively awarded to us by a grant from the Meals On Wheels Association of America Foundation and underwritten by the Harrah's Foundation. The views expressed are our own and do not necessarily reflect the views and opinions of Meals On Wheels Association of America Foundation, Harrah's Foundation, our universities, or any sponsoring agency in the Federal government.

**The Face of Hunger among Senior Americans**

Hunger is a serious threat facing millions of seniors in the United States. Despite this important public health threat, we know very little about the face of hunger among seniors, its causes and consequences for well being, or what will happen in coming decades with respect to the number and composition of seniors who are at-risk of hunger. Knowledge of these issues is particularly pressing in order to best plan for the upcoming increase of seniors due the aging of "baby boomers". The purpose of our report was to fill in some of the gaps in our knowledge of senior hunger in the U.S.

In our report we assembled data on senior Americans age 60 and older using the 2001-2005 Current Population Surveys (CPS), a nationally representative survey of over 50,000

[1] Ziliak, James P., Craig Gundersen, and Margaret Haist. 2008. "The Causes, Consequences, and Future of Senior Hunger in America." A Special Report prepared for the Meals On Wheels Association of America Foundation. Lexington, KY: The University of Kentucky Center for Poverty Research.

households per year, along with the Core Food Security Module designed by the USDA to measure food insecurity in the U.S. population. The USDA definition of *food insecurity* is "limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways."[2] Based on the survey questions we considered three major categories of food insecurity: (1) the weakest being whether a household experienced any form of food insecurity; (2) the middle being whether the household experienced enough complications providing food to be considered *at-risk of hunger*; and (3) the most severe form being whether the household suffered from *hunger* due to financial constraints.

Based on these categories we estimated that during our period of study over 5 million seniors—11.4 percent of all seniors—experienced some form of food insecurity. Of these, about 2.5 million were at-risk of hunger, and about 750,000 suffered from hunger due to financial constraints.

The data paint a portrait of senior hunger in America that is at once familiar and surprising. The familiar being that the poor, African Americans, and to a lesser extent, Hispanics, renters, and those living in the South are over-represented among those seniors at-risk of hunger relative to their representation in the population. The surprising being that seniors under age 70 and seniors living with a grandchild experience higher risks of hunger on average.

While certain groups of seniors are at greater-risk of hunger, hunger cuts across the income spectrum. For example, over 50% of all seniors who are at-risk of hunger have incomes above the poverty line. Likewise, it is present in all demographic groups. For example, over two-thirds of seniors at-risk of hunger are white.

**The Causes of Senior Hunger in America**

We next conducted a formal statistical analysis of the causes of food insecurity and hunger. The models move beyond simple associations and help answer questions such as "what

[2] Anderson, S. A. 1990. "Core Indicators of Nutritional State for Difficult-to-Sample Populations." *Journal of Nutrition*, 120: 1557–1600.

is the effect of age on the probability of food insecurity holding income, race, education, and other factors constant?"

Here some of the associations previously mentioned come into sharper relief. Holding other factors constant we find that a senior is more likely to be at-risk of hunger if they were

- *Between the ages of 60 and 64.*
- *Living at or below the poverty line.*
- *A high school dropout.*
- *An African-American or Hispanic.*
- *Divorced or separated, or living with a grandchild.*
- *Socially isolated.*
- *Holding liquid wealth less than $25,000 and net work less than $50,000.*

Let me expand on some of these findings. Conventional wisdom and some community level studies hint that food insecurity is likely to be worse among the oldest old. Our results based on national data find the opposite. Seniors age 80 and older were 2 percentage points less likely to be at risk of hunger compared to 60-64 year olds. That is, an 84 year old is over one-third less likely to be at-risk of hunger than a 64 year old on the baseline food insecurity rate of 5.6 percent. At this juncture we do not fully understand the reasons for the declining age gradient, and believe it should be a research priority going forward, but there are a few factors that are consistent with our results. One possibility is that elderly nutrition programs such as Meals On Wheels have historically focused resources on the oldest old, and the programs have been effective in alleviating food insecurity and hunger among this older age cohort. Another possibility is that seniors have developed time-tested strategies to meet basic needs and thus are less likely to state that they are hungry.[3] There is also the possibility that emotional and physiological factors are at play in that older seniors suffer from declining sensory perception leading to the loss of enjoyment of food (and, subsequently, less demand for food) and they have

[3] Schoenberg, N. 2000. "Patterns, Factors, and Pathways Contributing to Nutritional Risk Among Rural African American Elders." *Human Organization,* 59(2): 234-244.

reduced physical and mental activity that lessens the need for caloric intake. While the pathways are potentially many and varied, our results highlight a sizable population facing an unmet food need that is likely to grow significantly with the 'Baby Boom' generation entering their sixties.

Income offers strong protection against hunger. We find that households above 200 percent of the poverty line have nearly a 15 percentage point lower probability of experiencing any form of food insecurity, a 6 percentage point lower probability of being at risk of hunger, and a 2 percentage point lower probability of being hungry. This suggests that enhanced efforts to combat poverty in America will have positive spillovers in terms of reductions in hunger.

At the same time we also find that over and above the protective factor of high incomes, access to a stock of wealth insures against the hardship associated with food insecurity and hunger. This includes homeownership and other liquid and illiquid assets. Policies that enhance saving for retirement and homeownership will have the additional benefit of reducing risk of hunger.

Even holding income and other factors constant we find that education pays in terms of reduced odds of food insecurity among seniors. That is, a high school graduate is 20 percent less likely to be at risk of hunger compared to a high school dropout, and a college graduate is 40 percent less likely. We do not yet know the precise pathway why education reduces hunger risk, but the leading explanation for the positive link between education and overall health is typically attributed to health information; that is, educated persons are both more aware of research relating to the health consequences of behavior and better equipped to respond to new health information emanating from that research.[4] This suggests that efforts that reduce dropping out of high school and that foster college completion will likely lead to lower hunger risk among future generations of seniors.

Marriage insures against hunger risk on a scale comparable to a high school diploma; that is, married couples are at about a 20 percent reduced probability of being at risk of hunger compared to never married seniors. But not all forms of family structure improve food security.

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[4] Grossman, M. and R. Kaestner. 2004. "Effects of Education on Health." In *The Social Benefits of Education*, J. Behrman and N. Stacey, eds., 69–123. Ann Arbor, MI: University of Michigan Press.

Seniors living with a grandchild, even holding income and other factors constant, were about 50 percent more likely to be at risk of hunger compared to those with no grandchild.

In additional analyses we found that after controlling for other factors, seniors who are socially isolated—that is, without access to emotional and financial support—are also about 50 percent more likely to suffer from hunger. Our results show that improved efforts to provide services to the socially isolated have the potential to reduce hunger risk.

Another surprising result of our study was that holding other factors constant, there were sizable racial differences in the risk of hunger. African-Americans were 4.2 percentage points more likely to be food insecure than white persons, or nearly 75 percent above the baseline rate of 5.6 percent. Hispanics were about 20 percent more likely to be at-risk of hunger compared to whites, though were at no greater risk of currently experiencing hunger. The magnitudes of these racial differences are staggering when considering that the model conditions on income, education, age, gender, and other factors. Like the results related to age, the causal pathways underlying the racial gaps are not known and are in need for additional research.

There are no substantive differences in food security across broad regions of the country once we control for state-specific differences (households in the South and West have higher probabilities of being food insecure without these controls). This suggests that permanent state policy, or more likely, geographic barriers (such as difficulty getting to a store or limited availability of elderly nutrition services) in Southern and Western states may contribute to the greater probability of food insecurity among households in these regions.

We concluded this part of our analysis by constructing profiles of households at "high-risk" and at "low-risk" of food insecurity. Our results predict that an African-American who is a high school dropout, is divorced, is living with a grandchild, is between the ages of 60 and 64, is renting, is living in the non-metro South, and is disabled or unemployed has the greatest risk of being hungry—exceeding 80 percent. If we double the income of that household, but hold everything else the same, then the risk of hunger falls nearly 40 percent and yet still remains disturbingly high.

However, we showed that the risk of hunger is near zero for a white college graduate who is married, not living with a grandchild, is age 80 or older, is a homeowner in a metro area in the Northeast, and is retired. This holds generally whether the household's annual income is above or below the poverty line, highlighting the cumulative protective roles of marriage, higher education, age, race, and homeownership.

**The Health Consequences of Senior Hunger**

The next part of our report examined the health-related consequences of food insecurity among senior Americans. Low intakes of essential nutrients present a serious threat to the health of elderly persons in the United States. In national nutrition studies, the elderly have been found to have low intakes of energy, fiber, magnesium, antioxidants, and some other micronutrients.[5] For about 25 percent of elderly persons, these intakes are low enough to lead to an increased risk of nutrient deficiencies.[6] The effect of insufficient nutrient intakes is large enough that an estimated one-third to one-half of all health conditions in elderly persons may be related to low intakes.[7]

While there has been extensive work looking at nutrient-related deficiencies among the elderly and the consequences of those deficiencies, much less work has been done looking at the health consequences of food insecurity among the elderly. To address this issue we turned to data from the 1999-2002 National Health and Nutrition Examination Surveys and examined a variety of outcomes that relate to nutrients, obesity, diabetes, depression, activities of daily living (ADLs), and self assessments of general health.

After controlling for other risk factors for poor health we find that seniors experiencing some form of food insecurity are

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[5] Berg, R. and J. Cassells. 1992. *The Second Fifty Years. Promoting Health and Preventing Disability.* Institute of Medicine, Division of Health Promotion and Disease Prevention. Washington, DC: National Academy Press.
[6] Millen, B. 1999. "Preventive Nutrition Services for Aging Populations." In Seiler, W. and H. Stähelin (ed.), *Malnutrition in the Elderly.* Darmstadt, Germany: Steinkopff.
[7] Ryan, V. and M. Bower. 1989. "Relationship of Socio-Economic Status and Living Arrangements to Nutritional Intake of the Older Person." *Journal of the American Dietetic Association*, 89: 1805-1807.

*Significantly more likely to have lower intakes of energy and major vitamins.* This holds across all the nutrient intake measures we considered. For example, across all the measures, the positive effect of being fully food secure is over twice as large (and generally much larger) than having one's income lifted from the poverty line to twice the poverty line.

*Significantly more likely to be in poor or fair health.* For sake of comparison, suffering any form of food insecurity has a similarly sized negative effect on overall self-assessments of health as not having graduated from high school.

*More likely to have ADL limitations.* Seniors with any form of food insecurity are much more likely than fully food secure seniors to have ADL limitations. The effects are again large – the ADLs of these seniors are roughly equivalent to a food secure senior that is 14 years older.

In addition we used data from the 1999–2003 Panel Study of Income Dynamics, a nationally representative longitudinal survey that has followed the same set of families and their children since 1968, to estimate the effect of food insecurity on household food expenditures (adjusted for the USDA family food need standard). On average a family experiencing any form of food insecurity spends about 60 percent less on food relative to needs, and a family that is suffering from hunger spends 88 percent less than a food secure household. However, once we controlled for other factors that determine food spending we no longer find an economically or statistically significant link between food insecurity and food expenditures. Although we find no significant differences in the amount of money spent on food between food secure and food insecure households, holding other factors constant, the fact that food insecure households experience a litany of worse health outcomes is a puzzle. One possibility is that there are substantive differences in the types, quality, and timing of food consumed that lead to worse health, but this topic too is in need of further research.

**The Future of Senior Hunger**

We conclude our report by offering predictions on the possible scope of senior hunger in America in the year 2025. This year was selected in part because all members of the 'Baby

Boom' generation will be above age 60 and thus the demographic bulge of retirees will be at its peak.

We used data from both the 1980s and 2000s in the CPS and population projections from the U.S. Census Bureau. We employed a projection technique that was based on our results from the determinants of food insecurity. Specifically we developed a three-step procedure based on a parsimonious group of seven economic and demographic variables that affected hunger– whether someone was a homeowner, whether a person lived in a poor household, the gender of an individual, the age of an individual, whether a person lived alone, the race of an individual, and whether the person graduated from high school. The first step involved relating food insecurity among seniors in the early 2000s to their age cohorts twenty years prior in the 1980s. The second step involved predicting food insecurity for each age cohort twenty years in the future based on demographic and economic data from the 2000s. The third and final step required weighting the predictions by the U.S. Census's projections of the size of each age group two decades in the future.

Our baseline projections indicate that in 2025 an estimated

- 9.5 million seniors will experience some form of food insecurity.
- 3.9 million seniors will be at-risk of hunger.
- 1 million seniors will suffer from hunger.

The projected numbers of seniors who will experience each type of food insecurity in 2025 are about 75 percent, 50 percent, and 33 percent higher, respectively, than our current estimates.

The baseline projections are quite robust to more complicated prediction models and suggest that in the absence of significant economic or policy reforms the percentage of seniors at risk of hunger in 2025 will be of comparable magnitude to the present. That is, as a fraction of the senior population, these projected numbers are remarkably stable compared to current data. We believe that a couple of countervailing forces are at work—the growth in the fraction of high school graduates between the mid 1980s and mid 2000s is pulling down our estimates of hunger risk while at the same time the growth of the non-white population, especially those with Hispanic ethnicity, over the same period is pushing the estimates upward. Such stability is not

without precedent in key social indicators; witness the remarkable stickiness of the U.S. poverty rate over the past two decades.

Making projections twenty years into the future is a useful exercise but one that should be accompanied with some caveats. The strength of our methodology here is its relative transparency, but its main drawback is the assumption of constant cohort effects over time. For example, our projections implicitly assume that older persons in 2025 will have lower food insecurity rates than younger persons. However, these lower food insecurity rates may reflect a cohort effect for younger seniors rather than an age effect. In other words, it could be that those born after 1935 are more likely to be food insecure at later ages than those born before 1935. One possibility is that the current generation of older seniors developed effective coping strategies in light of their first hand experiences with major economic and social changes from the Great Depression and World War II and thus are less likely to report food insecurity. Given that current 40 to 60 year olds have not faced social dislocations on a similar scale, and thus have had less need to develop coping strategies for food need, they may be more likely to report food insecurity when they reach the ages of 60 to 80 in 2025. If so, then our projections of hunger in 2025 are too low.

Alternatively, if strong economic growth in the future reduces poverty substantially, or there are significant improvements in education attainment, it is possible our estimates of food insecurity will be too high. Moreover, we recognize the influence that elderly nutrition programs such as Meals On Wheels and the Food Stamp Program have on alleviating senior hunger in America. Expansions of these and related programs could lead to further reductions in hunger not captured in our projections.

**Conclusion**

We believe this report is a first step in improving our understanding of senior hunger in America, but that much work remains to be done. We again thank the Committee for the opportunity to share the results of our research. We hope our findings will serve as a springboard for additional research on the causes of hunger identified here, and for further policy

discussions on the provision of food assistance through programs such as Meals On Wheels and food stamps to ensure that no senior be at risk of going without safe, adequate, and nutritious food.

Senator SMITH. Thank you. Craig, did you have anything to add to that? Did he do okay? [Laughter.]

Mr. GUNDERSON. He did a great job.

Senator SMITH. Okay, alright. James Weill.

**STATEMENT OF JAMES WEILL, PRESIDENT, FOOD RESEARCH AND ACTION CENTER, WASHINGTON, DC**

Mr. WEILL. Senator Smith, I am Jim Weill from the Food Research and Action Center, and we appreciate the opportunity to testify here this morning. We are pleased that the Committee is having this hearing on this important problem.

More than one in five elderly persons in this country had income below 150 percent of the federal poverty line in 2006, the last year for which there are data. When people have inadequate incomes, very often they are food insecure. That is the U.S. Department of Agriculture phrase for households struggling with hunger, where resource constraints mean that people are skipping meals or otherwise can't afford a basic, balanced diet. For seniors, food insecurity, of course, has significant adverse health and quality of life outcomes.

The most recent government report showed that 6 percent of households with elderly members in them are food insecure.

That is simply not acceptable. These numbers may well get worse in the years ahead, as the Committee has mentioned this morning, and as Professor Ziliak did as well, as the elderly population grows, as some of the more disadvantaged groups among the elderly population grow the fastest, and as seniors face rapidly rising out-of-pocket health care costs, energy costs and food costs.

The first thing we need to do is to make sure that the Nation protects and shores up economic supports like Social Security, SSI and other supports. Second, we have to make sure that the federal nutrition programs are strong enough to supplement the income programs.

Programs like Senior Farmers Markets, the Emergency Food Assistance Program, the Commodity Supplemental Food Program and Meals on Wheels have been weakened as their funding has lost ground to inflation and population growth.

Thankfully, Congress has repeatedly rejected the president's proposal to eliminate the Commodities Supplemental Food Program, but it's funding has been eroded so that it has 17 percent fewer slots than in 2003. The number of slots is declining while the senior population grows. The same thing is true of Meals on Wheels and the congregate meals programs.

But I want to focus the last couple of minutes I have on the food stamp program, which is the Nation's most important bulwark against hunger. As has been said this morning, only about 65 percent of eligible people receive food stamps. Shockingly, less than a third of eligible seniors receive food stamps.

The program is still incredibly important and has broad sweep. Well over two million seniors receive food stamps every month. But it can do much, much more, and it needs to do more both to meet the current problem and the growth in food insecurity that Professor Ziliak has projected.

As described in detail in our written testimony, elderly persons are being deterred from applying by stigma, by unnecessary paperwork, by a belief, not always correct, that they are likely only to get the $10 minimum monthly benefit, and by a lack of respect from the program bureaucracy in some places, even including fingerprinting.

Senator SMITH. Fingerprinting?

Mr. WEILL. Yes, yes, Mr. Chairman.

Senator SMITH. Why would that be—why would there be fingerprinting?

Mr. WEILL. I believe it is an ill-conceived attempt to deter fraud and detect fraud. It is only happening at this point in a couple of States, but it shouldn't be happening anywhere in the program.

Senator SMITH. Sorry to interrupt you—

Mr. WEILL. No, that is fine. We applaud the Food and Nutrition Service's recent media efforts and other outreach to seniors. We need more such outreach from FNS and State and local agencies.

Senator Wyden asked, what works best? I believe the answer to that may be the SSI CAP program that Kate Houston referred to, which involves the Social Security Administration in contacting seniors, helping to get food stamps to seniors so they have less interaction with State food stamp bureaucracies.

The CAP program also offer many seniors somewhat more benefits than they think they are going to get under the program. But the CAP program only operates in a few States, and we need it to operate in many more States.

We also need States and localities to use the many options they have under federal law to lower the barriers I described earlier.

Congress needs to strengthen the program. The Farm Bill that is pending right now in a Conference Committee potentially makes some important first strides. Indeed, there are important changes in the Farm Bill for seniors in the food stamp program.

Both the House and Senate bills raise the minimum benefit from $10 to $16 and adjust it for inflation. That benefit hasn't been raised since 1977, and the amount of it deters people from applying.

The Senate Bill also raises the asset limits applicable to households with elderly or disabled members from $3,000, where it was set three decades ago, to $4,500 and indexes it for inflation.

One or both of the bills make other helpful changes: improving the standard deduction, simplifying reporting, and, as Kate Houston said, renaming the program, which will help de-stigmatize it since it no longer actually has coupons or scrip.

These are great first steps. We need the Farm Bill to be finished, and we hope the members of this Committee will push to get the bill with its good nutrition provisions for elderly persons past the last hurdles. Then we hope to work with you to do more in these key respects.

One last thing. I want to refer back to something that Senator Salazar said about the stimulus bill and mention how important it would be to get a food stamp boost into a second stimulus bill if that happens in the Congress.

Thank you very much.

[The prepared statement of Mr. Weill follows:]

Addressing Hunger Among America's Elderly Population

Testimony before the Senate Select Committee on Aging

James Weill
Food Research and Action Center

March 5, 2008

Mr. Chairman, and members of the Committee, the Food Research and Action Center appreciates the opportunity to testify here this morning. We have been working for many years to improve public policy in order to eliminate hunger and reduce poverty in this country. Hunger in the elderly population continues to be a serious problem - - and an unnecessary and unacceptable problem. It is one this nation must address. We are pleased that this Special Committee is having this hearing.

Good nutrition – enough food, and health-sustaining food – is important to everyone in our society, but it is especially important when people are particularly vulnerable to disease, or when their life circumstances – such as limited mobility or limited resources or a limited ability to cook – make obtaining a healthy diet more difficult. For these reasons, many elderly persons are particularly at risk for the damage that can flow from inadequate nutrition.

For some elderly people – both in their own homes and in nursing homes and other congregate living facilities – disease or immobility or institutional shortcomings contribute to inadequate nutrition, regardless of the person's resources. But I want to focus today on the special problems caused by limited resources for those living at home.

Through Social Security and Supplemental Security Income, this country has made huge strides against elderly poverty over the last 35 years. But still, today, 9.4 percent of elderly persons (over age 65) live in poverty, according to Census Bureau data for 2006; and 2.5 percent – nearly a million seniors – live in very severe poverty (with incomes below 50 percent of the poverty line). Many economically vulnerable groups, such as women, Blacks, and Hispanics, have higher poverty rates among seniors.

There also are a lot of elderly people who have incomes just slightly above the poverty line. 15.6 percent (one in six) of elderly people had income below 125 percent of the poverty line in 2006, and 22.4 percent (one in five) had income below 150 percent of poverty. And the low-income population is not static, so poverty afflicts a much higher proportion of the senior population over time. Professor Mark Rank has estimated that roughly half of people will have incomes below 125 percent of the poverty line for at least one year between the ages of 60 and 90.

When people have inadequate incomes, very often they are "food insecure" as a result. Food insecurity is the U.S. Department of Agriculture phrase for households where there is serious hunger, or where resource constraints mean that people are skipping meals or

otherwise can't afford a basic, balanced healthy diet. Food insecurity harms health and well-being. Food insecure elderly persons have been found to be 2.33 times more likely to report fair or poor health status. And food insecurity among elders increases disability, decreases resistance to infection, and extends hospital stays. Moreover, many medications need to be taken with food to assure their effectiveness. Too many seniors have to skip meals in order to purchase medication, only to see that "Take with food" label on the prescription bottle because without food the drug will be less effective. Medically this is self-defeating. And from the patients' perspective it is a cruel "Catch-22."

USDA issues an analysis of food insecurity every year based on a survey by the Census Bureau. The most recent report showed that six percent of households with elderly members in them – 1.6 million households – were food insecure in 2006. And 1.8 percent of all households with elderly members experienced hunger outright. These are worse rates than in 2001. Other studies by think tanks and charities have found higher rates of food hardship among elderly Americans.

It is not acceptable that so many among our elderly population are struggling with hunger in this way. And these numbers may well get worse in the years ahead. The elderly population is going to grow both absolutely and as a share of the American population, and some of the more disadvantaged groups among the elderly population are going to grow the fastest. Moreover, the growth of the oldest part of the senior population will be the rapidest. These demographic changes likely will mean more poverty and food insecurity in the years ahead unless our society improves its supports for lower-income senior citizens.

For some low-income seniors, food security issues are complicated by the challenges of raising - - and feeding - - grandchildren. In a piece aimed at the 2.4 million grandparents now raising their grandchildren, MSNBC included access to food stamps among ten financial tips for them. A reader chimed in that tip number 11 is getting grandchildren free or reduced price school lunch and breakfast as well. (http://www.msnbc.msn.com/id/16876875/)

Elderly people also will face in the years ahead rapidly rising out-of-pocket health care costs – over and above what Medicare pays – and also face growing energy costs and food costs. When people face this type of crunch – a "heat or eat" dilemma, or a "medicine-or-food" choice - - often good nutrition suffers. A household's rent or mortgage cost is fixed. The cost of health premiums is fixed. It is the energy, drug and food expenses that then get shaved back. That is one reason why low-income households, especially those consisting of elderly persons, have been shown to experience substantial seasonal worsening in the incidence of "very low food insecurity" (the most severe range of food insecurity) in geographic areas with high winter heating costs and high summer cooling costs. Of course, when elderly persons shortchange their nutritional needs, health care costs eventually rise.

Just last week, a member of Congress from the Northeast talked to anti-hunger groups about his visits to hospitals in his district where he is being told that seniors are coming in who, because of the need to pay the cost of medications, aren't eating.

Attacking hunger among seniors requires a multi-faceted approach:

- We have to make sure that the nation defends and shores up the economic security of elderly persons. Social Security, SSI and other supports need to be protected and strengthened. And health coverage needs to be robust enough that seniors don't face impossible choices between food and medicine.

- We have to make sure that the federal nutrition programs are strong enough to supplement income supports and help eradicate hunger among elderly persons.

Food stamps are the most important program, by far, to achieve this second goal. But before addressing food stamps in more detail, I want to briefly mention some other important initiatives, and the need to strengthen them. They include the Senior Farmers Market Program, the Emergency Food Assistance Program, the Commodity Supplemental Food Program, and Meals on Wheels.

These programs have been weakened in recent years as their funding – typically part of the discretionary budget – has lost ground to inflation and population growth. For example, the Commodity Supplemental Food Program is an effective way to help low-income seniors obtain added commodity foods. The President's budget has proposed eliminating it for three years in a row. Thankfully, the Congress has continued to reject this proposal. But CSFP's funding has been eroded compared to inflation so that the program has 17 percent fewer slots funded than in 2003. Rather than reaching more people in more states, as it should, the program is losing ground.

Similarly, Meals on Wheels and the senior congregate feeding programs not only haven't kept up with a growing senior population, they have lost ground. The number of people helped by Title III-funded nutrition programs like Meals on Wheels and the congregate meals program has declined from 3.4 million in 1995 to 2.6 million in 2006.

Let me now turn to food stamps.

The Food Stamp Program is a very successful program – the nation's most important bulwark against hunger. The program is essential to the basic well-being of millions of Americans, including the nutrition and health of seniors, but needs to be strengthened further. While its support for seniors is invaluable, it is not as effective for elderly persons as it is for other groups. This is a problem that can be solved.

First, let me talk about how effective food stamps can be. In the 1980s then-Senator Robert Dole described the Food Stamp Program as the most important advance in America's social programs since the creation of Social Security. An initiative that began with bipartisan support in the 1960s and 1970s, with early champions like Senators

Robert Dole and George McGovern and then Representatives Bill Emerson and Mickey Leland has continued to receive an extraordinary level of support from members of both parties. There also is considerable state and local official support, again from officeholders in both parties. And polls show that Americans care deeply about eliminating hunger in this country, feel that not enough is being done in that regard, and want greater government efforts.

This feeling is only magnified by the replacement in recent years of food stamp coupons by electronic benefits cards and other initiatives which have reduced errors and fraud (more than 98 percent of benefits go to eligible households). These have made the use of program benefits at the checkout lane much less visible, thereby reducing the stigma of participation.

Perhaps the clearest recent summary of the success of food stamps and the results of the considerable strengthening of the program came in a January, 2007 issue of The National Journal devoted to "10 Successes [and] 10 Challenges" in American society – major issues in the public and private sectors. Alongside cleaner air, successful assimilation of immigrants, American entrepreneurship, and six other successes was food stamps, described as "A Government Reform That Worked." The National Journal was particularly struck by the extremely low rates of program fraud, and the quick and effective response of the program on the Gulf Coast after Hurricanes Katrina, Rita and Wilma in 2005.

The Food Stamp Program has brought the nation a long way; but it must be strengthened so we can truly move towards eradicating hunger and food insecurity, in the midst of our great affluence. To realize the program's potential, it is important to make benefit allotments more adequate; open eligibility to more needy people; and connect more eligible people with benefits. This is true for all age groups, but in some respects especially for seniors. According to the most recent USDA data (from 2005), only 65 percent of eligible people participated in the Food Stamp Program overall, but fewer than one third of eligible seniors participated in the program.

Despite this alarmingly low participation rate, it is still true that the program served – and was essential to the nutrition, health and well-being of – 2,229,000 people over age 60 in FY 2006. This was 8.7 percent of all recipients. And that number was nearly a third higher than the 1,687,000 recipients over age 60 in FY 2002.

So the program has a broad sweep, but needs to be much broader.

Why is the program serving fewer than one third of eligible seniors?

According to recent USDA focus groups, the difficulty associated with the application process and stigma surrounding public assistance were the most important factors in

seniors' decisions to avoid the program.* Paperwork requirements often were viewed as unnecessary and overwhelming, and food stamp workers sometimes seemed disrespectful.

For many elderly households, the costs of applying for food stamps seem to outweigh the benefits. According to a survey by the U.S. Government Accountability Office of state food stamp directors, 86 percent said that a major reason why seniors did not participate in the Food Stamp Program was that seniors felt the effort needed to apply outweighed the benefits. Part of the problem is the minimum benefit. According to a USDA report in 2002, elderly households eligible for only the minimum monthly benefit of $10 participate at a rate of 23 percent. The $10 minimum monthly benefit a food stamp household can receive has not changed since 1977. If it had been indexed for inflation in 1977, it would now be roughly $35.

The majority of eligible households with elderly members, however, are eligible for more than the minimum benefit. In fact in FY 2006 the average monthly pro-rated benefit for a person over age 60 in the program was about $70/month. One problem is that seniors often don't know that they likely will get more than the minimum, and aren't told that. There is some evidence to suggest that some elderly and disabled applicants receive less than the benefit for which they are eligible. Although households with elderly or disabled members can deduct out-of-pocket medical costs exceeding $35 from their gross monthly incomes in order to determine benefit levels, many households did not take this deduction.

Seniors who are eligible non-participants in the Food Stamp Program also are less likely to be aware of their potential eligibility than the average eligible non-participant.

A number of studies have documented the fact that stigma plays a particularly important role in the participation decisions of elderly households. Specifically, seniors have cited worries about how they might be perceived by grocery store staff and other shoppers, and about the embarrassment they might feel if family and friends knew they received benefits: in a national survey of food stamp households, 76 percent of those with seniors reported feelings of stigma, as compared with 60 percent of households overall.

Households with elderly members are liable to be more sensitive to the numerous difficulties of the food stamp application process than other households. Seniors sometimes avoid the food stamp office because they are wary of poor customer service. According to an evaluation by USDA, seniors were particularly upset by personal interactions they had at food stamp offices, indicating that eligibility workers sometimes treated them without respect or dignity.

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* This and other studies of participation barriers are reviewed and summarized in "Access and Access Barriers to Getting Food Stamps: A Review of the Literature," by the Food Research and Action Center (February 2008), available at www.frac.org/pdf/Access_Barriers_Food_Stamps_Lit_Review_Feb2008.pdf

A number of focus groups, outreach projects, and evaluations also have hinted at the potential deterrent effects of new technologies on seniors. An evaluation of USDA-funded outreach efforts found that prescreening was most effective among seniors when it involved paper-based forms (as opposed to computer-based ones), since seniors tended to distrust new technologies. The USDA outreach evaluation also found that seniors in New York feared the intrusiveness of that state's fingerimaging requirements, and that outreach from community organizations was important in building the trust necessary to motivate seniors to apply.

The physical length of the food stamp application and the tone it takes towards the applicant (i.e. if it takes a suspicious tone) also may have a deterrent effect on seniors. According to a number of focus groups, many of the questions on the applications seemed unnecessary or caused a feeling of guilt for seniors.

Finally, households with elderly or disabled members are traditionally assigned longer certification periods (the length of time between formal recertifications of eligibility) because it has been observed that their income and other household circumstances change very little over time. Despite a law that allows States to set recertification intervals at 24 months for households with elderly or disabled adults, a USDA survey showed that offices serving only 17 percent of the nation's caseload had taken advantage of this option.

If we want to attack these problems, the nation must start with better outreach and better state and local access policies. We applaud the Food and Nutrition Service's recent focus on media and other outreach to seniors. Many non-profit partners are using FNS' web-based screening tool or tools developed by AARP and the National Council on Aging to help get low-income senior citizens connected to the program. We need more such outreach from FNS, the states, local agencies, and private and non-profit partners, and we need more of it to be particularly sensitized to some of the special barriers seniors face.

We also need states and localities to use their options under federal law to lower barriers – fingerprinting is an archaic, cost-ineffective practice; certification periods should be longer; applications should ask only what is needed, and be framed in respectful tones; agencies should be careful to make sure applicants get all the benefits to which they are entitled; and other policies and practices need to be changed in order to increase benefits. We are encouraged that FNS has allowed some states to streamline the enrollment into the Food Stamp Program for low-income seniors who receive SSI. We encourage more widespread implementation of such SSI Combined Application Projects.

But Congress also must reform the program to make it more hospitable to seniors – by making benefits more adequate, removing unnecessary eligibility barriers, and easing access.

The recommendations below are aimed at achieving these three goals.

One essential priority must be making benefit allotments more adequate - - increasing the minimum benefit and other allotment levels and reversing the impact of long-term changes in the 1996 law that cut benefits. It is the norm rather than the exception for a food stamp recipient household's benefits to run out several days before the end of the month - - often in the third week of the month. The average benefit nationally of roughly $1 per person per meal is not enough to purchase an adequate diet. The Thrifty Food Plan, which is the underlying rationale for the benefit amounts, does not represent what a household needs to purchase a minimally adequate diet, particularly for long-term consumption. This shortcoming was bad enough before, but it has been exacerbated by program changes in 1996 that cut benefits across the board and froze the standard deduction from income. The damage from those changes continues and grows.

Moreover, the $10 minimum benefit – unchanged since 1977 - - the amount of benefits paid to the still-needy people who have higher incomes within the program's eligibility standards - - has been and is woefully inadequate. It provides barely one-third the purchasing power today that it did when it was set. Because of the interaction between Social Security and Supplemental Security Income cash levels and food stamp rules, the $10 minimum applies most often to seniors and persons with disabilities. The amount helps too little and discourages very needy people from going through an often complicated application process (and maybe paying $10 or $20 to get to and from the food stamp office) to obtain such a small amount. A significant increase in the minimum benefit is long overdue. In a poll conducted in May 2007, 90 percent of voters surveyed supported increasing the minimum monthly food stamp benefit for seniors and the disabled from $10 per month to $30 per month.

As to eligibility, it is essential, and also long overdue, to revise resource rules so that families need not forfeit the last of their meager savings in order to participate. Current resource limits are terribly restrictive - - $3,000 for households with an elderly or disabled member; $2,000 for other households. The $3,000 limit has not been adjusted for more than three decades. It is simply unreasonable to expect people who are 70 or 80 years old and have only $4,000 or $6,000 or $8,000 assets left in the world as their last security blanket to decide whether to forego food stamps or spend down almost all of these scant assets.

Congress also needs to allocate more funding for food stamp enrollment operations, especially for outreach and education activities to boost access for seniors and others.

The Farm Bill that is pending right now in a House-Senate conference committee potentially makes some important first strides toward these goals. Both the House and the Senate bills raise the minimum benefit from $10/month to $16 and adjust it for inflation, helping about 780,000 people. The Senate bill raises the asset limit applicable to households with elderly or disabled members from $3,000 to $4,500 and indexes it for inflation. Both bills also exclude retirement accounts from the asset limit. Both bills improve benefits a little bit across-the-board, especially for smaller households (where most recipient seniors are), by improving the standard deduction. The Senate bill gives states a new option to simplify reporting for seniors and people with disabilities. And

both bills rename the program (in the Senate bill, it would be the "Food and Nutrition Program"), which would help with destigmatizing a program named after coupons that no longer exist.

These are good first steps. We need the Farm Bill to be finished and to include these provisions. But Congress needs to do more in these respects and others. The state and local administrators need to do more. So we are delighted to participate in this hearing that can move Congress and the nation down the right path. We believe that improving food stamps in the ways that we have suggested is one key cornerstone in the effort to end elderly hunger in this country.

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Senator SMITH. Thank you. Robert Blancato.

**STATEMENT OF ROBERT BLANCATO, EXECUTIVE DIRECTOR, NATIONAL ASSOCIATION OF NUTRITION AND AGING SERVICES PROGRAM, WASHINGTON, DC**

Mr. BLANCATO. Thank you, Senator Smith, Senator McCaskill, good morning. It is an honor to be back testifying before this Committee.

My name is Bob Blancato, and I am executive director of the National Association of Nutrition and Aging Services Programs. I commend the focus of this hearing, the causes, consequences and future of senior hunger in America.

I salute our colleagues from the Meals on Wheels Association for the study they are releasing today. Studies and constant advocacy can help us develop a call to action on senior hunger.

Senior hunger is neither a myth nor a mirage. Real national data dispels the falsehood. There are older people going hungry every day in our country.

Terms that have been used to discuss this issue include food insecurity, food insufficiency, malnutrition, and of course, hunger. There is one common bond—more older Americans than ever before are at risk of being victims.

Some major findings from a 2003 study done at Brandeis University remain true today. There is a close connection between inadequate income and hunger.

National estimates of food insecurity among older Americans then ranged between 5.5 to 16 percent. A 2007 study of hunger among New York City's elderly, cited in my testimony, reveal a 35 percent rate of food insecurity among older people.

Food insecurity rates are higher where the elderly live alone, and most recently, the 2007 profile of older Americans report that 48 percent of women 75 and over now live alone.

Hispanic and African-American seniors are more likely to live in food insecurity. Other causes include functional physical impairments, social isolation and reduced ability to regulate energy intake.

Also among causes, as mentioned, is access to benefits. Programs such as food stamps continue to be underutilized by needy seniors.

There is ever-growing higher demand on emergency food assistance programs across the county. There are a growing number of persons, including older persons, living in food desert areas, where supermarkets with healthy and affordable food are miles away.

The consequences of senior hunger are all health related. Seven of the top 10 diseases in this Nation have a connection to nutrition. Work that was done at the 2005 White House Conference on Aging pointed to the fact that only 9 percent of the diets of poor, older people are categorized as good.

