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HEARING TO REVIEW SHORT AND LONG TERM COSTS OF HUNGER IN AMERICA

HEARING

BEFORE THE

SUBCOMMITTEE ON DEPARTMENT OPERATIONS, OVERSIGHT, DAIRY, NUTRITION, AND FORESTRY

OF THE

COMMITTEE ON AGRICULTURE
HOUSE OF REPRESENTATIVES

ONE HUNDRED TENTH CONGRESS

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HEARING TO REVIEW SHORT AND LONG TERM COSTS OF HUNGER IN AMERICA

WEDNESDAY, JULY 23, 2008

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON DEPARTMENT OPERATIONS,
OVERSIGHT, NUTRITION, AND FORESTRY,
COMMITTEE ON AGRICULTURE,
Washington, D.C.

The Subcommittee met, pursuant to call, at 10:03 a.m., in Room 1300, Longworth House Office Building, Hon. Joe Baca [Chairman of the Subcommittee] presiding.

Members present: Representatives Baca, Pomeroy, Kagen, Moran, and Boustany.

Staff present: John Riley, Lisa Shelton, Alejandra Gonzalez-Arias, Tyler Jameson, Kristin Sosanie, Pam Miller, and Jamie Weyer.

OPENING STATEMENT OF HON. JOE BACA, A REPRESENTATIVE IN CONGRESS FROM CALIFORNIA

The CHAIRMAN. I would like to call the hearing of the Subcommittee on Department Operations, Oversight, Nutrition, and Forestry to review the short and long term costs of hunger in America to order. With that, I would like to begin with an opening statement and then call on Mr. Boustany to make a statement and ask any of the *ex officio*s who are here if they want to make a presentation if they show up.

I would like to start with my opening statements.

Good morning to all of you. And thank you for being here with the Subcommittee to examine the short and long term costs of hunger and that is a very important subject now as we look at what is going on in our country. I am especially grateful to our outstanding witnesses for making the effort to be here today. I appreciate your willingness to educate us. And I state to "educate us" on the result of various studies you have conducted. And the more education we receive, the better, more knowledgeable we are in dealing with the problem. I would like to acknowledge our new Ranking Member, Congressman Boustany who has now taken over the responsibility and will be here. So I would officially like to recognize him and then welcome him as the new Ranking Minority Member.

With his medical background, I am sure that he will be able to provide thoughtful questions and guidance. And I appreciate you being a medical doctor and caring for many of the patients in the past. And I am sure you do the same thing here in the legislature

as you look at policies and other directions. I look forward to working with Members in the Subcommittee on this issue.

And I would like to state that 35 million people in our country are food insecure, at risk of going hungry. This is a statistic that I use regularly to emphasize that hunger is not just a global problem, but a daily fact of life in our own states, towns and neighborhoods. Statistics are easily said, but what is the real meaning? What do the numbers mean to those of us who are fortunate enough to know where our next meal is coming from? Who are these people who live and work among us? Are we truly aware of the impact that hunger has on our daily lives? What does this mean to us as Members of Congress?

And that is a deep meaning because when you look at really the poor, the disadvantaged and others that are going hungry in the true meaning of what it is like to put food on the table, what information is available to us to guide us in making the best policies? How can we best serve the needs of hungry Americans, and at the same time, spend Federal dollars wisely?

Today, with the help of the experts on this panel, we will begin to answer some of these questions, and I hope we will ask questions to better understand the problems and carefully create solutions that will best use our efforts and resources. That is important, how we use our efforts and the resources.

Over the past 2 years while we were consumed with the work in the 2007–2008 Farm Bill, some interesting studies were published. These studies will help us to examine the connection between nutrition programs and health, but both the health of individuals and the health of local and state economies. Although we have just successfully passed the farm bill and invested more than $10 billion in nutrition, it is always appropriate for us to take a look at how Congress spends its hard-earned dollars.

Recent news showed us that food stamps are now feeding more than 28 million people, a record number. It is vital that we, both as Congress, as Members of Congress and citizens of this country, that we fully understand the workings of our country's largest supplemental feeding program. As I mentioned, hunger is more than just a number. The impact of hunger hits families, neighborhoods, towns and states. It is seen through poor health, poor attendance at both our schools and at work, among other things. But hunger is also expressed in dollars and cents. As a father, a grandfather and as an American, I am distressed by the human cost of hunger. But as a legislator, I am also troubled by the numbers that illustrate how hunger can mean a loss to funding for government entities. During these times of tight budgets, nutrition programs may be some of the best economic stimulus available. For example, I represent San Bernardino, California. The studies from the California Food Policy Advocates, who we will hear from today, show that because of the low participation in food stamps—and there again, low participation in food stamps in a lot of the areas where people are not even aware, and our state is not even taking advantage of the food stamps; which also means additional revenue that goes back into each of the states, cities and counties by that utilization.

But most important is feeding people that need help. San Bernardino County is missing now an additional $371 million in economic activity. And that is just the cost in my area. And I am not sure what it would be for other counties, other states and other cities. So today we will listen and learn from the fine panel of witnesses about their work to quantify the impact of hunger in our country. I hope this hearing will build an important body of evidence so that we can continue to work together to fight hunger.

[The prepared statement of Mr. Baca follows:]

PREPARED STATEMENT OF HON. JOE BACA, A REPRESENTATIVE IN CONGRESS FROM CALIFORNIA

Good morning and thank you all for being here before this Subcommittee—to examine the short and long term costs of hunger in America.

I am especially grateful to our outstanding witnesses for making the effort to be here today.

I appreciate your willingness to educate us on the results of the various studies you have conducted.

Also, I would like to acknowledge our new Ranking Member, **Congressman Boustany,** and thank him for his interest in this hearing.

With his medical background, I am sure he will be able to provide thoughtful questions and guidance.

I look forward to working with you on this and other issues before our Subcommittee.

Thirty-five million people in our country are "food insecure." This is a statistic that I use regularly to emphasize that hunger is not just a global problem, but a daily fact of life in our own states, towns and neighborhoods.

Statistics are easily said, but what is their real meaning? What does this mean to those of us fortunate enough to know where our next meal is coming from? Who are these people who live and work among us? How are we affected by them and their needs? Are we truly aware of the impact the hungry have on our daily lives? And what does this mean to us as Members of Congress? What information is available to us—to guide us in making the best policy decisions? How can we best **serve the needs** of hungry Americans and, at the same time, **spend Federal funds wisely**?

Today, with the help of the experts on this panel, we will begin to answer some of these questions, and, I hope, **ask new questions** to better understand the problems and carefully create a solution that will best use our efforts and resources.

Over the past 2 years—while we were consumed with work on the 2007–2008 Farm Bill—some interesting studies were published. These studies will help us to examine the connection between nutrition programs and health; both the **health of individuals**—and the **health of local and state economies.**

Although we just successfully passed a farm bill that invests more than $10 billion in nutrition—it is always appropriate for us to take a look at the manner in which Congress spends our hard-earned tax dollars.

Recent news shows us that Food Stamps are now feeding more than 28 million people—a record number. It is vital that we—both as Members of Congress and as citizens of this country—fully understand the intersection between hunger and our country's largest supplemental feeding program.

As I have mentioned, hunger is more than just a number. The impact of hunger hits families, neighborhoods, towns and states. It is seen through poor health, and poor attendance at school and work, among other things. But hunger is also expressed in dollars and cents.

As a father, grandfather, and a citizen, I am distressed by the human costs of hunger. But as a legislator, I am also troubled by the numbers that illustrate how hunger can mean a loss of funding for government entities. During these times of tight budgets, those of us who serve in government need to understand that nutrition programs may be some of the **best economic stimulus available.**

For example, I represent San Bernardino County, California. The study from the California Food Policy Advocates, who we will hear from today, shows that because of low participation in food stamps, San Bernardino County is missing out on an additional **$371 million** in economic activity.

So, today we will listen and learn from this fine panel of witnesses about their work to quantify the impacts of hunger in our country. I hope this hearing will build

on this important body of evidence so we can work with determination and cooperation against hunger.

The CHAIRMAN. So at this time, I would like to turn it over to our Ranking Member, Congressman Boustany, to say a few words.

OPENING STATEMENT OF HON. CHARLES W. BOUSTANY, JR., A REPRESENTATIVE IN CONGRESS FROM LOUISIANA

Mr. BOUSTANY. Thank you, Mr. Chairman. And I want to offer my thanks to you for holding this hearing on a very important issue. We have done a lot of work on the farm bill, as you have said, and we need to build off of this. So I am pleased that the Subcommittee is starting this process. I want to offer my greetings to our distinguished panel and I look forward to hearing your testimony.

Clearly without question, this problem of the cost of hunger in the United States is a serious problem. And we must tackle this problem with policies and programs in an effective way. While everyone is witnessing the effect of increasing energy costs that we are all seeing at the pump, it is important to understand how these high prices are impacting other areas of our economy. The rising prices in grains, other commodities, increased transportation costs, the regulatory environment to ensure food safety and the safety of our food products are causing food prices to rise. All of this is having an impact. This rise is having a greater impact on low and middle-income earners. Far too many families, working families, face difficult decisions about how best to spend their money. Choosing between food, fuel, housing needs or medical expenses is a dilemma that many of these families are facing today. And Congress, I believe, has a responsibility to take the lead in finding ways to relieve this pressure.

As a surgeon, a heart surgeon, I understand how important a healthy lifestyle can be in avoiding illness and living a more active and productive life. And furthermore, I know firsthand how important a person's eating habits can be in determining how well they will recover from surgery or other medical procedures and treatments. And in fact, back when I was in training, in the early days, we used what we called perinatal nutrition, intravenous nutrition in the intensive care unit.

Before we had this, patients basically died of starvation in the intensive care unit because there was no way to feed them. And one of the great advances in surgery was to come up with ways to actually provide this IV nutrition as a bridge to get people through critical illness to boost their immune systems and boost their ability to ward off disease and to heal. And without that, the mortality rates in intensive care units were astronomical. And today we have seen significant improvement in those mortality rates because of these advances. That is in a clinical setting.

The same translates outside the clinical setting, outside the hospital for families who can't afford to provide for their nutrition. The prevention of a disease or illness is much cheaper and preferred for the individual in terms of quality as well as for our society than treatment of the problem at a later stage. And I know our witnesses will address this topic. And I look forward to hearing more about these costs and the impact it is having on our society.

Finally in the most recent farm bill, significant increases in funding were made available for the Food Stamp Program and other supplemental nutrition programs. And I am interested to hear today about how best to improve these programs in order to achieve higher rates of participation by those families who are in the greatest need of help. As I have said before, in regard to other programs, particularly in the health care arena, having coverage, meaning some sort of insurance or governmental insurance product to cover health care doesn't necessarily mean access to this care. There is still a disconnect in health care.

And we are seeing the same thing, I believe, in these nutrition programs where we have programs, but if families aren't availing themselves of the program that is in place, then it is not doing what we intended it to do. So we really need to look at this.

So while improving access and delivery of these programs will improve the lives of millions of deserving Americans, simply adding more funding to the program will only raise the burden of every American unless we are making sure that those dollars are really being used in the most effective way.

So I am committed to tackling this problem of hunger in the U.S. while also trying to be a responsible steward of the American taxpayers' money. And I believe today's hearing is an important one. And I believe that Chairman Baca has a tremendous passion for this. He brings tremendous insight into this problem. And I am pleased to work with him on this issue. So I look forward to the testimony today, Mr. Chairman, thank you. I yield back my time.

The CHAIRMAN. Thank you very much, Mr. Boustany.

I would request that any other Members here that have any statements they can submit them for the record.

[The prepared statements of Messers. Peterson, Goodlatte, Moran, and McGovern follow:]

PREPARED STATEMENT OF COLLIN C. PETERSON, A REPRESENTATIVE IN CONGRESS FROM MINNESOTA

Thank you Mr. Chairman.