Forty percent of community residing persons 65 and over have inadequate nutrient intake. Food insecurity leads to malnutrition, which itself can lead to increased utilization of health care services, premature institutionalization and increased mortality.

To help prepare for the hearing, we did an informal canvas of some nutrition providers in different parts of the United States to

ask them about the State of their programs and the seniors they serve and what they might see ahead.

From the Aging Resource Center in Douglas County, Wisconsin, their director said, "The need for services continues due to high gas prices, along with the growing aging population in northern Wisconsin. Providing this service helps people stay in their homes. But the cost for these seniors to maintain their home and the increase in the cost of food is a hardship. Sometimes the meals we deliver are the only source of nutrition,"

In San Diego, 90 percent of seniors coming to one nutrition provider live at or below poverty. In Washington State, a State provider points to a survey of Meals on Wheels participants. Forty-three percent of them had food insecurity before the program, and if they didn't have home-delivered meals, 17 percent of them said they would go hungry.

In Michigan, we learned that 25 percent of the 60-plus population in one area of the State live in isolation, but there is also a decrease in participation in nutrition programs, which is a concern.

In Kansas, we are told of a very rural community with no grocery store or restaurant, but one vending machine, with the nearest food being 12 miles away. There are more of these in my testimony.

Let me go to some policy recommendations that we support, and I have a longer list in my written statement. NANASP, along with the Leadership Council of Aging Organizations, support a 9 percent across the board increase for Older Americans Act programs in fiscal year 2009, including nutrition programs.

Yes, we do commend the Congress for the roughly 6 percent increase that has been afforded to the nutrition programs in the last 2 fiscal years under the Older Americans Act. We want to see restoration of funding for the Commodities Supplemental Food Program, restoration of funding for the Community Services Block Grant, and a restoration of a proposed $500 million cut in Social Services Block Grant, all of which are programs that serve nutrition programs for the elderly.

Like others have said, we want to see action finished on the Farm Bill that will strengthen the food stamp program by getting more seniors enrolled and providing a higher minimum benefit, and also extending the Senior Farmers Market Nutrition Program.

NANASP appreciates the invitation to participate today. We must reduce hunger and food insecurity among the elderly. There can be no quality of life for an older person who goes hungry.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Blancato follows:]

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NANASP's Mission is to strengthen through advocacy and education those who help older Americans.

Testimony of Bob Blancato
Executive Director, National Association of Nutrition and Aging Services Programs
Senate Special Committee on Aging
March 3, 2008

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Vision is to reshape the future of nutrition and healthy aging.

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CHAIRMAN KOHL, RANKING MEMBER SMITH, Members of the Senate Special Committee on Aging:

Good morning. It is an honor to be back testifying before the Special Committee on Aging. My name is Bob Blancato and I am Executive Director of the National Association of Nutrition and Aging Services Programs. We are a membership organization serving the interests of providers of congregate and home delivered nutrition services for the elderly as well as other professionals in the aging network. Across this nation, our members serve millions of congregate and home delivered meals a year. We recognize - and it is reflected in our organization's vision - that we need to reshape the future of healthy aging and we must do this with a greater emphasis on healthful foods and good nutrition.

I commend this hearing and its focus this morning, THE CAUSES, CONSEQUENCES, AND FUTURE OF SENIOR HUNGER IN AMERICA. We commend our colleagues from the Meals on Wheels Foundation for the study they are releasing today. It is important that all of us continue to raise public awareness about this issue. Together with other studies and constant advocacy we can form the basis of a ***call to action*** to reduce this problem.

Senior hunger is neither a myth nor a mirage. Real national data dispels this falsehood. There are older people going hungry every day in our country. There are many terms used to discuss this issue; these include food insecurity, food insufficiency, and malnutrition. But there is one common bond to these terms. There are more older Americans than ever before who are at risk of being victims of hunger.

Some of the major findings of a now five-year old brief issued by the Food Security Institute of the Center on Hunger and Poverty at Brandeis University remain true today. Relevant to our discussion today, these findings include:

- There is a close connection between inadequate income and hunger. The number of elders living at or near the poverty level suggests that many American seniors today are at risk of food insecurity and hunger.
- National estimates of food insecurity among older Americans range from 5.5 to 16 percent. [Other more recent data suggests the range is from 6 percent to 35 percent.]
- Food insecurity rates are higher in households with elderly men or women living alone. [The recent Profile of Older Americans 2007 issued by the Administration on Aging reports that 48 percent of women 75 and over now live alone.]

The Brandeis study also noted that Hispanic and African-American seniors are more likely to live in food insecure households.

A very recent study entitled *Hunger Hurts: A study of Hunger among New York City's Elderly*, conducted by the Council of Senior Centers and Services, revealed the higher range of food insecurity among elderly: a shocking 35 percent. In their study they defined food insecurity as ranging from: worrying about food, not having enough money

to buy food, having enough food to last until there is enough money to buy more, to ultimately being hungry - the most severe form of food insecurity.

Among one of the more disturbing findings of the New York study was that those aged 60-64 reported the highest levels of food insecurity. These levels were above those reported by the 65-74 and 75 and older age groups. A major reason cited was that there was not enough money for food.

Sadly there are many causes for senior hunger and food insecurity. Inadequate income remains a critical factor exacerbated by recent dramatic spikes in the cost of food along with sharply rising energy costs. People living below or near the poverty level are not able to keep up with these price increases. Also, race and ethnicity have been cited as factors contributing to higher levels of hunger and food insecurity. The Brandeis study points to several additional factors, including:

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- Functional physical impairments - the inability to acquire, prepare and eat food.
- Social isolation - typically fewer calories are consumed at meals eaten alone than those eaten with other people.
- Reduced ability to regulate energy intake - the evidence suggests an association between aging and the ability to regulate food intake. In other words, some elderly adults lack the ability to maintain a constant energy balance.

The Brandeis study noted that the risk of food insecurity is compounded when an individual is part of more than one of the above high risk groups.

The Brandeis study reports that older people are more likely to have chronic health conditions, deficiency diseases (such as osteoporosis), conditions that impair digestion or nutrient absorption, as well as heightened vulnerability to infection. Ensuring adequate food and nutrition is essential to the prevention or delay of chronic disease or disease related disabilities among seniors. Further food insecurity and hunger can lead to deteriorating mental and physical health

Other causes of food insecurity in the elderly include:

- Access to benefits. It remains a national travesty that less than one third of eligible elderly participate in the Food Stamp program. Common reasons cited include the burden of application, the lack of awareness of the program and one's eligibility, and the low level of benefits.

- Higher demand on emergency food assistance programs without corresponding funding levels to meet demand.

- The growing number of older persons living in so-called "food desert" areas. These can be described as locations where supermarkets with healthy and affordable food are many miles away. This can be in rural areas but also prevalent in certain urban areas.

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The consequences of hunger and food insecurity among the elderly directly relate to their quality of health. It is estimated that seven of the top ten diseases in this nation have a direct connection to nutrition. Also, according to a 2005 White House Conference on Aging mini-conference sponsored by a consortium of groups including NANASP and MOWAA :

- About 87 percent of older Americans either have diabetes, hypertension, dyslipidermia or a combination of these chronic diseases. These costly conditions can be ameliorated with appropriate nutrition interventions.
- Only 9 percent of poor older adults diets are categorized as good based on the USDA Healthy Eating Index.
- About 40 percent of community residing persons 65 years and older have inadequate nutrient intake
- Other research indicates that food insecurity leads to malnutrition which itself leads to increased utilization of health care services, premature institutionalization and increased mortality.

In preparation for this testimony, I have been in communication with elderly nutrition providers and advocates across the country to get their assessment of the current status of senior food insecurity issues and what might lie ahead. Some of what they wish to share with the Committee includes:

- In San Diego, California, it is estimated that 90 percent of seniors coming to Senior Community Centers live at or below the poverty level. As a result, the average voluntary donation they can provide is 18 cents a meal.

- In Maryland, the big challenge among senior meal providers is the rise in the costs of food across the board, particularly those foods they need to maintain nutritional standards. Additionally, they are confronted with caterer contracts now charging a fuel surcharge to programs. The rising cost of fuel and its negative impact on service providers is a very serious problem across the nation.

- In Washington, a state provider advises the Committee that in its last survey of Meals on Wheels participants, 43 percent experienced food insecurity before they started the program. If home delivered meals were not available, 17 percent of the elderly respondents said they would go hungry.

- In upstate New York, according to a needs assessment done among older persons, the number one problem seniors listed is not having enough money to buy healthy foods. They also expressed that health was vital to them because it means independence.

- In Michigan, several providers point to a disturbing trend of elder isolation. There has been a dramatic increase in the number of older adults living alone and a simultaneous decrease in participation in home delivered and congregate nutrition programs. In six counties in Southeast Michigan, where there has

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been a 25 percent increase in number of seniors living alone, there is now 25 percent of the 60+ population living in isolation.

- In Kansas, we learn that in some of their very rural communities, seniors have no access to foods other than what is delivered. In one community, there is no school, grocery store or restaurant of any sort. There is one vending machine. The closest town with access to food is 12 miles away.

- In Camden County, New Jersey, lengthy waiting lists for both congregate and home delivered meals have accumulated since the beginning of this year. The provider forewarns "I am afraid to see where we will be by the end of the year."

- Also in New Jersey, one concerned nutrition provider notes that to meet rising food costs they authorized a one dollar increase in the suggested contribution for meals and 50 cents per trip for transportation. "However, participants will only contribute what they can afford." Further " If the current funding pattern continues, we as administrators may be forced to decide whether (or not) the escalating costs associated with providing Congregate Nutrition programs for seniors is outweighed by the need to provide home delivered meals to our most isolated and vulnerable homebound seniors."

- A nutrition provider in Ohio wrote regarding nutrition issues and seniors enrolled in Medicare Part D. "Many of these older adults are splitting pills or choosing between food and medications. They thought this was just something they had to do to survive." These older adults were advised about the nutrition programs funded with federal and state funds where they could obtain meals and use their own money for medications. "To me it is a sin that anyone should have to choose between medication and food in this country."

With respect to the future of senior hunger and food insecurity, there is every reason to believe the situation will get worse. First, we are faced with a pure increase in the elderly population. At the end of this decade -- which is less than 2 years from now -- those 65 and over will increase by 15 percent from the number at the start of the decade and will increase by 36 percent in the next decade. The minority elderly population will grow from 5.7 million in 2000 to 12.9 million in 2020. Secondly, we are in economically challenging times. Low growth and increased inflation is putting stress on individuals and families, including seniors. If the increases in food and transportation costs in the past year continue, this would present real hardships to older Americans and increase those with hunger or food insecurity.

There are a number of policy recommendations we at NANASP hope can be given consideration by this Committee for this current FY 2008.

1. Increase funding for the Older Americans Act nutrition programs. NANASP is grateful for increases provided to these programs in each of the past two fiscal years totaling just over 6 percent. Now we are joining with the Leadership

Council of Aging Organizations in calling for "9 in 09" - a 9 percent across the board increase in funding for the Older Americans Act including and especially for the nutrition programs. The goal of these increases should be twofold: to allow the programs to keep up with inflation and to move toward the tangible goal of eliminating all waiting lists which may exist in either the congregate or home delivered meals program.

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2. Restoration of funding for the Commodity Supplemental Food Program which offers monthly food packages to low income seniors in 32 states, Washington, D.C., and 2 Indian reservations.

3. Restoration of funding for the Community Services Block Grant and the restoration of a proposed $500 million cut in the Social Services Block Grant; both programs provide nutrition services to the elderly.

4. Complete action on the Farm bill that best strengthens the nutrition programs within it. This includes the Food Stamp Program, and to this we add a call for the strongest possible provisions to assist in increasing senior enrollment into the program. The minimum benefit must be increased to a realistic level that takes into account the costs associated with food. Also, the Commodity Supplemental Food Program, the Senior Farmers Nutrition Program (avoiding any diversion of funds into other programs) and the Emergency Food Assistance Program need to be kept strong in the final Farm bill.

5. Ensure adequate funding for the Child and Adult Food Program which, according to the Association of Nutrition Services Agencies' publication *Mapping the World of Nutrition*, is a program serving some 3.1 million low income persons of all ages with meals in a variety of settings. According to one nutrition provider in New York, this includes meals provided in qualified adult day care centers. Many of these older adults have physical and mental disabilities including dementia.

Also, we ask for future consideration of the following:

- Restoring food and nutrition services into the Ryan White Care Act to address the nutritional needs of an aging population of persons with HIV and AIDS;
- As rebalancing efforts related to Medicaid continue, integrate food and nutrition as core services in home and community based service programs of the future;
- Fund demonstrations allowing medical nutrition therapy and specific prescription controlled diets to be integrated into the elderly nutrition programs especially home delivered meals;
- A review of the existing federal poverty guideline to see if it needs to be modified to reflect more accurately what seniors spend their income on, especially food.
- Monitor the progress of the ongoing evaluation of the Older Americans Act nutrition programs and call on the Administration on Aging to maintain funding for the Nutrition Resource Center.

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- Direct more attention and resources to victims of Alzheimer's disease and other dementias to ensure they are provided meals to avoid malnutrition, including and especially weight loss, which occurs due to forgetting to eat regularly.

Again NANASP appreciates the invitation to participate in today's hearing. We should intensify our efforts to address and ameliorate the problem of hunger and food insecurity among the elderly. There can be no quality of life for an older person who goes hungry.

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Senator SMITH. Jan Jones.

**STATEMENT OF JAN JONES, SENIOR VICE PRESIDENT, COMMUNICATIONS AND GOVERNMENT RELATIONS, HARRAH'S ENTERTAINMENT, INC., LAS VEGAS, NV**

Ms. JONES. Good morning, Mr. Chairman, Senator McCaskill. I am Jan Jones, a senior vice president for Harrah's Entertainment, and I appreciate the opportunity to testify in front of the Committee this morning.

As you are well aware, the Meals on Wheels Association of America is the largest and oldest national organization representing senior meal programs. Since 2002, the Harrah's Foundation has been proud to be the primary sponsor of the Meals on Wheels Foundation, donating $4.5 million to their initiatives, which has included the purchase of 30 additional vehicles that have driven 900,000 miles to deliver 2.5 million additional meals to hungry seniors in America.

We enthusiastically funded the senior hunger study for several reasons. First, it was a way to put into action our Code of Commitment. Established in 2000, the Code of Commitment was our industry's first articulation of corporate social responsibility standards.

The Code governs our relationship with our guests, employees and the communities in which we do business. It defines who we are and what we stand for. The Code commits us to making our home communities more vibrant places to live in and work and sets standards for employee volunteerism and corporate philanthropy.

Before we underwrote the research, we had some sense of the magnitude of senior hunger in the United States because hundreds of our employees regularly deliver meals to needy seniors in all of our States where we do business.

These employees know firsthand that America's greatest generation sometimes is going hungry. Multiplying those employees' experiences across the country gives a scope to a problem that has been hidden from most Americans.

We also knew from working with MOWAA that at least 40 percent of home delivered meal programs have waiting lists, evidence of an enormous unmet need for those services. We are pleased that the research discussed today provides up to date estimates on the scope of senior hunger in the United States and increases our knowledge of risk factors and consequences. Better understanding of the problem will lead to better understanding of public and private resources that must be dedicated to the solution.

Second, applying the research findings will lead to targeted fact-based interventions that render more effective both private sector and public sector efforts to reduce senior hunger. The research will help MOWAA realize its vision, a vision that we share, of no senior going hungry.

Third, our fervent hope is that the research and today's hearing can energize corporate America to recognize ending senior hunger as a moral and philanthropic imperative, one that depends on effective leadership in corporations, governments and communities across the country.

MOWAA has recognized the crucial role of the private sector through the development of its Corporate Response to Senior Hunger. A key part of the National Center for Nutrition Leadership, the Corporate Response to Senior Hunger is designed to harness the resources of America's corporate community in a joint effort to identify its role and to expand its commitment in the battle to eliminate hunger and malnutrition among our Nation's elderly.

An important component of the Corporate Response to Senior Hunger is to challenge the corporate community to become engaged in this issue. Here in the richest country in the world, many corporations want to make a difference. However, for a variety of reasons, they often do not known how they can help. The Corporate Response to Senior Hunger seeks to bridge this knowledge gap.

We are working to identify key business leaders who share the commitment to ending senior hunger and engaging their corporations in this effort. Some of these individuals are already assembled through their service on the MOWAA Foundation board of directors, but many more leaders are needed.

I challenge my colleagues in corporate America to join Harrah's and take a leadership role in the Meals on Wheels Association of America Corporate Response to Senior Hunger. Writing a check is one solution, but the Corporate Response to Senior Hunger believes that it is as important for America's business leaders to consider other initiatives where they can help.

Effectively transferring surplus food produced by American manufacturers to senior meal programs. Encouraging meal providers to participate in an existing purchasing program that enable them to buy their food more efficiently.

Offering mentoring services to identify ways to educate meal providers about running businesses and efficiencies in operations and distribution. Working effectively in partnership with meal providers to identify solutions and create systems that work best for them in the collective mission to end senior hunger.

Very importantly, increasing awareness about the nutrition needs of America's seniors and the issue of hunger among the elderly.

All of our company efforts on behalf of America's seniors have been fulfilling, and particularly our association with MOWAA.

But the hard work to address senior hunger has only begun. The research discussed today is a call to action for all Americans. It is no small measure a call to action for corporate America. The need is clear, the need is documented, the need is critical.

I thank the Chairman, members of the Committee for helping to bring senior hunger to the attention of the public. I also thank you for allowing me to explain the Corporate Response to Senior Hunger and to challenge corporate America to embrace its very important role in ensuring that no senior continues to go hungry.

[The prepared statement of Ms. Jones follows:]

**Testimony of Jan L. Jones**

**Senior Vice President, Communications and Government Relations**

**Harrah's Entertainment, Inc.**

**Presented to**

**The Special Committee on Aging**

**United States Senate**

**"The Corporate Response to Senior Hunger"**

**March 5, 2008**

Mr. Chairman and Members of the Special Committee on Aging, I am Jan Jones, Senior Vice President of Communications and Government Relations for Harrah's Entertainment, Inc. Harrah's is the world's largest provider of casino entertainment, and is also the primary corporate sponsor, through the Harrah's Foundation, of the Meals on Wheels Association of America, or MOWAA. MOWAA represents local community-based meal programs from every state that provide congregate and home-delivered meals and other nutrition to older persons in need. It is the largest and oldest national organization representing senior meal programs.

Thank you for the opportunity to testify before the Special Committee. I am proud of the work Harrah's has helped MOWAA accomplish over the last six years. I would like to highlight that work today, paying particular attention to the comprehensive, data-rich analysis of senior hunger in America about which Dr. Ziliak testified earlier. I will also discuss Harrah's support for MOWAA in the context of a critically needed, comprehensive response by corporate America to the problem of senior hunger.

The Harrah's Foundation, a private foundation established to financially support qualified organizations in the communities in which we operate, provided funding for the senior hunger study. Why did the Foundation decide the study both was necessary and merited our support? Comprehensive, data-rich scholarly analyses are not the kinds of things corporate foundations tend to fund or become particularly excited about. There is no plaque attached to the wing of a building, no ribbon cutting, and opportunities for visuals generally are less than splashy. But we felt a comprehensive, up-to-date study of senior hunger in America -- its causes, consequences, and future – was a very worthy endeavor, one quite in keeping with our corporate ethos.

Harrah's business is governed by what we call our Code of Commitment. Established in 2000, the Code of Commitment was the casino industry's first articulation of corporate social responsibility standards. The Code defines who we are, and what we stand for. It is a public pledge to our guests, employees, and communities that we will honor the trust they have placed in us.

To our guests, we commit to promoting responsible gaming. Harrah's was the first casino to recognize and operationally address problem gambling, and in the promotion of responsible gaming we continue to lead the industry. To our employees, we commit to treating them with respect and providing opportunities for satisfying careers. For example, we encourage professional and personal growth through tuition reimbursement, on the job training, and promotion from within.

But it is our commitment to our home communities that is most relevant to the discussion today, and which explains our support for the senior hunger research. The Code commits Harrah's to making our home communities more vibrant

places to live and work. Our commitment to environmental stewardship and sustainable development in our home communities is exemplified by our membership in EPA's Climate Leaders partnership, and by the aggressive conservation and recycling programs we have in place across the country. Our commitment to our communities is demonstrated by our employees' volunteering more than 150,000 hours each year to community causes.

And our commitment to communities explains our enthusiastic and generous corporate philanthropy. In 2007, *BusinessWeek* placed Harrah's Entertainment among the top corporate donors in the country, ranking the company the "most generous cash giver" as a percentage of pre-tax profits among Standard & Poor's 500-stock index companies. The gift to MOWAA that funded the senior research was a small but important example of our Code of Commitment in action, responding to a critical need in our home communities.

Even before the research was commissioned, we had a sense of the magnitude of senior hunger in the United States. Hundreds of our employees bring our Code of Commitment to life by delivering meals to needy seniors on a regular basis. These employees have first hand knowledge that America's greatest generation sometimes goes hungry. Multiplying these employees' experiences across our country unmasks and gives scope to a problem that has been hidden. And we knew from working with MOWAA that at least forty percent of home-delivered meal programs have waiting lists, suggesting an enormous unmet need for these services across the country.

Yes, the research supported by the Harrah's Foundation and sponsored by MOWAA provides up-to-date figures on the scope of senior hunger in the United States. We are pleased that the study makes this contribution, for a better understanding of the magnitude of the problem should lead to a better understanding of the public and private resources that should be dedicated to it.

But what excites us most about the senior hunger research is that it will help in the development and implementation of targeted, fact-based interventions. These interventions will increase the effectiveness of both private sector and public sector efforts to reduce senior hunger. The research fills a need in the literature, and in the public policy arena, for documentation not only of senior hunger in the aggregate, but also of risk profiles that demonstrate the diversity of experiences with food insecurity and hunger among America's seniors. And as the researchers point out, some of these risk factors are counter-intuitive. The research will help MOWAA realize its vision of no senior going hungry in this great nation. And it will help improve the effectiveness of Harrah's future contributions to MOWAA, and the effectiveness of other corporations that, like Harrah's, decide that ending senior hunger is a moral and philanthropic imperative.

The senior hunger research also excites us because we believe it can energize corporate America to recognize this imperative. The mission to end senior hunger depends as much on strong and effective leadership in corporations, government, and communities all across the country as it does on identifying new financial and other resources to meet the growing needs. Senior meal programs that receive funding through the Older Americans Act, for example, are public-private partnerships that reflect the unique needs and characteristics of the communities in which they operate and that rely on a number of funding sources. Federal dollars are only a portion of the funds on which these programs rely. So the need for increased corporate engagement in the issue of senior hunger could not be clearer.

MOWAA has recognized the crucial role of the private sector through the development of its Corporate Response to Senior Hunger, a key part of the National Center for Nutrition Leadership. The Corporate Response to Senior Hunger is designed to harness the resources of America's corporate community in a joint effort to identify its role and to expand its commitment in the battle to eliminate hunger and malnutrition among our nation's elderly.

I challenge my colleagues in corporate America to join Harrah's by taking a leadership role in the Corporate Response to Senior Hunger. Together, we can help by making food products more readily available to meal providers, encouraging improvements to the meal delivery system, offering skills and experience to provider staff, and advocating for them before policymakers. Corporate participants will become hands-on resources for meal providers. They will bring together their resources and skills in a collective effort to find solutions, to leverage private sector knowledge and efficiencies, and encourage voluntary efforts to end senior hunger.

Let me explain the three major components of MOWAA's vision for the Corporate Response to Senior Hunger in more detail.

The first component of the Corporate Response to Senior Hunger is to challenge the corporate community to become engaged in the fight against senior hunger. In this richest country in the world, many corporations want to make a difference. However, for a variety of reasons, they often do not know how to help. The Corporate Response to Senior Hunger seeks to bridge this knowledge gap. We are working to identify key business leaders who share the commitment to ending senior hunger and engaging their corporations in this effort. Some of these individuals are already assembled through their service on the MOWAA Foundation board of directors. More leaders are needed.

Through the Corporate Response to Senior Hunger, America's corporations can and will help. Writing a check is one solution, but the Corporate Response to Senior Hunger believes that it is as important for America's business leaders to find ways to:

- effectively transfer surplus food produced by American manufacturers to senior meal programs in ways that are usable by them;
- encourage meal providers to enter into existing purchasing programs to enable them to buy their food more efficiently;
- offer leadership and mentoring to identify ways to educate meal providers about purchasing, running businesses, and efficiencies in operations and distribution;
- work effectively in partnership with meal providers and their national associations to identify solutions and create systems that work best for them in the collective mission to end senior hunger; and,
- increase awareness about the nutrition needs of America's seniors and the issue of hunger among the elderly in this country.

A second component of the Corporate Response to Senior Hunger is assisting Meals On Wheels providers. America's senior population will double in the next twenty-five years. Even now, however, there are not enough governmental and private sector resources to address the needs of today's seniors desiring nutritional assistance. As I indicated previously, 40% of Meals On Wheels programs have waiting lists of seniors who need meals but cannot get them. As the population increases, these waiting lists are likely to grow, and without help and incentives, the current system of getting meals to homebound and other seniors in need will not be able to meet the demand.

Senior meal providers do an extraordinary job with the limited resources they have; they are on the line every day fighting to help seniors in need and to save lives. But when it comes to business acumen and entrepreneurship, many could use help. That is another area where American's private sector can offer leadership -- by developing public-private partnerships that help meal program staff think and act more like good businesspeople.

The third and final component of the Corporate Response to Senior Hunger is to develop public awareness of the issue of senior hunger. Beyond traditional press releases and news events, the Corporate Response to Senior Hunger hopes to inspire corporate leaders to engage leaders in the media through editorial board meetings, meetings with news producers, discussions with academics and think tanks, and related activities. In conjunction with creating public awareness, the Corporate Response to Senior Hunger will also be highlighting the specific corporate initiatives of its members.

I would also like to place our support for MOWAA's work in the context of our broader philanthropic efforts addressing the needs of seniors. As I indicated, the Harrah's Foundation provided financial support for the senior hunger study. Created in 2002, the Foundation is funded by Harrah's properties and supports reinvestment programs where our employees live and work. Since its formation, the Harrah's Foundation has committed more than $60 million to non-profit

organizations worldwide. The Harrah's Foundation focuses the majority of its funding in three categories: senior citizens, education initiatives, and civic programs.

Seniors are a focus of our philanthropic giving because, frankly, the needs of our growing senior population have too often been ignored by corporate America. Senior hunger, health care, and broader well-being are also issues about which I became acutely aware as mayor of Las Vegas from 1991 to 1999. Helping my city's growing population of seniors cope with health care, transportation, and myriad other needs gave me personal insight into the profound challenges our seniors face, and into government's limited capacity to meet these challenges. So when I sat down with the other founding members of our Foundation's Board of Trustees to establish our giving priorities, I understood and strongly advocated a primary focus on the needs of our seniors. This focus has been the shared vision of the Foundation's Trustees since the Foundation's inception.

Our most prominent support for seniors, a set of initiatives that I believe are doing great work and which have truly energized our employees and our home communities, has unfolded through the Meals on Wheels Association of America. Since 2002, the Harrah's Foundation has been the single largest sponsor of MOWAA, having provided more than $4.5 million to support the organization's broad range of vital services, and having donated 30 vehicles to Meals On Wheels programs across America. This fleet has driven more than 900,000 miles to deliver more than 2.5 million meals to homebound seniors in the past five years. Harrah's donations have directly resulted in the elimination and reduction of waiting lists at supported affiliates. The truck donations and the generated publicity have allowed Meals On Wheels member programs to receive additional grants and private funding. In addition, every agency has reported an increase in calls regarding volunteer opportunities and how loved ones can participate in the program.

Additionally, several Harrah's properties participate in the annual "Mayors For Meals" event, benefiting MOWAA member programs by raising funds and recruiting volunteers. Harrah's properties also continue to provide additional funding, in-kind donations and volunteer support to local MOWAA programs throughout the year.

Some of our other notable activities addressing the needs of seniors include our support for the Alzheimer's Association. In 2004, the Harrah's Foundation funded a five-year, $3 million grant to the Association, becoming one of only two companies recognized by the organization as a strategic alliance sponsor. The Alzheimer's Association has used the grant to sponsor consumer education campaigns, support leadership and fund service-enhancement programs at local chapters nationwide. In 2007, the Alzheimer's Association observed its first World Alzheimer's Day to increase awareness of the disease and to assist in raising funds for much-needed research and services. The Harrah's Foundation

was the prime national sponsor of the event, pledging a matching grant of up to $1 million for funds raised in conjunction with World Alzheimer's Day. The event was a tremendous success, raising nearly $2 million for Alzheimer's care, support and research.

Our support for seniors extends beyond our nation's borders, as our company has a growing presence in the worldwide market for casino entertainment. For example, in 2007, the Harrah's Foundation awarded a five-year gift of $600,000 to Help the Aged, the leading charity supporting seniors in the United Kingdom. The funding provides two vans per year in support of Help the Aged's most vital projects – the HandyVan and SeniorMobility programs. The HandyVan program is a free service enabling seniors to live safely and independently in their own homes by providing reliable safety and security inspections and products. The SeniorMobility Van program works with community groups throughout the UK to provide transportation solutions for seniors that allow them to continue living independent lives.

Back stateside, the Harrah's Foundation provided a $1 million grant to WGBH, the public broadcasting station based in Boston, for the production of the documentary "Caring For Your Parents." The two-hour broadcast, featuring a 90-minute documentary followed by a 30-minute panel discussion, is designed to increase awareness of aging in our society and its effects on our communities, and provide information on available support services. The program will target baby boomers facing the challenge of caring for elderly parents and loved ones, and is scheduled to air on April 2, 2008 on more than 350 PBS affiliates across the United States.

We're proud of our efforts on behalf of America's seniors, and in particular we are proud of our association with MOWAA, but the hard work to address senior hunger has only begun. The research discussed today on the causes, consequences, and future of senior hunger in America is a call to action. It is a call to action for all Americans. And it is in no small measure a call to action for corporate America. The need is clear. The need is documented. The need is critical. I thank the Chairman and members of the committee for helping to bring senior hunger to the attention of the American people. I also thank you for allowing me to explain the Corporate Response to Senior Hunger, and to challenge corporate America to embrace its important role in ensuring that no senior goes hungry.

Senator SMITH. Thank you, Jan. We commend you and your company for their sense of responsibility in the involvement of this program.

We are joined by Senator McCaskill. If you have an opening statement or a statement you want to make, questions you want to ask.

**OPENING STATEMENT OF SENATOR CLAIRE MCCASKILL**

Senator MCCASKILL. That is terrific. Thank you, Senator, I appreciate it.

I just want to, first of all, thank all of you because I don't think any of you are here because what you know about and what you are testifying about today has brought you fame or fortune. I think you are all here because you believe in caring for our fellow man and helping other people.

I think so often we don't include that in the umbrella of patriotism, but you are patriots for what you are doing, and your work and your willingness to come and try to shed some light on what is a heartbreaking problem in our very wealthy Nation.

A lot of the problem, I think, is a combination of the squeaky wheel getting the grease and the elderly, by their very nature, are not anxious to step up and say "I am hungry."

I have some experience, I have a mother who is high intellect but also high pride. Her pride keeps her from speaking out and asking for help sometimes. I think that is so common in our elderly population, that the greatest generation feels like they should be doing for others and no one should have to be doing for them.

So they do not lobby as aggressively as they could. They do not complain, they do not ask for help. As a result, some of our systems aren't as efficient and fine-tuned as they should be.

Mr. Lampros, I missed your testimony, but I must say hello to you from my family that knows you in Portland, and I got—the family member who notified me about your being here today, I know you know her. You know that it isn't a matter of one e-mail. It was a matter of seven e-mails, four phone calls and saying, "You have got to be there to listen to Marcus."

So would you please tell her I got here, even though I had three other hearings this morning so I don't get 17 text messages this afternoon?

Mr. LAMPROS. Don't tell her I deleted her phone message after about 5 minutes.

Senator MCCASKILL. Okay, good. We are in on this together, and hopefully she will never know we talked this way.

But you talked, I know, in your testimony about the efficiency of the way that you are helping people in your organization. I know that government has a hard time with efficiency, and I know you are also a businessman.

Could you briefly give us some ideas of if you could do a weekend retreat with the government part of this operation in terms of Meals on Wheels, what would you recommend in terms of how we could be more efficient with the programs we have out there, as opposed to the private sector programs like yours that is obviously relying heavily on a massive volunteer base, which I am not sure that we always work at doing in the government sector?

Mr. LAMPROS. That was one of my questions. I don't even know if the government has an area that concentrates on getting volunteers, because Portland is very blessed. We have many people who step to the plate.

I think we are very out of the ordinary in Portland. I think if we have a retreat, I think, yes, feeding people, that is great, but getting people, first of all, to volunteer, gathering volunteers is harvesting money.

When you think about it, your arms and legs are very important when you help people. Getting the food to them, beyond that, is easy. So getting those volunteers is very important.

Senator MCCASKILL. Can any of you speak to the ability of the Meals on Wheels program to attract volunteers? No one?

Ms. JONES. Within Harrah's, hundreds of employees have given thousands of hours, and it has been because the Meals on Wheels organization creates a passion. Our employees see where they can really help make a difference.

So some of it is very much communication. I think across corporate America you would find volunteers that are ready and willing to give their time if they know how and if they know where, and if they are given a strategy that they can be a part of.

Mr. BLANCATO. I would also add that both in the home delivered meals and in the congregate meal programs, volunteers are critical to the success of both of those programs. There has been a steady stream of volunteers for the many years that these programs have been in existence. The trends continue to grow for volunteerism.

It is word of mouth, and it is also outreach and it is people's capacity to want to help.

Senator MCCASKILL. Seems to me that we have witnessed, regardless of who you are for in this presidential race, we have witnessed an awakening of the American public in terms of their ability to participate by virtue of a mouse click. Just a little bit, but millions and millions of people doing just a little bit.

We have never seen that before. Not to this extent. I know that it is sometimes hard to reach the elderly population with an Internet based effort to gather people because many of them are not don't have access or they are not as computer literate.

But it seems to me the volunteer base is extremely computer literate and extremely available by Internet. Are any of you aware of any effort being done through Internet communication, whether it is Facebook or—we have got an awful lot of young people who are doing most of their communication through Facebook.

Bizarre, trust me, I have got three of them that do it. It drives me crazy, but I know there is a lot of volunteerism out there in this generation, and frankly it would do them good to spend time around some of the people that they were helping with these meals.

They would learn a lot. It would give them great perspective on their lives and what is important. Are you aware of any effort that has been made in some creative ways to reach out to the younger generation to volunteer in this regard?

Mr. WEILL. Well, Senator, one that is slightly different and not necessarily directed specifically to seniors, but there is a network called Campus Kitchens, which is college students who are taking prepared and perishable food and delivering it to food pantries and

congregate meal sites and other places that need emergency food in communities. So that is one important place where college students are working.

Senator MCCASKILL. If possible, if you would get to—we will follow up with you get the information about that program, because I think that would be something that we would want to try to emulate in various campuses around the country.

We need to capture these kids and get them thinking about beyond where they are going for spring break as quickly as possible, and make sure that we turn them into the contributing citizens that we know they all want to be if they have the nudge. I would love to help participate in trying to get that program around.

I thank all of you for being here today and thank you, Mr. Chairman, for this Committee.

Senator SMITH. Thank you, Senator McCaskill. Marcus, I think it goes without saying it, but I will say it anyway. I think Senator Wyden and I feel a great deal of pride in the program you have described to us of Loaves and Fishes.

Senator McCaskill asked an important question about the federal government's role. I wonder if—and my own view of it is the federal government's role is to utilize the army of volunteers, not to displace it.

For example, Loaves and Fishes, just the name is inspiring to me. Probably wouldn't have as good a volunteer turnout if we said, come and volunteer for the United States Department of Agriculture program. [Laughter.]

Mr. LAMPROS. You are right.

Senator SMITH. Would you agree with that?

Mr. LAMPROS. I would agree with that.

Senator SMITH. Okay, but clearly, you figured out for the great blessing of a lot of people in our largest metropolitan area how to get people to show up so that there are no waiting lists. That is astonishing. What is the key?

Mr. LAMPROS. Well, we have involved a lot of corporations. We have over 70 companies in the Portland area that have volunteered to do a route, and a lot of them do one route per week.

When you have a company that has 50 employees and you ask them to sign up, why, if you are an employee, you work 2 hours on a Wednesday, then you might not deliver again for 2 months. So it is easy, it is simple. Then we pass that on and it snowballs from there.

Senator SMITH. The employees of these companies, I assume, take a great deal of pride in doing it.

Mr. LAMPROS. Absolutely.

Senator SMITH. As you look at other programs around the country—I assume you have some familiarity with them—do you share that key with them?

Mr. LAMPROS. Well, I haven't been in contact with too many. My grandparents were recipients of Meals on Wheels in San Francisco, and they had to wait 6 months to get a meal delivered. They were on a waiting list. But no, I am not too familiar with any other ones but ours.

Senator SMITH. Now, you mentioned in your testimony, 45 percent of your funding is from government sources. Obviously, you

have got 55 percent coming form elsewhere. I assume that these companies that you recruit give money and their employees donate time.

Mr. LAMPROS. Yes, they do. Actually, we have to include all of the recipient's money as government money. So the federal and local governments, only about 38 percent of what we get.

Senator SMITH. So it is primarily corporate money.

Mr. LAMPROS. It is corporate money, individuals.

Senator SMITH. As you think about the growing population, do you all make plans for increasing the ranks of volunteers, or do you got nothing to spare?

Mr. LAMPROS. We have never spent a cent on marketing, and I am on the marketing Committee, and this next year we are going to start actually advertising for the first time, spending money to get more volunteers.