When people think of the Agriculture Committee, one of the things they rarely think of is hunger and the absence of food. from the farm policy standpoint, we take great pains to ensure that the country's farmers are able to continue to provide the nation with a safe, stable, and abundant supply of food. Unfortunately, the benefits of that food supply are not necessarily available to all and too many families have to face the devastating effects of hunger.

With the completion of the 2008 Farm Bill, we took great strides in fighting hunger here in the United States and abroad. We updated the Food Stamp Program, indexed benefits to inflation, and even in these times of budgetary constraints, provided $10 billion in new money for important nutrition programs like The Emergency Food Assistance Program (TEFAP).

But our work is not done, because the effects of hunger do not only apply to those struggling to provide their families with a healthy meal. The cost of hunger spills over into other areas of society, and government as well—whether it be through health, education or economic policies.

That's why I'm glad the Chairman and Ranking Member have called this hearing today, to help us sort through the costs of hunger in the short- and long-term. I look forward to the testimony of the witnesses and thank you all for coming.

PREPARED STATEMENT OF HON. BOB GOODLATTE, A REPRESENTATIVE IN CONGRESS FROM VIRGINIA

I want to thank the witnesses for taking time out of their busy schedules to join us today to discuss the short and long term effects of hunger in America. I appreciate you sharing with us the information you have found through research, studies and personal experiences.

While one may argue more can be done to address hunger, the recently passed farm bill makes an unprecedented investment in nutrition programs to the tune of $10.361 billion over current spending levels. When we talk about the farm bill, many believe all of the funding goes directly to farmers. The truth is that nearly 70 percent of the $288 billion goes to the nutrition title alone. This Committee has made an incredible commitment to nutrition funding that hasn't even been implemented yet, and still much of today's testimony asks for more funding.

Before we consider new spending, I think we owe it to the taxpayers to evaluate the programmatic changes that will be made by the farm bill. Like the rest of the Members, I will be interested to see how USDA implements these new provisions. Furthermore, I think it is important to note that the Food Stamp Program is designed to expand to fit the need. Food stamp participation is at an all-time high of 28.1 million people. As more people are eligible and choose to participate, the program will be able to accommodate their needs.

While it is easy to ask for more nutrition funding to solve the problems, we in Congress have to ask ourselves the tough question—if we increase funding for nutrition, where are we going to make cuts in spending? Under PAYGO rules, to increase nutrition spending, we will, have to cut spending on other meritorious programs or raise taxes. Given our tight budget situation, I hope we can consider options beyond providing additional money. Increasing spending without offsets only adds to our Federal deficit—which also has the short and long term effects on all of us, our children and the generations to come.

Thank you.

PREPARED STATEMENT OF HON. JERRY MORAN, A REPRESENTATIVE IN CONGRESS FROM KANSAS

Like most hearings in this Subcommittee, today's hearing is important. It is important because the testimony we will hear is not just about human suffering or about families sitting down to tables without adequate food on them. This hearing is going to try to get at the effect, the cost of hunger to our country.

It is clear that hungry students struggle to learn as well as those with good nutrition. And if today's students are tomorrow's workforce then we should be worried about under-performance in our economy. Hungry students struggle to stay awake and pay attention in class. Or even be in class. Many students cannot even make it to class and employees to work because of the effect poor nutrition has on the body. Unfortunately, those who cannot afford food likely cannot afford health insurance. Without insurance, many of the malnourished in our country will head to the Emergency Room when they are sick. ERs are the most expensive way to deliver health care and so everyone else's health care bills go up, which is one of the largest problems our country faces.

I am glad we have economists here today. This issue often involves stories and anecdotes that tug at your heart strings. I appreciate those stories because they draw me in and get me engaged in the issue. But as this Committee makes decisions on programs that will affect millions of people we must vote based on data and information that will help communities, churches and individuals feed the hungry and help lead them out of poverty.

That is why last year my colleague Jim McGovern and I requested a hearing like this to look into Dr. Brown's study on the cost of hunger. I would like to hear from our witnesses how close we are to a fully fed nation and what programs can help accomplish that. It is very likely that the investment in our food insecure households could outweigh the cost to our nation's charities, health care providers, lost educational opportunities and lowered workforce productivity.

PREPARED STATEMENT OF HON. JAMES P. MCGOVERN, A REPRESENTATIVE IN CONGRESS FROM MASSACHUSETTS

Hon. JOE BACA,
Chairman,
Subcommittee on Department Operations, Oversight, Nutrition, and Forestry,

Committee on Agriculture,
Washington, D.C.

Dear Chairman Baca,

I commend you on holding today's hearing to review the short- and long-term costs of hunger in America. As you know, I have long believed that hunger is a political condition that, while solvable, requires political leadership. Hearings like these are necessary steps in raising awareness of the scourge of hunger and, specifically, on the economic costs of hunger on our society.

Despite the efforts of the Federal Government and the best efforts of the nonprofit, anti-hunger community, hunger is getting worse in America. Too many go without food at some point during the year, and this has a real cost to our nation. Last year, with the help of the Sodexho Foundation, Dr. J. Larry Brown, Dr. Donald Shepard, Dr. Timothy Martin, and Dr. John Orwat released a study titled "The Economic Cost of Domestic Hunger: Estimate Annual Burden to the United States." Stephen J. Brady, President of the Sodexho Foundation, should be commended for funding this study and for his dedicated work in ending hunger here in the United States. This important study found that the minimum cost of hunger is $90 billion, and that the true cost is likely much more than that. While I believe we have a moral responsibility to end hunger once and for all, this study makes it clear that hunger is a real financial burden on our country.

We have opportunities to end hunger in our nation. Although the domestic nutrition title clearly is not enough to end hunger in America, the farm bill is a good first step. Next year Congress will reauthorize the Child Nutrition Programs, where we will have an opportunity to invest in the school meal programs and after-school feeding programs. But it's clear we must do more to end hunger once and for all in America. I believe your hearing today is a good step in that direction and that it will prove that doing nothing not only impacts the person who is forced to go without food but that doing nothing actually has a fiscal impact on this country.

Sincerely,

Hon. JAMES P. MCGOVERN,
Member of Congress.

The CHAIRMAN. Before I call on the witnesses, I would like to call on Steve Kagen to say a few words. Our *ex officio*s are not here yet.

OPENING STATEMENT OF HON. STEVE KAGEN, A REPRESENTATIVE IN CONGRESS FROM WISCONSIN

Mr. KAGEN. Thank you, Mr. Chairman. I have to point out to everyone that there are two doctors up here on the podium so it is two to one, Joe.

The CHAIRMAN. Oh, I can be an honorary doctor.

Mr. KAGEN. We will make you a doctor of nutrition. I will just point out to everyone here in the room, everyone listening across the country that we are seven meals away from anarchy. If you take food away from people for seven meals in a row, as we saw in Louisiana and parts of Mississippi with Katrina, we human beings cease to be civilized human beings. So I take this issue of nutrition, this other issue of housing, our economy very seriously. But if our children are not getting the nutrition that they require to develop into healthy productive citizens, we will all pay that price over the long term.

In my district, northeastern Wisconsin in Green Bay, the City of Green Bay, 45 percent of the children attending public school now qualify for free or reduced meals at school. Now that is a generational shift, and I think my district really mirrors the country. I look forward to your testimony today. And if I don't have the opportunity to hear you outright here, I will be studying your testimony. I look forward to your communications with our Committee. I think you will find that all of us understand the value of good nutrition and aiming at our target correctly, getting our resources

to those who need it the most. And I look forward to working together with you, Mr. Chairman, to guarantee that hunger in America becomes something, where it belongs, in our past. Thank you.

The CHAIRMAN. Thank you very much. With that, I would like to introduce members of the panel that are here. I would like to welcome you again. Thank you very much for taking time from your busy schedule to inform us and give us the kind of knowledge that will make the kind of programs more effective and also deal with the problems that we have with hunger. We want to be cost effective in the programs that we have as we look at Federal and state to make sure that they are utilized effectively and not just put in the money to address the issue. We want to actually address the issue by allowing the people that need the assistance that do qualify will get it in each of our counties, in each of our states as well.

With that, I would like to thank Dr. Mark Nord, Sociologist, Economic Research Service, USDA, Washington, D.C. Welcome and thank you for being here. And he will be accompanied by Steven Carlson, Director, Office of Research and Analysis, Food and Nutrition Service with the U.S. Department of Agriculture from Washington, D.C. And then we also have Dr. J. Larry Brown from Harvard University School of Public Health, Boston, Massachusetts, accompanied by Donald S. Shepard, Economist, as well from the Heller School, Brandeis University from Waltham, Massachusetts. And also we have Dr. Diana Cutts, Principal Investigator of Children's Sentinel Nutrition Assessment Program, and Faculty Physician of Hennepin County Medical Center, and Assistant Professor at the University of Minnesota, Minneapolis, Minnesota. And then, of course, we have Mr. George Manalo-LeClair, Senior Legislative Director from the California Food Policy Advocates from Oakland, California. And then we have James D. Weill, President of Food Research and Action Center from Washington, D.C. With that, let us begin by asking Dr. Nord to begin with his testimony.

STATEMENT OF DR. MARK NORD, SOCIOLOGIST, ECONOMIC RESEARCH SERVICE, U.S. DEPARTMENT OF AGRICULTURE, WASHINGTON, D.C.; ACCOMPANIED BY STEVEN CARLSON, DIRECTOR, OFFICE OF RESEARCH AND ANALYSIS, FOOD AND NUTRITION SERVICE, U.S. DEPARTMENT OF AGRICULTURE

Dr. NORD. Mr. Chairman, Members of the Committee, my name is Mark Nord. I am a Sociologist with USDA's Economic Research Service. My main expertise is in measuring and monitoring household food security, by which we mean households' consistent ability to afford adequate food. I appreciate the opportunity to speak to you today about food security and how USDA measures it. I am accompanied by Steven Carlson of the Food and Nutrition Service, who will also be available to answer questions.

I will begin with these national statistics and then I want to go behind these statistics to describe how the food security of these households was measured. The reason for giving some detail on measurement is to provide as adequate an idea as possible of what the statistics mean. Our two word labels unfortunately don't really give adequate information about whether the conditions in food-in-

secure households are serious or not or how serious they are. Knowing the specific conditions that the households in each category reported will give a more complete picture of what the statistics mean.

So 2006, our most recently published statistics, 89 percent of U.S. households were food secure throughout the entire year. They had access at all times to enough food for an active, healthy life for all household members. The remaining 10.9 percent were food insecure. They were unable at times during the year to put adequate food on the table. These included four percent with the more severe condition we describe as very low food security. In these households, food insecurity was severe to the extent that food intake of some members was reduced and their eating patterns were disrupted at times during the year. The statistics come from a nationally representative survey of about 45,000 households and it is conducted by the Census Bureau for USDA.

The food security of each household is assessed by a series of questions about their food situation. Questions range in severity from worrying about running out of food to not eating for a whole day. So let's look at responses to those specific questions to see what conditions were actually reported by households in each range of food insecurity.

I should mention first that the food security of a household is determined by how many of these conditions they report. And to be classified as food insecure, a household must report at least three indicators of food insecurity. The more severe condition, very low food security is indicated by reports of six or more indications of food insecurity. You can think about the difference between low and very low food security as the difference between the reduced quality of food and reduced quantity or sufficiency of food intake. Households classified as having low food security—so this is the part of the food insecure population that is included in the 11 percent but not the four percent—the low food secure households basically report reductions in quality or variety of their diets but typically report few, if any, indications of reduced food intake. In 2006 households in this group, low food security, that are represented by the middle blue bars here, middle blue colored bars, and you is see they reported the least conditions. They couldn't afford to eat balanced meals, the food they bought didn't last, and they didn't have money to get more and they were worried that their food would run out. Few of them reported having to reduce the quantity of their food intake.

On the other hand, households classified as having very low food security—this is the four percent of households in the more severe category—in 2006, almost all of them reported that an adult had cut the size of meals or skipped meals because there was not enough money for food, that they had eaten less than they felt they should because there was not enough money for food. And most reported that they had been hungry but did not eat because they could not afford enough food. One in three reported that an adult in the household did not eat for a whole day because there was not enough money for food. This is what it means to have very low food security, to experience these conditions at times during the year.