Because we realize if we get volunteers, we get money. We get free labor and we get donations.

Senator SMITH. I am curious, does any training go into a volunteer? Things, not just how to deliver a meal, but things to look for? Mental health issues, suicidology that they might detect, that kind of thing?

Mr. LAMPROS. Yes, we just observe and write down what we see and then the case worker at the headquarters deals with it after that.

But we are there. We are there for them every single day. So if someone is obviously disoriented or distraught about something, we report it. So it is a very good link to the community.

Senator SMITH. What are the kind of things they often bring back? What information does a volunteer get that they would pass on to a case worker?

Mr. LAMPROS. Well, if someone is falling down all the time, that is a typical client of ours. After 20 years I have seen a lot of people age, and as they get closer to the nursing home part of their life, they do exhibit certain signs of not being able to stay at home. So we just observe and we report.

Senator SMITH. Is there good follow up on the reports, as far as you know?

Mr. LAMPROS. Oh yes, very good.

Senator SMITH. Well, that is just incredibly commendable. James, you talk about how many of the grandparents in these programs are actually younger and they have their grandchildren living with them. They are raising them and they are likely to be a little bit more inclined to suffer from hunger, insecurities.

What can the government do to better target that group? Or are we doing enough, or what would you suggest?

Mr. ZILIAK. At this point in time, no, I don't think enough is being done to address this population. It has been a growing population over the last two decades, kind of a demographic shift toward grandparents raising grandchildren.

So there is some activity that the government can certainly be involved, but in particular, reaching out to these families to find out whether or not they are eligible for government programs, including the Food Stamp Program.

Many of these children are from lower income families. Not all of them, though, by any stretch. So it is not simply an income constraint. There are other issues that are going on within the household that we still don't know the answers to.

This is one of those results that stuck out pretty prominent in our study and raises a whole host of questions that we think need to be addressed going forward, because this is and has been a growing population of seniors in the United States.

Senator SMITH. So if you got grandparents who are food insecure, it obviously follows that the grandchildren would be in the same circumstance.

Mr. ZILIAK. That is correct.

Senator SMITH. Well, it really points out a focus that the Federal Government needs to have. I am not sure we have all the information that we ought to be getting. I think that is one of the things this hearing has pointed out to me. We need know a lot more, and then we can marshal the ways to help.

You also indicated in your testimony that, at least as I heard it, the World War II generation, the greatest generation, those who were young during the Great Depression, there may be lots of resistance to getting help.

Is there generational change, of the baby boom generation and that generation that we are losing far too quickly, but will our generation be more inclined to get the help that they need and to ask for involvement in the programs that are out there?

Mr. ZILIAK. I think there is some evidence to support that conjecture. The reasons vary, of course. Part of the current—the greatest generation grew up in a very difficult time in United States history, the Great Depression.

So many of these families developed coping strategies to deal with hunger. These were lifelong lessons that as children they learned and they carried on into their older ages.

So these individuals are most likely to be much less likely to report that they need food, because they learned how to just kind of save every penny and save every scrap of bread and make ends meet.

The looming retirement generation of baby boomers did not confront such a social dislocation like the Great Depression. They have also grown up in the presence of the Food Stamp Program. It is important to remember this program wasn't started until the mid-1960s, and then came in its modern form about 30 years ago.

So there is much more knowledge amongst the generation of baby boomers of assistance programs than there was with the oldest old today.

Senator SMITH. James Weill, you mentioned that the problem that seniors who are caring for their grandchildren, you talked about how they face issues related to hunger. My investigative team is working on a report related to grandparents caring for grandchildren, and the problems they face ought to concern us all. They certainly do me.

How do you think we could better target this group to address the problems that have been raised here?

Mr. WEILL. As you know, Senator, there are a growing number of support programs for grandparents raising grandchildren and ef-

forts from groups like Generations United to do more. Children's groups and seniors groups like AARP have joined together around those. AARP has a grandparent support center. So there is a lot that is going on.

In the support programs, the cash and food stamp programs, a lot of the outreach that we have been talking about has to be redoubled for those types of families.

But also we need to focus on a range of the supports for the children within those families as well as the grandparents as caregivers. Food stamps go to the whole household, but if the children have no income for their other needs, no cash assistance, no support from refundable federal tax credits because the credits aren't structured the right way, it hurts the whole family.

One of the things we know from the research is that parents and grandparents skip meals so the kids get enough to eat. So the heaviest burden of food insecurity, the most serious burden falls on the adults, because they protect the kids, although it doesn't work because the studies also show that the stress on the adults translates down to the children and hurts them in other ways.

So we have to just get all of these supports to families.

Senator SMITH. I want to note for the record, or highlight for the record your comments and your testimony regarding the applications for food stamps and some of the difficulties that it poses and probably the discouragement that follows from that.

I did not know about fingerprinting. Obviously, we don't want fraudulent activities in food stamps, but perhaps there is a less intrusive way to get the information that is needed to discourage fraud without making people feel criminal.

Mr. WEILL. We think there is. The Senate Farm Bill requires States, under standards that would be set by the Secretary, to ensure that finger imaging is a cost effective way before they use it, compared to other measures they could use.

Senator SMITH. Robert, coming from a rural part of my State, I obviously am very struck by what you talked about food deserts and it comes to my mind that if you live in a very small community, you may not have much access.

But I suppose you are also referring to the likelihood that some urban areas where the store is a convenience store, and they are selling stuff that it is nutritional value is probably not what they need.

Mr. BLANCATO. Right. In fact, the limited amount of work that has been done focused on both urban and rural areas. It is about what is available, with the emphasis on choice, cost and healthiness of the food.

The growing problem in certain areas is exacerbated by isolation on the part of older people to go to places to begin with, and the cost of transportation. So this is something which I think this Committee could look at more and study some more.

I want to make one other point, too, about grandparents because I am on the board of Generations United, and I know that there is a lot of work in this area. But there is a small effort under way through the Older Americans Act.

The National Family Caregiver Support Program does set aside some funds for grandparents raising grandchildren. At least in

terms of giving them information about access to community supports and programs, and I think that that is a program that was trend setting when it was established in 2000 and needs to grow in reflection of the rising number of grandparents who are primarily raising their grandchildren.

Senator SMITH. Jan, I assume that your employees at Harrah's take the same kind of satisfaction as Marcus Lampros' employees do and those of other corporations. Does it add to the esprit de corps at Harrah's?

Ms. JONES. It creates the culture. If employees believe that the company they work for is committed to doing something in their communities and they can be a part of that, it changes the way they feel about going to work.

I think it is key to attitude and then customer service and just a positive esprit de corps.

Senator SMITH. Well, I suspect that the lesson there is it is good business to be—I doubt it costs Harrah's more of what puts it up in terms of dollars and involvement, I bet it gets that much and more back in terms of employee esprit de corps and customer service in your core business.

Ms. JONES. I don't think there is any question about it.

Senator SMITH. Yes. Well, I commend you for that, and on behalf of the Senate Special Committee on Aging, we thank you all for your time. You have been generous with it, and more generous to those that you are concerned about and care for.

Each of you adds measurably to, I believe, the greatness of our country and the real American spirit. You certainly added measurably to the Senate record and our understanding of this growing problem and awakened, I think, many to the responsibility we all have individually and as a country.

So with that, our heartfelt gratitude, and we are adjourned.

[Whereupon, at 12:17 p.m., the Committee was adjourned.]

# APPENDIX

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## STRENGTHENING THE FOOD STAMP PROGRAM TO SERVE LOW-INCOME SENIORS

Statement by Stacy Dean, Director of Food Assistance Policy

Many Americans do not realize that millions of seniors in our country live in poverty and cannot always afford an adequate diet. This is a complex problem requiring several responses, such as strengthening federal food assistance programs for seniors, improving Supplemental Security Income (SSI) benefits, and removing disincentives for low-income families to save for retirement.

The Food Stamp Program, in particular, can do much more to assist seniors in need. Far too many seniors who are eligible for food stamps do not receive them, and some of the program's rules are tilted against seniors. Fortunately, proposals under consideration in the Farm Bill offer an excellent opportunity to improve food stamps' ability to fight hunger and food insecurity among seniors.

### Background on Hunger and Poverty Amongst Seniors

Some 3.4 million Americans aged 65 and older lived below the poverty line in 2006.[1] While the overall poverty rate for seniors — 9.4 percent — is the lowest on record, the poverty rates for African American and Hispanic seniors are much higher: 22.7 percent and 19.4 percent, respectively. (For non-Hispanic white seniors, the poverty rate is 7 percent.) Poverty rates among seniors also vary widely by state, from about 4 percent in Alaska to nearly 16 percent in Mississippi.[2]

Moreover, the official poverty measure does not reflect the high out-of-pocket medical costs that many seniors face. While poverty rates are lower for seniors than for the nation as a whole under the official poverty measure, some of the Census Bureau's alternative measures of poverty that reflect medical expenses show seniors to have *higher* poverty rates than the nation as a whole.[3]

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[1] U.S. Census Bureau, Current Population Survey 2007 Annual Social and Economic Supplement, Detailed Poverty Tables, "POV01: Age and Sex of All People, Family Members and Unrelated Individuals Iterated by Income-to-Poverty Ratio and Race: 2006," http://pubdb3.census.gov/macro/032007/pov/new01_100_01.htm, accessed 2/28/08.

[2] U.S. Census Bureau, Current Population Survey 2007 Annual Social and Economic Supplement, Historical Poverty Tables, "Table 3. Poverty Status of People, by Age, Race, and Hispanic Origin: 1959 to 2006," http://www.census.gov/hhes/www/poverty/histpov/hstpov3.html, accessed 2/28/08.

[3] U.S. Census Bureau, "Alternative Poverty Estimates Based on National Academy of Sciences Recommendations, by Selected Demographic Characteristics and by Region:

Some 6 percent of elderly Americans experience food insecurity, according to 2006 data. (USDA defines a food-insecure household as one that "does not have consistent access to enough food for active, healthy lives for all households members during the year.") The food insecurity rate is the same for seniors living with others and seniors living alone.

Food insecurity is much more common, however, among *low-income* seniors — those with incomes below 130 percent of the poverty line (i.e., those eligible for food stamps). Some 17.6 percent of low-income seniors living with others are food insecure, as are more than 12 percent of low-income seniors who live alone[4].

Like poverty, food insecurity is much more common among minority seniors than white seniors. Nearly 19 percent of black seniors and 15.4 percent of Hispanic seniors are food insecure, compared to just 3.7 percent of white seniors.[5]

### Food Stamps Can Help Seniors Who are Struggling Against Hunger

The Food Stamp Program, our nation's most powerful anti-hunger program, provides assistance every month to more than 2 million seniors. More than 80 percent of seniors who receive food stamps have total income below the federal poverty level, and about 80 percent live alone. Many of the nation's most vulnerable seniors rely on food stamps, along with social security, SSI, and other state and federal assistance to help afford an adequate diet. In fiscal year 2007, almost $2.5 billion in food stamp benefits went to households with members who were elderly to help them purchase food.

The Food Stamp Program is efficient and effective. Its benefits are well-targeted on the people who have the greatest difficulty affording an adequate diet. And it efficiently provides benefits on electronic benefit (EBT) cards that are like the plastic debit and credit cards most people carry in their wallets and can be swiped in supermarket and grocery store check-out lines. The program currently has the lowest error rate on record.

Overall, 65 percent of individuals who are eligible for food stamps receive benefits. Among eligible families with children the participation rate is over 80 percent. Yet, for eligible seniors, the participation rate is significantly lower — only 30 to 40 percent.

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2006," http://www.census.gov/hhes/www/povmeas/altmeas06/nas_measures_2006_demog_and_region.xls, accessed 2/28/08.

[4] Nord, Mark, Andrews, Margaret, and Carlson, Steven. *Household Food Security in the United States, 2006*, Food Assistance and Nutrition Research Report No. 49, U.S. Department of Agriculture, Economic Research Service, November 2007.

[5] Nord, Mark. *Food Security Rates are High for Elderly Households*, Food Review, 25(2), U.S. Department of Agriculture, Economic Research Service, Summer-Fall 2002.

One of the primary reasons for the low participation rate is that some seniors mistakenly believe that they are eligible for only a $10 minimum benefit. It is true that almost 20 percent of seniors who receive food stamps have income that, while still very low, is high enough that they can qualify for only $10 under the program's rules. However, the average benefit among the other 80 percent of seniors who receive food stamps is substantial — about $100 a month. This is because most eligible seniors have sufficiently low income and high medical and shelter expenses to qualify for a higher benefit under the program's rules.

**Participation Rate Among Elderly Individuals in FY2005**

Trends in Food Stamp Program Participation Rates: 1999 to 2005

| * FS Participation Rate amongst elderly individuals | |
|---|---|
| Total | 30.75% |
| Elderly living alone | 40.08% |
| Elderly living w/ others | 19.46% |

*U.S. Department of Agriculture, Food and Nutrition Service, Office of Analysis, Nutrition and Evaluation, *Trends in Food Stamp Program Participation Rates: 1999 to 2005*, by Kari Wolkwitz. Alexandria, VA: 2007.

Another reason for low participation is that, in order to ensure program integrity and proper targeting of benefits, the Food Stamp Program has burdensome application and paperwork requirements that many seniors may find onerous (especially if they think they can qualify for only $10).

**The Farm Bill Can Help Strengthen Food Stamps for Seniors**

This year's renewal of the Farm Bill provides an important opportunity to improve food stamps for seniors. Many of the food stamp provisions in the House and Senate bills that would strengthen the food stamp program are oriented towards addressing the needs of seniors. For example, the following provisions of the Senate and House farm bills would boost food stamp benefits among the elderly, make more seniors eligible, or reduce barriers that can impede eligible seniors from participating.

**Ending erosion in the food stamp standard deduction.** The minimum standard deduction that households with 3 or fewer members receive — a group that makes up 98 percent of food stamp households with seniors — would be increased and indexed in subsequent years for inflation. More than 1.5 million seniors would be helped by this change and would no longer see the purchasing power of their food stamp benefits shrink with each passing year.

**Updating the minimum benefit.** The $10 minimum benefit, which goes to about 400,000 households with seniors and has not been adjusted for inflation in 30 years, would rise to $16 in fiscal year 2009 — more than a 50 percent increase — and would be adjusted for inflation in later years. As noted, because many seniors believe they can qualify for only the minimum benefit, this change presents an important education opportunity and outreach tool for states and community organizations to enroll more seniors in food stamps, many of whom will qualify for more than $16.

**Reducing paperwork requirements.** The Senate farm bill would extend to seniors a state option from 2002 that has dramatically reduced the amount of paperwork that younger families must provide to food stamp offices. Currently seniors must report any change in their income

and circumstances within 10 days. Under the change, states would allow many households with seniors to receive food stamps for 12 months at a time, during which they would only need to report changes that put their income over the food stamps eligibility limit of 130 percent of the poverty line. The change has the potential to sharply reduce the paperwork burdens of the 2 million seniors who receive food stamps.

In addition, the bill would allow states to accept food stamp applications over the telephone, which could be a significant improvement for low-income seniors who may have difficulty making trips to the local welfare office or navigating states' new on-line applications.

**Encouraging savings.** The food stamp asset limit for households with seniors has been frozen at $3,000 for more than 20 years. The steady shrinkage in the inflation-adjusted value of the asset limits discourages saving and undermines a key way for low-income seniors to build a modest cushion for unexpected expenses. Both the House and Senate bills would index the asset limit; the Senate bill would also raise it substantially, to $4,500. In addition, under both bills, tax-preferred retirement accounts and education accounts would no longer count toward the asset limit. This would help seniors who have saved for their retirement in IRAs from having to liquidate those accounts in order to receive food stamps.

**Raising the Adult Dependent Care Deduction.** The bill would eliminate the cap on the dependent care deduction, so that working families that pay for care for elderly family members could deduct the full amount of costs they incur in order to work.

**Protecting seniors' access to their EBT benefits.** The farm bill would ensure that states do not inappropriately remove food stamp benefits from seniors' EBT accounts if they have not been accessed for a short period of time. Some seniors, particularly those who receive small benefit amounts, may wish to accumulate their food stamp benefits to use in one shopping trip or for a special occasion, such as a large family gathering.

**Increasing Emergency Food Assistance.** Annual funding for commodity purchases for the Emergency Food Assistance Program (TEFAP) under the Food Stamp Program would increase from $140 million to $250 million. These funds go to food pantries, soup kitchens, and other emergency sites that provide food to low-income populations. According to America's Second Harvest, the nation's principal Food Bank network, about 2.6 million senior citizens are helped at emergency food sites over the course of a year.

**Enhancing services to seniors in CSFP.** The Commodity Supplemental Food Program (CSFP) provides monthly nutritious food packages to women, infants, and children who do not participate in WIC and to low-income seniors in about two-thirds of the states. The farm bill would allow states to serve seniors on an equal basis with families, rather than prioritize families.

**Improving the Senior Farmers' Market Nutrition Program.** The farm bill would increase mandatory funding for Senior Farmers' Markets, which provides fresh fruits and vegetables from farmers' markets and roadside stands to low-income seniors. The bill also would ensure that such benefits are not counted as income in other programs and would prohibit states from collecting sales taxes on food purchases made with such benefits.

These changes would strengthen the Food Stamp Program's ability to provide assistance to low-income seniors across the country. Almost every senior who participates in food stamps — about 2 million — would be helped. The bill would also enhance the program's ability to reach more seniors who are eligible but do not yet participate in food stamps. Despite their ability to improve service to, and coverage for, seniors, many of the provisions described above have little or no costs. Congress should include as many of these provisions as possible in the final package. We encourage the Committee on Aging to communicate the importance of the provisions that will affect seniors to the Agriculture Committee and urge their inclusion in the final farm bill.

The Farm Bill offers an excellent opportunity to address food insecurity among seniors. As the Committee looks ahead and considers the issues of hunger among the elderly and how best to address it, it is important to remember that many food-insecure elderly face particular challenges. Seniors are a diverse and growing population, ranging from active, working or recently retired people able to shop and prepare food for themselves to frail and often much older adults. Home bound seniors may have particular difficulty applying for and or using food stamps. It is important that the program consider new ways of reaching seniors who would benefit from it. In addition, there are many for whom congregate, home-delivered and institutional-based meals, at least in part, will be a more appropriate policy intervention. Many also have special diets — crucial for maintaining their health — that are more expensive than standard diets. For example, low-fat, -salt and -sugar diets are common for many elderly people who live with diet-related conditions, such as heart disease, high blood pressure and diabetes. These issues should also be considered when determining if benefit levels are adequate for seniors.

As with other age groups, having adequate income is a critical part of making seniors food secure. Social Security, Supplemental Security Income and retirement funds contribute toward seniors' well-being. Providing them with assistance for their health care costs can help seniors avoid choosing between medicine and food. Reducing hunger among the elderly will require changes in a number of programs. As mentioned above, connecting eligible seniors with food stamp benefits and making their food stamp allotments adequate can help reduce seniors' food insecurity. In addition, exploring ways to strengthen and improve the Child and Adult Care Feeding program, the Commodity Supplemental Food Program, congregate and home-delivered meals, and institutional-based programs also offer important opportunities to help ensure that low-income seniors have access to adequate nutrition.

# The Causes, Consequences, and Future of Senior Hunger in America

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## Executive Summary

Hunger is a serious threat facing millions of seniors in the United States. Despite this important public health threat, we know very little about the face of hunger among seniors, the causes of senior hunger, its consequences for the well-being of seniors, or what will happen in the next twenty years with respect to hunger among senior Americans. Although federally-funded programs including the Elderly Nutrition Program (ENP) and the Food Stamp Program are designed to address food security and nutritional needs among senior Americans, studies demonstrate high levels of need still exist among seniors. Thus, it is important to expand our understanding of hunger among seniors in order to help develop strategies to reduce it.

With the generous financial support of a grant from the Meals On Wheels Association of America Foundation (MOWAAF) to the University of Kentucky Center for Poverty Research (UKCPR) and Iowa State University, in this report we analyzed the causes, consequences, and future of senior hunger in America. Specifically, we addressed the following questions:

- *What is the extent of hunger among seniors across the United States?* While annual reports on food insecurity indicate the proportion of senior persons suffering from hunger, no research has examined the status of seniors at more disaggregated levels. We examined subgroups by age, income, wealth, employment status, race/ethnicity, family structure, social isolation, geography, and receipt of food stamps, shedding light on the prevalence of hunger among seniors across a broad spectrum of characteristics.

- *What are the causes and attendant nutrition and health consequences of senior hunger?* An extensive literature has emerged which examines the causes of food insecurity and hunger in the general population and the nutrition and health consequences of food insecurity and hunger for the general population. There has, however, been very little work on these topics for seniors. We identified characteristics associated with hunger among seniors and presented a series of profiles for those most likely to experience hunger. We also examined the consequences of hunger on the well being of seniors, including outcomes related to nutrition, health, and food spending.

- *What is the future of hunger among the elderly over the next 20 years?* The proportion of elders in the American population will increase at a much faster rate than other age groups over the coming decades. Along with increasing numbers, there will be a sharp increase in the proportion of elders who are older, in particular those over the age of 85. In this report, we made projections 20 years into the future regarding food insecurity among seniors.

## The Face of Senior Hunger in America

Using data from the 2001-2005 Current Population Survey (CPS), a nationally representative survey of over 50,000 households per year, along with the Core Food Security Module, we examined the characteristics of persons aged 60 and over who were (a) marginally food insecure; (b) food insecure and thus at-risk of hunger; and (c) very low food secure and thus suffering from hunger. In the United States through the mid 2000s we found that

- Over 5 million seniors—11.4 percent of all seniors—experienced some form of food insecurity (i.e., were marginally food insecure). Of these, about 2.5 million were at-risk of hunger, and about 750,000 suffered from hunger due to financial constraints.

- Some groups of seniors are more likely to be at-risk of hunger. Relative to their representation in the overall senior population, those with limited incomes, under age 70, African-Americans, Hispanics, never-married individuals, renters, and persons living in the South are all more likely to be at-risk of hunger.

- While certain groups of seniors are at greater-risk of hunger, hunger cuts across the income spectrum. For example, over 50% of all seniors who are at-risk of hunger have incomes above the poverty line. Likewise, it is present in all demographic groups. For example, over two-thirds of seniors at-risk of hunger are white.

- There are marked differences in the risk of hunger across family structure, especially for those seniors living alone, or those living with a grandchild. Those living alone are twice as likely to experience hunger compared to married seniors. One in five senior households with a grandchild (but no adult child) present is at-risk of hunger compared to about one in twenty households without a grandchild present.

- Seniors living in non-metropolitan areas are as likely to experience food insecurity as those living in metropolitan areas, suggesting that food insecurity cuts across the urban-rural continuum.

**The Causes of Senior Hunger in America**

Although the summary statistics paint a detailed portrait of food insecurity across a number of economic and demographic characteristics of senior households, we also estimated formal statistical models of the determinants of food insecurity and hunger. The models move beyond simple associations and help answer questions such as "what is the effect of age on the probability of food insecurity holding income, race, education, and other factors constant?" With the estimated model parameters we then constructed a number of profiles of hypothetical senior households with varying degrees of hunger risk.

Our results of the causes of food insecurity from the 2001-2005 Current Population Survey revealed that seniors were more likely to be at-risk of hunger if they were

- *A young senior between the ages of 60 and 64.* For example, seniors age 80 and older were 2.1 percentage points less likely to be food insecure compared to 60-64 year olds. That is, an 84 year old is over one-third less likely to be at-risk of hunger than a 64 year old on the baseline food insecurity rate of 5.6 percent.

- *Living at or below the poverty line.* Households above 200 percent of the poverty line have nearly a 15 percentage point lower probability of being marginally food insecure than those living below the poverty line, a 6 percentage point lower probability of being food insecure, and a 2 percentage point lower probability of being very low food secure.

- *A high school dropout.* Holding income and other factors constant a high school graduate is 20 percent less likely to be at risk of hunger compared to a high school dropout, and a college graduate is 40 percent less likely.

- *An African-American or Hispanic.* All else equal, African-Americans were 4.2 percentage points more likely to be food insecure than white persons, or nearly 75 percent above the baseline rate of 5.6 percent. Hispanics were about 20 percent more likely to be at-risk of hunger compared to whites, though were at no greater risk of currently experiencing hunger.

- *Divorced or separated, or living with a grandchild.* Marriage offered protection against food insecurity on a scale comparable to a high school diploma; that is, married couples were at about a 20 percent reduced probability of being at risk of hunger. Those seniors living with a grandchild; however, were about 50 percent more likely to be at risk of hunger compared to those with no grandchild.

- *Renters.* Homeowners have access to resources not similarly available to those seniors who rented, and thus homeowners faced about one-half the odds of being at-risk of hunger relative to the baseline.

We supplemented our analysis of the determinants of food insecurity in the CPS with data from the 1999-2002 National Health and Nutrition Examination Survey (NHANES) to examine the effects of social isolation on senior hunger and with data from the 1999–2003 Panel Study of Income Dynamics (PSID) to examine the effects of liquid assets and net worth on food insecurity. We found that after controlling for other factors, seniors without access to emotional and financial support are substantially more likely to suffer from hunger (about 50 percent more) and seniors with net worth in excess of $100,000 are much less likely to suffer from hunger.

### The Health Consequences of Senior Hunger

There has been extensive work looking at the causes and consequences of nutrient-related deficiencies and other health outcomes among the elderly. However, much less research has been conducted on the health-related consequences of food insecurity among the elderly. We used data from the 1999-2002 National Health and Nutrition Examination Survey to examine the health consequences of hunger for Americans over the age of 60.

The outcomes considered that relate to nutrients were energy intake, protein, vitamin A, vitamin C, thiamin, riboflavin, vitamin B6, calcium, phosphorous, magnesium, and iron. These were all based on individual's self-reports of their food consumption for two full days. We also examined outcomes related to obesity including body mass index, arm circumference, tricep skinfold, and subscapular skinfold. The final set of outcomes examined were based on individuals' self-reports of diabetes, general health (excellent, very good, good, fair, or poor), depression, diabetes, and ADL limitations.

After controlling for other risk factors for poor health we find that seniors experiencing some form of food insecurity are

- *Significantly more likely to have lower intakes of energy and major vitamins.* This holds across all the nutrient intake measures we considered. The effects are very strong. For example, across all the measures, the effect of being marginally food insecure is over twice as large (and generally much larger) than a move in income from one-to-two times the poverty line.

- *Significantly more likely to be in poor or fair health.* In comparisons of excellent or very good health versus good, fair, or poor health and comparisons of excellent, very good, or good health versus fair or poor health, we find a strong effect of marginal food insecurity. For sake of comparison, being marginally food insecure is similar to not having graduated from high school.

- *More likely to have limitations in activities of daily living (ADL).* Marginally food insecure are much more likely than fully food secure seniors to have ADL limitations. The effects are again strong – being marginally food insecure is roughly equivalent to being 14 years older.

As a check on the robustness of the health results, we used data on similar health outcomes from the PSID and found results that broadly corroborate those from the NHANES. We also used data from the PSID to estimate the effect of food insecurity on household food expenditures adjusted for the food needs as determined by the USDA Thrifty Food Plan. On average a marginally food insecure family spends about 60 percent less on food relative to needs, and a family that is very low food secure spends 88 percent less. However, once we controlled for other factors that determine food spending we no longer find a statistically significant link between food insecurity and food expenditures.

### The Future of Senior Hunger

To project the future of senior hunger in America in 2025, we used data from both the 1980s and 2000s in the CPS and population projections from the U.S. Census Bureau. We employed a projection technique that was based on our results from the determinants of food insecurity. Specifically we developed a three-step procedure based on a parsimonious group of seven economic and demographic variables that affected hunger– whether someone was a homeowner, whether a person lived in a poor household, the gender of an individual, the age of an individual, whether a person lived alone, the race of an individual, and whether the person graduated from high school. The first step involved relating food insecurity among seniors in the early 2000s to their age cohorts twenty years prior in the 1980s. The second step involved predicting food insecurity for each age cohort twenty years in the future based on demographic and economic data from the 2000s. The third and final step required weighting the predictions by the U.S. Census's projections of the size each age group two decades in the future.

Our baseline projections indicate that

- In 2025, an estimated 9.5 million senior Americans will experience some form of food insecurity, about 75 percent higher than the number in 2005.
- In 2025, an estimated 3.9 million senior Americans will be at-risk of hunger.
- In 2025, an estimated 1 million senior Americans will suffer from hunger.

The baseline projections are quite robust to more complicated prediction models and suggest that in the absence of significant economic or policy reforms the percentage of seniors at risk of hunger in 2025 will be of comparable magnitude to the present.

## Conclusion

This report represented an important contribution to our understanding of senior hunger in America. Much work remains to be done, however, in efforts to ensure that no senior be at risk of going without food. We identify two key areas for future research. First, we need to be kept up-to-date on the extent of senior hunger along with the determinants and consequences of senior hunger. If the population of seniors was relatively static, such research would not be as relevant. But this is not the case – the population of seniors is changing rapidly, both in size and composition. Thus, we anticipate that issues of senior hunger will change as well. In response, we recommend an annual updating of this report. Such a report would allow MOWAAF to identify the implications of these rapid changes among seniors. Second, we found some striking, and heretofore undocumented, results that the probability of food insecurity declined along the age gradient, that it rose significantly for those seniors living with a grandchild, and that it rose significantly for those socially isolated. Further research into the causal mechanisms of these processes is merited in order for MOWAAF, ENP, the Food Stamp Program, and related organizations to better target food-related services to those in need.

## I. Introduction and Project Objectives

Hunger is a serious public health threat facing hundreds of thousands of seniors in America. Despite this threat facing our country, we know very little about the extent of hunger, its consequences for the well-being of seniors, or what will happen in the next twenty years with respect to hunger among senior Americans. Although federally-funded programs including the Elderly Nutrition Program (ENP) and the Food Stamp Program are designed to address food security and nutritional needs among senior Americans, studies demonstrate high levels of need remain among seniors. Thus, it is important to expand our understanding of hunger among seniors in order to help develop strategies to reduce it. With the generous financial support of the Meals on Wheels Association of America Foundation (MOWAAF), the University of Kentucky Center for Poverty Research (UKCPR) and Iowa State University has undertaken a project addressing the extent of hunger among seniors, its causes and consequences, and the future of senior food security over the next 20 years. In this report, we present findings for the following three broad questions:

*What is the extent of hunger among seniors across the United States?* While annual reports on food insecurity indicate the proportion of senior persons suffering from hunger, no research has examined the status of seniors at more disaggregated levels. This omission seems particularly surprising as previous research on disaggregated displays of hunger in the United States have found high levels of hunger among some groups (e.g., single parents with children) alongside low levels among other groups (e.g., married couples with children). We examine subgroups by age, income, employment status, race/ethnicity, family structure, geography, and receipt of food stamps, shedding light on the prevalence of hunger among seniors across a broad spectrum of characteristics. Understanding the extent of hunger across seniors is especially important to the MOWAAF as they seek to raise awareness, solicit funding support from non-public sources, and develop specific programmatic and broad policy recommendations to address the issue.

*What are the causes and attendant nutrition and health consequences of senior hunger?* An extensive literature has emerged which examines the causes of food insecurity and hunger in the general population and the nutrition and health consequences of food insecurity and hunger for the general population. There has, however, been very little work on these topics for seniors. And what work has been done has used smaller-scale cross-sectional datasets, hunger measures other than the official measures used by Federal government, or both. This limits the ability of MOWAAF to effectively ascertain who among seniors

are most likely to suffer from hunger and how and why hunger matters for seniors. This then constrains the Foundation's ability to fully articulate to policymakers why senior hunger in America is a serious problem. In this report we identify characteristics associated with hunger among seniors and present a series of profiles for those most likely to experience hunger. In a separate set of analyses, we examine the consequences of hunger on the well being of seniors, including nutritional and health outcomes and differences among hungry and non-hungry seniors on measures of daily functioning.

*What is the future of hunger among the elderly over the next 20 years?* The proportion of elders in the American population will increase at a much faster rate than other age groups over the coming decades. Along with increasing numbers, there will be a sharp increase in the proportion of elders who are older, in particular those over the age of 85. The size of this age group is currently about 3 million; by 2050, it is estimated that over 19 million Americans will be over 85. MOWAAF is particularly interested in this group since a disproportionate number of meals distributed by MOWAA go to these older Americans. In this report, we make projections 20 years into the future regarding food insecurity among seniors.

In the next section we define food security and insecurity and our approach to its use in our analyses. We also discuss food insecurity levels for all senior households (those with heads over 60 years of age), and by subgroup.[1] In Section III we present the findings from multivariate analyses that allow us to simultaneously control for the effects of these characteristics on food security levels among seniors. Sections IV and V present the results of our analyses of the health and nutrition consequences of senior hunger. Section VI contains our projections of senior hunger in the year 2025. We offer concluding comments in Section VII on the implications of our research for identifying, reaching, and serving seniors at-risk of hunger in the United States.

## II. The Extent of Food Insecurity among Senior Americans

We begin our analysis by defining our measure of food insecurity and detailing who among senior Americans is considered food insecure and/or suffering from hunger. Food security has been defined by the Economic Research Service (ERS) of the USDA as access by all members of a household to food sufficient for a healthy life, including at a minimum "the ready availability of nutritionally adequate and

1. Although studies examining the senior population often define seniors as those over 65, we are interested in elderly households with heads over 60 since seniors over 60 are eligible for Elderly Nutrition Program services. MOWAA is the largest association representing senior nutrition service providers in the United States.

safe foods, and the assured ability to acquire acceptable foods in socially acceptable ways (that is, without resorting to emergency food supplies, scavenging, stealing, or other coping strategies)." To wit, the ERS definition of food insecurity is "limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways" (Anderson, 1990).

Food insecurity is measured along a continuum by using survey responses to the Core Food Security Module (CFSM) in the Current Population Survey. To calculate the official food insecurity rates in the U.S. for families without children (defined over a 12 month period) the CSFM poses a series of 10 questions (18 questions with children present).[2] Each question is designed to capture some aspect of food insecurity and, for some questions, the frequency with which it manifests itself. Examples of questions include: "I worried whether our food would run out before we got money to buy more," (the least severe item), "Did you or the other adults in your household ever cut the size of your meals or skip meals because there wasn't enough money for food," "Did you ever lose weight because there wasn't enough money for food," and "Did you ever not eat for a full day three or more times" (the most severe item). The questions and responses used to determine household food security status are included in Appendix Table 1.

There are numerous categorizations of food security status that have been made based on these 10 questions. As summarized in Table 1 (page 4), in this report we begin with four mutually exclusive categories: fully food secure, which means the respondent reports no food security problems; marginally food secure, which means the respondent answers affirmatively to one or two questions; low food secure, which means the respondent answers affirmatively to 3–5 questions on the CFSM; and very low food secure, which means that the respondent answers affirmatively to six or more questions. From these four categories we form the two, non-mutually exclusive, summative categories of marginally food insecure, which combines the three categories of marginally food secure, low food secure, and very low food secure, and food insecure, which combines the narrower categories of low food secure and very low food secure. For most of our analysis we focus on the three categories of marginally food insecure, food insecure, and very low food secure. In general, the food insecure group is considered to be at-risk of hunger and the very low food secure group is considered to be suffering from hunger.

2. Most households with seniors will fall into this category of "households without children." Of course, some households with an elder will also have children. For these households, we use the full set of 18 questions in the CFSM.

**Table 1:** Food Security Categories

| | Number of Affirmative Responses to CFSM | Combinations of Mutually Exclusive Categories |
|---|---|---|
| Mutually exclusive categories | | |
| Fully food secure | 0 | |
| Marginally food secure | 1-2 | |
| Low food secure | 3-7 (households with children)<br>3-5 (households without children) | |
| Very low food secure | 8 or more (households with children)<br>6 or more (households without children) | |
| Non-mutually exclusive categories | | |
| Marginally food insecure | 1 or more | Marginally food secure<br>Low food secure<br>Very low food secure |
| Food insecure | 3 or more | Low food secure<br>Very low food secure |

### II. A. Data from the Current Population Survey

Data on the extent of hunger among senior Americans is derived from the CFSM in the Current Population Survey (CPS) for the years 2001-2005.[3] The CPS is a nationally representative survey conducted by the Census Bureau for the Bureau of Labor Statistics, providing employment, income and poverty statistics. In December of each year, 50,000 households respond to a series of questions on the CFSM in addition to questions about food spending and the use of government and community food assistance programs. Households are selected to be representative of civilian households at the state and national levels, and thus do not include information on individuals living in group quarters including nursing homes or assisted living facilities. Multiple years are pooled together for this analysis due to the limited sample size of certain subpopulations in any given year, for example African Americans over age 85.[4] In general, a household is observed in two successive years in the CPS. Since multiple years are being used in this paper, to ensure that no household is included more than once, the sample includes households observed for the second time in 2001 through 2005. Excluding households with heads younger than 60, the pooled sample includes 50,330 senior households between the ages of 60 and 90.

3. The CFSM has been in at least one month in the CPS in every year since 1995. To avoid issues of seasonality and changes in various other aspects of survey design (e.g., the screening questions), only the five most recently available December Supplements are used in this project
4. There was no reason to believe the responses for households administered the survey over different years should differ substantially over the short time period studied, therefore, data were pooled across years in the interest of obtaining a sufficiently large sample for certain demographic categories of interest.

Table 2 (page 6) contains weighted averages of selected characteristics, where the weight is the sample person weight provided in the CPS survey and is used to adjust the averages to reflect the whole population age 60 and over. Among seniors in America 11.4 percent are classified as marginally food insecure, 5.6 percent are classified as food insecure, and 1.7 percent are very low food secure. These percentages translate into over 5 million seniors who are marginally food insecure, about 2.5 million of whom are at-risk of hunger and about 750,000 who are presently experiencing hunger. About 11 percent of seniors are poor, but a plurality has annual incomes that place them above two times the poverty line. Over a quarter of the sample refused or failed to provide data on their incomes, and our regression models in the next section will account for this missing data. Most in the sample are white, are homeowners, live in a metropolitan statistical area, and are retired. The households are fairly evenly distributed across age categories, education levels, and regions, with the exception of the South where over one-third of seniors reside. About two-thirds of seniors are formally retired, and just under a quarter are employed. Slightly more than one-half of households contain women as the head of household, about 27 percent of householders are living alone, and slightly less than 4 percent have a grandchild present in the household.

Figure 1 (page 7) demonstrates the food insecurity rates by year for the full sample of households with a head 60 years of age or older. Rates of food insecurity have remained relatively constant over the period with respect to each of the three food security measures, suggesting no major changes over time in the fraction of seniors at risk of hunger during the early 2000s.

#### II. B. Distribution and Prevalence of Food Insecurity among all Senior Households

Table 3 (page 8) presents descriptive statistics on the distribution of senior Americans across the three levels of food insecurity. Each subcategory in the table sums to 100 percent for the respective food insecurity status. For example, one question the table answers is "Among the very low food secure, what fraction of that population has income below poverty and what fraction has income above poverty?" In this case Table 3 shows that over 48 percent report income below the poverty line, 36 percent report income above the line, and 16 percent do not report income (and thus some lie above and some below the line). Although poverty status is a clear predictor of hunger, the problem is by no means restricted to the poor as slightly above 9 percent of very low food secure households have annual incomes above twice the poverty line. Clear majorities of the food insecure across categories are white, non-Hispanics, are under

**Table 2.** Selected Characteristics of Senior Americans in the Current Population Survey, 2001–2005

| | Percent |
|---|---|
| Marginally Food Insecure | 11.40 |
| Food Insecure | 5.60 |
| Very Low Food Secure | 1.70 |
| Income Categories | |
| Below 50% of the Poverty Line | 1.76 |
| Between 50% and 100% of the Poverty Line | 8.25 |
| Between 100% and 200% of the Poverty Line | 18.92 |
| Above 200% of the Poverty Line | 43.64 |
| Missing Income | 27.43 |
| Racial Categories | |
| White | 87.33 |
| African American | 9.16 |
| Other | 3.51 |
| Hispanic Ethnicity | 6.40 |
| Marital Status | |
| Married | 62.44 |
| Widowed | 26.51 |
| Divorced or Separated | 9.86 |
| Never Married | 1.19 |
| Homeowner | 84.91 |
| Geographic Location | |
| Non-Metro | 22.33 |
| Northeast | 20.51 |
| Midwest | 23.26 |
| South | 36.86 |
| West | 19.37 |
| Age | |
| 60 to 64 | 25.98 |
| 65 to 69 | 21.04 |
| 70 to 74 | 18.09 |
| 75 to 79 | 16.08 |
| 80 and older | 18.81 |
| Employment Status | |
| Employed | 22.33 |
| Unemployed | 0.92 |
| Retired | 68.15 |
| Disabled | 8.60 |
| Education Level | |
| Less Than High School | 24.25 |
| High School Diploma | 35.56 |
| Some College | 20.62 |
| College Degree | 19.57 |
| Food Stamp Recipient | 3.07 |
| Grandchild or Parent Present | |
| No Grandchild and Parent Present | 96.34 |
| Grandchild and Parent Present | 2.41 |
| Grandchild Present | 1.25 |
| Female | 56.03 |
| Living Alone | 27.39 |

Note: Percentages within categories may not sum to 100% because of rounding.

More than 9% of senior households at greatest risk for hunger have annual incomes above twice the poverty line.

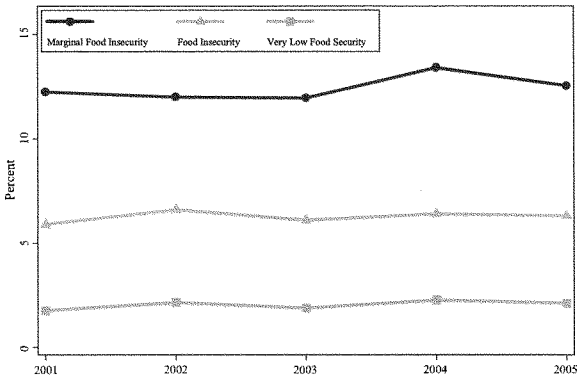



Figure 1. Food Insecurity Rates for Seniors, 2001-2005

age 70, are currently or previously married, are women, are retired or disabled, live in metro areas, do not receive food stamps, and do not have a grandchild present in the household. However, African Americans, Hispanics, the disabled, widows, food stamp recipients, and those living alone are over-represented in all categories of food insecurity relative to their population shares (reported in Table 2).

Table 4 (page 9) details the prevalence of food insecurity for the full sample. The difference from Table 3 is that in Table 4 we answer questions such as "Among those with income below 50% of the poverty line, what fraction are marginally food insecure, food insecure, or very low food secure?" In other words we examine each row and compare across columns. The categories do not sum to 100 percent because the remaining fraction of households in each category are food secure (not shown in the table). Consistent with previous research on the general population, Table 4 demonstrates the protective effect of economic resources on food security among the elderly. Just over 1.5 percent of the sample with income above twice the poverty line is characterized as food insecure, and fewer than one in 200 of these households (0.35 percent) experience very low food security. In stark contrast, 21 percent of households between 50-100% of the poverty line, and nearly three in ten (27.0 percent) households below 50% of the poverty line are food insecure. One in ten households with income below 50% of the poverty line experiences very low food security. Approximately one in twenty households headed by a white person experience food insecurity, and 1.3 percent are very low food secure. In contrast, nearly one in six African

Relative to their representation in the population, African Americans, Hispanics, food stamp recipients, the disabled, widows and seniors living alone are over-represented among the non-food secure.

**Table 3.** Distribution of Food Insecurity Rates by Categories for Seniors

| | Marginally Food Insecure | Food Insecure | Very Low Food Secure |
|---|---|---|---|
| Income Categories | | | |
| Below 50% of the Poverty Line | 6.70 | 8.50 | 11.18 |
| Between 50% and 100% of the Poverty Line | 27.44 | 30.69 | 36.82 |
| Between 100% and 200% of the Poverty Line | 33.08 | 30.12 | 26.99 |
| Above 200% of the Poverty Line | 14.94 | 12.20 | 9.10 |
| Missing Income | 17.85 | 18.49 | 15.91 |
| Racial Categories | | | |
| White | 72.94 | 67.63 | 66.12 |
| African American | 22.28 | 27.46 | 29.46 |
| Other | 4.79 | 4.82 | 4.42 |
| Hispanic | 13.67 | 14.83 | 11.48 |
| Marital Status | | | |
| Married | 45.88 | 42.33 | 35.23 |
| Widowed | 34.52 | 34.84 | 35.67 |
| Divorced or Separated | 16.69 | 19.37 | 23.95 |
| Never Married | 2.91 | 3.47 | 5.15 |
| Homeowner | 66.20 | 60.68 | 51.60 |
| Geographic Location | | | |
| Non-Metro | 24.59 | 24.69 | 23.76 |
| Northeast | 18.28 | 16.88 | 16.66 |
| Midwest | 19.47 | 18.72 | 17.74 |
| South | 43.29 | 45.94 | 46.67 |
| West | 18.95 | 18.46 | 18.93 |
| Age | | | |
| Less than 70 | 49.39 | 54.84 | 56.41 |
| Between 70 and 80 | 34.48 | 31.35 | 29.91 |
| More than 80 | 16.13 | 13.82 | 13.69 |
| Employment Status | | | |
| Employed | 13.69 | 13.62 | 9.12 |
| Unemployed | 2.02 | 2.44 | 3.06 |
| Retired | 60.61 | 55.26 | 52.34 |
| Disabled | 23.68 | 28.68 | 35.48 |
| Food Stamp Recipient | 16.90 | 21.38 | 27.36 |
| Grandchild or Parent Present | | | |
| No Grandchild and Parent Present | 92.22 | 90.99 | 92.45 |
| Grandchild and Parent Present | 4.35 | 4.58 | 4.58 |
| Grandchild Present | 3.43 | 4.43 | 2.98 |
| Female | 61.28 | 59.69 | 58.88 |
| Living Alone | 35.29 | 36.33 | 43.97 |
| Education | | | |
| Less than High School | 48.69 | 51.76 | 51.99 |
| High School only | 31.56 | 29.42 | 27.85 |
| Some College | 13.92 | 13.98 | 14.99 |
| College Degree more | 5.83 | 4.84 | 5.17 |

**Table 4.** Rates of Food Insecurity among Seniors by Various Characteristics

| | Marginally Food Insecure | Food Insecure | Very Low Food Secure |
|---|---|---|---|
| Full Sample | 11.40 | 5.60 | 1.70 |
| Year | | | |
| 2001 | 11.02 | 5.22 | 1.35 |
| 2002 | 10.95 | 5.80 | 1.77 |
| 2003 | 10.96 | 5.62 | 1.61 |
| 2004 | 12.46 | 5.75 | 1 88 |
| 2005 | 11.56 | 5.56 | 1.87 |
| Income Categories | | | |
| Below 50% of the Poverty Line | 43.35 | 27.03 | 10.79 |
| Between 50% and 100% of the Poverty Line | 37.90 | 20.82 | 7.58 |
| Between 100% and 200% of the Poverty Line | 19.93 | 8.91 | 2.42 |
| Above 200% of the Poverty Line | 3.90 | 1.57 | 0.35 |
| Missing Income | 7.42 | 3 77 | 0.99 |
| Racial Categories | | | |
| White | 9.52 | 4.34 | 1.29 |
| African American | 27.72 | 16.83 | 5.46 |
| Other | 15.55 | 7.69 | 2.14 |
| Hispanic Status | | | |
| Hispanic | 24.35 | 12.98 | 3.05 |
| Non-Hispanic | 10.51 | 5.10 | 1.61 |
| Marital Status | | | |
| Married | 8.20 | 3.70 | 0.93 |
| Widowed | 14.53 | 7.17 | 2.21 |
| Divorced or Separated | 18.89 | 10.72 | 4.00 |
| Never Married | 27.41 | 15 99 | 7.13 |
| Homeownership Status | | | |
| Homeowner | 8.90 | 4.00 | 1.03 |
| Renter | 25.54 | 14.59 | 5.45 |
| Metropolitan Location | | | |
| Non-Metro | 12.55 | 6.19 | 1.80 |
| Metro | 11.06 | 5.43 | 1.67 |
| Region | | | |
| Northeast | 10.16 | 4.61 | 1.38 |
| Midwest | 9.54 | 4.51 | 1.30 |
| South | 13.39 | 7.00 | 2.15 |
| West | 11.16 | 5.33 | 1.66 |
| Age | | | |
| Less than 70 | 11.98 | 6.53 | 2.04 |
| Between 70 and 80 | 11.51 | 5.14 | 1.49 |
| More than 80 | 9.80 | 4.11 | 1.24 |
| Employment Status | | | |
| Employed | 6.99 | 3.41 | 0.70 |
| Unemployed | 25.16 | 14.89 | 5.67 |
| Retired | 10.14 | 4.54 | 1.31 |
| Disabled | 31.41 | 18.68 | 7.02 |
| Food Stamp | | | |
| Recipient | 62.68 | 38 94 | 15.12 |
| Non Recipient | 9.78 | 4 54 | 1.52 |
| Grandchild or Parent Present | | | |
| No Grandchild and Parent Present | 10 61 | 5.11 | 1.59 |
| Grandchild and Parent Present | 20.03 | 10.29 | 3.14 |
| Grandchild Present | 30.34 | 19.13 | 3.93 |
| Gender | | | |
| Female | 12.46 | 5.96 | 1.79 |
| Male | 10.00 | 5.13 | 1.59 |
| Living Arrangement | | | |
| Living Alone | 14.69 | 7.43 | 2.72 |
| Not Living Alone | 10.16 | 4.91 | 1.31 |
| Education | | | |
| Less than High School | 22.89 | 11.95 | 3.64 |
| High School only | 10.12 | 4.63 | 1.33 |
| Some College | 7.69 | 3.80 | 1.23 |
| College Degree more | 3.40 | 1.39 | 0.45 |

American households is food insecure, and over one in five are food insecure or very low food secure. Likewise, about one in eight Hispanic households (the head may be of any race) is food insecure compared with about 5 percent of non-Hispanic households. Those dwelling in metro areas are about as likely to be food insecure as those in non-metropolitan areas suggesting there is neither an urban nor rural bias toward food insecurity.

Greater food security is also associated with homeownership, which may be considered an additional measure of economic security. Only 4 percent of homeowners are food insecure compared with 14.6 percent of renters, and only one in one-hundred homeowners suffer from hunger compared to one in twenty renters. Food stamp receipt is only available for those with low incomes and assets, and those who receive food stamps are far more likely to be food insecure than those not receiving food stamps.[5] Family status also presents some marked contrasts. Married heads fare best in terms of food security and never-married heads worst; those widowed are somewhat better off than those who are divorced or separated. Extended or multigenerational households may form among the poor as a way to adapt to economic setbacks or increase household resources (Angel and Tienda, 1982; Crimmins and Ingegneri, 1990; Hofferth, 1984). However, these households are at much greater risk of food insecurity as about one in ten senior households with at least one grandchild and child present and one in five senior households with a grandchild but no child present are food insecure compared to about one in twenty households without a grandchild present. At the same time, those living alone are twice as likely to experience very low food security compared to those living with other household members (the latter includes married couples). Education, like income, appears to be protective of food security as a high school drop-out is three times more likely to be at-risk or to experience hunger than a high school graduate.

Seniors living in non-metropolitan areas are as likely to experience food insecurity as those living in metropolitan areas.

### II. C. Links between Poverty and Food Insecurity among Senior Households

We now examine in greater detail the prevalence of food insecurity along a variety of dimensions including income level, race and ethnicity, and family structure. We begin by examining trends in food insecurity by poverty status in Figure 2 (page 11). Figure 2 clearly demonstrates that families living in

5. Even among those who are eligible for food stamps, the proportion of food insecure households among recipients is higher than among non-recipients. This is due to factors such as adverse selection (Gundersen and Oliveira, 2001) and misreports of food stamp receipt (Gundersen and Kreider, 2008).

poverty are three times as likely to be marginally food insecure relative to the average household over age 60 (shown in Figure 1), and at least two times as likely to be food insecure or very low food secure. There is no evidence, however, of any change in food insecurity trends among poor seniors in the first half of the decade.

An alternative representation of food insecurity by poverty status is found in Figures 3–6 (page 12-14). The pie charts present the distribution of food insecurity for elderly households using the mutually exclusive categories defined in Table 1. Those households facing the most extreme poverty (incomes below 50% of the poverty line) experience the highest rates of hunger; 10 percent are characterized as very low food secure, compared with 7 percent of households with incomes between 50-100% of the poverty line, and 2.3 percent of households between 100-200% of the poverty line. The majority of those above 200% of the poverty line are fully food secure.

Appendix Tables 2, 3 and 4 provide further detail on differences for the pooled sample of senior households by level of poverty. From these tables we see among households living in poverty that characteristics associated with greater food security are white, non-Hispanic or widowed heads, the employed or retired, homeowners, and those living in non-metropolitan areas. In addition, living without a grandchild, and getting by without food stamps are equated with greater food security. Perhaps surprising, living alone or being a woman is associated with greater food security, but only if household income is less than 200 percent of poverty. Although 12.8 percent of poor elderly heads over 80 years of age are food insecure

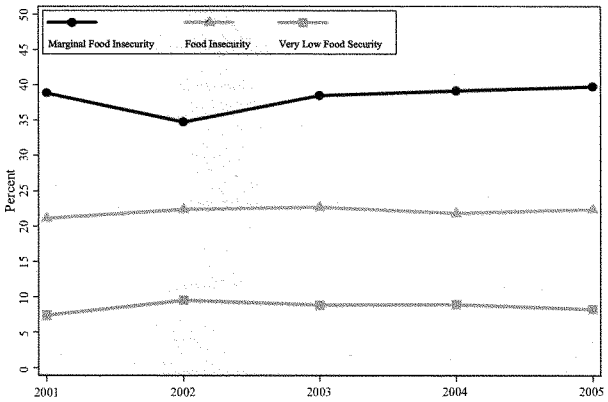



Figure 2. Food Insecurity Rates for Seniors with Incomes Below Poverty Line, 2001-2005

(Appendix Table 2), the prevalence of food insecurity rises to 19.8 percent among those households with heads between 70-80 years old, jumping to 29 percent among those age 60-70. In the regression models below we find robust evidence that the risk of food insecurity is greatest for the youngest seniors. We find similar patterns in Appendix Tables 3 and 4, where food security across all characteristics increases with income. The sharp decline in food insecurity as income increases is justification for treating households discretely by income in our models estimating the probability of food insecurity, presented Section III.

### II. D. Links between Race, Ethnicity and Food Insecurity among Senior Households

In Figures 7–8 (page 15) we present trends in food insecurity rates for households headed by an African-American or person of Hispanic ethnicity. Of note is African-American households are two to two-and-a-half times as likely to be in one of the three categories as the typical senior household in Figure 1, and Hispanics have similar negative odds of food security except for very low food security. Interestingly, Hispanics are the only group to demonstrate a secular decline in food insecurity in the first half of the 2000s. This is consistent with the general improvement in the economic status of Hispanics, which were the only demographic group to document lower rates of poverty in the recent poverty report by the

Figure 3: Distribution of Food Insecurity
Income Less than 50 Percent of the Poverty Line

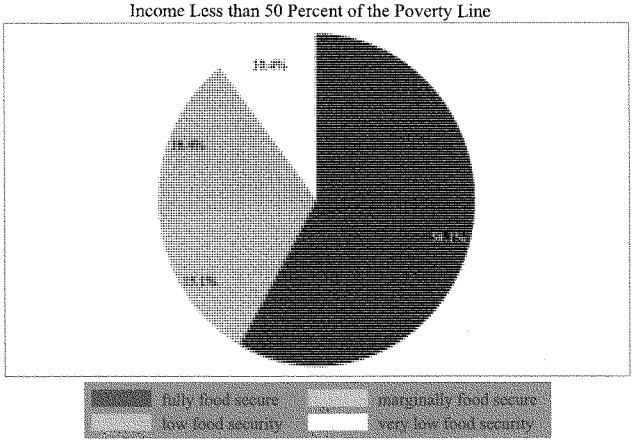


Figure 4: Distribution of Food Insecurity
Income Between 50 and 100 Percent of the Poverty Line

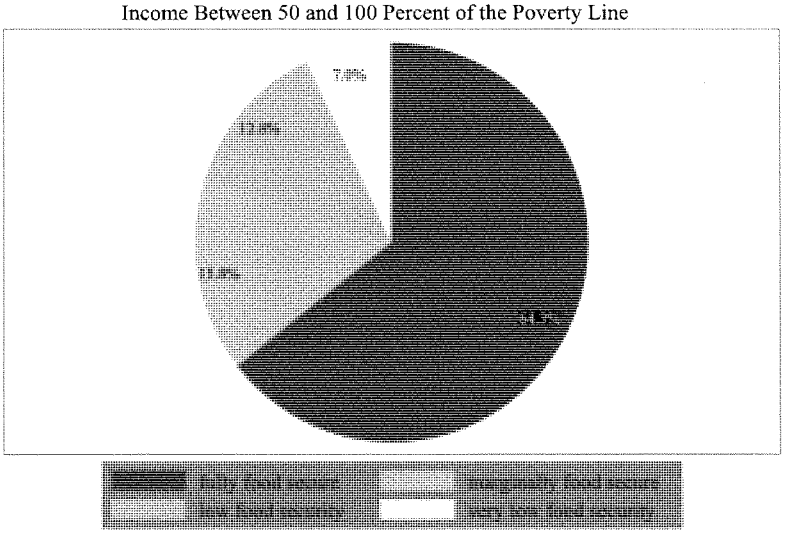


Figure 5: Distribution of Food Insecurity
Income Between 100 and 200 Percent of the Poverty Line

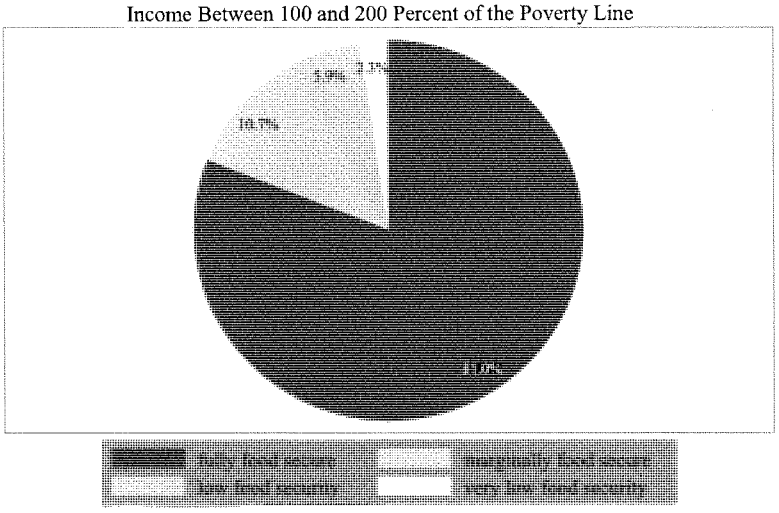
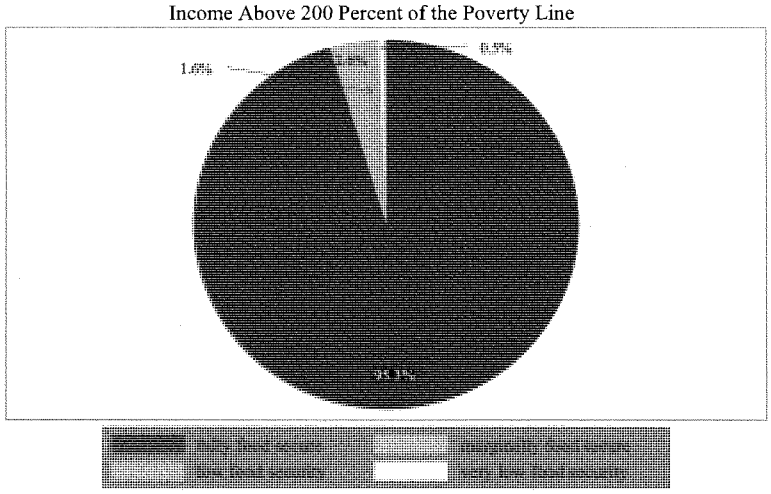


Figure 6: Distribution of Food Insecurity
Income Above 200 Percent of the Poverty Line




U.S. Census Bureau.[6]

The severity of poverty is important among both African Americans and Hispanics, though especially so for African Americans. Appendix Table 5 shows that very poor African American households (those living below 50% of the poverty line) experience high rates of food insecurity (more than one in two African American households are food insecure compared to 20 percent of Hispanics), although the sample size for this subgroup is small and the prevalence value must be interpreted with caution. On the other hand, African American households above 200% of the poverty line are much less likely to experience food insecurity or hunger; the prevalence is approximately 4 percent and 1 percent, respectively. The comparable values for Hispanics (see Appendix Table 6) are 4 percent for food insecurity and close to one percent for very low food secure, suggesting that the greatest divides across race and ethnicity are amongst the very poor. Similar to the full sample in Table 1, Appendix Tables 5 and 6 show that both African Americans and Hispanics are more likely to be food secure if they are married; the prevalence of food insecurity is similar among those who are widowed or divorced, and is highest among those who are never married or who are living alone.

6. http://www.census.gov/prod/2007pubs/p60-233.pdf

### II. E. Links between Food Stamp Receipt and Food Insecurity among Senior Households

Although the majority of food insecure households were not receiving food stamps during the survey year, among seniors receiving food stamps Appendix Table 7 shows that almost four in ten (38.9 percent) are food insecure. Figure 9 (page 16) demonstrates graphically that this level of insecurity has remained relatively constant over the five years studied. Nearly 16 percent of senior households receiving food stamps experience very low food security—a rate that is twice as large as that for the population of seniors living in poverty (see Table 2).

The greatest divides for food insecurity across race and ethnicity are among the very poor.

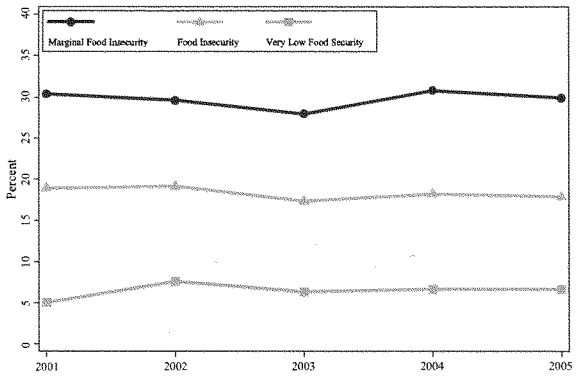



Figure 7. Food Insecurity Rates for Black Seniors, 2001-2005

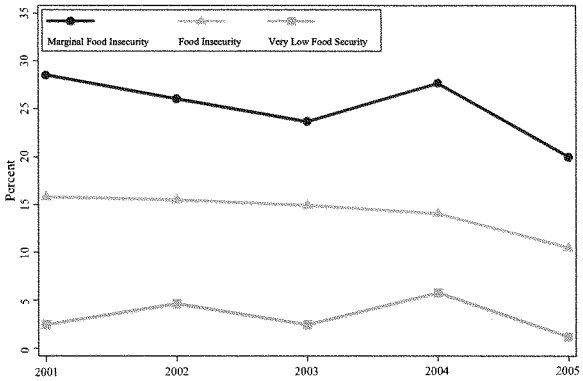



Figure 8. Food Insecurity Rates for Hispanic Seniors, 2001-2005

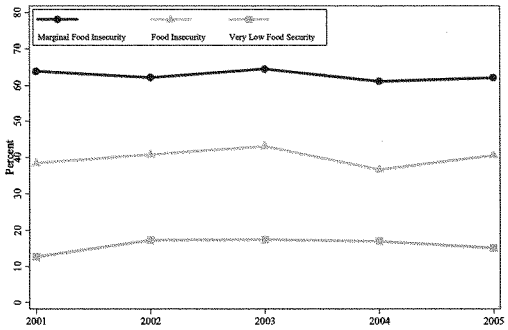



Figure 9. Food Insecurity Rates for Seniors Receiving Food Stamps, 2001-2005

Those living with a grandchild appear similar to food stamp recipients and those in poverty insofar as they experience higher rates of food insecurity than the full sample, regardless of the characteristic considered.

### II. F. Links between Family Structure and Food Insecurity among Senior Households

In our examination of food insecurity rates among CPS respondents we highlight both marital status (Appendix Table 8) and the presence of a grandchild (Appendix Tables 9 and 10 and Figures 10 and 11, page 17). Appendix Tables 9 and 10 demonstrate that the severity of food insecurity is much greater among those living with a grandchild, especially in cases where only grandchildren (but no parent or parents) are present. For example, among all married couples in Table 4 about 3.7 percent are food insecure; this figure jumps to 12 percent when a grandchild is present (Appendix Table 9). Those living with a grandchild appear similar to food stamp recipients and those in poverty insofar as they experience higher rates of food insecurity than the full sample, regardless of the characteristic considered.

### II. G. Links between Geographic Location and Food Insecurity among Senior Households

The percentage of senior households experiencing food insecurity varies widely across states. The maps in Figures 12–14 (page 18) displaying food insecurity across each category (marginal food insecurity, food insecurity, and very low food security) reveal that with few exceptions, senior households in the South experience the highest rates of food insecurity. Regardless of the severity of food insecurity, Mississippi, South Carolina and Arkansas always rank among the three states experiencing the greatest prevalence of food insecurity. The states with the lowest prevalence of food insecurity among the three

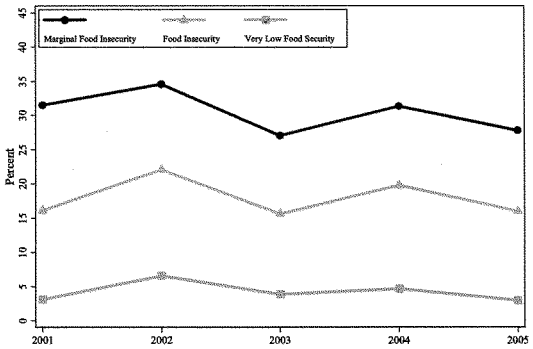



Figure 10 Food Insecurity Rates for Seniors with Grandchildren Present, 2001-2005

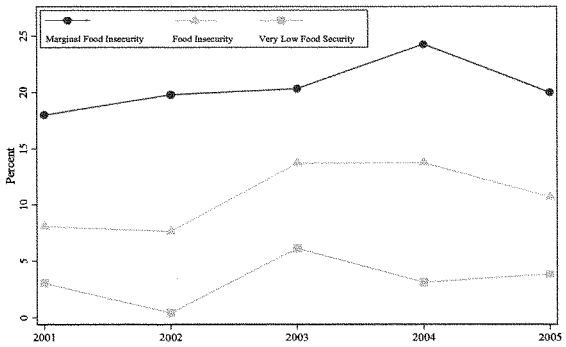



Figure 11· Food Insecurity Rates for Seniors with Grandchildren and Parents, 2001-2005

measures include the Plains states of Colorado, Nebraska, the Dakotas, and Minnesota, and the Eastern seaboard states of New Hampshire, Connecticut, Delaware and Virginia. Fewer than one percent of Louisiana's elderly household experience very low food security, positioning the state second only to South Dakota on the most extreme measure of food insecurity, yet Louisiana ranks fifth "worst" overall when considering households that experience marginal food insecurity.[7]

As shown in Table 3 about three quarters of non-food secure senior households are located in metropolitan areas. Examining the entire sample of senior households in Table 4, food security does not

7. For more on the relationship between food insecurity and state level characteristics and policies, see Bartfeld and Dunifon, 2006.

Figure 12: State Marginal Food Insecurity Rates for Seniors, 2001-2005

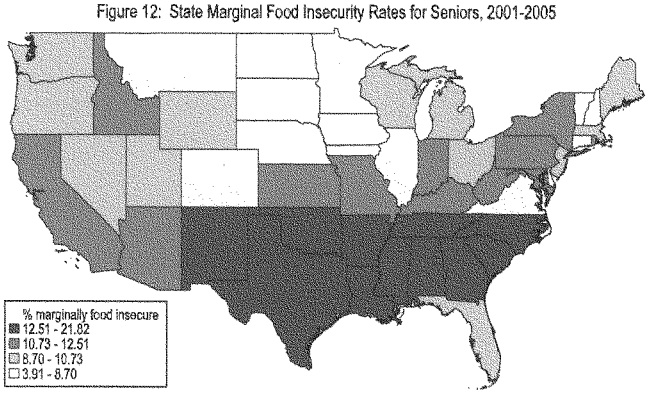



Figure 13: State Food Insecurity Rates for Seniors, 2001-2005

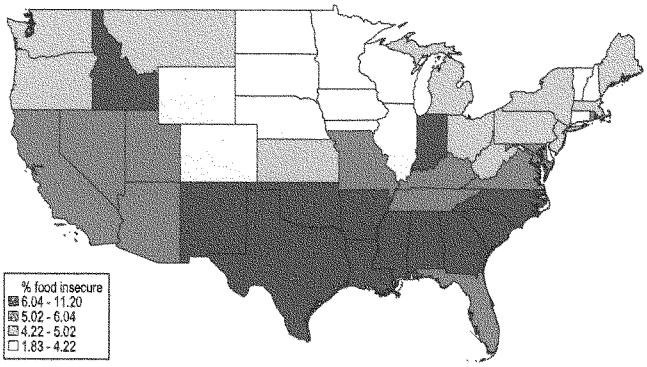
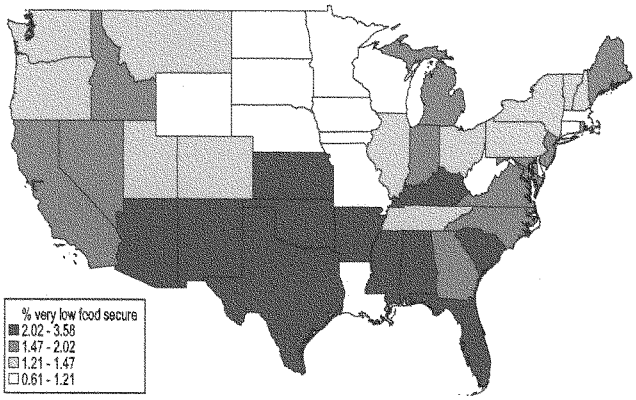



Figure 14: State Very Low Food Security Rates for Seniors, 2001-2005



appear to differ substantially across metropolitan and non-metropolitan households (with rates slightly higher among non-metropolitan households, with the possible exception of poor, marginally food insecure in Appendix Table 2). While Figures 12–14 indicate significant cross-state differences in food security, it appears that these differences affect metro and non-metro areas alike, suggesting that our multiple regression models below should control for permanent cross-state differences in food security status.

### III. The Determinants of Senior Hunger

The summary statistics in Section II paint a portrait of food insecurity across a number of economic and demographic characteristics of senior households. In this section we take a step further by presenting results from food insecurity models for the full sample of elderly households simultaneously controlling for income, family structure, race, age, geography and other characteristics discussed here. The models help us determine which factors are associated with food insecurity, such as the effect of age on the probability of food insecurity holding income, race, and other factors constant, and thus we are able to estimate the probability that households with specific demographic profiles are food insecure. We use standard social science methods for models where the dependent variable takes only one of two values — 0 or 1 — by employing probit maximum likelihood. Formally, we estimate the following probit maximum likelihood model:

$$FS_{ij} = d_j + X_i p_j + v_{ij} \ , \qquad (1)$$

where

$FS_{ij}$ takes on a value of 1 if elder $i$ suffers from food insecurity $j$,

*j=marginally food insecure, food insecure, or very low food secure;*

$X_i$ is a vector of household demographic and economic factors;

$d_j, p_j$ are unknown parameters to estimate;

$v_{ij}$ is an error term.