It is important when interpreting these statistics to keep in mind that food insecurity in the U.S. is not usually chronic. So the prevalence on a given day, a typical day is much lower than our statistics which reflect whether this happened at any time during the year.

Two more quick graphics now to wrap up. Children are usually protected from substantial reductions in food intake even in households with very low food security among adults. In 2006, 6/10 of 1 percent of households with children had conditions so severe that children also were subject to reduced food intake and disrupted eating patterns, that was about 221,000 households.

Over the last decade, the prevalence of food insecurity has moved approximately in parallel with the national poverty rate, it declined in the late 1990s, increased following the recession in 2001, declined after 2004. The prevalence of very low food security followed a similar pattern, except that it has remained essentially flat at four percent since 2004. Mr. Chairman, this concludes my statement. I will be glad to answer questions the Committee may have.

[The prepared statement of Dr. Nord follows:]

PREPARED STATEMENT OF DR. MARK NORD, SOCIOLOGIST, ECONOMIC RESEARCH SERVICE, U.S. DEPARTMENT OF AGRICULTURE, WASHINGTON, D.C.

Mr. Chairman and Members of the Committee, my name is Mark Nord, and I am a sociologist with the USDA's Economic Research Service. My main area of expertise is measuring and monitoring household food security—the extent to which households can consistently afford adequate food. I appreciate the opportunity to speak to you today about how USDA measures household food security and to provide an overview of recent food security statistics. I am accompanied by a representative of USDA's Food and Nutrition Service, who will also be available to answer questions.

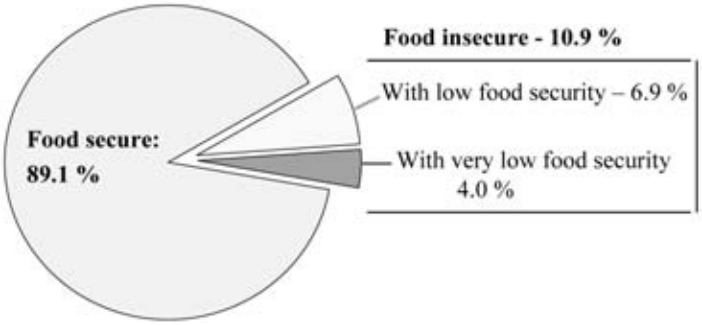
Food security is a foundation for a healthy and well-nourished population—and food security statistics are a measure of the strength of that foundation. Information on unmet food need is of particular interest to USDA because of its responsibility for the Federal food and nutrition assistance programs.

I will begin with two or three salient food security statistics and then go behind those statistics to describe how households' food security was measured. Understanding the specific food conditions households reported in order to be classified as food insecure, or as having very low food security, may provide policy officials the best sense of what the food security numbers mean and how serious the conditions described by the statistics are. I will then conclude with a few further national-level statistics.

Household Food Security in the United States, 2006

Most Americans can afford to put enough healthful food on the table each day. USDA estimates that slightly more than 89 percent of U.S. households were *food secure* throughout the entire year in 2006 (*figure 1*). Food secure households had access at all times to enough food for an active, healthy life for all household members. The remaining 12.6 million households (10.9 percent) were food insecure at some time during the year.

Figure 1. Food Security of U.S. households, 2006



Source: Calculated by USDA, Economic Research Service using data from the December 2006 Current Population Survey Food Security Supplement.

About ⅔ of food-insecure households—those with *low food security*—obtained enough food to avoid substantial disruptions in eating patterns and food intake, using a variety of coping strategies such as eating less varied diets, participating in Federal food and nutrition assistance programs, or obtaining emergency food from community food pantries or emergency kitchens. But 4.6 million households (4.0 percent of all U.S. households) had *very low food security*—that is, they were food insecure to the extent that eating patterns of one or more household members were disrupted and their food intake reduced, at least some time during the year, because they couldn't afford enough food.

Behind the Statistics: How Does USDA Measure Household Food Security?

USDA monitors the food security of the nation's households through an annual food security survey conducted by the U.S. Census Bureau. The survey is administered each December as a supplement to the Current Population Survey (CPS)—the same survey that provides monthly employment and unemployment statistics and annual income and poverty statistics. A nationally representative sample of about 45,000 households complete the food security survey each year.

The food security of each interviewed household is assessed by a series of questions about behaviors, conditions, and experiences that are related to households' food access. The questions cover a wide range of severity of food access problems, from worrying that food will run out to not eating for a whole day. Each question asks whether the condition or behavior occurred at any time during the previous 12 months and specifies a lack of money as the reason for the behavior or condition in question so that reduced food intake due to voluntary fasting or dieting does not affect the measure. The series includes 10 questions about food conditions of the household as a whole and of adults in the household and, if there are children present in the household, an additional eight questions about their food conditions. The food security questions are listed in *Appendix A*.

The food security status of each household is determined by the number of food-insecure conditions they report. Households are classified as *food secure* if they report no food-insecure conditions or if they report only one or two food-insecure conditions. They are classified as *food insecure* if they report three or more food-insecure conditions.

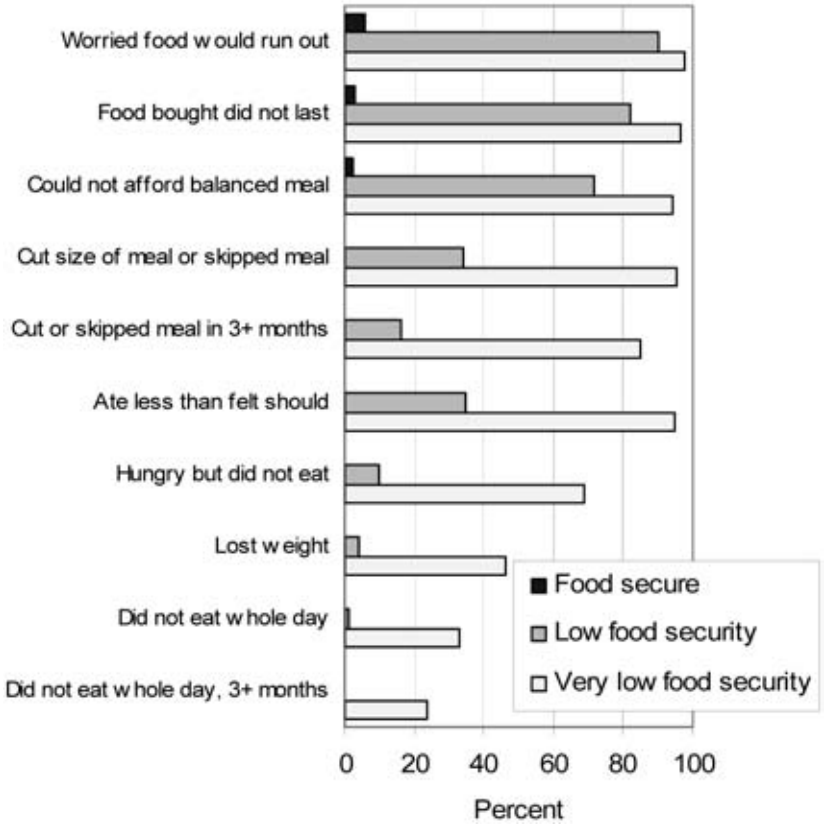
Food-insecure households are further classified as having either *low food security* or *very low food security*. Households classified as having *low food security* have reported multiple indications of food access problems and reductions in the quality or variety of their diets, but typically have reported few, if any, indications of reduced food intake. Households classified as having *very low food security* have reported multiple indications of reduced food intake and disrupted eating patterns due to inadequate resources for food.

What Are the Food Conditions in Households with Low and Very Low Food Security?

The responses of households in the December 2006 food security survey clearly reflect the difference between low and very low food security (*figure 2*). Households with *low food security* (about ⅔ of food-insecure households) reported mainly reduc-

tions in diet quality and variety (they could not afford to eat balanced meals) and difficulties and worries about food access. They typically report few if any indications of reductions in quantity of food intake.

Figure 2. Households reporting each indicator of food insecurity, by food security status, 2006



Source: Calculated by USDA, Economic Research Service using data from the December 2006 Current Population Survey Food Security Supplement.

The defining characteristic of *very low food security* is that, at times during the year, the food intake of household members is reduced and their normal eating patterns are disrupted because the household lacks money and other resources for food. Households classified as having very low food security in the 2006 survey reported the following specific conditions:

- 98 percent reported having worried that their food would run out before they got money to buy more.
- 96 percent reported that the food they bought just did not last and they did not have money to get more.
- 94 percent reported that they could not afford to eat balanced meals.
- 95 percent reported that an adult had cut the size of meals or skipped meals because there was not enough money for food.
- 85 percent reported that this had occurred in 3 or more months.
- In 95 percent, respondents reported that they had eaten less than they felt they should because there was not enough money for food.

- In 69 percent, respondents reported that they had been hungry but did not eat because they could not afford enough food.
- In 46 percent, respondents reported having lost weight because they did not have enough money for food.
- 33 percent reported that an adult did not eat for a whole day because there was not enough money for food.
- 24 percent reported that this had occurred in 3 or more months.

When interpreting food security statistics, it is important to keep in mind that households are classified as having low or very low food security if they experienced the condition at any time during the previous 12 months. The prevalence of these conditions on any given day is far below the corresponding annual prevalence.

How Does Food Insecurity Relate to Hunger?

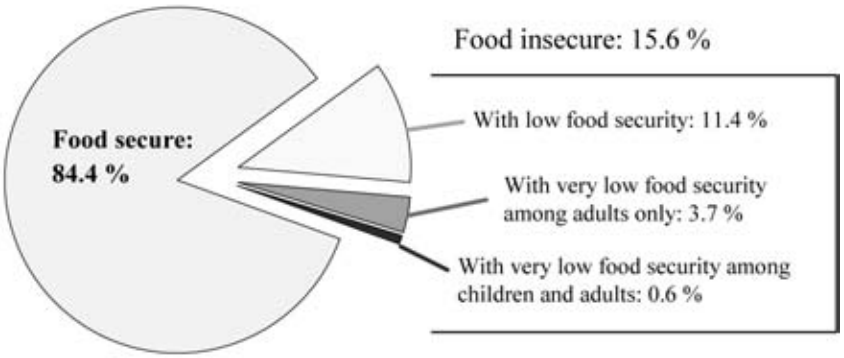
Several years ago, USDA asked the Committee on National Statistics (CNSTAT) of the National Academies to convene an expert panel to ensure that the measurement methods used to assess households' access—or lack of access—to adequate food were conceptually and operationally sound. One of the central issues the CNSTAT panel addressed was the concept and definition of hunger and the relationship between hunger and food insecurity.

The CNSTAT panel recommended that USDA make a clear and explicit distinction between food insecurity and hunger. Food insecurity is a household-level economic and social condition of limited or uncertain access to adequate food. Hunger is an individual physiological condition that is a potential, although not inevitable, outcome of food insecurity. By measuring and monitoring food insecurity, USDA provides important information about the social and economic context in which hunger may occur, and contributes to the effective operation of the domestic nutrition assistance programs that provide millions of children and low-income people access to food, a healthful diet, and nutrition education.

Household Food Security in the United States, 2006—A Few More Statistics

Children in most food-insecure households—even in households with very low food security among adults—were protected from substantial reductions in food intake. However in about 221,000 households (0.6 percent of households with children) one or more children were also subject to reduced food intake and disrupted eating patterns at some time during the year (*figure 3*). In some households with very low food security among children, only older children may have been subjected to the more severe effects of food insecurity while younger children were protected from those effects.

Figure 3. Food security inU.S. households with children, 2006 (39.4 million households)



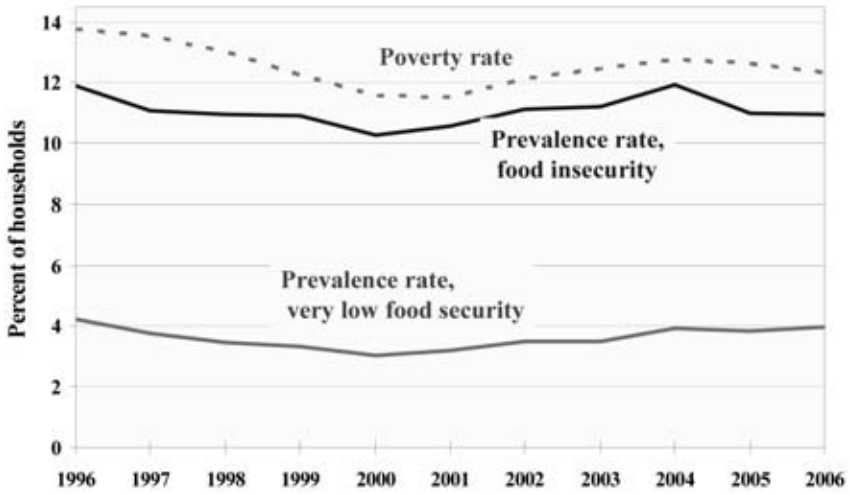
Source: Calculated by USDA, Economic Research Service using data from the December 2006 Current Population Survey Food Security Supplement.

The prevalence of food insecurity varies considerably among different types of households. In 2006, rates of food insecurity were well below the national average for households with two or more adults and no children (6.5 percent) and for house-

holds with one or more members over the age of 65 (6.0 percent). Rates of food insecurity were substantially higher than the national average for households with incomes below the poverty line (36.3 percent), households with children headed by single women (30.4 percent) or single men (17.0 percent), and for Black and Hispanic households (21.8 percent and 19.5 percent, respectively).

Over the last decade, the prevalence of food insecurity has moved approximately in parallel with the national poverty rate, declining in the late 1990s, increasing following the recession of 2001, and declining after 2004 (*figure 4*). The prevalence of very low food security has remained essentially unchanged since 2004.

Figure 4. Trends in food insecurity and poverty



Note: Two year rolling averages are presented for 1996–2001 to smooth seasonal fluctuations.

Source: Calculated by USDA, Economic Research Service using data from the December 2006 Current Population Survey Food Security Supplement.

Mr. Chairman, this concludes my statement. I will be glad to answer questions the Committee may have.

APPENDIX A

Questions Used To Assess the Food Security of Households in National Surveys

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?

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?

3. "We couldn't afford to eat balanced meals." Was that often, sometimes, or never true for you in the last 12 months?

4. 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)

5. (If yes to Question 4) How often did this happen—almost every month, some months but not every month, or in only 1 or 2 months?

6. 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)

7. In the last 12 months, were you ever hungry, but didn't eat, because there wasn't enough money for food? (Yes/No)

8. In the last 12 months, did you lose weight because there wasn't enough money for food? (Yes/No)

9. 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)

10. (If yes to Question 9) How often did this happen—almost every month, some months but not every month, or in only 1 or 2 months?

(Questions 11–18 Are Asked Only if the Household Included Children Age 0–18)

11. "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?

12. "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?

13. "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?

14. 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)

15. In the last 12 months, were the children ever hungry but you just couldn't afford more food? (Yes/No)

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)

7. (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?

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)

Household food security status is determined by the number of food-insecure conditions reported. (Food-insecure conditions are indicated by responses of "often" or "sometimes" to questions 1–3 and 11–13, "almost every month" or "some months but not every month" to questions 5, 10, and 17, and "yes" to the other questions.)

Households are classified as *food secure* if they report no food-insecure conditions or if they report only one or two food-insecure conditions. They are classified as *food insecure* if they report three or more food-insecure conditions.

Food insecure households are further classified as having low or very low food security by the following criteria:

- For households with no child present, 3–5 food-insecure conditions indicates low food security and 6–10 indicates very low food security.
- For households with one or more children, 3–7 food-insecure conditions indicates low food security and 8–18 indicates very low food security. Five or more food-insecure conditions *among the children* (that is, in response to questions 11–18) indicates very low food security among children.

USDA

LEADING THE FIGHT AGAINST HUNGER:

FEDERAL NUTRITION ASSISTANCE

United States Department of Agriculture

Food and Nutrition Service

June 2008

The mission of USDA's Food and Nutrition Service is to increase food security and reduce hunger in partnership with cooperating organizations by providing children and low-income people with access to food, a healthful diet, and nutrition education in a manner that supports American agriculture and inspires public confidence.

USDA's 15 nutrition assistance programs are the first line of our Nation's defense against hunger. They include the Food Stamp Program (FSP), the school meals programs, and the Special Supplemental Nutrition Program for Women, Infants and Children (WIC).

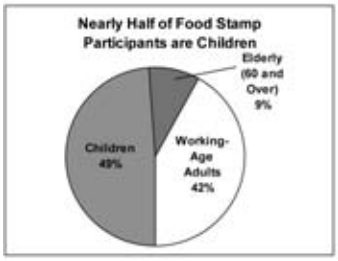
Under Secretary Nancy Johnor provides nutrition assistance information to a family at the National Zoo's Fiesta Musical.

USDA Outlays, FY 2006

- Since 2001, funding for nutrition assistance has increased by more than 76 percent, to $60 billion, accounting for over half of USDA's annual budget.
- USDA nutrition assistance programs reach 1 in 5 Americans over the course of a year.
- FNS works successfully with States and other partners to implement outreach activities that promote participation by faith- and community-based organizations, with over 750 activities in fiscal year 2007.
- FNS is committed to ensuring that all eligible people know about nutrition assistance programs, and participates in national and regional events that target underserved (elderly and working poor) and disadvantaged groups (Hispanics, African Americans, and Pacific Islanders).

THE FOOD STAMP PROGRAM

- More than 27 million low-income people currently participate in the Food Stamp Program (FSP) every month. About half of the participants are children.
- In 2006, 67% of those eligible to participate in the FSP were able to do so, compared with 54% in 2001. Over 10 million more children and low-income people have been added to the program since 2001 and we continue to promote FSP participation aggressively among eligible people.



- In fall 2005, more than $877 million in disaster food stamp benefits were distributed to 1.7 million households with the help of States and disaster relief agencies.
- The FNS works with our partners, including States, to improve access to these critical nutrition benefits. Efforts and activities include policy streamlining/simplification; outreach materials and activities; promoting technology such as online applications; providing grants for outreach, education and improved access; and approving waivers to simplify the application process.
- Each year, the FSP awards outreach grants to raise awareness about the nutrition benefits of the Food Stamp Program and to raise awareness among eligible participants on how to apply for Food Stamps.
- In 2006, the FSP awarded more than $1 million to 15 faith- and community-based organizations to assist with outreach and improve access to the FSP and will award an additional $1 million to another 14 organizations this year.
- In 2006, the FSP awarded a total of $5 million to five States to help increase access. The FSP also awarded $18 million to States for improving access and increasing program participation.
- The FNS maintains strong partnerships with food banks, anti-hunger organizations, faith- and community-based organizations, individuals and corporations. Partnerships are essential to successfully achieve our goals.
- Three outreach tool kits designed for State and local food stamp offices, faith- and community-based partners, and retailers are available. The tool kits offer help to implement outreach and media activities.
- USDA's *Food Stamps Step1* is an online prescreening tool available in both English and Spanish that enables anyone with access to the Internet to determine their potential eligibility for food stamps and get an estimate of their monthly benefit.

- The FSP conducts a national media campaign, valued at approximately $4 million annually, to educate potentially eligible non-participants about the nutrition benefits of the Program and how to apply. To support this effort, a 3-year outreach media campaign will be launched at the community level to reach potentially eligible Spanish-speaking people.

SPECIAL NUTRITION PROGRAMS

- During the school year, 31.6 million children eat school lunch, with more than half receiving a free or reduced-price school lunch, in over 100,000 schools each school day. More than 2 million more children have been added to the National School Lunch Program since 2001.

- More than 10 million children receive a school breakfast every school day in more than 84,000 schools. More than 2 million more children receive a school breakfast than in 2001.

- Through the HealthierUS School Challenge, more than 200 schools have been certified Gold or Silver schools since 2004. The School Challenge is an extension of President Bush's HealthierUS initiative and builds on USDA's efforts to improve the nutritional quality of school meals.

- More than 8 million women, infants and children receive supplemental foods to meet their special dietary needs in the WIC Program. Nearly 1.2 million more women, infants and children have been added to the program since 2001.

- The Summer Food Service Program serves more than 2 million low-income children during the summer months when school is out. USDA has proclaimed Summer Food Service Program Week each year, raising awareness of program benefits, to promote wider participation in communities, and most importantly, to increase the number of children receiving nutritious meals.

- Over the past year, USDA has awarded $3.76 million in State grants to promote access to school meals for low-income children.

- FNS coordinated the purchase and donation of 22 million pounds of commodities valued at more than $27 million to ensure that disaster relief agencies such as the American Red Cross, Salvation Army, Southern Baptists and others had sufficient USDA commodity foods to serve disaster victims.

- USDA purchases a variety of high-quality food products each year for distribution to child nutrition programs and nutrition programs for the elderly and Native Americans. USDA also makes emergency purchases of commodities for distribution to victims of natural disasters.

FOOD AND NUTRITION SERVICE – Additional Facts

(All figures are for FY 2007 unless otherwise indicated)

INCOME ELIGIBILITY GUIDELINES (2007-08)			
% of Poverty	Income for a Family of 4	Makes You Eligible for:	
130%	$26,845	• food stamps/FDPIR • free school meals/CACFP	• CSFP (elderly)
185%	$38,203	• reduced price school meals/CACFP • SFSP (at least 50% of families at this income level)	• WIC • CSFP • Farmer's market programs

FOOD STAMP PROGRAM (FSP)

- Average monthly benefit of $95.64 per participant
- FY 2007 national payment accuracy rate of 94.36%
- Total program expenditures: $34.9billion (includes Nutrition Assistance for Puerto Rico)

WOMEN, INFANTS AND CHILDREN (WIC)

- Average monthly benefit of $39.15 per recipient
- In 2002, about 34% of pregnant women in the US participated in WIC at some point during pregnancy
- About 48% of all infants born in the US in 2004 participated in WIC
- Approximately 29% of all children the US aged 1 to 4 years participated in WIC in 2000
- Total program expenditures: $5.4 billion

NATIONAL SCHOOL LUNCH PROGRAM (NSLP)

- Served in more than 100,000 schools and residential child-care facilities
- 30.6 million students eat a school lunch every school day; 17.7 million students receive a free or reduced-priced lunch
- SY 2007-08 reimbursements: free – $2.47; reduced price – $2.07; paid – $0.23
- In SY 2006-2007, reached 55.5% of children enrolled in school
- Total program expenditures: $7.8 billion

SCHOOL BREAKFAST PROGRAM (SBP)

- Served in more than 85,000 schools; approximately 74.9% of participating schools serving low-income areas;
- SY 2007-08 reimbursements: free – $1.35; reduced price – $1.05; paid – $0.24; over 80.6% of meals free/reduced-price
- In SY 2006-07, reached 18.4 % of school children,
- Program expenditures: $2.2 billion

CHILD AND ADULT CARE FOOD PROGRAM (CACFP)

- Served 3.1 million children and seniors each day in child care, adult day care, and after-school care programs
- SY 2007-08 reimbursement rates same as for NSLP and SBP; 77% of meals provided free
- Program expenditures: $2.3 billion

- SUMMER FOOD SERVICE PROGRAM (SFSP)
- Serves free meals to children in low-income areas. 2006 reimbursements: breakfast: $1.47; lunch/supper: $2.56; snack: $0.59
- Total program cost: $298 million

FOOD DISTRIBUTION PROGRAM ON INDIAN RESERVATIONS (FDIPR)

- Served about 87,000 low-income Native Americans each month; operated in 5 States and 99 ITOs on 271 reservations
- Average food package cost: $44.40 (per person/per month)
- Total program cost: $77.6 million

THE EMERGENCY FOOD ASSISTANCE PROGRAM (TEFAP)

- Distributed 326 million pounds of food through food pantries, soup kitchens, and other emergency food providers
- total value of TEFAP foods (entitlement and bonus): $188.2 million; total program cost: $246.9 million

The CHAIRMAN. Thank you very much, Dr. Nord.