In Table 5 (page 20) we present results from six separate variants of equation (1), three with controls for permanent state differences in columns (1)-(3) (i.e. an indicator variable for each of the 48 lower states) and three models without these so-called state fixed effects in columns (4)-(6). We focus our discussion on models with state fixed effects included. In interpreting the results it is important to recall how the dependent variables are constructed. Marginally food insecure takes a value of 1 if the household

**Table 5.** Estimated Marginal Effects for Food Insecurity Rates by Categories for Seniors

| | Marginally Food Insecure | Food Insecure | Very Low Food Secure | Marginally Food Insecure | Food Insecure | Very Low Food Secure |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| African American | 0.070*** | 0.042*** | 0.008*** | 0.069*** | 0.038*** | 0.007*** |
| | (0.006) | (0.004) | (0.002) | (0.006) | (0.004) | (0.001) |
| Other Race | 0.033*** | 0.016*** | 0.004** | 0.033*** | 0.015*** | 0.004** |
| | (0.008) | (0.005) | (0.002) | (0.008) | (0.005) | (0.002) |
| Hispanic | 0.028*** | 0.014*** | -0.001 | 0.031*** | 0.014*** | -0.000 |
| | (0.006) | (0.004) | (0.001) | (0.006) | (0.004) | (0.001) |
| High school | -0.030*** | -0.012*** | -0.003*** | -0.031*** | -0.012*** | -0.003*** |
| | (0.003) | (0.001) | (0.001) | (0.003) | (0.002) | (0.001) |
| Some College | -0.037*** | -0.013*** | -0.003*** | -0.037*** | -0.013*** | -0.002*** |
| | (0.003) | (0.002) | (0.001) | (0.003) | (0.002) | (0.001) |
| College | -0.059*** | -0.024*** | -0.005*** | -0.059*** | -0.025*** | -0.005*** |
| | (0.003) | (0.002) | (0.001) | (0.003) | (0.002) | (0.001) |
| Married | -0.027*** | -0.013*** | -0.004** | -0.027*** | -0.013*** | -0.004** |
| | (0.006) | (0.004) | (0.001) | (0.006) | (0.004) | (0.002) |
| Widowed | 0.006 | 0.004 | 0.001 | 0.006 | 0.005 | 0.002 |
| | (0.006) | (0.003) | (0.001) | (0.006) | (0.003) | (0.001) |
| Divorced | 0.021*** | 0.012*** | 0.003* | 0.023*** | 0.013*** | 0.004** |
| | (0.007) | (0.004) | (0.002) | (0.007) | (0.004) | (0.002) |
| Age 65-69 | -0.009*** | -0.004** | -0.002** | -0.010*** | -0.004** | -0.002** |
| | (0.003) | (0.002) | (0.001) | (0.003) | (0.002) | (0.001) |
| Age 70-74 | -0.010*** | -0.009*** | -0.003*** | -0.010*** | -0.010*** | -0.003*** |
| | (0.003) | (0.002) | (0.001) | (0.003) | (0.002) | (0.001) |
| Age 75-79 | -0.020*** | -0.013*** | -0.004*** | -0.021*** | -0.014*** | -0.004*** |
| | (0.003) | (0.002) | (0.001) | (0.003) | (0.002) | (0.001) |
| Age 80 | -0.040*** | -0.021*** | -0.005*** | -0.040*** | -0.021*** | -0.006*** |
| | (0.003) | (0.002) | (0.001) | (0.003) | (0.002) | (0.001) |
| 50-100% Poverty | -0.007 | -0.006** | -0.002** | -0.009 | -0.007** | -0.002** |
| | (0.006) | (0.003) | (0.001) | (0.006) | (0.003) | (0.001) |
| 100-200% Poverty | -0.040*** | -0.021*** | -0.005*** | -0.042*** | -0.022*** | -0.006*** |
| | (0.005) | (0.002) | (0.001) | (0.005) | (0.002) | (0.001) |
| >200% Poverty | -0.149*** | -0.069*** | -0.019*** | -0.152*** | -0.071*** | -0.020*** |
| | (0.007) | (0.004) | (0.002) | (0.007) | (0.004) | (0.002) |
| Missing Income | -0.085*** | -0.035*** | -0.008*** | -0.087*** | -0.036*** | -0.008*** |
| | (0.003) | (0.002) | (0.001) | (0.003) | (0.002) | (0.001) |
| Homeowner | -0.048*** | -0.028*** | -0.009*** | -0.046*** | -0.026*** | -0.009*** |
| | (0.004) | (0.003) | (0.001) | (0.004) | (0.003) | (0.001) |
| Non-metropolitan | 0.002 | 0.000 | -0.000 | 0.001 | 0.001 | -0.000 |
| | (0.003) | (0.002) | (0.001) | (0.003) | (0.002) | (0.001) |
| Employed | -0.055*** | -0.024*** | -0.007*** | -0.055*** | -0.024*** | -0.007*** |
| | (0.003) | (0.002) | (0.001) | (0.003) | (0.002) | (0.001) |
| Retired | -0.066*** | -0.031*** | -0.009*** | -0.067*** | -0.032*** | -0.009*** |
| | (0.004) | (0.003) | (0.001) | (0.004) | (0.003) | (0.001) |
| Grandchild | 0.062*** | 0.029*** | 0.002** | 0.063*** | 0.029*** | 0.002 |
| | (0.007) | (0.005) | (0.001) | (0.008) | (0.005) | (0.002) |
| Lives Alone | -0.018*** | -0.008*** | -0.000 | -0.018*** | -0.008*** | -0.000 |
| | (0.003) | (0.002) | (0.001) | (0.003) | (0.002) | (0.001) |
| Female | -0.003 | -0.004*** | -0.001** | -0.003 | -0.004*** | -0.001** |
| | (0.002) | (0.001) | (0.001) | (0.002) | (0.001) | (0.001) |
| South | 0.013 | -0.003 | 0.002 | 0.008*** | 0.004* | 0.002** |
| | (0.013) | (0.007) | (0.003) | (0.003) | (0.002) | (0.001) |
| West | 0.026 | 0.015 | 0.006 | 0.012*** | 0.005** | 0.002* |
| | (0.016) | (0.010) | (0.006) | (0.004) | (0.002) | (0.001) |
| Northeast | -0.014 | -0.010 | 0.002 | 0.001 | -0.003* | -0.000 |
| | (0.011) | (0.006) | (0.004) | (0.003) | (0.002) | (0.001) |

Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. N=50,330. State and year fixed effects are included in columns (1) through (3) and year fixed effects are included in columns (4) through (6).

answers affirmatively to one or more questions on the CFSM, and a value of 0 if the household is fully food secure. Food insecure takes a value of 1 if the household answers affirmatively to three or more questions, and a value of 0 if they answer yes on two or less. Very low food secure takes a value of 1 if the households answers affirmatively to six or more questions, and a value of 0 if they answer yes to five or fewer (respectively, eight and seven if there is a child present). This means that the reference groups in food insecure and very low food secure contain households that may or may not have a less severe form of food insecurity. To facilitate interpretation we present marginal effects rather than the direct coefficients on variables, meaning that the values reported in the ensuing tables refer to the effect of a one-unit change in the variable on the probability of being marginally food insecure, food insecure, and very low food secure, respectively. The variables in the models are all indicator variables and thus each grouping of characteristics has a reference category. That is, we omit white from the racial characteristics implying that the African-American and other race variables are interpreted relative to a white household. For the remaining groups the reference categories are high school dropouts, never-married household heads, heads age 60–64, households with income less than 50% of poverty, renters, residents of MSAs, the disabled and unemployed, households with no grandchild present, households with other members, male householders, and residents of the Midwest.

Among households experiencing any level of food insecurity in Table 5 (model 1), African American racial status increases the likelihood of food insecurity by 7.0 percentage points compared with white households; among other races the increase is 3.3 percentage points higher. The difference between non-Hispanic and Hispanic-headed households is 2.8 percentage points. Examining households experiencing very low food security (model 3), non-white racial status continues to be associated with a higher probability of food insecurity.[8] In this model ethnicity as measured by Hispanic status is no longer statistically significant; there is no evidence that hunger differs among Hispanics and non-Hispanics when we control for other household characteristics.

The probability of being food insecure or hungry significantly decreases as education increases; a high school graduate is 1.2 percentage points less likely to be food insecure compared to a high school dropout, which translates into about 20 percent lower odds of being food insecure from the baseline probability of 5.6 percent. This finding highlights the superiority of multiple regression over simple averages

8. We note that since the prevalence of food security is not the same across each of the categories, the coefficients are not directly comparable within columns (1) through (3) or within columns (4) through (6).

such as those reported in Table 4 which suggest that high school dropouts are 2-3 times more likely than high school graduates to be at-risk of hunger. The regression results in Table 5 show that after controlling for other intervening factors education is indeed an important protective factor of food security but at a much reduced level than the averages might intimate. Table 5 also shows that married seniors across all levels of food security are less likely to be food insecure than never-married seniors, and our analysis demonstrates that being divorced increases the probability of being marginally food insecure or low food insecure by a percentage point over being never married. The size of the marginal effects on married persons suggest that marriage offers protection against food insecurity on a scale comparable to a high school diploma, i.e. about a 20 percent reduced probability of being at risk of hunger.

The size of the marginal effects on married persons suggest that marriage offers protection against food insecurity on a scale comparable to a high school diploma, i.e. about a 20% reduced probability of being at risk of hunger.

Approximately 25 percent of the sample consists of households headed by persons 60-64 years old, and these households are more likely to experience any level of food insecurity than older seniors. For example, 65-69 year olds are 0.4 percentage points less likely to be food insecure, 70-74 year olds are 0.9 percentage points less likely, 75-79 year olds are 1.3 percentage points less likely, and seniors age 80 and older are 2.1 percentage points less likely to be food insecure compared to 60-64 year olds. That is, an 84 year old is over one-third less likely to be at-risk of hunger than a 64 year old on the baseline food insecurity rate of 5.6 percent. Conventional wisdom, and some community-level studies (Quandt, et al. 2001; Schoenberg 2000), suggests that food insecurity may increase with age. To our knowledge our study is the first to document the age gradient of food insecurity among seniors in a nationally representative sample.

An 84-year-old is over one-third less likely to be at-risk of hunger than a 64 year old on the baseline food insecurity rate of 5.6%.

At this juncture we do not fully understand the reasons for the declining age gradient, and believe it should be a research priority going forward, but there are a few factors that are consistent with our results. One possibility is that elderly nutrition programs such as Meals On Wheels have historically focused resources on the oldest old, and the programs have been effective in alleviating food insecurity and hunger among this older age cohort. Another possibility, as suggested by Schoenberg (2000), is that seniors have developed time-tested strategies to meet basic needs and thus are less likely to state that they are hungry.

There is also the possibility that emotional and physiological factors are at play in that seniors tend to suffer higher rates of depression; they often lack social interaction (especially relevant during the socially active time of eating); they suffer from declining sensory perception leading to the loss of enjoyment of food; and they have reduced physical and mental activity that lessens the need for caloric intake.[9] While the pathways are potentially many and varied, our results highlight a sizable population facing an unmet food need that is likely to grow significantly with the 'Baby Boom' generation entering their sixties.

Turning to other results in Table 5, we are unable to determine income for about one-quarter of the sample. We include these households in a separate category, and find that the effect size of income for this group falls between the values for those living between 100-200 percent of the poverty line and those living above 200 percent of the poverty line. When compared with households living below 50 percent of the poverty line (the reference category), seniors with higher incomes always have lower probabilities of being food insecure, with one exception. In columns (1) and (4), households living between 50 and 100 percent of the poverty line are not less likely to be marginally food insecure than those living below 50 percent of the poverty line. Households above 200 percent of the poverty line have nearly a 15 percentage point lower probability of being marginally food insecure than those living below 50 percent of the poverty line, a 7 percentage point lower probability of being food insecure, and a 2 percentage point lower probability of being very low food secure. As we would expect, the predicted probabilities that depict the relationship between income and food security for those living between 100-200 percent of the poverty line fall in between the values in the models for those living below the poverty line and those above 200 percent of the poverty line.

Home ownership is associated with a 5 percentage point lower probability of being marginally food insecure, and a 1 percentage point lower probability of being very low food secure. Metropolitan status does not affect food security once other household characteristics are taken into account. Employed and retired household heads are less likely to be food insecure than unemployed or disabled heads (the omitted groups); the effect is somewhat greater for those who are retired. Those living with a grandchild (with or without the child's parent present) are about 6 percentage points (or 50%) more likely to be marginally food insecure than those who do not, but looking at model 3, we see the probabilities are the same (the effect is no longer significant) when we examine only households that are very low food secure. Living

9. We are grateful to Nancy Schoenberg for suggesting these possible pathways underlying the declining age gradient.

alone is protective of being food insecure, but these individuals are no more or less likely to be hungry relative to persons living with other family or non-family members. Women, however, are less likely to be very low food secure, but the magnitude is negligible. Finally, there are no substantive differences in food security across broad regions of the country once we control for state-specific differences (those in the South and West households have higher probabilities of being food insecure without these controls). This suggests that permanent state policy or geographic barriers (such as difficulty getting to a store or limited availability of elderly nutrition services) in Southern and Western states may contribute to the greater probability of food insecurity among households in these regions.

There are no substantive differences in food security across broad regions of the country once we control for state-specific differences (those in the South and West households have higher probabilities of being food insecure without these controls). This suggests that permanent state policy or geographic barriers (such as difficulty getting to a store or limited availability of elderly nutrition services) in Southern and Western states may contribute to the greater probability of food insecurity among households in these regions.

### III. A. Differences in Food Insecurity by Poverty Status

We now turn to our results broken down by poverty status, where we replicate the models from columns (1) through (3) in Table 5 for those below the poverty line (Table 6), those between the line and twice the line (Table 7) and those whose incomes exceed two times the poverty line (Table 8).

As seen in Table 6 (page 25), among those living in poverty, being African American represents a 13 percentage point increase in the probability of being food insecure, a rate that is more than 50 percent higher than for a poor white household. Although poor persons of Hispanic descent are more likely to be marginally food insecure, they are also 2.5 percentage points less likely to be very low food secure. Even among the poor, the likelihood of experiencing food insecurity decreases with education – there is a nearly 10 percentage point difference between those who have completed college and those who have less than a high school education in the probability of being food insecure. Married persons are less likely suffer from hunger, while divorced persons are about 5 percentage points more likely to be food insecure. Controlling for other factors, shown in model 2 the percentage point difference between those who are over 80 and those aged 60-64 is 12 (poor, older seniors are 50 percent less likely to be food insecure than poor, younger seniors). Home ownership, being employed or retired, living without a grandchild, living alone, and living in the Northeast or South decrease the likelihood of a poor person being food insecure (but the

**Table 6.** Estimated Marginal Effects for Food Insecurity Rates for Seniors below 100% of the Poverty Line

| | Marginally Food Insecure | Food Insecure | Very Low Food Secure |
|---|---|---|---|
| | (1) | (2) | (3) |
| African American | 0.151*** | 0.133*** | 0.035*** |
| | (0.021) | (0.019) | (0.011) |
| Other Race | -0.004 | -0.005 | -0.009 |
| | (0.035) | (0.028) | (0.014) |
| Hispanic | 0.051* | 0.017 | -0.025*** |
| | (0.027) | (0.021) | (0.008) |
| High School | -0.076*** | -0.050*** | -0.019*** |
| | (0.016) | (0.012) | (0.007) |
| Some College | -0.071*** | -0.032* | -0.006 |
| | (0.022) | (0.017) | (0.010) |
| College | -0.150*** | -0.099*** | -0.029*** |
| | (0.028) | (0.019) | (0.010) |
| Married | -0.043 | -0.038 | -0.026** |
| | (0.031) | (0.024) | (0.012) |
| Widowed | 0.031 | 0.019 | -0.005 |
| | (0.029) | (0.023) | (0.012) |
| Divorced | 0.098*** | 0.054** | 0.022 |
| | (0.031) | (0.026) | (0.015) |
| Age 65-69 | -0.030 | -0.015 | -0.013* |
| | (0.022) | (0.016) | (0.008) |
| Age 70-74 | -0.036 | -0.040** | -0.012 |
| | (0.023) | (0.017) | (0.009) |
| Age 75-79 | -0.097*** | -0.075*** | -0.028*** |
| | (0.023) | (0.016) | (0.008) |
| Age 80 | -0.171*** | -0.124*** | -0.043*** |
| | (0.021) | (0.015) | (0.008) |
| Homeowner | -0.103*** | -0.086*** | -0.046*** |
| | (0.016) | (0.013) | (0.008) |
| Non-metropolitan | -0.013 | 0.001 | 0.009 |
| | (0.017) | (0.014) | (0.008) |
| Employed | -0.195*** | -0.115*** | -0.039*** |
| | (0.021) | (0.014) | (0.007) |
| Retired | -0.158*** | -0.108*** | -0.045*** |
| | (0.019) | (0.015) | (0.009) |
| Grandchild | 0.095*** | 0.069*** | 0.006 |
| | (0.030) | (0.025) | (0.013) |
| Lives Alone | -0.085*** | -0.048*** | -0.012 |
| | (0.020) | (0.016) | (0.009) |
| Female | -0.027* | -0.020 | -0.015** |
| | (0.016) | (0.013) | (0.007) |
| South | -0.233*** | -0.231*** | -0.005 |
| | (0.090) | (0.073) | (0.038) |
| West | 0.022 | 0.021 | -0.005 |
| | (0.114) | (0.090) | (0.040) |
| Northeast | -0.161** | -0.205*** | -0.043 |
| | (0.078) | (0.046) | (0.029) |

Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. N=5,221. State and year fixed effects are included.

**Table 7.** Estimated Marginal Effects for Food Insecurity Rates for Seniors between 100% and 200% of the Poverty Line

| | Marginally Food Insecure | Food Insecure | Very Low Food Secure |
|---|---|---|---|
| | (1) | (2) | (3) |
| African American | 0.102*** | 0.075*** | 0.018*** |
| | (0.017) | (0.013) | (0.006) |
| Other Race | 0.055** | 0.046*** | 0.013 |
| | (0.025) | (0.018) | (0.009) |
| Hispanic | 0.013 | 0.017 | -0.008*** |
| | (0.017) | (0.012) | (0.003) |
| Highschool | -0.062*** | -0.019*** | -0.007*** |
| | (0.009) | (0.005) | (0.003) |
| Some College | -0.061*** | -0.020*** | -0.007** |
| | (0.010) | (0.006) | (0.003) |
| College | -0.069*** | -0.016* | -0.010*** |
| | (0.013) | (0.009) | (0.003) |
| Married | -0.031 | 0.003 | 0.001 |
| | (0.020) | (0.013) | (0.006) |
| Widowed | 0.021 | 0.028** | 0.006 |
| | (0.020) | (0.014) | (0.006) |
| Divorced | 0.030 | 0.039** | 0.008 |
| | (0.022) | (0.018) | (0.008) |
| Age 65-69 | -0.018 | -0.012* | -0.001 |
| | (0.012) | (0.007) | (0.003) |
| Age 70-74 | -0.039*** | -0.030*** | -0.008*** |
| | (0.012) | (0.006) | (0.003) |
| Age 75-79 | -0.039*** | -0.032*** | -0.011*** |
| | (0.012) | (0.006) | (0.003) |
| Age 80 | -0.080*** | -0.048*** | -0.013*** |
| | (0.011) | (0.006) | (0.003) |
| Homeowner | -0.081*** | -0.058*** | -0.017*** |
| | (0.011) | (0.008) | (0.004) |
| Non-metropolitan | -0.008 | -0.005 | -0.004 |
| | (0.009) | (0.006) | (0.003) |
| Employed | -0.106*** | -0.049*** | -0.016*** |
| | (0.010) | (0.005) | (0.002) |
| Retired | -0.125*** | -0.065*** | -0.022*** |
| | (0.014) | (0.010) | (0.005) |
| Grandchild | 0.121*** | 0.075*** | 0.011 |
| | (0.021) | (0.015) | (0.007) |
| Lives Alone | -0.035*** | -0.015** | 0.002 |
| | (0.011) | (0.007) | (0.004) |
| Female | -0.007 | -0.011** | -0.004 |
| | (0.008) | (0.005) | (0.003) |
| South | 0.063 | -0.001 | -0.002 |
| | (0.053) | (0.034) | (0.015) |
| West | 0.090 | 0.165*** | 0.008 |
| | (0.056) | (0.060) | (0.019) |
| Northeast | 0.050 | 0.049 | 0.005 |
| | (0.048) | (0.041) | (0.016) |

Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. N=10,390. State and year fixed effects are included.

**Table 8.** Estimated Marginal Effects for Food Insecurity Rates for Seniors above 200% of the Poverty Line

| | Marginally Food Insecure | Food Insecure | Very Low Food Secure |
|---|---|---|---|
| | (1) | (2) | (3) |
| African American | 0.040*** | 0.018*** | 0.004* |
| | (0.007) | (0.005) | (0.002) |
| Other Race | 0.029*** | 0.011** | 0.004 |
| | (0.009) | (0.005) | (0.003) |
| Hispanic | 0.016** | 0.006 | 0.002 |
| | (0.007) | (0.004) | (0.002) |
| High School | -0.015*** | -0.005*** | -0.000 |
| | (0.003) | (0.001) | (0.001) |
| Some College | -0.020*** | -0.007*** | -0.001 |
| | (0.002) | (0.001) | (0.001) |
| College | -0.035*** | -0.014*** | -0.002*** |
| | (0.002) | (0.001) | (0.001) |
| Married | -0.018** | -0.011** | -0.002 |
| | (0.007) | (0.004) | (0.002) |
| Widowed | -0.001 | -0.002 | 0.001 |
| | (0.006) | (0.003) | (0.001) |
| Divorced | 0.004 | -0.000 | 0.000 |
| | (0.007) | (0.003) | (0.001) |
| Age 65-69 | -0.006** | -0.000 | -0.001* |
| | (0.003) | (0.002) | (0.000) |
| Age 70-74 | -0.005* | -0.002 | -0.001 |
| | (0.003) | (0.002) | (0.001) |
| Age 75-79 | -0.009*** | -0.004*** | -0.001*** |
| | (0.003) | (0.002) | (0.000) |
| Age 80 | -0.016*** | -0.006*** | -0.002*** |
| | (0.003) | (0.001) | (0.000) |
| Homeowner | -0.024*** | -0.012*** | -0.003** |
| | (0.005) | (0.003) | (0.001) |
| Non-metropolitan | 0.006** | 0.002 | 0.001 |
| | (0.003) | (0.002) | (0.001) |
| Employed | -0.022*** | -0.008*** | -0.002*** |
| | (0.003) | (0.002) | (0.001) |
| Retired | -0.026*** | -0.012*** | -0.003*** |
| | (0.004) | (0.003) | (0.001) |
| Grandchild | 0.035*** | 0.010** | 0.001 |
| | (0.009) | (0.005) | (0.002) |
| Lives Alone | -0.005 | -0.001 | 0.000 |
| | (0.003) | (0.002) | (0.001) |
| Female | -0.000 | -0.000 | -0.000 |
| | (0.002) | (0.001) | (0.000) |
| South | 0.008 | -0.010 | 0.002 |
| | (0.017) | (0.006) | (0.004) |
| West | 0.033 | 0.006 | 0.002 |
| | (0.021) | (0.008) | (0.004) |
| Northeast | -0.001 | -0.010** | 0.001 |
| | (0.014) | (0.005) | (0.003) |

Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. N=23,968. State and year fixed effects are included.

regional differences are zero for the very low food secure).

Tables 7 (page 26) and 8 (page 27) present similar findings among seniors between 100-200 percent of poverty and above 200 percent of poverty, respectively. The pattern of results are largely similar to those found in Table 6, except that widowers as well as divorced persons among the near poor in Table 7 both have higher odds of being food insecure, and among the non-poor in Table 8 there is no longer a difference in food security rates among those living alone versus with others.

### III. B. Demographic Profiles of Hunger Risk

To understand the influence of key characteristics on food insecurity we look at hypothetical household demographic profiles and predict their probability of being food insecure. Again using data from 2001-2005 from the CPS, in Table 9 (page 29) we construct a "high-risk" group and a "low-risk" group of food insecure, and within each group we isolate the protective role of income. Based on the probit coefficients used in constructing the marginal effects found in Table 5, the high-risk group in Table 9 consists of a Hispanic African-American who is a high school dropout, is divorced, is living with a grandchild, is between the ages of 60 and 64, is renting, is living in the non-metro South, and is disabled or unemployed. This hypothetical household if living below one-half the poverty line is predicted to have a 95 percent chance of being marginally food insecure, an 88 percent chance of being food insecure, and a 47 percent chance of being hungry. These percentages are little changed when we include those with incomes between 50 and 100 percent of poverty, and indeed are quite stable even with incomes between the line and twice the poverty line, though the likelihood of hunger falls by one-fourth. Although few of the households in the CPS are characterized by this exact combination of demographic variables, the idea behind calculating these probabilities is to identify those groups most in need of senior nutrition services.

Significant improvements in the probability of food insecurity with or without hunger are realized for the hypothetical low-risk group of seniors. The low-risk group consists of a white college graduate who is married, not living with a grandchild, is age 80 or older, is a homeowner, who lives in a metro area in the Northeast, and is retired. This hypothetical household is 86 percent less likely to be at-risk of hunger or hungry even if household income is below 50 percent of the poverty line. This highlights the cumulative protective roles of marriage, higher education, age, race, and home ownership. The low-risk group is predicted to have no chance of being food insecure or very low food secure if family incomes exceed

**Table 9.** Predicted Probability of Food Insecurity for High Risk and Low-Risk Seniors (In Percent)

| | Marginally Food Insecure | Food Insecure | Very Low Food Secure |
|---|---|---|---|
| | (1) | (2) | (3) |
| High Risk Groups | | | |
| Below 50% of the Poverty Line | 95 | 88 | 47 |
| Below 100% of the Poverty Line | 94 | 85 | 42 |
| Between 100% and 200% of the Poverty Line | 89 | 77 | 31 |
| Above 200% of the Poverty Line | 69 | 55 | 15 |
| Low Risk Groups | | | |
| Below 50% of the Poverty Line | 13 | 5 | 2 |
| Below 100% of the Poverty Line | 12 | 4 | 1 |
| Between 100% and 200% of the Poverty Line | 7 | 2 | 1 |
| Above 200% of the Poverty Line | 1 | 0 | 0 |

Notes: The predicted probabilities derive from estimates reported in Table 5. The high risk group is defined as someone who is African American, Hispanic, a non-high-school graduate, divorced, living with grandchild, age 60-64, renting, living in the South, living in a nonmetro area, and disabled or unemployed. The low risk group is defined as someone who is white, a college graduate, married, not living with grandchild, age 80 or older, homeowner, living in the Northeast, living in a metro area, and retired. The table includes both men and women and is pooled across 2001-2005.

**Table 10.** Predicted Probability of Being Food Insecure among Households Living Below 100% of the Poverty Line by Different Characteristics (In Percent)

| | |
|---|---|
| African American, Non-Hispanic, High School Graduate, Never Married, Age 60-64, Renting, Employed, No Grandchild, Southern Nonmetro | 36 |
| African American, Non-Hispanic, High School Graduate, Married, Age 60-64, Homeowner, Employed, No Grandchild, Southern Nonmetro | 21 |
| White, Non-Hispanic, High School Graduate, Never Married, Age 60-64, Renting, Employed, No Grandchild, Southern Nonmetro | 22 |
| White, Non-Hispanic, High School Graduate, Married, Age 60-64, Homeowner, Employed, No Grandchild, Southern Nonmetro | 11 |
| African American, Non-Hispanic, High School Graduate, Never Married, Age 80, Renting, Retired, No Grandchild, Southern Nonmetro | 23 |
| African American, Non-Hispanic, High School Graduate, Married, Age 80, Homeowner, Retired, No Grandchild, Southern Nonmetro | 12 |
| White, Non-Hispanic, High School Graduate, Never Married, Age 80, Renting, Retired, No Grandchild, Southern Nonmetro | 13 |
| White, Non-Hispanic, High School Graduate, Married, Age 80, Homeowner, Retired, No Grandchild, Southern Nonmetro | 6 |
| Profiles for Disabled Widows Living Alone | |
| African American, Non-Hispanic, High School Dropout, Age 65-69, Renter, No Grandchild, Metro, Any Region | 49 |
| African American, Non-Hispanic, High School Graduate, Age 65-69, Homeowner, No Grandchild, Metro, Any Region | 29 |
| African American, Non-Hispanic, High School Graduate, Age 75-79, Homeowner, No Grandchild, Metro, Any Region | 22 |
| White, Non-Hispanic, High School Graduate, Age 75-79, Homeowner, No Grandchild, Metro, Any Region | 16 |

twice the poverty line, compared to a 55 percent and 15 percent chance among the high-risk group.

Instead of changing all the demographics at once, in Table 10 we construct a hypothetical household with income below the poverty line and then selectively alter other, non-income characteristics of the household to examine more closely their role in predicting food insecurity or the likelihood of being at risk for hunger or hungry. We again use the probit coefficients underlying the marginal effects in Table 5 for these profiles.

In Table 10 (page 29) we begin with a poor African-American household whose head is a high school graduate that never married, is age 60–64, is renting, is employed, has no grandchild in the household, and lives in the non-metro South. The predicted probability of this household being food insecure is 36 percent. If we change the baseline family from being never-married to currently married, and from being a renter to a homeowner, the probability of food insecurity falls to 21 percent. If we take the baseline household and simply assume that the head is white and not African American the probability falls from 36 to 22 percent. In rows five through eight we manipulate age and employment status among our African American and white households. The African American household in the first row (never married and renting) is now at least 80 years old and retired in row five. The predicted probability of being food insecure for this poor household drops from 36 to 23 percent, highlighting how food security increases among the oldest old. When we change the region where this individual lives to the Northeast, the probability is 17 percent (not shown in the table). The African American household in the second row (married homeowner) when over 80 years old and retired experiences a 43 percent decrease in the probability of being food insecure (from 21 to 12 percent). Imposing the same age and retirement changes on the white households drops the probabilities for these seniors to 13 percent and 6 percent, respectively.

The analyses presented in this section demonstrate that although poverty is an important predictor of food insecurity, other characteristics including being white, married without grandchildren in the home, employed or retired, older, well-educated, and owning one's home can meaningfully buffer the effect of being poor and that these characteristics in combination can reduce the probability of experiencing low food security to almost zero.

In the bottom panel of Table 10 we highlight the vulnerable population of disabled widows living alone. If the widow is an African American age 65–69 with less than a high school diploma and who is renting in a metropolitan area then her predicted probability of being at-risk of hunger is 49 percent. If we assume that this same disabled widow graduated from high school and owns her home then this risk

of hunger plunges to 29 percent, again highlighting the importance of education and assets in alleviating food need. If the widow is ten years older and is a white non-Hispanic then the odds of hunger fall further still to 16 percent. In results not tabulated, we predicted the profiles for widowers instead of widows and the probabilities only increased by about one percentage points in each profile. Similar to the results for the age gradient, understanding why a large gap exists in food insecurity rates across whites and African Americans, even holding income and other factors constant, should be a future research priority.

In Section II of this report we presented tables showing the prevalence of low food security among various subgroups. The analyses presented in this section demonstrate that although poverty is an important predictor of food insecurity, other characteristics including being white, married without grandchildren in the home, employed or retired, older, well-educated, and owning one's home can meaningfully buffer the effect of being poor and that these characteristics in combination can reduce the probability of experiencing low food security to almost zero. Analyses presented in the next section examine the relationship between the severity of food insecurity and various health consequences.

## IV. Health Consequences of Senior Hunger from the NHANES

In this section, we consider the impact of food insecurity on various health outcomes of seniors in the United States. We begin with a review of previous work on the relationship between food insecurity and health outcomes. We then turn to a description of the data we use for our analysis, the 1999-2002 National Health and Nutrition Examination Survey (NHANES) followed by the results of our analyses.

### IV. A. Review of Previous Research

Low intakes of essential nutrients present a serious threat to the health of elderly persons in the United States. In national nutrition studies, the elderly have been found to have low intakes of energy, fiber, magnesium, antioxidants, and some other micronutrients (Berg and Cassells, 1992). For about 25 percent of elderly persons, these intakes are low enough to lead to an increased risk of nutrient deficiencies (Millen, 1999). These nutritional deficiencies can have serious consequences including diminished immune response, longer hospital stays, impairment in physical function, premature institutionalization, reduced activity levels, and higher risks of coronary heart disease (Chen et al., 2001; Chima et al., 1997;

Hendy et al., 1998; Herndon, 1995; Lesourd et al., 1998; Seiler and Stahelin, 1999; Sharkey et al., 2002). The effect of insufficient nutrient intakes is large enough that an estimated one-third to one-half of all health conditions in elderly persons may be related to low intakes (Ryan and Bower, 1989). These problems are more severe for the elderly than for the general population due, in part, to factors more common among the elderly including the use of multiple medications, and the incidence of oral health problems and chemosensory dysfunction (Ausman and Russell, 1999; Rolls, 1999; Schiffman, 1997) and to factors specific to the aging process (Campbell, et al., 1994; Roberts, et al., 1994; Rosenbloom and Whittington, 1993; Russel, 1992).

While there has been extensive work looking at nutrient-related deficiencies among the elderly and the consequences of those deficiencies, much less work has been done looking at the consequences of food insecurity among the elderly.[10] In other populations, food insecurity and hunger have been associated with a wide array of negative outcomes. For example, previous research, spanning numerous academic studies, has found that members of households suffering from food insecurity are more likely to incur compromised psychosocial functioning (Olson, 1999; Kleinman et al., 1998; Vozoris and Tarasuk, 2003), frequent stomachaches and headaches (Alaimo et al., 2001), obesity (Che and Chen, 2003; Adams et al., 2003; Townsend et al., 2001; Kaiser et al., 2004), depression (Che and Chen, 2003; Vozoris and Tarasuk, 2003; Heflin and Ziliak, Forthcoming), multiple chronic conditions (Che and Chen, 2003; Vozoris and Tarasuk, 2003), lower health outcomes across the SF-36 scales (Phelcy et al., 2002; Stuff et al., 2004), increased odds of being hospitalized (Cook et al., 2004), higher levels of hyperactivity (Murphy et al., 1998), and greater propensities to have seen a psychologist (Alaimo et al., 2001).

Although some of the findings for the general population will carry over to seniors, the impact of hunger may be quite different for seniors as they are more likely to be in poor health than non-seniors. This makes research specific to seniors especially important. There has, however, been much more limited research on the effect of food insecurity on the nutrient intake and health of seniors. Lee and Frongillo (2001) found that food insufficient seniors have lower intakes of a variety of nutrients and lower skinfold thickness and are more likely to be in fair or poor health than food sufficient seniors.[11] In comparison to

10. While food insecurity is related to nutrient deficiencies (e.g., Kendall et al., 1996; Dixon et al., 2001) there is not an exact correspondence. Moreover, data sets with information on nutrient intakes are much less prevalent than data sets with information on food insecurity.
11. This food sufficiency question asks respondents to describe their food intake in terms of the following: Which of these statements best describe the food eaten in your household in the last month? Respondents have four choices: enough of the kinds of food we want to eat; enough but not always the kinds of food we want to eat; sometimes not enough to eat; or often not enough to eat. Those households reporting that they sometimes or often do not get enough to eat are considered food insufficient.

seniors without financial difficulties obtaining food, Klesges et al. (2001) found that seniors with difficulties obtaining food had higher levels of depression, poorer quality of life, and lower levels of physical performance. As food insecurity worsened, Holben et al. (2006) found that general functioning, bodily pain, general health, vitality, and mental health all declined among seniors. Kim and Frongillo (2007) found a positive relationship between food insecurity and obesity among seniors. Finally, Bhattacharya et al. (2004) found that some measures of food insecurity were related to nutrient intakes, even after controlling for other risk factors such as poverty status. Collectively, this work has yielded many important insights and serves as a guide for future work. However, this research may be somewhat limiting; in some cases the samples sizes were quite small (Holben et al., 2006), in others the samples were for only limited areas (Klesges et al., 2001), and in others the full set of food insecurity questions were not used (Bhattacharya et al., 2004; Lee and Frongillo, 2001; Kim and Frongillo, 2007).

### IV. B. Data from NHANES

For the analyses in this section, we use data from the 1999-2002 NHANES. The NHANES, conducted by the National Center for Health Statistics, Centers for Disease Control (NCHS/CDC), is a program of studies designed to assess the health and nutritional status of adults and children in the United States through interviews and focused physical examinations. The survey now examines a nationally representative sample of about 5,000 persons each year, about half of whom are adults. The interview includes demographic, socioeconomic, dietary, and health-related questions and health assessments consisting of medical and dental examinations, physiological measurements and laboratory tests. Vulnerable groups, including persons over 60, are oversampled in the NHANES to produce more reliable statistics. We use weights constructed by NHANES that are applicable for samples pooled across years.

For the analyses here, we use data from the following subset of NHANES modules: demographics, food security, occupation, health insurance, body measures, diabetes, hospital utilization, physical functioning, total nutrients, and current health. Of particular importance to the analyses here is, of course, the presence of the full CFSM on the food security module.

We use the following sets of variables. For nutrient intakes we consider variables measuring energy intake, protein, vitamin A, vitamin C, thiamin, riboflavin, vitamin B6, calcium, phosphorous, magnesium, and iron. These are all based on individual's self-reports of their food consumption for two full days.

**Table 11.** Health Outcomes by Food Insecurity Status for Seniors, Full Sample

| | Food Secure | Marginally Food Secure | Low Food Security | Very Low Food Secure |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Nutrient intakes | | | | |
| Energy Intake | 1791.40 | 1534.77* | 1565.71* | 1385.88* |
| Protein | 69.54 | 62.44* | 62.68* | 55.64* |
| Vitamin A | 858.84 | 721.85 | 646.99* | 661.08 |
| Vitamin C | 100.22 | 79.42* | 70.63* | 68.33* |
| Thiamin | 1.50 | 1.31* | 1.25* | 1.17* |
| Riboflavin | 1.95 | 1.66* | 1.69* | 1.44* |
| Vitamin B6 | 1.76 | 1.52* | 1.57 | 1.28* |
| Calcium | 742.36 | 588.18* | 616.20* | 566.56* |
| Phosphorous | 1145.93 | 981.08* | 986.69* | 872.59* |
| Magnesium | 267.30 | 231.06* | 218.33* | 209.29* |
| Iron | 14.78 | 12.69* | 13.52 | 11.89* |
| Measures of body size | | | | |
| BMI | 28.18 | 30.90* | 29.31 | 27.06 |
| Arm circumference | 32.24 | 33.96* | 32.95 | 31.22 |
| Tricep skinfold | 19.22 | 21.86* | 19.40 | 17.41* |
| Subscapular skinfold | 19.49 | 22.11* | 21.09 | 19.76 |
| Diabetic | 0.14 | 0.26* | 0.21 | 0.24 |
| Self-Reports of General Health | | | | |
| Excellent | 0.16 | 0.09 | 0.04* | 0.06* |
| Excellent or very good | 0.44 | 0.16* | 0.19* | 0.20* |
| Excellent, very good, or good | 0.77 | 0.51* | 0.36* | 0.54* |
| Suffers from depression | 0.02 | 0.06 | 0.11* | 0.11 |
| ADL limitations | 0.62 | 0.76* | 0.84* | 0.88* |

Notes: Food secure is defined as 0 affirmative responses in the Core Food Security Module; marginally food insecure is defined as 1-2 affirmative responses; low food secure is defined as 3-7 affirmative responses for a household with children, 3-5 for a household without children; very low food secure is defined as 8 or more affirmative responses for a household with children, 6 or more for a household without children. * Different from column (1), $p \leq 0.05$.

We examine body measurement including body mass index (the BMI is based on the weight and height of individuals), arm circumference, tricep skinfold, and subscapular skinfold. Body measurements are performed by trained surveyors for the NHANES. The final set of variables is based on individuals' self-reports – diabetes, self-reports of general health (excellent, very good, good, fair, or poor), depression, diabetes, and ADL limitations.

### IV. C. Descriptive Associations Between Food Insecurity and Health Outcomes

We now turn to our results for the variables listed above. We begin with the full sample of all

individuals. The results for each variable are displayed in Table 11 (page 34) and are broken into four mutually exclusive categories – food secure, marginally food secure, low food secure, and very low food secure. For this full sample, the proportions of individuals in each category are 92 percent, 4 percent, 3 percent and 2 percent, respectively. (For more information on the sample, see Appendix Table 11.)

Intakes are lower for each nutrient for comparisons between the three food insecurity categories versus the food secure category. And, in almost all cases, these differences are statistically significant. The differences are particularly stark for some comparisons. For example, the energy intakes of very low food secure individuals are 29.3 percent lower than food secure individuals; vitamin C intakes are 46.7 percent lower; and vitamin B6 intakes are 27.3 percent lower.

Based on previous research for other portions of the population, the expected relationship between food insecurity and body size is ambiguous. For example, Alaimo et al. (2001), Gundersen et al. (2007), Kaiser et al. (2002), and Martin and Ferris (2007) find no relationship between food insecurity and obesity; Jimenez-Cruz et al. (2003), Matheson et al. (2002), and Rose and Bodor (2006) find an inverse relationship; and Casey et al. (2001), Casey et al. (2006), Dubois et al. (2006), and Jyoti et al. (2005) find a positive relationship. Among seniors, we find no difference between low food secure and food secure individuals and very low food secure and food secure individuals. However, marginally food insecure individuals have statistically significantly higher BMIs than food secure individuals – 30.9 versus 28.2.

We also examine a more comprehensive set of measures of body size. Consistent with the results for BMI, marginally food secure individuals have wider arm circumferences (34.0 cm versus 32.2 cm), higher tricep skinfolds (21.9 mm versus 19.2 mm), and higher subscapular skinfold (22.1 mm versus 19.5 mm). The only manifestation of lower body size due to food insecurity is with respect to tricep skinfold where very low food secure individuals have a value of 17.4 versus 19.2 for food secure individuals. Diabetes is more common among the marginally food insecure in comparison to the food secure; a result which may be due to the higher body sizes in this category.

We finish with a consideration of health outcomes which may not be as directly related to food insecurity and, moreover, where the causality may go in the opposite direction. In terms of self-reports of general health, individuals experiencing food insecurity are worse-off, especially when one considers comparisons of excellent or very good health versus the other three categories and comparisons of excellent, very good, or good health versus the other two categories. With respect to the former, 44 percent of

**Table 12.** Health Outcomes by Food Insecurity Status for Seniors, Households with Incomes below 200 Percent of the Poverty Line

| | Food Secure | Marginally Food Insecure | Low Food Security | Very Low Food Secure |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Nutrient intakes | | | | |
| Energy Intake | 1657.02 | 1458.81 * | 1465.06 * | 1414.51 |
| Protein | 62.87 | 60.96 | 60.25 | 57.82 |
| Vitamin A | 802.62 | 731.87 | 604.08 * | 648.87 |
| Vitamin C | 86.23 | 73.83 | 65.76 * | 74.79 |
| Thiamin | 1.38 | 1.23 | 1.20 | 1.22 |
| Riboflavin | 1.76 | 1.65 | 1.62 | 1.44 * |
| Vitamin B6 | 1.54 | 1.47 | 1.46 | 1.36 |
| Calcium | 678.55 | 582.67 * | 633.68 | 576.43 |
| Phosphorous | 1046.51 | 954.39 | 943.17 | 900.97 |
| Magnesium | 240.29 | 214.26 | 201.60 * | 216.01 |
| Iron | 13.39 | 12.16 | 11.74 | 12.43 |
| Measures of body size | | | | |
| BMI | 27.89 | 31.87 * | 28.52 | 27.21 |
| Arm circumference | 31.75 | 34.49 * | 32.25 | 31.26 |
| Tricep skinfold | 19.04 | 23.36 * | 18.91 | 17.27 |
| Subscapular skinfold | 19.04 | 22.96 * | 19.19 | 18.89 |
| Diabetic | 0.18 | 0.28 | 0.24 | 0.26 |
| Self-Reports of General Health | | | | |
| Excellent | 0.10 | 0.05 * | 0.05 | 0.06 |
| Excellent or very good | 0.32 | 0.11 * | 0.13 * | 0.18 * |
| Excellent, very good, or good | 0.65 | 0.46 * | 0.32 * | 0.51 |
| Suffers from depression | 0.03 | 0.07 | 0.12 * | 0.07 |
| ADL limitations | 0.70 | 0.76 | 0.81 * | 0.86 * |

Notes: Food secure is defined as 0 affirmative responses in the Core Food Security Module; marginally food insecure is defined as 1-2 affirmative responses; low food secure is defined as 3-7 affirmative responses for a household with children, 3-5 for a household without children; very low food secure is defined as 8 or more affirmative responses for a household with children, 6 or more for a household without children. * Different from column (1), $p \leq 0.05$.

food secure individuals report excellent or very good health versus 16 percent of marginally food secure individuals, 19 percent of low food secure individuals, and 20 percent of very low food secure individuals. ADL limitations are remarkably different between the categories – the highest proportion is for very low food security group (88 percent) which is 42 percent higher than for the food secure group.

In Table 12 (page 36) we replicate the analyses in Table 11, using a sample of households with incomes less than 200 percent of the poverty line. Consistent with the results from the previous section, food insecurity is more common among households in this sample – 82.6 percent are food secure, 7.3 percent are marginally food secure, 5.7 percent are low food secure, and 4.5 percent are very low food secure.

The differences between the food insecurity categories are generally more muted once we restrict the sample by income. For example, the intakes of protein, thiamin, vitamin B6, phosphorous, and iron are not statistically significant among the food insecurity categories and diabetes is no longer more prevalent for the marginally food insecure in comparison to the food secure. However, the results for measures of body size and for ADL limitations still hold in the restricted sample.

### IV. D. The Effect of Food Insecurity on Health Outcomes

We now turn to our analysis of the effect of food insecurity on health outcomes when we control for other factors which may also influence these health outcomes. Formally, we estimate the following probit maximum likelihood model:

$$OUT_{ij} = q_i + \tau_i H_i + Z_i l_i + u_{ij}, \qquad (2)$$

where

$OUT_{ij}$ takes on a value of 1 if elder $i$ suffers from a poor health condition $j$;

$H_i$ takes on a value of 1 if the elder is suffering from food insecurity (defined below), 0 otherwise;

$Z_i$ is a vector of household demographic and economic factors similar to those used in the CPS analyses of food insecurity;

$u_{ij}$ is an error term.

For our measures of food insecurity we return to the non-mutually exclusive and summative categories of marginally food insecure, food insecure, and very low food secure as defined in Table 1 and implemented in the regressions models from the CPS. We concentrate on the results for the marginally food insecure versus fully food secure insofar as these are the results for which the effects of food insecurity on

**Table 13**: Effect of marginal food insecurity and other variables on various nutrient intake outcomes

| | Energy | Protein | Vitamin A | Vitamin C | Thiamin | Riboflavin |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Marginally food insecure | -143.416 | -3.817 | -174.808 | -14.158 | -0.149 | -0.141 |
| | (43.385)** | (1.891)* | (85.174)* | (5.997)* | (0.046)** | (0.063)* |
| Not married or widowed | 41.133 | 1.562 | 109.797 | 4.745 | 0.004 | 0.119 |
| | (42.314) | (1.845) | (83.072) | (5.849) | (0.045) | (0.062) |
| Widowed | 59.938 | 1.670 | 1.622 | -1.090 | 0.031 | 0.091 |
| | (37.551) | (1.637) | (73.720) | (5.190) | (0.040) | (0.055) |
| Income/Poverty line | 29.641 | 1.530 | 22.489 | 5.574 | 0.032 | 0.054 |
| | (11.190)** | (0.488)** | (21.969) | (1.547)** | (0.012)** | (0.016)** |
| Female | -459.577 | -19.492 | -109.336 | -6.903 | -0.356 | -0.448 |
| | (29.403)** | (1.282)** | (57.725) | (4.064) | (0.031)** | (0.043)** |
| Black | -255.097 | -7.149 | 186.839 | 7.653 | -0.237 | -0.528 |
| | (41.720)** | (1.819)** | (81.905)* | (5.766) | (0.045)** | (0.061)** |
| Hispanic | -102.157 | -1.932 | 182.743 | 18.453 | -0.125 | -0.213 |
| | (39.285)** | (1.712) | (77.125)* | (5.430)** | (0.042)** | (0.057)** |
| Other | -313.911 | -7.072 | -167.727 | 17.914 | -0.059 | -0.548 |
| | (98.264)** | (4.283) | (192.912) | (13.582) | (0.105) | (0.143)** |
| High school graduate | 122.107 | 3.627 | 261.604 | 21.999 | 0.110 | 0.192 |
| | (33.361)** | (1.454)* | (65.494)** | (4.611)** | (0.036)** | (0.049)** |
| Employed | -134.140 | -6.471 | -113.659 | -7.112 | -0.110 | -0.297 |
| | (118.766) | (5.177) | (233.162) | (16.416) | (0.127) | (0.173) |
| Out of Labor Force | -233.006 | -8.548 | 21.881 | -7.605 | -0.181 | -0.308 |
| | (116.829)* | (5.093) | (229.361) | (16.148) | (0.125) | (0.170) |
| Age | -11.853 | -0.506 | 3.204 | 0.137 | 0.000 | -0.002 |
| | (2.092)** | (0.091)** | (4.107) | (0.289) | (0.002) | (0.003) |
| Constant | 2,925.274 | 116.932 | 410.373 | 68.821 | 1.716 | 2.393 |
| | (191.596)** | (8.352)** | (376.145) | (26.482)** | (0.205)** | (0.279)** |

Notes: Number of observations is 2626. * significant at 5% level; ** significant at 1% level.

**Table 14**: Effect of marginal food insecurity and other variables on various nutrient intake outcomes

| | Vitamin B6 | Calcium | Phosphorous | Magnesium | Iron |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Marginally food insecure | -0.134 | -60.732 | -92.199 | -24.371 | -1.311 |
| | (0.065)* | (27.561)* | (30.872)** | (7.853)** | (0.524)* |
| Not married or widowed | 0.069 | 49.796 | 40.004 | 11.028 | -0.119 |
| | (0.064) | (26.881) | (30.110) | (7.659) | (0.511) |
| Widowed | 0.056 | -5.617 | 11.963 | -0.273 | 0.431 |
| | (0.056) | (23.855) | (26.721) | (6.797) | (0.454) |
| Income/Poverty line | 0.079 | 14.665 | 21.923 | 7.957 | 0.378 |
| | (0.017)** | (7.109)* | (7.963)** | (2.025)** | (0.135)** |
| Female | -0.426 | -120 323 | -284.433 | -59 227 | -3.515 |
| | (0.044)** | (18.679)** | (20.923)** | (5.322)** | (0.355)** |
| Black | -0 212 | -268.105 | -259.220 | -56.025 | -2 542 |
| | (0.063)** | (26.503)** | (29.687)** | (7.551)** | (0 504)** |
| Hispanic | -0.003 | -49.848 | -38.238 | -4.327 | -0.781 |
| | (0.059) | (24.956)* | (27.955) | (7.111) | (0.475) |
| Other | -0.100 | -221.852 | -221.141 | -22.701 | -0.957 |
| | (0.148) | (62.423)** | (69.923)** | (17.786) | (1.187) |
| High school graduate | 0.211 | 45.361 | 76.283 | 23.463 | 1.337 |
| | (0.050)** | (21.193)* | (23.739)** | (6.038)** | (0.403)** |
| Employed | -0.203 | -33 777 | -101.056 | -22.703 | -2.832 |
| | (0.178) | (75.447) | (84.512) | (21.497) | (1.435)* |
| Out of Labor Force | -0.217 | -78.308 | -132.509 | -32.012 | -3.433 |
| | (0.176) | (74.217) | (83.134) | (21.146) | (1.412)* |
| Age | 0.004 | 0.672 | -4.895 | -0.938 | 0.008 |
| | (0.003) | (1.329) | (1.489)** | (0.379)* | (0.025) |
| Constant | 1.534 | 778.655 | 1,675.223 | 358 867 | 17 584 |
| | (0.288)** | (121.714)** | (136.337)** | (34.679)** | (2.315)** |

Notes: Number of observations is 2626. * significant at 5% level; ** significant at 1% level.

**Table 15:** Effect of marginal food insecurity and other variables on body measures

| | BMI | Arm circumference | Tricep skinfold | Subscapular skinfold |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Marginally food insecure | 0.223 | 0.245 | 0.350 | 0.194 |
| | (0.332) | (0.261) | (0.409) | (0.477) |
| Not married or widowed | -1.204 | -1.062 | -1.233 | -1.626 |
| | (0.318)** | (0.250)** | (0.395)** | (0.453)** |
| Widowed | -0.422 | -0.256 | -0.942 | -0.478 |
| | (0.290) | (0.226) | (0.357)** | (0.405) |
| Income/Poverty line | -0.131 | -0.004 | 0.100 | 0.016 |
| | (0.085) | (0.067) | (0.105) | (0.120) |
| Female | 1.013 | -0.280 | 8.951 | 1.467 |
| | (0.224)** | (0.176) | (0.278)** | (0.318)** |
| Black | 1.306 | 1.418 | 0.478 | 1.856 |
| | (0.317)** | (0.250)** | (0.400) | (0.481)** |
| Hispanic | -0.134 | -0.632 | -1.012 | 0.713 |
| | (0.300) | (0.235)** | (0.371)** | (0.423) |
| Other | -3.048 | -2.401 | -3.157 | -0.025 |
| | (0.738)** | (0.584)** | (0.914)** | (1.078) |
| High school graduate | 0.071 | 0.053 | 0.399 | 0.460 |
| | (0.256) | (0.200) | (0.317) | (0.368) |
| Employed | 0.221 | 0.390 | 1.814 | 0.593 |
| | (0.881) | (0.703) | (1.108) | (1.264) |
| Out of Labor Force | 0.226 | 0.445 | 2.049 | 0.194 |
| | (0.867) | (0.692) | (1.091) | (1.244) |
| Age | -0.160 | -0.189 | -0.192 | -0.243 |
| | (0.016)** | (0.013)** | (0.020)** | (0.023)** |
| Constant | 39.347 | 45.480 | 26.041 | 35.487 |
| | (1.452)** | (1.141)** | (1.801)** | (2.060)** |

Notes: Number of observations is 2544, 2633, 2489, and 2185. * significant at 5% level; ** significant at 1% level.

**Table 16:** Marginal effects of marginal food insecurity and other variables on various nutrient intake outcomes

| | Diabetic | Excellent | Excellent or very good | Excellent, very good, or good | Depression | ADL limitations |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Marginally food insecure | 0.019 | -0.019 | -0.116 | -0.134 | 0.022 | 0.141 |
| | (0.022) | (0.020) | (0.029)** | (0.030)** | (0.011) | (0.025)** |
| Not married or widowed | -0.037 | 0.008 | 0.011 | -0.024 | -0.001 | 0.005 |
| | (0.019) | (0.020) | (0.030) | (0.027) | (0.008) | (0.028) |
| Widowed | 0.019 | 0.014 | 0.004 | 0.021 | 0.005 | -0.013 |
| | (0.020) | (0.018) | (0.026) | (0.024) | (0.008) | (0.026) |
| Income/Poverty line | -0.028 | 0.020 | 0.042 | 0.045 | -0.003 | -0.023 |
| | (0.006)** | (0.005)** | (0.007)** | (0.008)** | (0.002) | (0.007)** |
| Female | -0.026 | -0.028 | -0.010 | 0.008 | 0.014 | 0.114 |
| | (0.018) | (0.010)** | (0.018) | (0.021) | (0.007)* | (0.019)** |
| Black | 0.083 | -0.034 | -0.121 | -0.072 | 0.024 | -0.017 |
| | (0.028)** | (0.013)** | (0.022)** | (0.030)* | (0.010)* | (0.028) |
| Hispanic | 0.060 | -0.034 | -0.111 | -0.122 | 0.018 | -0.057 |
| | (0.025)* | (0.013)* | (0.023)** | (0.028)** | (0.008)* | (0.027)* |
| Other | 0.102 | -0.024 | -0.103 | 0.063 | -0.009 | 0.010 |
| | (0.067) | (0.032) | (0.054) | (0.065) | (0.013) | (0.063) |
| High school graduate | -0.016 | 0.041 | 0.115 | 0.131 | 0.006 | -0.011 |
| | (0.020) | (0.013)** | (0.021)** | (0.022)** | (0.005) | (0.022) |
| Employed | 0.103 | 0.036 | 0.034 | -0.066 | -0.035 | -0.127 |
| | (0.106) | (0.045) | (0.075) | (0.103) | (.) | (0.082) |
| Out of Labor Force | 0.132 | -0.018 | -0.084 | -0.182 | -0.029 | 0.011 |
| | (0.058)* | (0.040) | (0.076) | (0.081)* | (0.027) | (0.075) |
| Age | -0.004 | 0.000 | 0.002 | 0.001 | -0.000 | 0.008 |
| | (0.001)** | (0.001) | (0.001) | (0.001) | (0.000) | (0.001)** |

Notes: Number of observations is 2751. * significant at 5% level; ** significant at 1% level.

health outcomes are the strongest. These results can be found in Tables 13 through 16. The results for the other food insecurity comparisons can be found in Appendix Tables 12 through 19.

Starting with Tables 13 and 14 (page 38), after controlling for other factors, marginal food insecurity has a statistically significant negative effect on the intakes of energy, protein, vitamin A, vitamin C, thiamin, riboflavin, vitamin B6, calcium, phosphorous, magnesium, and iron. Thus, the bivariate relationships found in Table 11 still hold, even after controlling for other factors known to affect health. The Appendix Tables show that these results are robust across many of these same outcomes for those at-risk of hunger and those experiencing hunger.

However, unlike nutrient intakes, as seen in Table 15 (page 39) marginal food insecurity has no statistically significant effect on measures of body size. Marginal food insecurity does have a negative effect on whether a senior reports being in "excellent or very good" health or in "excellent, very good, or good" health. Similarly, marginal food insecurity has a negative effect on a senior's probability of depression and ADL limitations. Unlike for nutrient intakes, the causality is not as clear with these relationships. For example, someone suffering from ADL limitations may be less able to get to the store to purchase food in comparison with someone who is readily able to perform such daily functions as bathing, eating, and dressing.

### IV. E Social Isolation and Food Insecurity

There has been some research regarding the potential influence of social support on the food security status of seniors in community-level studies (Ahluwalia et al., 1998; Greder and Brotherson, 2002; Gundersen et al., 2003; Quandt et al., 2001; Schoenberg, 2000), but we are not aware of similar research in national samples. We might expect social support to be especially important for the food security status of seniors because of possible social isolation from children living far away, loss of interaction with former co-workers due to retirement, and the loss of a spouse or other family members and friends. In addition, social support is likely important for those seniors experiencing significant health limitations.

To examine the effect of social support on food insecurity we estimate models akin to those estimated in Tables 5 through 8. Here we use two variables in the NHANES not available in the CPS – whether someone has access to emotional support from family and friends and whether someone has access to financial support if needed. The marginal effects of emotional and financial support on food

**Table 17.** Estimated Marginal Effects of Social Isolation on Food Insecurity Among Senior Americans in the NHANES

| | Marginally Food Insecure | Food Insecure | Very Low Food Secure | Marginally Food Insecure | Food Insecure | Very Low Food Secure |
|---|---|---|---|---|---|---|
| | All Incomes | | | Incomes below 200% of the Poverty Line | | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Access to emotional support | -0.067 | -0.030 | -0.013 | -0.123 | -0.094 | -0.045 |
| | (0.026)** | (0.016)* | (0.008)* | (0.047)** | (0.039)** | (0.024)* |
| Access to financial support | -0.062 | -0.034 | -0.013 | -0.151 | -0.080 | -0.045 |
| | (0.017)** | (0.011)** | (0.006)** | (0.034)** | (0.027)** | (0.017)** |
| Observations | 2684 | 2684 | 2684 | 1341 | 1341 | 1341 |

Notes: Standard errors in parentheses. ** p<0.01, * p<0.05. N= 2684 for columns (1) through (3). N=1341 for columns (4) through (6).

insecurity from the probit model are found in Table 17 (page 41).[12] In columns (1) through (3), the results are for a sample with all income levels and, in columns (4) through (6), they are for a sample with incomes below 200% of the poverty line.

The effects of access to financial and emotional support are statistically significant across all of the food insecurity measures. These effects are also large. Thus, social isolation has an effect size on the likelihood of being at-risk of hunger that is of comparable magnitude to living in poverty.

As seen in Table 17, the effects of access to financial and emotional support are statistically significant across all of the food insecurity measures. These effects are also large. For sake of comparison, consider the reduction in the probability of marginal food insecurity if a household's income declined from twice the poverty line to the poverty line. This would lead to a 5.7 percentage point increase for all income levels and a 21.1 percentage point increase for the sample below 200% of the poverty line. If a loss of emotional support occurred, this would lead to a 6.7 percentage point increase in the probability of marginal food insecurity for the full sample and 12.3 percentage point increase for the low-income sample. Similarly, the loss of financial support would lead to increases of 6.2 and 15.1 percentage points. Thus, social isolation has an effect size on the likelihood of being at-risk of hunger that is of comparable magnitude to living in poverty.

### V. Food Insecurity and Wealth, Health, Food Expenditures in the PSID

A limitation of the CPS is that it collects no information either on the asset position of families or the family's food expenditures aside from whether or not they own their home or whether they receive

12. The results from the other variables are suppressed in the table. Unlike the CPS, due to confidentiality reasons, state identifiers are not included in the publicly available NHANES and so state fixed effects are not included in these models.

food stamps (along with the dollar value of food stamps). We might believe that wealth offers a protective buffer against hunger over and above income because families can use savings and other forms of wealth to cover necessities such as food in the event of a negative shock to income or health. Related, a direct economic consequence of food insecurity is the potential for reduced spending on food, though the causal pathway may be reversed in that reduced food spending may lead to higher food insecurity. To examine the effect of assets on food insecurity, and the effect of food insecurity on food spending, we turn to the oldest longitudinal social science dataset in the United States—The University of Michigan's Panel Study of Income Dynamics (PSID).

The PSID has followed a core set of 5000 families since 1968 plus newly formed households as members of the original core have split off into new, independent units. Just under 3000 of the original sample were part of the Survey Research Center (SRC) random sample of the U.S. population, and the remaining families were part of the Survey of Economic Opportunity (SEO) over-sample of low-income and African-American families. Because of changes in survey design in the mid 1990s many families in the SEO were dropped, and because the CFSM is not collected until 1999, we restrict our analysis to those families in the random SRC sample of the PSID. Beginning in 1997 the survey went from annual data collection to every other year. Thus, our sample in this section draws from the 1999, 2001, and 2003 survey years of the PSID (the CSFM was not collected in 2005), and is restricted to households with a head or wife (if both spouses are present) between the age of 60 and 101. As with the CPS, we only include families residing in the contiguous 48 states in our sample.

Beginning in 1984 the PSID asked detailed questions on the asset holdings of families, including liquid and illiquid forms of wealth, repeating this survey during the years in which the CFSM was administered. A module including weekly expenditures on food, including food eaten in the home, food eaten out, and food delivered as well as the dollar value of food stamps is also administered during these years. Analyses examining the effect of wealth on food insecurity, and examining the effect of food insecurity on food expenditures are conducted at the household level. Like we did with the CPS, samples from each survey year are pooled to increase sample size for key outcomes and characteristics, and excluding households with unknown income and wealth, the pooled sample across the three years includes 2,228 senior households. Because households are surveyed over all survey years (unless the household is non-responding) we report robust standard errors clustering on non-unique households.

Starting in 1999, and repeated in 2001 and 2003, the PSID asked a series of questions on physical health status including a module on ADL difficulties. For the 2003 survey year the PSID added a mental health instrument and a series of questions that identify difficulties completing independent tasks including shopping, preparing meals, handling money, and other activities. Using these health modules, we examine the robustness of the NHANES results on physical and mental health in addition to daily functioning in the context of food security. For theses analyses, we use data on household heads, male and female. Wives are not included in this sample in order to exclude any effect of sharing a household. Heads can reappear in all survey years, and models using pooled samples from 1999, 2001 and 2003 report robust standard errors clustering on non-unique individuals. Excluding individuals younger than 60, the pooled sample includes 2,787 heads between the ages of 60 and 101 with complete information on health outcomes.

### V. A. Wealth and Food Insecurity

Table 17 presents the rates and distribution of food insecurity by liquid wealth and net worth among seniors in the PSID. Liquid wealth contains assets such as the value of checking and savings accounts, stocks, bonds, IRAs, CDs, and the like. Net worth add to liquid wealth the value of real estate, the value of business or farm, the value of pension funds, the value of vehicles owned, and subtracts away the value of any outstanding debt including credit card debt. Reflecting the fact that the PSID sample is considerably different than the CPS sample because of its longitudinal design the table reveals that considerably fewer families are food insecure in the PSID, ranging from 5.25 percent that are marginally food insecure to 0.45 percent that are very low food secure. The numbers for marginal food insecurity are more similar to the NHANES, albeit there are more low food secure and very low food secure households in the NHANES. The PSID is known to be among the highest quality data sources for income and wealth, though no validation studies have been conducted comparing the CFSM across datasets. Our hunch is that even though the SRC subsample in the PSID is a random sample of families, the fact that the elderly in the survey continue to participate year after year suggests that seniors in the PSID are likely to be a more stable and wealthy population than in both the CPS and NHANES.

The top panel of Table 18 (page 44) is akin to Table 4 and answers questions such as "among those with liquid wealth less than $5,000, what fraction are food insecure?" Here we see that about 16 percent of households with less than $5,000 in liquid wealth are marginally food insecure, 6 percent are food in-

**Table 18.** Rates and Distribution of Food Insecurity by Income and Wealth Levels in the PSID

| | Marginally Food Insecure | Food Insecure | Very Low Food Secure |
|---|---|---|---|
| **Rates of Food Insecurity** | | | |
| Full Sample | 5.25 | 1 84 | 0.45 |
| Liquid Wealth Categories | | | |
| Liquid Wealth below $5,000 | 15.92 | 6.26 | 1.61 |
| Liquid Wealth between $5,000-25,000 | 4.35 | 1.45 | 0.29 |
| Liquid Wealth between $25,000-$50,000 | 2.80 | 0.00 | 0.00 |
| Liquid Wealth between $50,000-$100,000 | 0.69 | 0.00 | 0.00 |
| Liquid Wealth above $100,000 | 0.64 | 0.13 | 0.00 |
| Net Worth Categories | | | |
| Net Worth below $5,000 | 23.24 | 7 75 | 1.41 |
| Net Worth between $5,000-25,000 | 14.17 | 6.30 | 3.15 |
| Net Worth between $25,000-$50,000 | 14.29 | 8.27 | 1.50 |
| Net Worth between $50,000-$100,000 | 8 46 | 2 20 | 0.74 |
| Net Worth above $100,000 | 1.48 | 0 26 | 0.00 |
| **Distribution of Food Insecurity Rates** | | | |
| Liquid Wealth Categories | | | |
| Liquid Wealth below $5,000 | 76.07 | 85.37 | 90.00 |
| Liquid Wealth between $5,000-25,000 | 12.82 | 12.20 | 10.00 |
| Liquid Wealth between $25,000-$50,000 | 5.13 | 0.00 | 0 00 |
| Liquid Wealth between $50,000-$100,000 | 1 71 | 0.00 | 0 00 |
| Liquid Wealth above $100,000 | 4.27 | 2.44 | 0 00 |
| Net Worth Categories | | | |
| Net Worth below $5,000 | 28.21 | 26.83 | 20.00 |
| Net Worth between $5,000-25,000 | 15 38 | 19.51 | 40.00 |
| Net Worth between $25,000-$50,000 | 16.24 | 26.83 | 20.00 |
| Net Worth between $50,000-$100,000 | 19 66 | 14.63 | 20.00 |
| Net Worth above $100,000 | 19.66 | 9.76 | 0.00 |

secure, and just under 2 percent are very low food secure (the remaining 76 percent are food secure). The comparable percentages for the group with net worth under $5,000 is 23, 7.75, and 1.4 percent. Indeed, the top panel of Table 18 reveals considerable variation in rates of food insecurity across the distribution net worth, at least for those with net worth less than $100,000. The bottom panel of Table 18 is akin to Table 3 and asks questions such as "among those food insecure, what fraction have liquid wealth or net worth less than $5,000?" Within each of the three food insecurity categories at least three-fourths of families have liquid wealth less than $5,000, and 90 percent have liquid wealth under $25,000. These are very low levels of liquidity in the retirement years. Once again, however, we see greater dispersion across the net worth categories where nearly 20 percent of the marginally food insecure and 10 percent of the food insecure have net worth exceeding $100,000.[13]

In Tables 19–21 (page 45-46) we replicate the analyses in Table 5 from the CPS on the determinants of food insecurity, now using the PSID and including the set of liquid wealth or net worth indicators.

13. Net worth exceeding $100,000 is the mode in this sample as just over 80 percent of households with heads or wives over age 60 have net worth in excess on $100,000.

**Table 19.** Estimated Marginal Effects of Income and Wealth on Marginal Food Insecurity for Senior Households in the PSID

| | (1) | (2) | (3) |
|---|---|---|---|
| 50-100% Poverty | 0.003 | -0.002 | -0.007 |
| | (0.024) | (0.015) | (0.014) |
| 100-200% Poverty | -0.012 | -0.009 | -0.008 |
| | (0.017) | (0.013) | (0.014) |
| >200% Poverty | -0.070 | -0.032 | -0.038 |
| | (0.042) | (0.027) | (0.029) |
| Liquid Wealth $5-25,000 | | -0.018** | |
| | | (0.005) | |
| Liquid Wealth $25-50,000 | | -0.021** | |
| | | (0.006) | |
| Liquid Wealth $50-100,000 | | -0.031** | |
| | | (0.006) | |
| Liquid Wealth >$100,000 | | -0.048** | |
| | | (0.009) | |
| Net Worth $5-25,000 | | | -0.019* |
| | | | (0.006) |
| Net Worth $25-50,000 | | | -0.022* |
| | | | (0.006) |
| Net Worth $50-100,000 | | | -0.028** |
| | | | (0.006) |
| Net Worth >$100,000 | | | -0.164** |
| | | | (0.044) |

Notes: All models control for characteristics (not shown above) presented in models 4-6, Table 5. Standard errors in parentheses. ** p<0.01, * p<0.05. N= 2487

**Table 20.** Estimated Marginal Effects of Income and Wealth on Food Insecurity for Senior Households in the PSID

| | (1) | (2) | (3) |
|---|---|---|---|
| 50-100% Poverty | -.002 | -.002 | -.002 |
| | (.004) | (.003) | (.002) |
| 100-200% Poverty | -.005 | -.004 | -.003 |
| | (.004) | (.003) | (.002) |
| >200% Poverty | -.045 | -.031 | -.022 |
| | (.028) | (.021) | (.015) |
| Liquid Wealth $5-25,000 | | -.001 | |
| | | (.002) | |
| Liquid Wealth $25-50,000 | | + | |
| Liquid Wealth $50-100,000 | | + | |
| Liquid Wealth >$100,000 | | -.008* | |
| | | (.003) | |
| Net Worth $5-25,000 | | | -.003 |
| | | | (.002) |
| Net Worth $25-50,000 | | | -.003 |
| | | | (.002) |
| Net Worth $50-100,000 | | | -.005* |
| | | | (.002) |
| Net Worth >$100,000 | | | -.057* |
| | | | (.026) |

Notes: All models control for characteristics (not shown above) presented in models 4-6, Table 5. Standard errors in parentheses. ** p<0.01, * p<0.05. N= 2228. + No Food Insecure households hold liquid wealth between $25,000-$100,000.

**Table 21.** Estimated Marginal Effects of Income and Wealth on Very Low Food Security for Senior Households in the PSID

| | (1) | (2) | (3) |
|---|---|---|---|
| 50-100% Poverty | -0.001 | -0.001 | -0.000 |
| | (0.000) | (0.000) | (0.000) |
| 100-200% Poverty | -0.00 | -0.001 | -0.000 |
| | (0.001) | (0.001) | (0.000) |
| >200% Poverty | -0.007 | -0.008 | -0.003 |
| | (0.006) | (0.006) | (0.002) |
| Liquid Wealth $5-25,000 | | -0.000 | |
| | | (0.001) | |
| Liquid Wealth $25-50,000 | | + | |
| Liquid Wealth $50-100,000 | | + | |
| Liquid Wealth >$100,000 | | + | |
| Net Worth $5-25,000 | | | 0.008 |
| | | | (0.008) |
| Net Worth $25-50,000 | | | 0.002 |
| | | | (0.002) |
| Net Worth $50-100,000 | | | 0.001 |
| | | | (0.002) |
| Net Worth >$100,000 | | | + |

Notes: All models control for characteristics (not shown above) presented in models 4-6, Table 5. Standard errors in parentheses. ** p<0.01, * p<0.05. N=2228. + No Very Low Food Insecure Households hold liquid wealth above $25,000 or have net worth above $100,000.

High incomes reduce the probability of food insecurity, but having access to assets has a robust and statistically significant effect in reducing food insecurity. This suggests that access to a stock of wealth insures against the hardship associated with food insecurity.

The models control for the same set of variables as in Table 5, but we suppress these other coefficients for ease of presentation. Because of the comparatively small samples in the PSID, we do not control for state fixed effects and thus the results are more akin to columns (4)–(6) in Table 5. Tables 19–21 reveal a strong and statistically significant protective role of both liquid and illiquid assets on household food insecurity.[14] High incomes reduce the probability of food insecurity, but having access to assets has a robust and statistically significant effect in reducing food insecurity. This suggests that access to a stock of wealth insures against the hardship associated with food insecurity.

14. The coefficients on the income variables are statistically significant in the probit models, but the marginal effects lose statistical significance because of the small samples.

### V. B Food Spending and Food Insecurity

Having established that wealth affects food insecurity, in this section we turn the tables to examine whether food insecurity affects food spending by the household. The PSID has collected information on food expenditures over the length of the sample, gathering information on the amount of money spent on food eaten at home, on food eaten away from home, on food delivered, and on the dollar value of food stamps. Most of these questions refer to the amount of money spent on an average week. We sum the food categories to arrive at total spending and convert these weekly amounts to annual amounts to be consistent with the CFSM reference to food security over the year. Because food spending varies by family size and composition we deflate total food spending by the USDA Thrifty Food Plan Need Standard for a given family size, converting the measure in terms of adult equivalent units. To examine the potential positive role of delivered food and food stamps on the security of total household food expenditures, we also construct a measure of food spending to needs that omits the contributions of food stamps and delivered meals.

In Table 22 (below) we present estimates of the effect of food insecurity on food spending relative to needs both without additional control variables and with these variables. The additional controls are the same as used in earlier analyses and include variables relating to race, age, education, employment status,

**Table 22.** The Effects of Food Insecurity on Food Expenditures in the PSID

| | Total Food Spending Relative to Needs | Food Spending Relative to Needs Excluding Food Stamps and Delivered Food |
|---|---|---|
| Marginal Food Insecurity with no additional controls | -0.599<br>(0.103)** | -0.639<br>(0.108)** |
| Marginal Food Insecurity with additional controls | -0.110<br>(0.093) | -0.128<br>(0.094) |
| Food Insecurity with no additional controls | -0.413<br>(0.184)* | -0.478<br>(0.193)* |
| Food Insecurity with additional controls | 0.123<br>(0.169) | 0.084<br>(0.172) |
| Very Low Food Secure with no additional controls | -0.883<br>(0.433)* | -0.950<br>(0.449)* |
| Very Low Food Secure with additional controls | -0.155<br>(0.361) | -0.199<br>(0.371) |

Notes: Robust standard errors in parentheses. * significant at 5% level.; ** significant at 1% level. Number of observations is 2228. The models with additional controls include variables relating to the race, age, education, employment status, region of country, gender, family structure, and year effects.

region of country, gender, family structure, and year effects. The simple bivariate relationships between each measure of food insecurity and food expenditures (for both categorizations of spending) are large, negative, and statistically different from zero. On average a marginally food insecure family spends about 60 percent less on food relative to needs, and a family that is very low food secure spends 88 percent less. The second column indicates average spending among the food insecure is lower by about 7 percent when we exclude food stamps and delivered food. (These results are roughly consistent with those in Nord et al., 2006.) However, once we control for other variables that determine food spending we still find a negative relationship but one that is no longer statistically significant. The lack of significance of between food insecurity and food expenditures is perhaps surprising but is consistent with previous work on the connection between food expenditures and food insecurity (Gundersen and Ribar, 2005). One possible explanation for the lack of significance is the timing of the two questions. While the food insecurity question refers to the entire previous year, the food expenditure question asks for the average expenditures over the previous year. Given that many spells of food insecurity are episodic rather than chronic, someone may have average expenditures that are high enough to maintain food security in most periods but, over some time period of the previous year, these expenditures fell.

### V. C Health and Food Insecurity

The NHANES is considered to be among the best datasets collected on the health of the U.S. population, but we take advantage of the health modules in the PSID to examine the robustness of the NHANES results in this subsection. We also conduct this exercise as a validation check on the quality of the food security and health data in the PSID. That is, finding results on health outcomes that agree with those found in Section IV will lend credibility both to the NHANES estimates and to data quality in the PSID.

In Table 23 (page 49) we report the effects of marginal food insecurity on BMI, and indicators of excellent health, excellent or very good health, excellent, very good, or good health, diabetes, depression, ADL and IADL limitations, and the number of weeks spent in the hospital during the last year. The BMI and hospitalization models are from Ordinary Least Squares regression, while the remaining models are based on probit maximum likelihood methods. Although we control for the same set of covariates as in the NHANES health models, for parsimony we report the marginal effect of marginal food insecurity (us-

**Table 23.** Marginal Effect of Marginal Food Insecurity on Various Health Outcomes of Seniors in the PSID

| | |
|---|---|
| BMI | 1.560 |
| | (0.557)* |
| Excellent Health | –0.052 |
| | (0.021)* |
| Excellent or Very Good Health | –0.081 |
| | (0.049) |
| Excellent, Very Good, or Good Health | –0.117 |
| | (0.054)* |
| Diabetes | 0.129 |
| | (0.048)* |
| Depression | 0.195 |
| | (0.077)* |
| ADL Limitations | 0.133 |
| | (0.049)* |
| IADL Limitations | 0.211 |
| | (0.080)* |
| Weeks Hospitalized | 0.203 |
| | (0.080)* |

Notes: Robust standard errors in parentheses. * significant at 5% level.

ing the inclusive categorization capturing any form of food insecurity) on the respective health outcome. Table 23 makes clear that even after controlling for income, education, race, age, gender, and other demographics, food insecure individuals have higher BMI scores (about 1.5 points higher, or about 5 percent), are less likely to report being in good health, are more likely to suffer from diabetes, depression, some form of limitation on daily living, and to be hospitalized. These results broadly corroborate those from the NHANES, and indeed are somewhat stronger in that we find significant harmful effects of food insecurity on BMI and diabetes not identified in our analyses using the NHANES.