Next I would like to call on Dr. Brown.

STATEMENT OF DR. J. LARRY BROWN, VISITING SCHOLAR, HARVARD UNIVERSITY SCHOOL OF PUBLIC HEALTH, BOSTON, MA; ACCOMPANIED BY DONALD S. SHEPARD, PH.D., PROFESSOR AND ECONOMIST, SCHNEIDER INSTITUTES FOR HEALTH POLICY, HELLER SCHOOL, BRANDEIS UNIVERSITY, WALTHAM, MA

Dr. BROWN. Thank you, Mr. Chairman, Members of the Committee. The United States is actually very unique among industrial democracies because we let so many of our people go hungry; year after year. You have heard, and if you have seen the reports from USDA and Census Bureau, say, over the last 5 or 6 years, it ranges from 33 to 38 million people living in households that don't have enough to eat. So what we once termed a hunger epidemic back in the 1980s has now actually just become a real part of our national landscape. And we are letting this problem remain virtually the same from year to year, a little bit of fluctuation, but basically the same.

And before I turn to the results of our study on the cost burden of hunger, I will at least mention some of the things that we know about the health and cognitive effects of hunger, what it does to the minds and bodies of children.

Two or 3 decades ago I used to teach my public health and medical students that while hunger impacts one's health status, it seldom has had an effect on the brain, at least morphologically. We now know that this is not true. Science now knows that there is no safe level of hunger. When a child is forced to go without enough to eat, his body or her body suffers and the brain function is impaired. And the same is true for adults, particularly the vulnerable elderly. The body and brain require sufficient energy just as our cars do in order to run. A child sitting in the classroom without breakfast does not have the cognitive capacity to take part in the educational process. Her body, in other words, is there in the classroom but her mind is elsewhere. She is not fueled to learn. And when the body doesn't have enough nutrition, even on a short-term basis, it goes into triage. Just like triage on the battlefield, the body must decide how to allocate insufficient nutritional resources. And the first priority is to maintain critical organ function. The next priority of course if there is enough dietary energy is for normal height and weight gain, to maintain health.

And the final priority is for brain function. So that child in the classroom may be present in body, but she came through the schoolhouse door with one arm tied behind her back not because she lacks innate ability, but simply because she doesn't have the dietary wherewithal to learn.

So in short, Members, we now know in science that hunger produces startling effects on the mind and body, things we just did not know even 2 decades ago.

And while this is true for both adults and children, most of the research is focused on the young because we can more easily track their growth and their educational development.

Children without enough to eat, science now shows: get sick more frequently, particularly in terms of preventable outcomes; they have more difficulty overcoming illnesses once they occur; they miss school more often due to illnesses; they experience more behavioral disorders, aggressiveness and as well as sullen and withdrawn behavior; and they do less well in terms of grades and on standardized test scores.

So it is in this context of these outcomes that the Sodexho Foundation commissioned me along with three other scholars to look at the costs. In other words, the question was, do we pay more in terms of illness and lost productivity in educational outcomes than if there were no hunger in America?

So I am joined here today by Dr. Donald Shepard to my left, an Economist from Brandeis, who has done similar cost burden analyses including that of dengue fever. Sodexho is known for its corporate interests, as you may know, and charitable responses to hunger and to inform policy responses; and they funded our interdisciplinary team. Now the bottom line is that when people go hungry, it costs the nation in a variety of ways and the first of these is charity.

There are 300 food banks across the nation. There are 50,000 soup kitchens and food pantries. And these facilities have to rent or purchase offices and warehouses, freezers, trucks and related materials. They also have literally thousands upon thousands of volunteers for hours or days a week helping to feed the hungry. And each of these activities, including volunteers, has a cost. We figured that out. The enormous charitable enterprise in the nation today as of last year came to $14.5 billion each year.

I turn next to the cost of excess illness, that is illness that is associated with hunger and food insecurity over and above the typical presence of those outcomes in the general population. We did this both for psychosocial function, that is mental health, as well as physical health. And you might be interested briefly in how we did it. We know that food-deprived groups have higher rates of certain health outcomes. Iron deficiency occurs at a rate that is 1.66 percent times more likely. Activity limiting impairments, three times more likely, headaches twice as high, nutrient deficiencies three to four times as high. And in terms of mental health outcomes, particularly in children, depression is 3½ times higher than among non-hungry children. The need for special education is twice as high and so on. I won't go further.

But Dr. Shepard and I will be happy to answer questions about the calculation of these costs. What is worth noting now is the health-related cost of hunger comes to nearly $67 billion annually. The final cost area is the limited education and lower workforce productivity that is associated with not having enough to eat.

According to a number of studies in the field, children from food insecure homes are more likely than their non-hungry peers to do less well on tests of mental ability and overall school performance. They miss school 50 percent more, they get suspended about twice as often, they have to repeat more grades, they are less likely to complete high school. And as a result, children who are so affected face an increased likelihood of unemployment, limited employment,

lower job performance, and all of this impacts workforce productivity.

The cost of this workforce productivity loss comes to about $9.2 billion annually. So when we add up the costs in these three areas that I have cited, we can say that we pay a staggering bill for hunger, more than $90 billion a year. That is enough to get our attention, although I would like to stress that the actual cost is no doubt higher due to the conservative research techniques that we employed and the fact that we had insufficient data for certain outcomes. This bill arguably tacks onto the American public, it means that a typical household in our country pays about $800 a year because hunger exists.

This bill is paid in terms of charitable contributions and related tax deductions as well as lowered workforce productivity and competitiveness in the international market system.

By contrast, in closing, this $90 billion bill, it recently was estimated that we could virtually end hunger in America if we increased spending for existing programs, food stamps, child nutrition, elderly feeding by about $12 billion a year over current spending. The very recent jump in food and fuel cost may make this calculation somewhat higher. Former nutrition advisor to President Nixon and my former college President, Dr. Jean Mayer once noted, "of all the dumb ways to save money, not feeding children is the dumbest."

While I prefer to speak a slightly different language, perhaps less remarkable for its clarity, the economics are clear, our nation pays far more to let hunger exist than it would cost us to eliminate it. Thank you.

[The prepared statements of Dr. Brown and Dr. Shepard follow:]

PREPARED STATEMENT OF DR. J. LARRY BROWN, VISITING SCHOLAR, HARVARD UNIVERSITY SCHOOL OF PUBLIC HEALTH, BOSTON, MA

Mr. Chairman, Members of the Committee:

I thank you for your invitation to appear today as you consider the health and economic costs of hunger in America. Although I have appeared before this and other Committees on many occasions over the years, I must begin with the bottom line: The United States is quite unique among industrial democracies because we let so many of our people go hungry, and we seem to be doing precious little to close this gap. Year after year the Department reports that about 35 million Americans live in households that do not have enough to eat. What was once termed a "hunger epidemic" in our nation has now become a continuing fact of life. We are letting this problem remain pretty much the same from year to year. Clearly we can do better, and I applaud you for holding this hearing to exercise the leadership to make a difference.

Before I turn to the results of our study of the cost burden of hunger, I will begin by reviewing what science knows about the health and cognitive effects of hunger—what it does to the minds and bodies of both children and adults. Some of this information may be new to you, even to the two Members who also are physicians by training.

Two or 3 decades ago I used to teach my public health and medical students that while hunger impacts one's health status, it seldom had an effect on the brain. We now know that this is not true. Science now knows that there is no "safe" level of hunger: when a child is forced to go without enough to eat her body suffers and her brain function is impaired. The same is true for adults, particularly the vulnerable elderly. This is because the body and the brain require sufficient food energy to function adequately. When it is not there, even temporarily, the body and mind cannot function properly. Just as your car cannot run without the proper fuel, so too is the mind impaired when it goes without its own fuel.

A child sitting in the classroom without a breakfast does not have the cognitive capacity to take part in the educational process. Her body is in the classroom but her mind is not fueled to learn. This is because when the body does not have enough nourishment, even on a short-term basis, it goes into triage. Just like triage on the battlefield, the body must decide how to allocate its insufficient resources. Its first priority is to use whatever energy there is to maintain critical organ function. Its next priority, if there is enough nutrient energy, is to maintain health. Its final priority is for brain function. As my colleague Carl Sagan bluntly put it when we discussed these new research findings, "better dumb than dead." That child in the class may be present in body but she came through the schoolhouse door too impaired to learn—not because she is dumb but because she suffers cognitive impairment due to lack of nutrition. In short, science now knows that hunger, not just in its absolute state but even in the form of chronically "mild" under-nutrition, produces startling effects in both the mind and body. While true for both adults and children, most of the research has focused on the young because we can more easily track their growth and educational patterns. Children without enough to eat:

- Get sick more frequently, particularly in terms of preventable outcomes such headaches, stomachaches and colds,
- They have more difficulty overcoming illnesses once they occur,
- They miss school more often due to these illnesses,
- They have more behavioral disorders, such as aggressiveness and classroom disruption, as well as sullen and withdrawn behavior, and
- They do less well in terms of their grades and do more poorly on standardized test scores than do similar children who get enough to eat.

It is in the context of these poorer health, behavioral and mental outcomes that the Sodexho Foundation commissioned me, along with three other scholars, to assess their cost to the nation. In other words, how much more money do we pay in terms of illness, poor educational outcomes and lost productivity than we would if no one went hungry in America. I am joined today by one of my colleagues in this research, Dr. Don Shepard, an economist from Brandeis University, who has done similar cost burden analyses, recently one commissioned by the United Nations regarding the cost of dengue fever. Sodexho, known for its corporate interest not only charitable responses to hunger but to informed policy responses to help end hunger altogether, funded our interdisciplinary team from three major universities. Parenthetically, I should mention that none of us receives a salary from Sodexho, and the Foundation played no role whatsoever in our research or its outcomes.

When people go hungry it costs the nation in a variety of ways, some of which are not easily measurable. We dismissed cost areas for which calculations were too difficult, and focused instead on four key cost arenas that are more easily measurable, that is, where the scientific literature is sufficient to develop cost burdens that are both reasonable and conservative. The first of these is charity. It is said that "there is no free lunch." Somebody, somewhere, pays. Charity operates the same way, and hunger charities exist throughout the country, in each of your districts and in virtually every community in the nation. More than 300 food banks exist, covering every state and averaging six to a state (although they are not that equally distributed). These food banks provide nutritional and other commodities to more than 50,000 soup kitchens and food pantries. These food banks and local charities have to rent or purchase offices, warehouses, freezers, trucks and related materials. They have to have full-time, paid staff, and their work is supplemented by literally thousands upon thousands of volunteers who often spend from several hours to a day or 2 a week helping to feed the hungry. Each of these activities, even among volunteers, has a cost. We figured out what it is. This enormous charitable enterprise comes to more than $14.5 billion each year.

We next turn to the excess cost of illness, that is, illness that is associated with hunger over and above the typical levels that occur in the population(s). We did this for both mental health services and for medical and other forms of health care. You might be interested in how we did this. As indicated earlier, we know that food-deprived groups have higher rates of ill health: iron deficiency occurs at a rate that is 1.66 times more likely; activity-limiting health impairments are nearly three times as high; headaches nearly twice as high; and nutrient deficiencies from three to four times normal levels. In terms of mental health outcomes, particularly in children, depression is 3.5 times higher than among non-hungry children; the need for special education twice as high; and general psychosocial dysfunction is seven times as high. As you're probably beginning to see, it costs far less to feed children than it is to let them go hungry and par a higher price after-the-fact. I will go no further now in terms of how we attributed actual costs of these adverse outcomes, but Dr.

Shepard and I can take questions, or you can refer to the detailed methodology in our research report. What is worth noting now is that the health-related costs of hunger come to nearly $67 billion annually. And please bear in mind that the actual costs certainly are higher, quite a bit higher, because of our conservative methodology. This is because for some outcomes, say Attention Deficit Hyperactivity Disorder (ADHD), the research literature is insufficient to develop likelihood ratios for excess outcomes. For yet other outcomes, we had adequate data to compute direct costs but not for indirect ones. It is the responsibility of researchers to be careful—conservative—and it is for this reason that we know our estimate of $67 billion a year does not capture the full cost in this arena.

The final cost arena is the limited education and lowered workforce productivity that is associated with having too little nourishment. According to a number of studies in this field, children from food insecure homes are more likely than their non-hungry peers to do less well on tests of mental ability and overall school performance. They miss school 50% more; they get suspended about twice as often; and they have to repeat more grades. They also are less likely to complete high school. As a result, children so affected face greater likelihood of unemployment or limited employment; poor judgment and lowered job performance; and, as a result, lowered workforce productivity. The cost of this productivity loss comes to $9.2 billion annually.

When we add the costs of each of these arenas (more than $14 billion for charity; nearly $67 billion for illness; and almost $10 billion in lowered education and productivity) we pay a rather staggering bill for hunger—more than $90 billion each year. This is enough to get our attention, although I stress again that the actual cost is clearly higher than this, due to our utilization of conservative research techniques and lack of sufficient data for some outcomes known to be associated with hunger.

While this bill, sort of an additional tax on the American public, is not evenly distributed across the population, it means that a typical household in our country pays $500 a year. While this bill often is not direct, it shows up in terms of higher taxes to cover the costs of outcomes that the victims of hunger suffer. It also is paid in terms of charitable contributions and related tax deductions, as well as lowered workforce productivity and competitiveness in the international market system.

By contrast to this $90 billion annual cost, it recently was estimated that we could virtually end hunger in America if we increased spending for existing nutrition programs (food stamps, school meals, summer feeding and elderly feeding) by about $12 billion a year over current spending. (The very recent jump in food and fuel costs may now make this calculation somewhat higher).

Former nutrition advisor to President Nixon, Dr. Jean Mayer, once noted that "of all the dumb ways to save money, not feeding children is the dumbest." While I prefer to speak a slightly different language than his remarkable clarity, our economics are clear: our nation pays far more to let hunger exist than it would cost us to eliminate it.

Thank you.

Copies of the research analysis, *The Economic Cost of Domestic Hunger: Estimated Annual Burden to the United States,* is available to download by going to *www.sodexofoundation.com.* For further information from the researchers, e-mail: [Redacted]; [Redacted]; [Redacted]; and [Redacted]. This research initiative was sponsored by Sodexho Foundation, which has been working to eliminate the root causes of hunger since 1996. Its work also includes a broad menu of child feeding programs (summer and school year), and disaster response initiatives such as Hurricane Katrina and the Gulf Coast.

PREPARED STATEMENT OF DONALD S. SHEPARD, PH.D., PROFESSOR AND ECONOMIST, SCHNEIDER INSTITUTES FOR HEALTH POLICY, HELLER SCHOOL, BRANDEIS UNIVERSITY, WALTHAM, MA

Chairman Baca, Ranking Minority Member Boustany, and other Members of the Committee. My name is Donald S. Shepard. I am a professor at the Heller School, Brandeis University, in Waltham, MA, and lead the Cost and Value Group in the Schneider Institutes for Health Policy. I am honored to have the opportunity to testify today to the Subcommittee on Department Operations, Oversight, Dairy, Nutrition, and Forestry. My testimony is based largely on the study I co-authored entitled, "The economic cost of domestic hunger: Estimated annual burden to the United States." The authors, in their order or listing, are Dr. J. Larry Brown, Harvard School of Public Health, myself, Dr. Timothy Martin, also of Brandeis University,

and Dr. John Orwat, Loyola University. My co-author, Dr. Brown has spoken about this study as well.

The scholarly literature is replete with studies that assess the cost to society of adverse outcomes associated with social practices such as smoking, alcohol abuse and obesity. The analysis of a cost burden, the compilation of the direct and indirect economic costs of a particular problem or policy, often provides helpful information to the public and policy makers about the financial ramifications of a problem and the potential savings that could result from reducing or eradicating it. As Dorothy Rice, a pioneer in such studies, has noted, they have been widely performed and proved useful to inform resource allocation across such wide ranging areas as biomedical research, public health, and injury prevention (Rice, 2000).

The cost of a particular societal burden includes all known private and public sector spending, counting both direct and indirect costs. Direct costs are those expenditures incurred as a result of the medical treatment of some illness or problem, while indirect costs are the non-medical expenditures incurred as a result of that illness, such as missed days of work. The annual cost of health care associated with alcohol abuse, for example, has been calculated at $22.5 billion, but when indirect costs, such as lost productivity are factored in, the total economic burden to the nation has been reported by various scholars to run to nearly $200 billion annually. The costs of problems like alcoholism frequently are as hidden as they are surprising, since costs are not only borne by the user but their families and society at large. The children of alcoholics are sick more often, are admitted to the hospital 62% more often than other children, and remain in the hospital 29% longer (Rice, 1999). Alcohol abuse significantly elevates the likelihood of traffic accidents, particularly among teenagers, but also among all ages. Alcohol abuse also is linked to increased homicides and other violent crimes, as well as increased drowning and suicides (Rice, 1999).

In recent years cost burden analyses have put the annual cost of alcohol abuse at $185 billion (Harwood, 2000), smoking at $138 billion (Rice, 1999), drug abuse at $161 billion (Office of National Drug Control Policy, 2003), obesity at $79 billion (Finkeklstein, 2003), and poverty at $500 billion (Holzer, 2007). The high societal costs of such problems strongly suggest greater focus on reduction or prevention. So commonly accepted is the premise of prevention that it is encoded in various state and Federal laws. Most states require motorcyclists to wear helmets because of the frequency of serious brain damage associated with not wearing a helmet. Similarly, childhood vaccinations are generally required as a condition for school entry, and transportation workers may not use certain drugs and must accept random screening on request to confirm their adherence.

It is notable that such decisions do not extend to all possible adverse outcomes. Society does not, for example, require people to eat only certain foods to avoid the costs to the nation of obesity. Neither is smoking or alcohol use banned altogether, although their public use is now greatly regulated to protect the public good.

The History and Prevalence of Hunger in America

The extent of domestic hunger has been fairly well understood since at least the late 1960s, (Citizens' Board of Inquiry into Hunger and Malnutrition, 1967). While professional and government entities were unable to estimate precisely how many individuals were impacted, they placed the number of chronically hungry Americans in the millions. Revelations at the time spurred bipartisan Congressional hearings, resulting the expansion or creation of programs that include Food Stamps, School Breakfast, Elderly Feeding and WIC programs (Brown, 1970).

In 1985, a prominent group of medical researchers affiliated with Harvard University announced the results of its research and field investigations in half the states of the nation (Physician Task Force on Hunger in America, 1985). Its members had traveled to the states to investigate hunger first hand; yet unlike their predecessors, they had the scholarly training to estimate the size of the problem the nation faced, reporting that the number of Americans afflicted by hunger was at least 20 million. Their report led to significant national news coverage and, as in 1968, Congress took further action to ameliorate the problem.

Although the estimate of 20 million people going hungry was criticized in some quarters, other sources soon weighed in, with one national pollster placing the estimate well above 30 million (Bregglio, 1992), a figure later corroborated by the university-based Center on Hunger and Poverty in 1992 (Communication to Congressman Tony Hall from J. Larry Brown, 1992), which had been consulted by Congressional leaders as to the true extent of domestic hunger. In 1995, the Federal Government implemented a standard measure to evaluate the extent of hunger annually. Over the past ten years, with relatively minor variations, this standard has indicated that about 35 million Americans live in households with insufficient food.

Like the Federal poverty rate, which varies annually with changes in job opportunities, wages and the overall economy, the extent of hunger rises and falls each year as well and for similar reasons—but the variation is slight. This Federal data set consistently indicates that over 12% of the nation's people lack sufficient nutrition.

The extant standard for tracking hunger and food insecurity is known as the Federal Food Security Module, and it is conducted by the Department of Agriculture and the Bureau of the Census (Bickel *et al.,* 2000). In its annual census tracking, the Bureau asks a special set of eighteen questions developed by the Department of Agriculture that is applied to a broad national sample of households to determine the adequacy of their diets: do they sometimes not have enough food for their families, do they sometimes have to skip meals because of insufficient income, do they ever have to put their children to bed hungry. The researchers also ask questions about when such occurrences happened and how often over the past year, since the number of positive responses to such outcomes must reflect a repetitive or chronic problem before the household actually is counted as vulnerable.

Unlike the earlier hunger estimates, the Federal measure reflects a refined definition of the problem. The governmental report defines hunger as a "painful sensation" in the stomach, and the measure of it reflects a high degree of food deprivation or "insecurity" before a household actually is considered to experience hunger. Some nutritionists and medical experts consider this standard to be too high. Since "pain" is only one of the possible sensations from hunger, many victims of hunger do not actually feel pain as such. Thus, people can be chronically hungry by any common understanding of the term, yet be missed by the Federal definition because they do not experience "a painful sensation."

Alongside the category of "hunger," the Federal measure also includes a new and more encompassing category of nutritional deprivation known as "food insecure." Households that are not determined to be hungry, as such, may be food insecure if they run out of food or do not know where the next meal is coming from, or if parents have to cut back on the portions of food served, cut down on the types of food categories available to the family, or have to rely on soup kitchens or food pantries to feed their family. While many consider this two-tiered measure—hunger and food insecurity—to be useful in differentiating degrees of household food deprivation, some experts consider the distinction to be tenuous. They note that since hunger is more than a pain, and includes inadequate food resources to nourish individuals and families, then food insecurity is hardly different from hunger, if at all.

Federal Food Security Module outcomes for the years 2000–2006 are reported in *Table 1.*

Table 1. Annual Levels of Hunger and Food Insecurity

Year	Number of Households	Percent of Households	Number of Individuals	Percent of Individuals
2000	11.1 million	10.5	33.2 million	12.1
2001	11.5 million	10.7	33.6 million	12.2
2002	12.1 million	11.1	34.9 million	12.5
2003	12.6 million	11.2	36.3 million	12.7
2004	13.5 million	11.9	38.2 million	13.2
2005	12.6 million	11.0	35.1 million	12.1
2006	12.6 million	10.9	35.5 million	12.1

Source: Department of Agriculture, *Household Food Security in the United States*, 2006, Economic Research Service (ERR–49), November 2007.

To analyze the cost burden of domestic hunger, we treat the extent of food deprivation in the nation as being the more encompassing number combining both hunger and food insecurity. Two factors support this treatment of the data. One, mentioned above, is that even households that are considered to be food insecure actually experience hunger (people don't eat enough to satisfy their needs, and are forced to cut back in terms of satisfying their nutritional requirements). The other factor supporting this decision is the scholarship in the field of hunger and food security. For more than a decade now, scores of studies and analyses have shown that even the most elementary forms of food insecurity have detrimental effects on its victims. See, for example, Murphy *et al.* (1998); Sahyoun and Sasiotis (2000), and Kleinman *et al.* (1998). People who go without enough to eat are sick more often and miss work more frequently. Children who live in food insecure households (not

necessarily categorized as hungry) are sick more frequently, miss school more often, and do more poorly in school. The research shows that food insecure children are more susceptible to cognitive impairment (mental dysfunction), more likely to engage in anti-social behaviors, and more in need of both medical and mental health interventions (Center on Hunger and Poverty, 2002). In short, there are significant "cost burdens" when people are hungry *or* food insecure. Hence, we treat the burden of hunger and food insecurity as a unified problem or cost center.

Approach

Because the cost burden of a problem such as hunger includes all public and private expenditures, both direct and indirect, we reviewed scientific literature to identify odds ratios for various adverse outcomes known to be associated with hunger. These include the following categories: (a) charitable efforts to feed the hungry; (b) mental health and medical care to address problems such as anxiety and depression, illnesses, nutrient deficiencies, physician visits and hospitalizations; and (c) lowered economic productivity associated with missed days of school, school suspensions, repeating a grade, overall educational success and dropping out of school. We then reviewed economic literature and, where relevant, expenditure data to establish attributable costs for each of these outcomes.