## VI. The Future of Hunger in 2025

To project the future of senior hunger in America, we employ a technique that uses current information about persons who will be seniors in the future. In making these projections, we rely on information about the determinants of hunger that we identified in Section III. Within our framework, we again utilize a data set that contains a large number of observations, is nationally representative, is readily available on a consistent basis, has a full set of economic and demographic variables, and has the information to calculate who is at risk of suffering from hunger. The data set most suited for this task is the CPS, the data set used in Sections II and III. Because the CPS is cross-sectional (i.e. it does not follow the same set of individuals over successive years), we look at the impact of economic and demographic conditions by

age cohorts rather than by age.

Our framework can be summarized in the following three steps. Because our ultimate goal is to predict the risk of hunger that a 40 to 60 year old in 2005 will face in the year 2025, we first need to examine the relationship between food insecurity for 60 to 80 year olds in 2005 against key economic and demographic factors of this group twenty years ago when they were ages 40 to 60.[15] Thus, in step one we computed the averages of our three measures of food insecurity from the pooled 2001–2005 CPS at each age ranging from 60 to 80, yielding 21 age-specific averages for each of the three insecurity measures.[16] Informed by our analyses of the determinants of food insecurity we then identified a parsimonious group of seven economic and demographic variables affecting hunger– whether someone is a homeowner, whether a person is in a poor household, the gender of an individual, the age of an individual, whether a person lives alone, the race of an individual, and whether the person graduated from high school. We constructed the age-specific average of each of these seven variables from the pooled 1981–1985 CPS for 40 to 60 year olds. This leads to the following regression model:

$$\begin{aligned} H_{a,j} = {} & a_{0,j} + a_{1,j} OWN_{a-20} + a_{2,j} POOR_{a-20} + a_{3,j} FEMALE_{a-20} + a_{4,j} AGE_{a-20} + \\ & a_{5,j} ALONE_{a-20} + a_{6,j} WHITE_{a-20} + a_{7,j} HSGRAD_{a-20} + e_{a,j} \end{aligned} \quad (3)$$

where

$H_{a,j}$ is the average fraction of households at each age $a = 60,\ldots,80$ suffering from food insecurity of type $j$, $j$ = marginal food insecurity, food insecurity, or very low food security;

*OWN* is the fraction of households in each age 40 to 60 owning their home;

*POOR* is the fraction of households living in poverty at each age 40 to 60;

*FEMALE* is the fraction of women in the population at each age 40 to 60;

*AGE* is the age of the group ranging from 40 to 60;

*ALONE* is the fraction of household heads living alone at each age 40 to 60;

*WHITE* is the fraction of household heads that are white;

*HSGRAD* is the fraction of household heads who graduated from high school.

In step two of our procedure the estimates of the effects of our seven economic and demographic

15. To ensure confidentiality, currently the CPS assigns everyone 80 and over the age of "80". In the future, as the number of older elders increases, this value may increase.

16. We pool across the years in order to minimize the potential role of measurement error that is more prevalent in year-by-year estimates of food insecurity by age group.

variables from equation (3) are used to predict food insecurity in 2025 for persons age 60 to 80. This is accomplished by multiplying each coefficient $\hat{a}_1, \hat{a}_2, \hat{a}_3, \hat{a}_4, \hat{a}_5, \hat{a}_6, \hat{a}_7$ by the respective values of the economic and demographic factors for each age from 40 to 60 years old. Specifically the prediction equation is

$$\hat{H}_{a,t}^{2025} = \hat{a}_{0,j} + \hat{a}_{1,j} OWN_{a-20}^{2005} + \hat{a}_{2,j} POOR_{a-20}^{2005} + \hat{a}_{3,j} FEMALE_{a-20}^{2005} + \hat{a}_{4,j} AGE_{a-20}^{2005} + \hat{a}_{5,j} ALONE_{a-20}^{2005} + \hat{a}_{6,j} WHITE_{a-20}^{2005} + \hat{a}_{7,j} HSGRAD_{a-20}^{2005} \quad (4)$$

where the left hand side of equation (4) is the predicted value of food insecurity type $j$ for 60 to 80 year olds in 2025, which is a function of the coefficients and the averages of the demographics from the pooled 2001-2005 CPS.

The third and final step in this framework is to weight these age-specific predicted values from equation (4) based on the U.S. Census Bureau's population share that each age is projected to take in 2025 and then to sum across the 21 age groups. That is,

$$\hat{H}_j^{2025} = \sum_{a=60}^{80} b_a \hat{H}_{a,j}^{2025} \quad (5)$$

where the projected share of the 60–80 year old population for each age group between 60 and 80 in 2025. We obtain the population projections from the U.S. Census Bureau and these can be found in Appendix Table 20.[17]

Our initial attempts to implement equations (3)–(5) were met with mixed success. Further analysis revealed high collinearity between the variable AGE and the variables WHITE and HSGRAD; that is, those most likely to live into their 70s are white persons with at least a high school diploma. We thus pursued two alternatives. In our baseline specification we dropped both WHITE and HSGRAD from equations (3) and (4) and instead estimated

$$H_{a,j} = a_{0,j} + a_{1,j} OWN_{a-20} + a_{2,j} POOR_{a-20} + a_{3,j} FEMALE_{a-20} + a_{4,j} AGE_{a-20} + a_{5,j} ALONE_{a-20} + e_{a,j} \quad (3")$$

and

17. The data are found at http://www.census.gov/population/www/projections/projectionsagesex.html. For the age 80 group we sum up the projected population for those older than 80 years of age.

$$\hat{H}^{2025}_{a,j} = \hat{a}_{0,j} + \hat{a}_{1,j} OWN^{2005}_{a-20} + \hat{a}_{2,j} POOR^{2005}_{a-20} + \hat{a}_{3,j} FEMALE^{2005}_{a-20} + \hat{a}_{4,j} AGE^{2005}_{a-20} + \hat{a}_{5,j} ALONE^{2005}_{a-20} \quad (4")$$

In the second alternative we instead estimated equation (3) in first differences, i.e. by subtracting the values for someone of age 80 from the corresponding values of a 79 year old, the values for someone of age 79 from the corresponding 78 year old, and so on. Rewriting the model in this way yields

$$\Delta H_{a,j} = a_{1,j} \Delta OWN_{a-20} + a_{2,j} \Delta POOR_{a-20} + a_{3,j} \Delta FEMALE_{a-20} + a_{4,j} \Delta AGE_{a-20} + a_{5,j} \Delta ALONE_{a-20} + a_{6,j} \Delta WHITE_{a-20} + a_{7,j} \Delta HSGRAD_{a-20} + \Delta e_{a,j} \quad (6)$$

where $\Delta$ is known as the first-difference operator such that $\Delta H_{a,j} \equiv H_{a,j} - H_{a-1,j}$ and the remaining variables are similarly defined.[18] In this case equation (4) is implemented as

$$\hat{H}^{2025}_{a,j} = \hat{a}_1 \Delta OWN^{2005}_{a-20} + \hat{a}_2 \Delta POOR^{2005}_{a-20} + \hat{a}_3 \Delta FEMALE^{2005}_{a-20} + \hat{a}_4 \Delta AGE^{2005}_{a-20} + \hat{a}_5 \Delta ALONE^{2005}_{a-20} + \hat{a}_6 \Delta WHITE^{2005}_{a-20} + \hat{a}_7 \Delta HSGRAD^{2005}_{a-20} + H^{2005}_{a-1,j} \quad (7)$$

For both of these modifications the third step of equation (5) remains the same.

The results from estimating equations (3") and (6) are found in Appendix Table 21, and the corresponding projections from equation (5) for each model are recorded in Table 24. The top panel of Table 24 is based on levels predictions from equation (4") and the bottom panel is based on first-difference predictions from equation (7). The table contains projections of both the fraction and number of seniors expected to be marginally food insecure, food insecure, or very low food secure. Because the projections are based on estimated parameters we also present the lower and upper bounds of the 95 percent confidence interval in square brackets.

Our baseline projection from the levels model is that there will be 9.5 million seniors experiencing marginal food insecurity in 2025, which amounts to 11.25 percent of the senior population. The 95 percent confidence interval ranges from 7.5 percent to 14.9 percent, or from 6.4 million seniors to almost 13 million. For the two more severe measures of hunger risk, the levels projections are as follows: for food insecurity, 3.9 million seniors (4.6 percent), and for very low food security, 1.0 million seniors (1.2 per-

18. Because the variable AGE increases by one year for each observation in equation (3) this becomes the model's constant term in equation (6). In language common to time-series analyses, equation (3) assumes that the variables are "trend stationary" while equation (6) assumes that they are "difference stationary." Given the cointegration between age and high school graduation, the difference stationary model of equation (6) is likely more robust.

**Table 24**. Projections of Senior Hunger in the Year 2025

| | Levels Model Predictions Controlling for Homeownership, Poverty Status, Female, Age, Living Alone | |
|---|---|---|
| | Percent (%) | Number (millions) |
| Marginally Food Insecure | 11.25 [7.53, 14.98] | 9.53 [6.38, 12.70] |
| Food Insecure | 4.56 [3.32, 5.80] | 3.86 [2.81, 4.91] |
| Very Low Food Secure | 1.20 [0.87, 1.54] | 1.02 [0.73, 1.30] |

| | First-Difference Model Predictions Controlling for Homeownership, Poverty Status, Female, Age, Living Alone | |
|---|---|---|
| | Percent (%) | Number (millions) |
| Marginally Food Insecure | 11.55 [7.61, 15.48] | 9.77 [6.44, 13 10] |
| Food Insecure | 5.51 [3.49, 7.52] | 4.66 [2.96, 6.37] |
| Very Low Food Secure | 1.71 [1.06, 2.36] | 1.45 [0.90, 1.99] |

Note: The numbers in square brackets are the lower bound and upper bound of the 95 percent confidence interval around our point estimates.

cent). The bottom panel of Table 24 shows that the baseline projections are quite robust to the addition of race and education, and the use of the more complicated techniques in equations (6) and (7). In this case we project 9.8 million, 4.7 million, and 1.5 million seniors to be marginally food insecure, food insecure, and very low food secure, respectively.

The projected numbers of seniors who will experience each type of food insecurity in 2025 are about 75 percent, 50 percent, and 33 percent higher, respectively, than our current estimates in Table 2. As a fraction of the senior population, though, these projected numbers are remarkably stable compared to current data. We believe that a couple of countervailing forces are at work—the growth in the fraction of high school graduates between the mid 1980s and mid 2000s is pulling down our estimates while at the same time the growth of the non-white population over the same period is pushing the estimates upward. Such stability is not without precedent in key social indicators; witness the remarkable stickiness of the U.S. poverty rate over the past two decades.

Making projections twenty years into the future is a useful exercise but one that should be accompanied with some caveats. The strength of our methodology here is its transparency relative to potentially much more complicated (general equilibrium) models of the economy, but its main drawback is the assumption of constant cohort effects over time that yields a stable relationship between current year predic-

tions of food insecurity and future projections. For example, our projections implicitly assume that older persons in 2025 will have lower food insecurity rates than younger persons, consistent with what we find in comparisons in 2001-2005. However, these lower food insecurity rates may reflect a cohort effect for younger seniors rather than an age effect. In other words, it could be that those born after 1935 are more likely to be food insecure at later ages than those born before 1935. One possibility is that the current generation of older seniors developed effective coping strategies in light of their first hand experiences with major economic and social changes from the Great Depression and World War II and thus are less likely to report food insecurity. Given that current 40 to 60 year olds have not faced social dislocations on a similar scale, and thus have had less need to develop coping strategies for food need, they may be more likely to report food insecurity when they reach the ages of 60 to 80 in 2025. In other work, Gundersen and Ziliak (forthcoming) find that this cohort effect occurs with respect to food stamp participation. Likewise, unforeseen negative economic events could lead to higher rates of poverty in coming decades, and thus lead to higher risk of hunger by 2025. These contingencies mean that our projections may be too low.

The projected numbers of seniors who will experience each type of food insecurity in 2025 are about 75 percent, 50 percent, and 33 percent higher, respectively, than our current estimates in Table 2.

Alternatively, our projections may be too high. For example, if strong economic growth in the future reduces poverty substantially it is possible our estimates of food insecurity will be too high. Moreover, we recognize the profound influence that elderly nutrition programs such as Meals On Wheels have on alleviating senior hunger in America. As the MOWAAF expands its programs and builds on the research in this proposal, this will surely lead to further reductions in hunger. Thus, if these efforts come to fruition, our estimates here would overstate the extent of food insecurity among seniors in the future.

## VII. Conclusion

This report represents the first comprehensive effort to describe the face of senior hunger in America, identify the determinants and health consequences of senior hunger, and make projections of future hunger among seniors. Using data from the 2001-2005 Current Population Survey (CPS), a nationally representative survey of over 50,000 households per year, we examined the characteristics of persons aged 60 and over who are at-risk of hunger and those who are suffering from hunger. In 2005 (the last year of our study), over 5 million seniors--11.4% of all seniors—experienced some form of food insecurity (i.e.,

are marginally food insecure). Of these, about 2.5 million are at-risk of hunger (i.e. are food insecure), and about 750,000 actually experienced hunger (i.e., very low food security) due to financial constraints.

These aggregate measures of food insecurity do not portray, however, the diversity in experiences of food insecurity among seniors. Among seniors, those with limited incomes, under age 70, African-Americans, Hispanics, never-married individuals, renters, and persons living in the South are all more likely to be at-risk of hunger. At the same time the risk of hunger extends up into the income and wealth distributions. For example, over 50 percent of all seniors who are at-risk of hunger have incomes above the poverty line, and nearly one-fourth have net worth exceeding $50,000. Likewise, hunger risk is present in all demographic groups. For example, even though African Americans are over represented amongst the food insecure, over two-thirds of seniors at-risk of hunger are white.

Descriptive statistics about hunger among seniors is an important first step to enhancing the efforts of MOWAAF and others as they seek to improve the status of seniors in America. In this report we went one step forward to examine, controlling for other factors, what determines why some seniors are food insecure and others are not. To do so, we first used data from the 2001-2005 CPS. We found that after controlling for other relevant factors in the senior population, seniors are more likely to be at-risk of hunger if they are ages 60 to 64, poor, African-American or Hispanic, a high school dropout, divorced or separated, living with a grandchild, or a renter. Perhaps the most surprising result in this part of our analysis is the declining age gradient in food insecurity among the senior population. For example, our results suggest that an 84 year old is over one-third less likely to be at-risk of hunger than a 64 year old on the baseline food insecurity rate of 5.6 percent. While the pathways underlying this age gradient are potentially many and varied, our results highlight a sizable population facing an unmet food need that is likely to grow significantly with the 'Baby Boom' generation entering their sixties.

We also considered two additional determinants of food insecurity, one relating to social isolation and the other to wealth. Using data from the 1999-2002 National Health and Nutrition Examination Survey (NHANES) we found that, after controlling for other factors, seniors without access to emotional and financial support are substantially more likely to suffer from hunger. Data from the 1999–2003 Panel Study of Income Dynamics suggested that the household's asset position shelters the family from the risk of hunger—having net worth in excess of $100,000 reduces the probability of being marginally food insecure by nearly 6 percentage points, or nearly two-thirds.

The efforts of MOWAAF to alleviate the extent of senior hunger in America and address its consequences would be relevant even if there were no negative health consequences associated with food insecurity; that seniors are experiencing hunger is reason enough. Unfortunately, senior hunger is associated with a number of negative health consequences. Using data from the 1999-2002 NHANES, we examined the health consequences of hunger for Americans over the age of 60. After controlling for other risk factors for poor health we find that seniors at-risk of hunger are significantly more likely to be in poor or fair health, more likely to have limitations in activities of daily living (ADL), more likely to suffer from depression, and more likely to have lower intakes of energy and major vitamins.

MOWAAF has made the alleviation of senior hunger a centerpiece of its numerous efforts to help Americans. To see the potential importance of these future efforts, using data from multiple years of the Current Population Survey and projections of the age-composition of senior Americans from the U.S. Census Bureau, we made projections of the extent of hunger in the year 2025. The relevancy of MOWAAF will be present far into the future. In 2025, we estimate that 9.5 million senior Americans will experience some form of food insecurity, almost double the number in 2005. In addition, in 2025, an estimated 3.9 million senior Americans will be at-risk of hunger and over 1 million senior Americans will suffer from hunger.

This report represents an important contribution to our understanding of senior hunger in America. Much work remains to be done, however, in efforts to ensure that no senior be at risk of going without food. We identify two key areas for future research. First, we need to be kept up-to-date on the extent of senior hunger along with the determinants and consequences of senior hunger. If the population of seniors was relatively static, such research would not be as relevant. But this is not the case – the population of seniors is changing rapidly, both in size and composition. Thus, we would anticipate that issues of senior hunger will change as well. In response, we recommend an annual updating of this report. Such a report would allow MOWAAF to identify the implications of these rapid changes among seniors. Second, we found some striking, and heretofore undocumented, results that the probability of food insecurity declines along the age gradient, that it rises significantly for those seniors living with a grandchild, and that it rises significantly for those socially isolated. Further research into the causal mechanisms of these processes is merited in order for MOWAAF, ENP, the Food Stamp Program, and related organizations to better target food-related services.

# Appendix

**Appendix Table 1:** Questions on the Core Food Security Module

| Food Insecurity Question | Asked of Households without Children | Asked of Households without Children |
|---|---|---|
| 1. "We worried whether our food would run out before we got money to buy more." Was that **often, sometimes**, or never true for you in the last 12 months? | x | x |
| 2. "The food that we bought just didn't last and we didn't have money to get more." Was that **often, sometimes**, or never true for you in the last 12 months? | x | x |
| 3. "We couldn't afford to eat balanced meals." Was that **often, sometimes**, or never true for you in the last 12 months? | x | x |
| 4. "We relied on only a few kinds of low-cost food to feed our children because we were running out of money to buy food." Was that **often, sometimes**, or never true for you in the last 12 months? | x | |
| 5. In the last 12 months, did you or other adults in the household ever cut the size of your meals or skip meals because there wasn't enough money for food? (**Yes**/No) | x | x |
| 6. "We couldn't feed our children a balanced meal, because we couldn't afford that." Was that **often, sometimes**, or never true for you in the last 12 months? | x | |
| 7. In the last 12 months, did you ever eat less than you felt you should because there wasn't enough money for food? (**Yes**/No) | x | x |
| 8. (If yes to Question 5) How often did this happen—**almost every month, some months but not every month**, or in only 1 or 2 months? | x | x |
| 9. "The children were not eating enough because we just couldn't afford enough food." Was that **often, sometimes**, or never true for you in the last 12 months? | x | |
| 10. In the last 12 months, were you ever hungry, but didn't eat, because you couldn't afford enough food? (**Yes**/No) | x | x |
| 11. In the last 12 months, did you lose weight because you didn't have enough money for food? (**Yes**/No) | x | x |
| 12. In the last 12 months, did you ever cut the size of any of the children's meals because there wasn't enough money for food? (**Yes**/No) | x | |
| 13. In the last 12 months did you or other adults in your household ever not eat for a whole day because there wasn't enough money for food? (**Yes**/No) | x | x |
| 14. In the last 12 months, were the children ever hungry but you just couldn't afford more food? (**Yes**/No) | x | |
| 15. (If yes to Question 13) How often did this happen—**almost every month, some months but not every month**, or in only 1 or 2 months? | x | x |
| 16. In the last 12 months, did any of the children ever skip a meal because there wasn't enough money for food? (**Yes**/No) | x | |
| 17. (If yes to Question 16) How often did this happen—**almost every month, some months but not every month**, or in only 1 or 2 months? | x | |
| 18. In the last 12 months did any of the children ever not eat for a whole day because there wasn't enough money for food? (**Yes**/No) | x | |

Notes: Responses in bold indicate an "affirmative" response.

**Appendix Table 2.** Food Insecurity Rates for Seniors below Poverty Line

| | Marginally Food Insecure | Food Insecure | Very Low Food Secure |
|---|---|---|---|
| Full Sample | 38.86 | 21.91 | 8.15 |
| Year | | | |
| 2001 | 39.85 | 20.87 | 6.58 |
| 2002 | 35.19 | 21.97 | 9.25 |
| 2003 | 38.55 | 22.24 | 8.38 |
| 2004 | 40.40 | 22.25 | 8.70 |
| 2005 | 40.65 | 22.44 | 7.89 |
| Racial Categories | | | |
| White | 35.28 | 18.48 | 6.71 |
| African American | 52.74 | 35.78 | 13.83 |
| Other | 3.84 | 15.56 | 6.03 |
| Hispanic Status | | | |
| Hispanic | 46.74 | 24.27 | 6.91 |
| Non-Hispanic | 37.46 | 21.49 | 8.37 |
| Marital Status | | | |
| Married | 37.11 | 19.49 | 5.98 |
| Widowed | 35.35 | 19.41 | 6.57 |
| Divorced or Separated | 47.96 | 29.76 | 13.74 |
| Never Married | 52.19 | 33.57 | 17.96 |
| Homeownership Status | | | |
| Homeowner | 33.80 | 17.72 | 5.35 |
| Renter | 46.21 | 28.01 | 12.21 |
| Metropolitan Location | | | |
| Non-Metro | 35.79 | 21.68 | 8.07 |
| Metro | 40.16 | 22.01 | 8.18 |
| Region | | | |
| Northeast | 34.66 | 17.82 | 6.62 |
| Midwest | 33.38 | 17.85 | 5.65 |
| South | 41.93 | 25.32 | 9.49 |
| West | 41.01 | 21.67 | 8.87 |
| Age | | | |
| Less than 70 | 47.53 | 29.15 | 11.33 |
| Between 70 and 80 | 37.05 | 19.77 | 7.19 |
| More than 80 | 26.82 | 12.79 | 4.16 |
| Employment Status | | | |
| Employed | 30.75 | 15.95 | 5.39 |
| Unemployed | 57.39 | 41.86 | 12.92 |
| Retired | 33.20 | 17.40 | 5.99 |
| Disabled | 57.75 | 36.42 | 15.37 |
| Food Stamp | | | |
| Recipient | 64.29 | 39.16 | 15.86 |
| Non Recipient | 32.77 | 17.79 | 6.30 |
| Grandchild or Parent Present | | | |
| No Grandchild and Parent Present | 37.18 | 20.55 | 7.72 |
| Grandchild and Parent Present | 64.65 | 43.33 | 17.30 |
| Grandchild Present | 50.68 | 34.01 | 10.70 |
| Gender | | | |
| Female | 37.84 | 20.88 | 7.38 |
| Male | 40.81 | 23.88 | 9.61 |
| Living Arrangement | | | |
| Living Alone | 35.75 | 20.72 | 8.49 |
| Not Living Alone | 41.89 | 23.08 | 7.81 |
| Education | | | |
| Less than High School | 43.56 | 25.22 | 9.35 |
| High School only | 33.18 | 17.56 | 6.39 |
| Some College | 36.09 | 21.55 | 8.82 |
| College Degree more | 25.35 | 11.29 | 3.53 |

**Appendix Table 3.** Food Insecurity Rates for Seniors between 100 and 200 Percent of the Poverty Line

| | Marginally Food Insecure | Food Insecure | Very Low Food Secure |
|---|---|---|---|
| Full Sample | 19.93 | 8.91 | 2.42 |
| Year | | | |
| 2001 | 16.39 | 7.58 | 1.40 |
| 2002 | 19.72 | 9.46 | 2.02 |
| 2003 | 20.73 | 9.64 | 2.75 |
| 2004 | 22.98 | 8.82 | 2.62 |
| 2005 | 20.04 | 9.14 | 3.41 |
| Racial Categories | | | |
| White | 17.97 | 7.46 | 1.98 |
| African American | 33.66 | 18.95 | 5.76 |
| Other | 27.58 | 14.90 | 3.57 |
| Hispanic Status | | | |
| Hispanic | 25.06 | 12.49 | 1.82 |
| Non-Hispanic | 19.42 | 8.56 | 2.49 |
| Marital Status | | | |
| Married | 18.50 | 8.49 | 2.02 |
| Widowed | 19.94 | 8.17 | 2.31 |
| Divorced or Separated | 24.01 | 12.36 | 4.25 |
| Never Married | 37.58 | 19.23 | 5.95 |
| Homeownership Status | | | |
| Homeowner | 17.98 | 7.41 | 1.95 |
| Renter | 27.33 | 14.60 | 4.22 |
| Metropolitan Location | | | |
| Non-Metro | 18.72 | 8.08 | 1.81 |
| Metro | 20.41 | 9.24 | 2.67 |
| Region | | | |
| Northeast | 20.11 | 9.45 | 2.45 |
| Midwest | 16.92 | 6.64 | 2.10 |
| South | 21.31 | 9.86 | 2.89 |
| West | 21.08 | 9.59 | 1.92 |
| Age | | | |
| Less than 70 | 24.25 | 12.53 | 3.43 |
| Between 70 and 80 | 18.90 | 7.57 | 1.91 |
| More than 80 | 14.99 | 5.54 | 1.72 |
| Employment Status | | | |
| Employed | 19.10 | 9.16 | 1.58 |
| Unemployed | 35.43 | 19.73 | 7.97 |
| Retired | 17.66 | 7.21 | 1.97 |
| Disabled | 37.20 | 20.75 | 6.61 |
| Food Stamp | | | |
| Recipient | 51.55 | 31.32 | 10.52 |
| Non Recipient | 18.70 | 8.04 | 2.11 |
| Grandchild or Parent Present | | | |
| No Grandchild and Parent Present | 18.63 | 7.99 | 2.27 |
| Grandchild and Parent Present | 37.35 | 20.48 | 5.24 |
| Grandchild Present | 35.60 | 23.83 | 2.96 |
| Gender | | | |
| Female | 19.80 | 8.36 | 2.25 |
| Male | 20.14 | 9.77 | 2.69 |
| Living Arrangement | | | |
| Living Alone | 18.80 | 7.88 | 2.71 |
| Not Living Alone | 20.55 | 9.47 | 2.27 |
| Education | | | |
| Less than High School | 25.68 | 11.59 | 3.10 |
| High School only | 16.81 | 7.38 | 2.05 |
| Some College | 16.91 | 7.48 | 2.27 |
| College Degree more | 16.03 | 7.72 | 1.48 |

**Appendix Table 4.** Food Insecurity Rates for Seniors above 200 Percent of the Poverty Line

| | Marginally Food Insecure | Food Insecure | Very Low Food Secure |
|---|---|---|---|
| Full Sample | 3.90 | 1.57 | 0.35 |
| Year | | | |
| 2001 | 3.22 | 1.02 | 0.25 |
| 2002 | 3.40 | 1.27 | 0.28 |
| 2003 | 3.69 | 1.55 | 0.27 |
| 2004 | 3.96 | 1.70 | 0.37 |
| 2005 | 5.09 | 2.19 | 0.57 |
| Racial Categories | | | |
| White | 3.51 | 1.37 | 0.30 |
| African American | 8.83 | 4.17 | 0.94 |
| Other | 6.03 | 2.27 | 0.72 |
| Hispanic Status | | | |
| Hispanic | 9.36 | 4.06 | 0.91 |
| Non-Hispanic | 3.66 | 1.45 | 0.33 |
| Marital Status | | | |
| Married | 3.25 | 1.10 | 0.17 |
| Widowed | 4.99 | 2.35 | 0.83 |
| Divorced or Separated | 6.00 | 3.03 | 0.70 |
| Never Married | 7.98 | 2.84 | 0.93 |
| Homeownership Status | | | |
| Homeowner | 3.55 | 1.34 | 0.28 |
| Renter | 7.90 | 4.15 | 1.20 |
| Metropolitan Location | | | |
| Non-Metro | 3.99 | 1.42 | 0.36 |
| Metro | 3.88 | 1.60 | 0.35 |
| Region | | | |
| Northeast | 3.43 | 1.32 | 0.22 |
| Midwest | 4.03 | 1.75 | 0.41 |
| South | 4.06 | 1.53 | 0.33 |
| West | 3.92 | 1.65 | 0.46 |
| Age | | | |
| Less than 70 | 4.22 | 1.80 | 0.39 |
| Between 70 and 80 | 3.67 | 1.29 | 0.32 |
| More than 80 | 3.13 | 1.24 | 0.27 |
| Employment Status | | | |
| Employed | 3.68 | 1.69 | 0.36 |
| Unemployed | 14.62 | 3.93 | 0.78 |
| Retired | 3.49 | 1.23 | 0.27 |
| Disabled | 8.75 | 4.45 | 1.25 |
| Food Stamp | | | |
| Recipient | 56.29 | 36.88 | 2.67 |
| Non Recipient | 3.73 | 1.45 | 0.35 |
| Grandchild or Parent Present | | | |
| No Grandchild and Parent Present | 3.64 | 1.49 | 0.33 |
| Grandchild and Parent Present | 7.59 | 2.05 | 0.72 |
| Grandchild Present | 11.95 | 2.12 | 0 |
| Gender | | | |
| Female | 4.35 | 1.81 | 0.45 |
| Male | 3.44 | 1.31 | 0.26 |
| Living Arrangement | | | |
| Living Alone | 4.27 | 2.14 | 0.73 |
| Not Living Alone | 3.82 | 1.43 | 0.27 |
| Education | | | |
| Less than High School | 8.16 | 3.42 | 0.54 |
| High School only | 4.58 | 1.92 | 0.44 |
| Some College | 3.66 | 1.50 | 0.40 |
| College Degree more | 1.58 | 0.45 | 0.14 |

**Appendix Table 5.** Food Insecurity Rates for African American Seniors

| | Marginally Food Insecure | Food Insecure | Very Low Food Secure |
|---|---|---|---|
| Full Sample | 27.72 | 16.83 | 5.46 |
| Year | | | |
| 2001 | 27.86 | 17.05 | 3.88 |
| 2002 | 26.76 | 17.45 | 6.18 |
| 2003 | 25.83 | 15.84 | 5.11 |
| 2004 | 29.21 | 15.97 | 5.42 |
| 2005 | 28.99 | 18.03 | 6.69 |
| Income Categories | | | |
| Below 50% of the Poverty Line | 66.29 | 50.52 | 22.06 |
| Between 50% and 100% of the Poverty Line | 49.15 | 31.87 | 11.65 |
| Between 100% and 200% of the Poverty Line | 33.66 | 18.95 | 5.76 |
| Above 200% of the Poverty Line | 8.83 | 4.17 | 0.94 |
| Missing Income | 21.84 | 12.56 | 3.03 |
| Hispanic Status | | | |
| Hispanic | 29.24 | 17.19 | 6.66 |
| Non-Hispanic | 27.70 | 16.82 | 5.54 |
| Marital Status | | | |
| Married | 20.69 | 12.07 | 2.76 |
| Widowed | 33.92 | 20.67 | 6.64 |
| Divorced or Separated | 31.83 | 20.88 | 9.04 |
| Never Married | 35.70 | 22.92 | 8.71 |
| Homeownership Status | | | |
| Homeowner | 22.85 | 13.28 | 3.32 |
| Renter | 40.78 | 26.63 | 11.20 |
| Metropolitan Location | | | |
| Non-Metro | 38.75 | 25.92 | 5.44 |
| Metro | 25.73 | 15.20 | 5.60 |
| Region | | | |
| Northeast | 25.74 | 13.70 | 5.94 |
| Midwest | 25.04 | 15.78 | 4.93 |
| South | 30.35 | 19.13 | 5.71 |
| West | 21.76 | 12.05 | 3.89 |
| Age | | | |
| Less than 70 | 27.14 | 17.16 | 5.66 |
| Between 70 and 80 | 28.27 | 16.72 | 5.09 |
| More than 80 | 28.52 | 15.95 | 5.62 |
| Employment Status | | | |
| Employed | 16.67 | 10.17 | 1.78 |
| Unemployed | 43.74 | 24.28 | 11.19 |
| Retired | 25.81 | 14.62 | 4.73 |
| Disabled | 45.52 | 31.59 | 11.71 |
| Food Stamp | | | |
| Recipient | 68.34 | 49.87 | 21.16 |
| Non Recipient | 23.79 | 13.64 | 3.94 |
| Grandchild or Parent Present | | | |
| No Grandchild and Parent Present | 26.51 | 15.84 | 5.21 |
| Grandchild and Parent Present | 28.35 | 21.58 | 6.91 |
| Grandchild Present | 42.47 | 31.29 | 8.36 |
| Gender | | | |
| Female | 30.07 | 17.91 | 5.74 |
| Male | 24.20 | 15.23 | 5.04 |
| Living Arrangement | | | |
| Living Alone | 32.58 | 20.01 | 8.08 |
| Not Living Alone | 25.48 | 15.37 | 4.26 |
| Education | | | |
| Less than High School | 37.17 | 23.77 | 7.87 |
| High School only | 25.19 | 14.31 | 4.28 |
| Some College | 18.81 | 11.27 | 3.34 |
| College Degree more | 11.19 | 5.14 | 2.57 |

**Appendix Table 6.** Food Insecurity Rates for Hispanic Seniors

| | Marginally Food Insecure | Food Insecure | Very Low Food Secure |
|---|---|---|---|
| Full Sample | 24.36 | 12.98 | 3.05 |
| Year | | | |
| 2001 | 27.12 | 14.45 | 2.37 |
| 2002 | 25.35 | 13.48 | 3.55 |
| 2003 | 23.53 | 14.31 | 2.68 |
| 2004 | 28.44 | 14.44 | 5.34 |
| 2005 | 18.03 | 8.69 | 1.45 |
| Income Categories | | | |
| Below 50% of the Poverty Line | 45.92 | 20.66 | 8.29 |
| Between 50% and 100% of the Poverty Line | 46.92 | 25.06 | 6.60 |
| Between 100% and 200% of the Poverty Line | 25.06 | 12.49 | 1.82 |
| Above 200% of the Poverty Line | 9.36 | 4.06 | 0.91 |
| Missing Income | 18.76 | 13.18 | 3.24 |
| Racial Categories | | | |
| White | 24.09 | 12.66 | 2.99 |
| African American | 29.24 | 17.19 | 6.62 |
| Other | 31.97 | 24.25 | 1.62 |
| Marital Status | | | |
| Married | 20.14 | 10.34 | 2.49 |
| Widowed | 28.00 | 15.24 | 2.48 |
| Divorced or Separated | 28.24 | 16.19 | 4.34 |
| Never Married | 44.89 | 26.67 | 11.39 |
| Homeownership Status | | | |
| Homeowner | 18.31 | 9.21 | 1.61 |
| Renter | 39.97 | 22.70 | 6.77 |
| Metropolitan Location | | | |
| Non-Metro | 21.03 | 13.61 | 3.83 |
| Metro | 24.70 | 12.91 | 2.97 |
| Region | | | |
| Northeast | 23.39 | 13.29 | 3.17 |
| Midwest | 17.03 | 8.72 | 1.29 |
| South | 23.58 | 12.52 | 2.60 |
| West | 27.00 | 14.15 | 3.87 |
| Age | | | |
| Less than 70 | 23.96 | 13.24 | 3.22 |
| Between 70 and 80 | 24.70 | 13.10 | 3.09 |
| More than 80 | 25.26 | 11.52 | 2.18 |
| Employment Status | | | |
| Employed | 15.13 | 7.80 | 1.24 |
| Unemployed | 46.43 | 32.26 | 4.00 |
| Retired | 22.16 | 11.53 | 2.34 |
| Disabled | 41.56 | 22.84 | 7.44 |
| Food Stamp | | | |
| Recipient | 60.66 | 34.31 | 9.76 |
| Non Recipient | 20.99 | 11.00 | 2.43 |
| Grandchild or Parent Present | | | |
| College Degree more | 10.08 | 6.22 | 2.92 |