Due to limited data availability, it was generally assumed that the odds ratio for children and adults were the same. This was the most plausible assumption that could be made in the absence of complete data.

The Cost Burden of Charity

Charity is the practice of short-term relief when structural factors (economic, policy and programmatic) are insufficient. A home burns down or a job is lost and the family may be consoled with lodging or other forms of short-term care until more lasting solutions come into play. With respect to domestic hunger the charitable community has played a significant role since the early 1980s (Physician Task Force on Hunger in America, 1985), developing both immediate and long-term strategies to address the problem of households without sufficient nutrition.

With about 35 million Americans consistently living in households that struggle each year to get enough to eat, (USDA, Economic Research Service, ERR–47, 2007) the charitable response has shifted from individual in nature to largely an institutional one. Tens of thousands of "emergency" feeding programs now dot the landscape of the nation, so many in fact that if they were evenly distributed, about one thousand would exist in *each* of the fifty states. (Cohen, 2006).

The largest domestic hunger relief organization is America's Second Harvest, an umbrella organization that represents a network of more than 200 food banks and food rescue organizations across the country that serve the smaller emergency programs mentioned above. Located in every state, these entities collect canned, boxed and sometimes fresh foods from industry and other sources, and then distribute it to a variety of local programs to feed the hungry with actual meals or periodic bags of groceries. Another 50 or so food banks exist outside the Second Harvest system meaning that the nation has an average of five food banks for each state (though not actually so distributed).

These 250-plus food banks exist to provide food pantries that typically reside in church basements and social service agencies. These facilities usually bag the food products to distribute weekly to families depending on household size. The banks also service soup kitchens, establishments where individuals and families can come for a sandwich or even a hot meal. America's Second Harvest reports that its food banks alone service more than 40,000 food pantries and soup kitchens across the nation. In 2005, these Second Harvest programs fed more than 24 million people (Cohen, 2006). When non-Second Harvest food banks and other programs are factored in, the number of people fed through charitable efforts in the nation is substantially higher.

It is the nature of charity that it typically is a donation: a hungry household is given food. But the food itself is not free since, somewhere along the line, it was paid for. Even the act of giving the food was not free but relied on volunteer time and institutional overhead, both of which have calculable costs. In this sense, America's huge charitable enterprise, developed largely over the past 25 years, is not free. In fact, its price tag, its economic investment to feed the hungry, is more than $14 billion each year (see *Table 2*).

Table 2. Annual Cost Burden of Charitable Efforts To Feed Hungry Americans

Charitable Activities	Estimated Cost 2005
Food Banks: products, operations and depreciation	$3.8 billion
Local Feeding Programs: food pantries and soup kitchens	$7.5 billion
Volunteer Support: volunteer hours and expenses (1. and 2.)	$1.1 billion
Other National Feeding Programs (non-food bank related)	$0.7 billion
Unaffiliated Local Programs	$1.4 billion
Total costs	$14.5 billion

Illness and Psychosocial Dysfunction

We evaluated and summarize the economic costs of poorer health, illness, increased utilization of psychological services, and other psychosocial outcomes that are shown by research to be associated with food insecurity. To estimate the cost of adverse health and mental health outcomes, we first reviewed the scientific literature to identify studies that show a link between food insecurity and adverse health outcomes. Studies were chosen that calculated multivariate risk ratios or odds ratios of these adverse outcomes to increase our confidence that the associations were found after statistically controlling for other explanatory factors. For some outcomes associated with insufficient food, such as attention deficit hyperactivity disorder (ADHD), we concluded that the existing likelihood ratio for excess outcomes was insufficient to rely on. For yet other outcomes such as iron deficiency, hospitalizations, and excess costs of fair and poor health status, we were able to compute direct costs but not indirect costs because available data did not provide a basis for estimating indirect costs.

Medical conditions identified to have higher rates of adverse conditions among those who are food insecure include iron deficiency anemia (1.66 times more likely), headaches (1.92), stomach aches (2.16), frequency of colds (1.54), activity-limiting health impairments (2.95), specific nutrient deficiencies (2.85 to 4.39), more hospitalizations and longer in-patient stays (1.3), and poorer overall health status (2.9) (*Table X1*). Mental health conditions with a higher rated of adverse conditions among the food insecure include anxiety and irritability (1.95 times as likely), depression (3.50), withdrawn behavior (1.74), psychosocial dysfunction (7.0), suicidal thoughts and behaviors (5.00), and need for mental health services (1.93).

The cost of illness was then calculated for these conditions by searching the cost of illness literature and calculating the fraction of the cost attributable to food insecurity, as described in the methods section. The total cost from a societal perspective for mental health services and ill health, assuming these outcomes are independent, comes to $66.8 billion annually, in 2005 dollars (*Table X3*). The state of the literature allowed us to calculate both indirect and direct costs for migraine headaches ($1.7B), colds ($0.4B), iron deficiency ($0.2B), depression ($15.6B), anxiety ($9.2B), and suicide ($6.4B). However, we were only able to calculate direct costs for upper GI disorders ($2.5B), hospitalizations other than for the conditions listed here ($7.1B), and the excess cost of fair or poor health status ($23.7B) as reliable estimates for indirect costs were not available.

Education and Lowered Productivity

This impact was estimated through a two step process, as existing literature did not permit the one-step estimation available for illness and psychosocial dysfunction. According to a number of recent studies, children from food insecure households are more likely than their non-food insecure peers to experience higher rates of various forms of educational trauma: Missed days of school were 1.6 times the risk, and repeating a grade was 1.44 times the risk compared to a child without food insecurity. These factors, in turn, were linked to a higher risk of dropping out of school. This translated to the economic burden from dropping out of school of lower lifetime earnings of $9.2 billion.

Summary of Burden

When summed for 2005, these burdens total $90.4 billion (*Table 3*). The results can further be broken down by state based on the prevalence of food insecurity in each state in 2005 (*Figure 1*).

Table 3. Minimum Total Cost Burden of Hunger in America

Cost Burden by Outcome	2005 Direct and Indirect Costs
Charity	$14.4 billion
Illness and psychosocial dysfunction	$66.8
Less education and lowered productivity	$9.2
Total costs	$90.4 billion

Figure 1.

Implications

This country's nutrition programs can be seen as a glass half full. Were the Supplemental Nutrition Assistance Program (SNAP, formerly called Food Stamps) and other government programs not in existence, the burden would have been even greater than $90 billion. That is the part of the glass that is full. Had those programs had the structure and funding that the problem requires, however, there would have been virtually no cost of domestic hunger. My colleagues and I would not have estimated a $90 billion problem. That is the half empty part of the glass.

Using round numbers, I would like to estimate the expansion in 2005 that might have funded the empty part of the glass. I will assume:

—The program cost $35 billion;

—Food stamps covered ⅔ of those eligible; and

—Benefits, on average met about ¾ of the needs for those who received them (higher food prices today might lower this share).

Putting these two shares together, the program in 2005 covered about half the food needs of those eligible (*i.e.,* ⅔ of ¾). Thus, the spending of $35 billion represents about half the food needs of eligible hungry Americans. There is another half, another $35 billion cost to serve eligible Americans, that was not being met. In other words, additional funding of $35 billion would have addressed substantial parts of the gap.

We can compare the economic burden of $80 billion against the additional investment of $35 billion and see a return of about $2.28 for every increased dollar invested in terms additional support for reducing hunger.

I am pleased that the farm bill passed by this Congress will take useful steps towards expanding benefits under SNAP and help lower the empty part somewhat. Further investments in funding, outreach, and expanded benefits will ensure that the empty part of this glass is completely addressed and that hunger in America can be largely eliminated. Thank you very much.

ATTATCHMENT

THE ECONOMIC COST OF DOMESTIC HUNGER

Estimated Annual Burden to the United States

June 5, 2007

Dr. J. Larry Brown, Harvard School of Public Health
Dr. Donald Shepard, Brandeis University
Dr. Timothy Martin, Brandeis University
Dr. John Orwat, Loyola University

An analysis commissioned by the Sodexho Foundation, in partnership with the Public Welfare Foundation and Spunk Fund, Inc.

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The authors wish to thank Clare L. Hurley, MM, Ashley Sullivan, and Bryan Hall for their research and editorial contributions to this analysis.

The Sodexho Foundation (www.helpstophunger.org) is an independent charitable organization that is leading the fight against hunger by supporting initiatives that focus on eliminating the root causes of hunger in the United States. Administrative costs are paid by Sodexho, Inc. (www.sodexhoUSA.com) to ensure that 100 percent of funds raised are directed to those in need. Established in 1999, the Sodexho Foundation has been a leading force in the pursuit of a hunger-free nation with its ongoing efforts to provide support to individuals and families facing poverty, unemployment, lack of education and food insecurity. Since its inception, the Foundation has raised and contributed more than $7.2 million to hunger relief and advocacy organizations nationwide.

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Executive Summary

In recent years the scholarly community has developed methods to measure "cost burdens," which are the direct and indirect societal costs of adverse outcomes associated with a particular problem, practice, or illness. Such studies have examined the total cost to households, communities, businesses and government of problems such as alcohol abuse, smoking and obesity.

This report is the first analysis of the total cost burden of hunger in the United States-- what it costs the American public to tolerate hunger and food insecurity in our nation. Bipartisan efforts in the 1970s led to policies that resulted in significant reductions in hunger; however, since the 1980s hunger has not only became more severe but, according to an annual measure reported by the federal government, has remained at high levels for at least the past decade. Each year around 35 million Americans live in households that do not get enough to eat.

The personal cost of hunger to a child, or to families who cannot afford to feed their children, might be difficult for many to imagine. This personal cost has been analyzed and discussed in numerous academic and lay publications. But what, we might ask, is the *economic* cost to the nation when we permit so many of our fellow citizens to go hungry? What are the costs of the charity that is required to help families get through another day? What are the costs of impaired educational outcomes that scientific research has linked to children not getting enough to eat? And what is the bill for the mental and physical illnesses that are linked to inadequate nutrition? This analysis calculates the cost burden of hunger in the United States at a minimum of $90 billion annually. This means that on average each person living in the U.S. pays $300 annually for the hunger bill. On a household basis this cost is $800 a year or $8,000 over a decade. And because the $90 billion cost figure is based on a cautious methodology, we anticipate that the actual cost of hunger and food insecurity to the nation is higher.

Notably, national experts calculate that federal policymakers could end hunger as a serious national problem by strengthening existing federal nutrition programs by about $10 to 12 billion over current spending. This means that virtually ending hunger in our nation would be far less costly than paying the current annual bill that lets so many people in our country suffer this preventable fate.

Foreword

Only several decades ago, there were millions of people in America suffering from severe malnutrition, some bordering on starvation. Thankfully, our nation mobilized resources and support to greatly reduce this tragedy. Today many people believe that hunger is no longer an issue in America. However, the reality is that in virtually every community there are people who are impoverished and in need, whether they are the working poor, the elderly, or families with children. If we look closely, the face of hunger is all around us, affecting more than 35 million of our fellow citizens. They are not starving, but they do not have the certainty of knowing where, when, or how they will eat their next meal. Many are forced to choose between the daily necessities of life such as paying rent, having adequate health care, or buying food.

The mission of the Sodexho Foundation is to be a driving and creative force that contributes to a hunger-free nation. It is for this reason that we commissioned this ground breaking research project, "The Economic Cost of Domestic Hunger." We believe hunger is a solvable problem and are working to raise the consciousness and the political will of the American people to once again rise to meet the challenge to end it in our country. Hunger in America has a cost far beyond the human suffering. As this research outlines, the cost burden to our country is more than $90 billion, far more than it would take to ensure that no citizen is at risk of hunger. Admittedly, there is more to ending hunger than providing food for those in need. We have a responsibility to address hunger's root causes; to provide employable skills, affordable health care, child care, and affordable housing among many others.