**Appendix Table 7.** Food Insecurity Rates for Seniors Receiving Food Stamps

| | Marginally Food Insecure | Food Insecure | Very Low Food Secure |
|---|---|---|---|
| Full Sample | 62.68 | 38.94 | 15.12 |
| Year | | | |
| 2001 | 64.00 | 35.82 | 10.51 |
| 2002 | 60.78 | 39.49 | 16.92 |
| 2003 | 60.81 | 41.42 | 16.01 |
| 2004 | 62.74 | 36.61 | 16.02 |
| 2005 | 63.63 | 40.68 | 15.42 |
| Income Categories | | | |
| Below 50% of the Poverty Line | 69.95 | 44.53 | 18.58 |
| Between 50% and 100% of the Poverty Line | 62.89 | 37.84 | 15.18 |
| Between 100% and 200% of the Poverty Line | 51.55 | 31.32 | 10.52 |
| Above 200% of the Poverty Line | 56.29 | 36.88 | 2.67 |
| Missing Income | 82.52 | 57.32 | 27.75 |
| Racial Categories | | | |
| White | 60.33 | 34.91 | 12.79 |
| African American | 68.34 | 49.87 | 21.16 |
| Other | 66.17 | 37.27 | 16.02 |
| Hispanic Status | | | |
| Hispanic | 60.66 | 39.93 | 9.77 |
| Non-Hispanic | 63.12 | 34.31 | 16.28 |
| Marital Status | | | |
| Married | 61.08 | 38.71 | 13.55 |
| Widowed | 59.23 | 36.34 | 12.92 |
| Divorced or Separated | 66.90 | 40.18 | 17.43 |
| Never Married | 72.94 | 50.11 | 25.43 |
| Homeownership Status | | | |
| Homeowner | 58.14 | 34.20 | 11.42 |
| Renter | 66.16 | 42.81 | 18.14 |
| Metropolitan Location | | | |
| Non-Metro | 63.11 | 40.69 | 16.95 |
| Metro | 62.53 | 38.33 | 14.49 |
| Region | | | |
| Northeast | 56.88 | 33.68 | 12.20 |
| Midwest | 57.10 | 37.20 | 11.19 |
| South | 66.03 | 42.65 | 17.68 |
| West | 68.49 | 36.13 | 16.77 |
| Age | | | |
| Less than 70 | 67.09 | 46.00 | 19.26 |
| Between 70 and 80 | 59.75 | 34.17 | 11.20 |
| More than 80 | 54.42 | 25.94 | 10.22 |
| Employment Status | | | |
| Employed | 58.49 | 37.67 | 7.99 |
| Unemployed | 91.79 | 76.59 | 6.44 |
| Retired | 55.83 | 32.78 | 11.09 |
| Disabled | 73.07 | 47.44 | 22.93 |
| Grandchild or Parent Present | | | |
| No Grandchild and Parent Present | 61.61 | 38.19 | 15.67 |
| Grandchild and Parent Present | 57.65 | 29.16 | 7.05 |
| Grandchild Present | 73.63 | 57.43 | 18.02 |
| Gender | | | |
| Female | 61.61 | 38.09 | 14.62 |
| Male | 64.98 | 40.76 | 16.21 |
| Living Arrangement | | | |
| Living Alone | 59.98 | 36.07 | 15.87 |
| Not Living Alone | 67.80 | 41.19 | 14.55 |
| Education | | | |
| Less than High School | 64.97 | 40.58 | 15.80 |
| High School only | 57.48 | 34.73 | 11.87 |
| Some College | 65.72 | 41.64 | 22.34 |
| College Degree more | 58.14 | 37.60 | 11.29 |

**Appendix Table 8.** Food Insecurity Rates for Never-Married Seniors

| | Marginally Food Insecure | Food Insecure | Very Low Food Secure |
|---|---|---|---|
| Full Sample | 27.41 | 15.99 | 7.13 |
| Year | | | |
| 2001 | 30.80 | 10.36 | 5.61 |
| 2002 | 28.16 | 13.89 | 7.91 |
| 2003 | 26.51 | 17.49 | 9.68 |
| 2004 | 25.29 | 16.43 | 4.81 |
| 2005 | 25.94 | 22.31 | 7.67 |
| Income Categories | | | |
| Below 50% of the Poverty Line | 48.35 | 28.70 | 12.81 |
| Between 50% and 100% of the Poverty Line | 53.33 | 35.01 | 19.49 |
| Between 100% and 200% of the Poverty Line | 37.58 | 19.23 | 5.95 |
| Above 200% of the Poverty Line | 7.98 | 2.84 | 0.93 |
| Missing Income | 13.15 | 8.21 | 2.50 |
| Racial Categories | | | |
| White | 23.27 | 12.82 | 6.75 |
| African American | 36.70 | 22.91 | 8.71 |
| Other | 17.66 | 9.72 | 1.08 |
| Hispanic Status | | | |
| Hispanic | 44.89 | 26.67 | 11.73 |
| Non-Hispanic | 23.39 | 13.53 | 6.07 |
| Homeownership Status | | | |
| Homeowner | 18.73 | 8.18 | 3.12 |
| Renter | 36.51 | 24.18 | 11.34 |
| Metropolitan Location | | | |
| Non-Metro | 28.61 | 18.84 | 8.93 |
| Metro | 27.18 | 15.44 | 6.79 |
| Region | | | |
| Northeast | 21.99 | 10.63 | 5.29 |
| Midwest | 20.78 | 13.70 | 7.16 |
| South | 34.12 | 20.44 | 8.12 |
| West | 26.31 | 16.63 | 8.07 |
| Age | | | |
| Less than 70 | 27.56 | 15.67 | 7.43 |
| Between 70 and 80 | 27.70 | 18.70 | 6.48 |
| More than 80 | 24.55 | 7.25 | 6.79 |
| Employment Status | | | |
| Employed | 13.04 | 6.77 | 2.76 |
| Unemployed | 19.88 | 11.69 | 11.69 |
| Retired | 26.87 | 15.43 | 5.98 |
| Disabled | 47.32 | 29.26 | 15.14 |
| Food Stamp | | | |
| Recipient | 72.94 | 50.11 | 25.43. |
| Non Recipient | 20.03 | 10.46 | 4.16 |
| Grandchild or Parent Present | | | |
| No Grandchild and Parent Present | 25.87 | 15.00 | 6.95 |
| Grandchild and Parent Present | 28.55 | 17.02 | 7.35 |
| Grandchild Present | 78.67 | 50.93 | 16.71 |
| Gender | | | |
| Female | 33.89 | 18.43 | 7.71 |
| Male | 19.26 | 12.91 | 6.40 |
| Living Arrangement | | | |
| Living Alone | 26.06 | 15.78 | 8.03 |
| Not Living Alone | 29.21 | 16.27 | 5.92 |
| Education | | | |
| Less than High School | 40.40 | 22.57 | 9.52 |
| High School only | 27.28 | 18.40 | 8.93 |
| Some College | 17.75 | 8.30 | 2.90 |
| College Degree more | 2.74 | 1.86 | 1.85 |

**Appendix Table 9.** Food Insecurity Rates for Seniors in Households with Grandchildren but no Parents

| | Marginally Food Insecure | Food Insecure | Very Low Food Secure |
|---|---|---|---|
| Full Sample | 30.34 | 19.13 | 3.92 |
| Year | | | |
| 2001 | 30.30 | 19.32 | 2.86 |
| 2002 | 32.00 | 19.51 | 7.49 |
| 2003 | 26.04 | 15.52 | 1.34 |
| 2004 | 31.15 | 22.76 | 3.80 |
| 2005 | 32.16 | 18.35 | 3.42 |
| Income Categories | | | |
| Below 50% of the Poverty Line | 54.46 | 39.34 | 4.28 |
| Between 50% and 100% of the Poverty Line | 49.64 | 32.55 | 12.46 |
| Between 100% and 200% of the Poverty Line | 35.60 | 23.83 | 2.96 |
| Above 200% of the Poverty Line | 11.95 | 2.12 | 0.00 |
| Missing Income | 23.38 | 16.83 | 2.26 |
| Racial Categories | | | |
| White | 26.23 | 14.51 | 2.07 |
| African American | 42.47 | 31.30 | 8.36 |
| Other | 19.70 | 19.70 | 8.00 |
| Hispanic Status | | | |
| Hispanic | 52.85 | 39.11 | 2.22 |
| Non-Hispanic | 28.16 | 17.20 | 4.09 |
| Marital Status | | | |
| Married | 22.69 | 12.02 | 1.12 |
| Widowed | 29.41 | 19.72 | 3.69 |
| Divorced or Separated | 47.85 | 34.15 | 12.00 |
| Never Married | 78.67 | 50.93 | 16.71 |
| Homeownership Status | | | |
| Homeowner | 25.23 | 12.84 | 2.49 |
| Renter | 50.03 | 43.36 | 9.48 |
| Metropolitan Location | | | |
| Non-Metro | 27.96 | 15.27 | 3.15 |
| Metro | 31.11 | 20.03 | 4.18 |
| Region | | | |
| Northeast | 41.23 | 25.81 | 3.28 |
| Midwest | 21.03 | 11.92 | 1.33 |
| South | 36.05 | 23.72 | 6.26 |
| West | 17.89 | 10.34 | 1.35 |
| Age | | | |
| Less than 70 | 35.37 | 22.36 | 4.61 |
| Between 70 and 80 | 25.19 | 14.01 | 3.21 |
| More than 80 | 20.70 | 17.59 | 2.66 |
| Employment Status | | | |
| Employed | 25.75 | 15.54 | 4.16 |
| Unemployed | 54.78 | 33.02 | 0.00 |
| Retired | 25.56 | 15.36 | 3.33 |
| Disabled | 49.85 | 34.98 | 6.25 |
| Food Stamp | | | |
| Recipient | 73.64 | 57.43 | 18.02 |
| Non Recipient | 24.45 | 13.92 | 2.01 |
| Gender | | | |
| Female | 35.47 | 24.43 | 5.06 |
| Male | 21.53 | 10.01 | 1.98 |
| Education | | | |
| Less than High School | 42.84 | 30.04 | 6.14 |
| High School only | 23.54 | 13.03 | 1.93 |
| Some College | 25.84 | 14.72 | 4.56 |
| College Degree more | 9.61 | 2.61 | 0.00 |

**Appendix Table 10.** Food Insecurity Rates for Seniors in Households with Grandchildren and Parents

| | Marginally Food Insecure | Food Insecure | Very Low Food Secure |
|---|---|---|---|
| Full Sample | 20.04 | 10.28 | 3.14 |
| Year | | | |
| 2001 | 17.96 | 8.13 | 2.99 |
| 2002 | 20.27 | 7.63 | 0.37 |
| 2003 | 19.42 | 12.94 | 5.63 |
| 2004 | 23.77 | 12.84 | 3.30 |
| 2005 | 18.92 | 10.13 | 3.55 |
| Income Categories | | | |
| Below 50% of the Poverty Line | 66.93 | 55.88 | 17.78 |
| Between 50% and 100% of the Poverty Line | 64.05 | 40.04 | 17.18 |
| Between 100% and 200% of the Poverty Line | 37.35 | 20.48 | 5.24 |
| Above 200% of the Poverty Line | 7.59 | 2.05 | 0.72 |
| Missing Income | 10.99 | 4.12 | 0.26 |
| Racial Categories | | | |
| White | 21.04 | 9.69 | 2.75 |
| African American | 28.35 | 21.57 | 6.91 |
| Other | 11.01 | 5.52 | 2.26 |
| Hispanic Status | | | |
| Hispanic | 31.87 | 17.94 | 3.83 |
| Non-Hispanic | 16.96 | 8.30 | 2.96 |
| Marital Status | | | |
| Married | 18.20 | 10.44 | 3.18 |
| Widowed | 19.33 | 9.20 | 2.73 |
| Divorced or Separated | 24.37 | 12.46 | 3.92 |
| Never Married | 28.55 | 17.01 | 7.35 |
| Homeownership Status | | | |
| Homeowner | 16.30 | 7.63 | 2.60 |
| Renter | 38.13 | 23.19 | 5.26 |
| Metropolitan Location | | | |
| Non-Metro | 26.43 | 11.53 | 5.17 |
| Metro | 19.31 | 10.53 | 2.91 |
| Region | | | |
| Northeast | 13.36 | 6.12 | 1.00 |
| Midwest | 22.18 | 11.62 | 3.46 |
| South | 24.21 | 11.19 | 3.69 |
| West | 19.18 | 10.84 | 3.89 |
| Age | | | |
| Less than 70 | 20.99 | 13.45 | 3.74 |
| Between 70 and 80 | 18.98 | 8.12 | 2.57 |
| More than 80 | 20.38 | 9.35 | 3.22 |
| Employment Status | | | |
| Employed | 18.41 | 10.97 | 1.17 |
| Unemployed | 69.58 | 45.12 | 10.51 |
| Retired | 18.12 | 8.28 | 2.70 |
| Disabled | 28.15 | 18.21 | 6.22 |
| Food Stamp | | | |
| Recipient | 57.65 | 29.16 | 7.04 |
| Non Recipient | 17.38 | 8.95 | 2.86 |
| Gender | | | |
| Female | 19.01 | 9.28 | 2.52 |
| Male | 22.94 | 13.16 | 4.91 |
| Education | | | |
| Less than High School | 24.75 | 12.41 | 3.72 |
| High School only | 17.77 | 10.28 | 3.26 |
| Some College | 14.12 | 5.56 | 2.91 |
| College Degree more | 11.36 | 4.62 | 0.00 |

**Appendix Table 11**. Descriptive Statistics from NHANES

| | Full Sample | Income under 200 percent |
|---|---|---|
| Food insecurity status | | |
| Fully food secure | 92 | 83 |
| Marginally food secure | 4 | 7 |
| Low food secure | 3 | 6 |
| Very low food secure | 2 | 4 |
| Income as a proportion of the poverty line | | |
| Below the poverty line | 11 | 32 |
| Between 100 and 200 percent of the poverty line | 24 | 68 |
| Above 200 percent of the poverty line | 64 | - |
| Marital status | | |
| Married | 63 | 43 |
| Divorced or never married | 13 | 20 |
| Widowed | 23 | 35 |
| Female | 55 | 62 |
| Race/ethnicity | | |
| White, non-Hispanic | 80 | 70 |
| Non-Hispanic African American | 9 | 12 |
| Hispanic | 8 | 15 |
| Other | 3 | 3 |
| High school graduate | 68 | 49 |
| Employment status | | |
| Employed | 22 | 12 |
| Unemployed | 1 | 1 |
| Out of labor force | 76 | 88 |
| Age | 71 | 73 |

Appendix Table 12: Effect of food insecurity and other variables on various nutrient intake outcomes

| | Energy | Protein | Vitamin A | Vitamin C | Thiamin | Riboflavin |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Food insecure | -158.677 | -5.373 | -250.442 | -11.793 | -0.155 | -0.186 |
| | (51.526)** | (2.245)* | (101.092)* | (7.124) | (0.055)** | (0.075)* |
| Not married or widowed | 43.516 | 1.642 | 113.522 | 4.925 | 0.006 | 0.121 |
| | (42.332) | (1.844) | (83.054) | (5.853) | (0.045) | (0.062)* |
| Widowed | 57.434 | 1.595 | -1.856 | -1.308 | 0.028 | 0.088 |
| | (37.561) | (1.636) | (73.693) | (5.193) | (0.040) | (0.055) |
| Income/Poverty line | 31.945 | 1.552 | 23.346 | 5.934 | 0.034 | 0.055 |
| | (11.087)** | (0.483)** | (21.752) | (1.533)** | (0.012)** | (0.016)** |
| Female | -460.846 | -19.530 | -111.077 | -7.014 | -0.357 | -0.449 |
| | (29.411)** | (1.281)** | (57.703) | (4.066) | (0.031)** | (0.043)** |
| Black | -255.291 | -7.126 | 188.006 | 7.538 | -0.237 | -0.528 |
| | (41.732)** | (1.818)** | (81.877)* | (5.770) | (0.045)** | (0.061)** |
| Hispanic | -105.766 | -1.866 | 186.364 | 17.553 | -0.130 | -0.213 |
| | (39.181)** | (1.707) | (76.871)* | (5.417)** | (0.042)** | (0.057)** |
| Other | -310.326 | -6.951 | -162.066 | 18.180 | -0.056 | -0.543 |
| | (98.297)** | (4.282) | (192.855) | (13.590) | (0.105) | (0.143)** |
| High school graduate | 123.086 | 3.608 | 260.557 | 22.247 | 0.111 | 0.192 |
| | (33.360)** | (1.453)* | (65.451)** | (4.612)** | (0.036)** | (0.048)** |
| Employed | -132.886 | -6.447 | -112.603 | -6.956 | -0.109 | -0.296 |
| | (118.796) | (5.175) | (233.073) | (16.424) | (0.127) | (0.173) |
| Out of Labor Force | -232.050 | -8.502 | 24.048 | -7.579 | -0.180 | -0.306 |
| | (116.864)* | (5.091) | (229.281) | (16.157) | (0.125) | (0.170) |
| Age | -11.669 | -0.504 | 3.259 | 0.167 | 0.000 | -0.002 |
| | (2.089)** | (0.091)** | (4.098) | (0.289) | (0.002) | (0.003) |
| Constant | 2,900.645 | 116.688 | 400.790 | 65.002 | 1.687 | 2.380 |
| | (190.951)** | (8.319)** | (374.636) | (26.400)* | (0.204)** | (0.277)** |

Notes: Number of observations is 2626. * significant at 5% level; ** significant at 1% level.

Appendix Table 13:Effect of food insecurity and other variables on various nutrient intake outcomes

| | VitaminB6 | Calcium | Phosphorous | Magnesium | Iron |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Food insecure | -0.130 | -57.963 | -106.600 | -25.924 | -1.318 |
| | (0.077) | (32.734) | (36.659)** | (9.327)** | (0.623)* |
| Not married or widowed | 0.070 | 50.672 | 41.602 | 11.418 | -0.099 |
| | (0.064) | (26.894) | (30.117) | (7.663) | (0.511) |
| Widowed | 0.054 | -6.608 | 10.319 | -0.691 | 0.409 |
| | (0.056) | (23.862) | (26.723) | (6.799) | (0.454) |
| Income/Poverty line | 0.082 | 15.957 | 23.248 | 8.384 | 0.404 |
| | (0.017)** | (7.044)* | (7.888)** | (2.007)** | (0.134)** |
| Female | -0.427 | -120.829 | -285.264 | -59.439 | -3.527 |
| | (0.044)** | (18.685)** | (20.925)** | (5.324)** | (0.355)** |
| Black | -0.213 | -268.414 | -259.232 | -56.084 | -2.547 |
| | (0.063)** | (26.512)** | (29.690)** | (7.554)** | (0.504)** |
| Hispanic | -0.009 | -52.674 | -39.913 | -5.087 | -0.833 |
| | (0.059) | (24.892)* | (27.875) | (7.092) | (0.473) |
| Other | -0.097 | -220.542 | -218.732 | -22.115 | -0.927 |
| | (0.148) | (62.448)** | (69.934)** | (17.794) | (1.188) |
| High school graduate | 0.212 | 46.137 | 76.731 | 23.670 | 1.351 |
| | (0.050)** | (21.193)* | (23.734)** | (6.039)** | (0.403)** |
| Employed | -0.201 | -33.169 | -100.288 | -22.482 | -2.820 |
| | (0.179) | (75.471) | (84.518) | (21.504) | (1.435)* |
| Out of Labor Force | -0.216 | -78.066 | -131.814 | -31.868 | -3.427 |
| | (0.176) | (74.243) | (83.143) | (21.154) | (1.412)* |
| Age | 0.004 | 0.777 | -4.791 | -0.904 | 0.010 |
| | (0.003) | (1.327) | (1.486)** | (0.378)* | (0.025) |
| Constant | 1.504 | 764.918 | 1,661.034 | 354.308 | 17.312 |
| | (0.287)** | (121.310)** | (135.852)** | (34.566)** | (2.307)** |

Notes: Number of observations is 2626. * significant at 5% level; ** significant at 1% level.

Appendix Table 14:Effect of food insecurity and other variables on various nutrient intake outcomes

| | BMI | Arm circumfrence | Tricep skinfold | Subscapular skinfold |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Food insecure | -0.180 | -0.079 | -0.354 | -0.481 |
| | (0.392) | (0.308) | (0.480) | (0.561) |
| Not married or widowed | -1.204 | -1.064 | -1.230 | -1.626 |
| | (0.318)** | (0.250)** | (0.395)** | (0.453)** |
| Widowed | -0.421 | -0.255 | -0.945 | -0.477 |
| | (0.290) | (0.226) | (0.357)** | (0.405) |
| Income/Poverty line | -0.150 | -0.020 | 0.067 | -0.009 |
| | (0.084) | (0.066) | (0.104) | (0.119) |
| Female | 1.013 | -0.279 | 8.953 | 1.468 |
| | (0.224)** | (0.176) | (0.278)** | (0.317)** |
| Black | 1.315 | 1.428 | 0.502 | 1.874 |
| | (0.317)** | (0.250)** | (0.400) | (0.481)** |
| Hispanic | -0.069 | -0.578 | -0.902 | 0.814 |
| | (0.300) | (0.235)* | (0.370)* | (0.422) |
| Other | -3.044 | -2.395 | -3.140 | 0.011 |
| | (0.738)** | (0.584)** | (0.914)** | (1.078) |
| High school graduate | 0.052 | 0.038 | 0.371 | 0.428 |
| | (0.256) | (0.200) | (0.317) | (0.368) |
| Employed | 0.215 | 0.385 | 1.803 | 0.598 |
| | (0.881) | (0.703) | (1.108) | (1.264) |
| Out of Labor Force | 0.233 | 0.450 | 2.060 | 0.216 |
| | (0.867) | (0.692) | (1.091) | (1.244) |
| Age | -0.162 | -0.190 | -0.195 | -0.246 |
| | (0.016)** | (0.012)** | (0.020)** | (0.023)** |
| Constant | 39.540 | 45.649 | 26.386 | 35.753 |
| | (1.448)** | (1.138)** | (1.794)** | (2.053)** |

Notes: Number of observations is 2544, 2633, 2489, and 2185. * significant at 5% level; ** significant at 1% level.

**Appendix Table 15:** Effect of food insecurity and other variables on various nutrient intake outcomes

| | Diabetic | Excellent | Excellent or very good | Excellent, very good, or good | depression | ADL limitations |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Food insecure | -0.019 | -0.032 | -0.094 | -0.137 | 0.011 | 0.150 |
| | (0.023) | (0.023) | (0.035)** | (0.036)** | (0.011) | (0.029)** |
| Not married or widowed | -0.037 | 0.008 | 0.012 | -0.021 | -0.001 | 0.003 |
| | (0.020) | (0.020) | (0.029) | (0.027) | (0.008) | (0.028) |
| Widowed | 0.019 | 0.014 | 0.004 | 0.019 | 0.006 | -0.012 |
| | (0.021) | (0.018) | (0.025) | (0.024) | (0.008) | (0.026) |
| Income/Poverty line | -0.030 | 0.020 | 0.045 | 0.048 | -0.004 | -0.026 |
| | (0.006)** | (0.005)** | (0.007)** | (0.007)** | (0.002) | (0.007)** |
| Female | -0.026 | -0.028 | -0.010 | 0.007 | 0.014 | 0.116 |
| | (0.019) | (0.010)** | (0.018) | (0.021) | (0.007) | (0.018)** |
| Black | 0.084 | -0.034 | -0.122 | -0.072 | 0.024 | -0.016 |
| | (0.029)** | (0.013)** | (0.022)** | (0.030)* | (0.012)* | (0.028) |
| Hispanic | 0.067 | -0.033 | -0.118 | -0.127 | 0.021 | -0.052 |
| | (0.026)** | (0.013)* | (0.022)** | (0.028)** | (0.009)* | (0.027) |
| Other | 0.104 | -0.023 | -0.106 | 0.064 | -0.009 | 0.013 |
| | (0.068) | (0.032) | (0.052)* | (0.066) | (0.015) | (0.063) |
| High school graduate | -0.017 | 0.041 | 0.117 | 0.132 | 0.006 | -0.012 |
| | (0.020) | (0.013)** | (0.021)** | (0.022)** | (0.006) | (0.022) |
| Employed | 0.102 | 0.036 | 0.035 | -0.064 | -0.036 | -0.130 |
| | (0.107) | (0.045) | (0.074) | (0.103) | (.) | (0.082) |
| Out of Labor Force | 0.133 | -0.017 | -0.085 | -0.181 | -0.029 | 0.008 |
| | (0.060)* | (0.040) | (0.075) | (0.083)* | (0.030) | (0.074) |
| Age | -0.005 | 0.000 | 0.002 | 0.002 | -0.000 | 0.007 |
| | (0.001)** | (0.001) | (0.001) | (0.001) | (0.000) | (0.001)** |

Notes: Number of observations is 2751. * significant at 5% level; ** significant at 1% level.

Appendix Table 16:Effect of food insecurity with hunger and other variables on various nutrient intake outcomes

| | Energy | Protein | Vitamin A | Vitamin C | Thiamin | Riboflavin |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Food insecure hunger | -216.125 | -10.073 | -225.903 | -13.841 | -0.181 | -0.332 |
| | (79.344)** | (3.453)** | (155.729) | (10.968) | (0.085)* | (0.115)** |
| Not married or widowed | 49.252 | 1.938 | 118.299 | 5.269 | 0 011 | 0.131 |
| | (42.445) | (1.847) | (83.306) | (5.867) | (0.045) | (0.062)* |
| Widowed | 59.305 | 1.667 | 0.732 | -1.176 | 0.030 | 0.091 |
| | (37.575) | (1.635) | (73.747) | (5.194) | (0.040) | (0.055) |
| Income/Poverty line | 34.637 | 1.609 | 29.055 | 6.162 | 0.037 | 0.057 |
| | (10.996)** | (0.479)** | (21.582) | (1.520)** | (0.012)** | (0.016)** |
| Female | -462.649 | -19.621 | -112.672 | -7.124 | -0.359 | -0.452 |
| | (29.435)** | (1.281)** | (57.772) | (4.069) | (0.031)** | (0.043)** |
| Black | -255.602 | -7.090 | 185.599 | 7.478 | -0.238 | -0.527 |
| | (41.750)** | (1.817)** | (81.943)* | (5.771) | (0.045)** | (0.061)** |
| Hispanic | -117.534 | -2.130 | 162.169 | 16.570 | -0.143 | -0.223 |
| | (38.714)** | (1.685) | (75.985)* | (5.352)** | (0.041)** | (0.056)** |
| Other | -309.443 | -6.864 | -163.057 | 18.200 | -0.055 | -0.541 |
| | (98.343)** | (4.280) | (193.017) | (13.594) | (0.105) | (0.143)** |
| High school graduate | 128.760 | 3 793 | 269.809 | 22.675 | 0.117 | 0.199 |
| | (33.312)** | (1.450)** | (65.382)** | (4.605)** | (0.036)** | (0.048)** |
| Employed | -134.016 | -6.516 | -113.084 | -7.015 | -0 109 | -0.298 |
| | (118.846) | (5.173) | (233.258) | (16.428) | (0.127) | (0.173) |
| Out of Labor Force | -232.584 | -8.492 | 22.003 | -7 642 | -0.181 | -0.306 |
| | (116.909)* | (5.088) | (229.457) | (16.161) | (0.125) | (0.170) |
| Age | -11.342 | -0.495 | 3.851 | 0.193 | 0.001 | -0.001 |
| | (2.085)** | (0.091)** | (4.092) | (0.288) | (0.002) | (0.003) |
| Constant | 2,863.335 | 115.674 | 331.480 | 62.028 | 1.648 | 2.343 |
| | (190.266)** | (8.281)** | (373.434) | (26.301)* | (0.203)** | (0.276)** |

Notes: Number of observations is 2626. * significant at 5% level; ** significant at 1% level.

Appendix Table 17:Effect of food insecurity with hunger and other variables on various nutrient intake outcomes

| | VitaminB6 | Calcium | Phosphorous | Magnesium | Iron |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Food insecure hunger | -0.278 | -76.664 | -170.044 | -25.700 | -1.862 |
| | (0.119)* | (50.395) | (56.421)** | (14.370) | (0.958) |
| Not married or widowed | 0.079 | 52.683 | 46.377 | 11.998 | -0.049 |
| | (0.064) | (26.959) | (30.182) | (7.687) | (0.513) |
| Widowed | 0.056 | -5.932 | 11.654 | -0.416 | 0.425 |
| | (0.056) | (23.865) | (26.719) | (6.805) | (0.454) |
| Income/Poverty line | 0.083 | 16.969 | 24.741 | 8.946 | 0.426 |
| | (0.017)** | (6.984)* | (7.819)** | (1.991)** | (0.133)** |
| Female | -0.430 | -121.462 | -286.745 | -59.629 | -3.542 |
| | (0.044)** | (18.695)** | (20.931)** | (5.331)** | (0.356)** |
| Black | -0.212 | -268.566 | -259.027 | -56.295 | -2.548 |
| | (0.063)** | (26.517)** | (29.688)** | (7.561)** | (0.504)** |
| Hispanic | -0.014 | -57.084 | -46.605 | -7.479 | -0.928 |
| | (0.058) | (24.589)* | (27.529) | (7.011) | (0.468)* |
| Other | -0.095 | -220.267 | -217.625 | -22.170 | -0.918 |
| | (0.148) | (62.462)** | (69.930)** | (17.810) | (1.188) |
| High school graduate | 0.217 | 48.216 | 80.480 | 24.622 | 1.398 |
| | (0.050)** | (21.158)* | (23.688)** | (6.033)** | (0.402)** |
| Employed | -0.203 | -33.556 | -101.329 | -22.558 | -2.830 |
| | (0.178) | (75.484) | (84.510) | (21.523) | (1.436)* |
| Out of Labor Force | -0.216 | -78.284 | -131.913 | -32.055 | -3.430 |
| | (0.176) | (74.254) | (83.133) | (21.173) | (1.412)* |
| Age | 0.005 | 0.898 | -4.588 | -0.844 | 0.013 |
| | (0.003) | (1.324) | (1.482)** | (0.378)* | (0.025) |
| Constant | 1.483 | 751.082 | 1,638.217 | 347.343 | 17.008 |
| | (0.286)** | (120.847)** | (135.296)** | (34.458)** | (2.298)** |

Notes: Number of observations is 2626. * significant at 5% level; ** significant at 1% level.

Appendix Table 18:Effect of food insecurity with hunger and other variables on various nutrient intake outcomes

| | BMI | Arm circumfrence | Tricep skinfold | Subscapular skinfold |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Food insecure hunger | -0.144 | -0.271 | -0.114 | -0.396 |
| | (0.617) | (0.476) | (0.732) | (0.863) |
| Not married or widowed | -1.201 | -1.055 | -1.231 | -1.619 |
| | (0.319)** | (0.251)** | (0.396)** | (0.454)** |
| Widowed | -0.420 | -0.254 | -0.941 | -0.479 |
| | (0.290) | (0.226) | (0.357)** | (0.405) |
| Income/Poverty line | -0.145 | -0.020 | 0.079 | 0.001 |
| | (0.083) | (0.066) | (0.103) | (0.118) |
| Female | 1.012 | -0.281 | 8.953 | 1.466 |
| | (0.224)** | (0.176) | (0.278)** | (0.318)** |
| Black | 1.313 | 1.430 | 0.494 | 1.869 |
| | (0.317)** | (0.250)** | (0.400) | (0.481)** |
| Hispanic | -0.087 | -0.575 | -0.945 | 0.768 |
| | (0.296) | (0.232)* | (0.366)** | (0.417) |
| Other | -3.044 | -2.392 | -3.150 | -0.007 |
| | (0.738)** | (0.584)** | (0.914)** | (1.078) |
| High school graduate | 0.059 | 0.040 | 0.383 | 0.449 |
| | (0.256) | (0.200) | (0.316) | (0.367) |
| Employed | 0.215 | 0.384 | 1.805 | 0.586 |
| | (0.881) | (0.703) | (1.108) | (1.264) |
| Out of Labor Force | 0.231 | 0.452 | 2.054 | 0.201 |
| | (0.867) | (0.692) | (1.091) | (1.244) |
| Age | -0.161 | -0.190 | -0.194 | -0.244 |
| | (0.016)** | (0.012)** | (0.020)** | (0.023)** |
| Constant | 39.487 | 45.644 | 26.259 | 35.631 |
| | (1.442)** | (1.133)** | (1.786)** | (2.046)** |

Notes: Number of observations is 2544, 2633, 2489, and 2185. * significant at 5% level; ** significant at 1% level.

**Appendix Table 19:** Effect of food insecurity with hunger and other variables on various nutrient intake outcomes

| | Diabetic | Excellent | Excellent or very good | Excellent, very good, or good | depression | ADL limitations |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Food insecure hunger | 0.001 | 0.024 | -0.074 | -0.020 | 0.008 | 0.142 |
| | (0.038) | (0.044) | (0.056) | (0.050) | (0.017) | (0.045)** |
| Not married or widowed | -0.037 | 0.008 | 0.013 | -0.022 | -0.001 | -0.001 |
| | (0.019) | (0.020) | (0.029) | (0.028) | (0.008) | (0.028) |
| Widowed | 0.019 | 0.014 | 0.004 | 0.020 | 0.006 | -0.013 |
| | (0.021) | (0.017) | (0.025) | (0.024) | (0.008) | (0.026) |
| Income/Poverty line | -0.030 | 0.021 | 0.047 | 0.052 | -0.005 | -0.029 |
| | (0.006)** | (0.005)** | (0.007)** | (0.007)** | (0.002)* | (0.007)** |
| Female | -0.026 | -0.028 | -0.010 | 0.007 | 0.014 | 0.116 |
| | (0.018) | (0.009)** | (0.018) | (0.021) | (0.008) | (0.018)** |
| Black | 0.083 | -0.035 | -0.123 | -0.076 | 0.024 | -0.015 |
| | (0.028)** | (0.012)** | (0.021)** | (0.030)* | (0.012)* | (0.028) |
| Hispanic | 0.064 | -0.037 | -0.125 | -0.146 | 0.022 | -0.038 |
| | (0.025)* | (0.012)** | (0.021)** | (0.028)** | (0.010)* | (0.026) |
| Other | 0.103 | -0.025 | -0.109 | 0.059 | -0.009 | 0.014 |
| | (0.067) | (0.030) | (0.052)* | (0.068) | (0.016) | (0.062) |
| High school graduate | -0.017 | 0.042 | 0.121 | 0.136 | 0.005 | -0.018 |
| | (0.020) | (0.012)** | (0.021)** | (0.022)** | (0.006) | (0.022) |
| Employed | 0.102 | 0.037 | 0.037 | -0.063 | -0.036 | -0.128 |
| | (0.106) | (0.044) | (0.073) | (0.104) | (.) | (0.081) |
| Out of Labor Force | 0.133 | -0.019 | -0.085 | -0.183 | -0.029 | 0.010 |
| | (0.059)* | (0.039) | (0.074) | (0.085)* | (0.031) | (0.073) |
| Age | -0.005 | 0.000 | 0.003 | 0.002 | -0.000 | 0.007 |
| | (0.001)** | (0.001) | (0.001) | (0.001) | (0.000) | (0.001)** |

Notes: Number of observations is 2751. * significant at 5% level; ** significant at 1% level.

**Appendix Table 20**: Projections of Senior Population Sizes by Ages in 2025

| Ages | Number (millions) | Proportions (as share of senior population) |
|---|---|---|
| 60 | 4.2 | 5.0 |
| 61 | 4.3 | 5.0 |
| 62 | 4.2 | 5.0 |
| 63 | 4.2 | 5.0 |
| 64 | 4.2 | 5.0 |
| 65 | 4.2 | 5.0 |
| 66 | 4.0 | 4.7 |
| 67 | 4.0 | 4.7 |
| 68 | 3.8 | 4.5 |
| 69 | 3.7 | 4.3 |
| 70 | 3.6 | 4.2 |
| 71 | 3.4 | 4.0 |
| 72 | 3.2 | 3.8 |
| 73 | 3.0 | 3.6 |
| 74 | 2.9 | 3.4 |
| 75 | 2.8 | 3.3 |
| 76 | 2.6 | 3.1 |
| 77 | 2.5 | 3.0 |
| 78 | 2.4 | 2.9 |
| 79 | 1.9 | 2.3 |
| 80 and higher | 15.5 | 18.4 |

Notes: These projections are taken from the U.S. Census Bureau ( http://www.census.gov/population/www/projections/projectionsagesex.html )

Appendix Table 21: Estimates of the Effect of Various Averaged Factors on Food Insecurity

| | Levels Models Based on Equation (3") of the text | | |
|---|---|---|---|
| | Marginally Food Insecure | Food Insecure | Very Low Food Secure |
| | (1) | (2) | (3) |
| Homeowner | 0.779 | 0.269 | 0.062 |
| | (0.211)** | (0.190) | (0.159) |
| Below poverty line | 0.676 | 0.408 | 0.242 |
| | (0.237)* | (0.195)* | (0.118)* |
| Female | -0.310 | 0.290 | 0.075 |
| | (0.276) | (0.288) | (0.135) |
| Age | -0.005 | -0.003 | -0.001 |
| | (0.001)** | (0.001)* | (0.001) |
| Lives Alone | 0.159 | -0.085 | -0.037 |
| | (0.131) | (0.134) | (0.064) |
| Constant | -0.200 | -0.206 | -0.051 |
| | (0.140) | (0.142) | (0.095) |
| | First Difference Models Based on Equation (6) of the text | | |
| Homeowner | 0.582 | 0.460 | 0.050 |
| | (0.218)** | (0.220)* | (0.151) |
| Below poverty line | 0.275 | 0.376 | 0.333 |
| | (0.516) | (0.298) | (0.158)* |
| Female | -0.259 | -0.056 | 0.089 |
| | (0.419) | (0.258) | (0.139) |
| Lives Alone | -0.075 | -0.214 | -0.071 |
| | (0.286) | (0.168) | (0.110) |
| White | -0.397 | -0.306 | -0.106 |
| | (0.421) | (0.256) | (0.194) |
| High School Graduate | 0.217 | -0.449 | -0.038 |
| | (0.217) | (0.136)** | (0.100) |
| Constant | -0.005 | -0.007 | -0.001 |
| | (0.003) | (0.003)* | (0.002) |

Notes: Heteroskedasticity robust standard errors in parentheses for the levels models and Newey-West standard errors with one lag for the first difference models. The independent variables are averages for each age between 40 and 60 taken from the 1982-1986 Current Population Survey (CPS). (These represent values from the 1981-1985 calendar years.) The dependent variables are averages for each age between 60 and 80 taken from the 2001-2005 CPS (2001-2005 calendar years).
* significant at 5% level; ** significant at 1% level.

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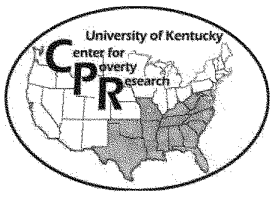


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