While people may differ on various policy proposals, none would disagree that hunger has no place in our vibrant democracy. We hope that this landmark study will help the nation engage in a more public dialogue about the issue of the true cost of hunger in our midst, and the concrete and measurable steps that we can take to make America a hunger-free nation.

Stephen J. Brady
President
Sodexho Foundation
Gaithersburg, MD

Cost Burden Calculations

For some years now the media has reported on studies that assess the cost to society of adverse outcomes associated with social practices or policies. Often, this takes the form of a 'cost burden' for such outcomes as smoking, alcohol abuse and obesity. A cost burden is the compilation of the known economic costs, both direct and indirect, of a particular problem or practice. The cost burden provides information to policy makers on the magnitude of the problem and the potential savings that could result from eradicating or reducing the identified problem as they consider possible solutions. When the problem is an illness, the type of study is termed "cost of illness." As Dorothy Rice, a pioneer in such studies, noted, they have been widely performed and proved useful to inform resource allocation across such wide ranging areas as biomedical research, public health, and injury prevention (Rice, 2000).

Estimating a cost burden involves the use of systematic methods to calculate the total societal costs of managing the specified problem or practice and its adverse outcomes. Taking a societal viewpoint, cost burdens include both private and public sector spending, counting both direct and indirect costs in each sector. Direct costs are those expenditures incurred as a result of the medical treatment of some illness or problem; indirect costs are the non-medical costs incurred as a result of that illness, such as missed days of work. These expenditures come from a variety of sources including government, public and private organizations and personal pocketbooks.

Alcohol abuse is an example of a substantial cost burden. The annual cost of health care associated with alcohol abuse alone has been calculated at $22.5 billion, but when indirect costs, such as lost productivity are factored in, the total economic burden to the nation has been reported by various scholars to run to nearly $200 billion annually.[1] The costs of undesirable problems like alcoholism frequently are as hidden as they are surprising: costs are not only borne by the user, but their families and society at large. As an example, children of alcoholics are sick more often, are admitted to the hospital 62% more often than other children, and remain in the hospital 29% longer (Rice, 1999). Alcohol abuse significantly elevates the likelihood of traffic accidents, particularly among teenagers, but also among all ages. Alcohol abuse also is linked to increased homicides and other violent crimes, as well as increased drownings and suicides (Rice, 1999).

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[1] See sources listed in Table 1

Table 1 below provides a brief summary of scholarly studies that assess the known and quantifiable "cost burden" of several practices. These studies raise a number of notable issues. The first is that the estimated costs are substantial. The cost burdens of single issues or problems range from as low as $79 billion to as high as $500 billion annually, sizable costs in and of themselves. Second, assuming these burdens are independent, the total cost is enormous, perhaps in the range of $1 trillion annually just for the several outcomes listed.

A third factor of note is that several of the studies are older, meaning that with inflation and rising health care costs, the annual cost burdens would be higher today. But perhaps the most compelling implication of cost burden analysis is the potential cost savings to our nation if a problem is prevented.

Table 1
Cost Burden for Selected Outcomes

Outcome	Estimated Annual Cost	Cost Current as of	Sources and Year
Alcohol abuse	$185 billion	1998	Harwood, 2000
Smoking	$138 billion	1995	Rice, 1999
Obesity/overweight	$ 79 billion	1998	Finkelstein et al., 2003
Drug abuse	$161 billion	2000	Office of National Drug Control Policy, 2001
Poverty	$500 billion	2007*	Holzer, 2007

* If not otherwise specified, we have assumed the years' dollars are the same as the publication year

It is well understood in medicine that it is generally better to prevent ill health than it is to treat problems after they develop. Prevention not only eliminates the pain and suffering of the patient, but it also prevents the personal and societal costs of treatment. So commonly accepted is the premise of prevention that it is encoded in various state and federal laws. For example, most states require motorcyclists to wear helmets because of the frequency of serious brain damage associated with not wearing a helmet. In such an instance, legislatures have calculated that the relative loss of personal freedom (choosing to ride without a helmet) is greatly offset by reducing the substantial cost to society of paying for preventable brain injuries. Similarly, childhood vaccinations are generally required as a condition for school entry, and transportation workers may not use illegal drugs and must accept random screening on request to confirm their adherence.

It is notable that such decisions do not extend to all possible adverse outcomes. Society does not, for example, require people to eat only certain foods to avoid the costs to the nation of obesity. Neither is smoking or alcohol use banned altogether, although their public use is now greatly regulated to protect the public good.

A customary social perception of the origins of problems such as smoking, drug and alcohol abuse, and even obesity, is that they result from the consequences of individual choice. Although mounting evidence now suggests that this view is much too simple, individual choice is the result of a complex interaction of factors often external to the individual, such as advertising, social norms, household income, and perhaps genetic factors ultimately it is the individual who either decides or simply succumbs to practices and habits that then burden society with the significant economic costs shown in Table 1. In short, so-called individual decisions force the nation to later pay the costs of each of the practices in aggregate, through both public and private expenditures for medical care, lower productivity, and premature death, each with its own economic costs.

2. The Extent of Hunger in America

We turn now to a significant economic cost borne by society that hardly reflects individual choice at all: hunger in America. People do not choose to skip meals when they are hungry, and parents do not elect to put their children to bed without enough to eat. The cost of hunger is involuntary on the part of its victims, and quite preventable by society as a whole. Hunger also is very costly.

The burden and extent of domestic hunger has been fairly well understood since at least the late 1960s. The nation was galvanized by the report of the Citizens' Board of Inquiry into Hunger and Malnutrition in the U.S. when it reported in 1968 on the widespread occurrence of hungry children, the elderly, even entire families (Citizens' Board of Inquiry into Hunger and Malnutrition, 1967). While the Board, largely comprised of physicians and clergy, was unable to estimate precisely how many individuals were impacted, they placed the number somewhere above 10 million people. Moreover, their field investigations into specific areas of the nation found the problem of hunger to be endemic. Its victims consistently lived without an adequate diet because they did not have the money to buy what they needed to eat. Mothers often watered down the dwindling supply of formula to feed their infants, toddlers seldom got milk to drink, and vegetables and fruits were virtually unknown in many households. This Board report prompted Congressional hearings and significant bipartisan action, resulting in programs that include the national Food Stamp program, the School Breakfast, Elderly Feeding and WIC programs. But it would take years for an authoritative source to make an estimate of the actual extent of hunger nationally.

In 1985, the Harvard-based Physician Task Force on Hunger in America announced the results of its research and field investigations in half the states of the nation (Physician Task Force on Hunger in America, 1985). This group largely comprised of physicians and public health experts had traveled to the states to see the face of hunger. Yet unlike their predecessors, they had the scientific training to calculate an estimate of the size of the problem the nation faced. They reported that the number of Americans afflicted by hunger was more than 20 million. Their report led to significant national news coverage and, as in 1968, Congress took further action to ameliorate the problem.

Although the estimate of 20 million people going hungry was criticized in some quarters, other sources soon weighed in, some offering an estimate beyond the Harvard group's figure. One even suggested that the number was well above 30 million (Bregglio, 1992), a figure later corroborated by the university-based Center on Hunger and Poverty in 1992[2], which had been consulted by Congressional leaders as to the true extent of domestic hunger. In 1995, the federal government implemented a standard measure to evaluate the extent of hunger annually. Over the past ten years, with relatively minor variations, this standard has indicated that about

[2] Communication to Congressman Tony Hall from J. Larry Brown, 1992

35 million Americans live in households with insufficient food. Like the federal poverty rate, which varies annually with changes in job opportunities, wages and the overall economy, the extent of hunger rises and falls each year as well and for similar reasons but the variation is slight. This federal data set consistently indicates that close to 12% of the nation's people lack sufficient nutrition.

The extant standard for tracking hunger and food insecurity is known as the Federal Food Security Module, and it is operationalized cooperatively by the Department of Agriculture and the Bureau of the Census (Bickel et al., 2000). Each year as it conducts census tracking, the Bureau asks a special set of eighteen questions developed by the Department of Agriculture that is applied to a broad national sample of households to determine the adequacy of their diets: do they sometimes not have enough food for their families, do they sometimes have to skip meals because of insufficient income, do they ever have to put their children to bed hungry. The researchers also ask questions about when such occurrences happened and how often over the past year, since the number of positive responses to such outcomes must reflect a repetitive or chronic problem before the household actually is counted as vulnerable.

Unlike the earlier hunger estimates, the federal measure reflects a refined definition of the problem. The governmental report defines hunger as a "painful sensation" in the stomach, and the measure of it reflects a high degree of food deprivation or "insecurity" before a household actually is considered to experience hunger. Some nutritionists and medical experts consider this standard to be too high. Since "pain" is only one of the possible sensations from hunger, many victims of hunger do not actually feel pain as such. Thus, people can be chronically hungry by any common understanding of the term, yet be missed by the federal definition because they do not experience "a painful sensation."

Alongside the category of "hunger," the federal measure also includes a new and more encompassing category of nutritional deprivation known as "food insecure." Households that are not determined to be hungry, as such, may be food insecure if they run out of food or do not know where the next meal is coming from, or if parents have to cut back on the portions of food served, cut down on the types of food categories available to the family, or have to rely on soup kitchens or food pantries to feed their family. While many consider this two-tiered measure hunger and food insecurity to be useful in differentiating degrees of household food deprivation, some experts consider the distinction to be tenuous. They argue that since hunger is more than a pain, and includes inadequate food resources to nourish individuals and families, then food insecurity is hardly different from hunger, if at all.

Whatever the merits of this distinction, it is important to note that the federal government uses the Federal Food Security Module to monitor annual changes in hunger and food insecurity in the nation. As shown in Table 2 the federal government reports that over recent years an average of 35 million people live in households that experience hunger or food insecurity.

Table 2

Annual Levels of Hunger and Food Insecurity

Year	Number of Households	Percent of Households	Number of Individuals	Percent of Individuals
2000	11.1 million	10.5	33.2 million	12.1
2001	11.5 million	10.7	33.6 million	12.2
2002	12.1 million	11.1	34.9 million	12.5
2003	12.6 million	11.2	36.3 million	12.7
2004	13.5 million	11.9	38.2 million	13.2
2005	12.6 million	11.0	35.1 million	12.1

Source: Department of Agriculture, *Household Food Security in the United States*, 2005 (ERR-29), November, 2006.

To analyze the cost burden of domestic hunger, we treat the extent of food deprivation in the nation as being the more encompassing number combining both hunger and food insecurity. Two factors support this treatment of the data. One, mentioned above, is that even households that are considered to be food insecure actually experience hunger (people don't eat enough to satisfy their needs, and are forced to cut back in terms of satisfying their nutritional requirements). The other factor supporting this decision is the scholarship in the field of hunger and food security. For more than a decade now, scores of studies and analyses have shown that even the most elementary forms of food insecurity have detrimental effects on its victims. See, for example, Murphy et al (1998); Sahyoun and Sasiotis (2000), and Kleinman et al. (1998). People who go without enough to eat are sick more often and miss work more frequently. Children who live in food insecure households (not necessarily categorized as hungry) are sick more frequently, miss school more often, and do more poorly in school. The research shows that food insecure children are more susceptible to cognitive impairment (mental dysfunction), more likely to engage in anti-social behaviors, and more in need of both medical and mental health interventions (Center on Hunger and Poverty, 2002). In short, there are significant "cost burdens" when people are hungry or food insecure. Hence, we treat the burden of hunger and food insecurity as a unified problem or cost center.

Before assessing the actual economic costs associated with hunger, it is worth one further note regarding the issue raised in the previous chapter, notably, whether hunger is due to individual behavior. A significant amount of research on the part of scholars at various academic institutions sheds light on this matter. Households typically do not go hungry due to choice or bad habits. Certainly there is individual pathology that occasionally results in some families falling victim to hunger, but this appears to be the unusual indeed, highly rare case. Rather household food insufficiency is known to be associated with low wages, part-time jobs, loss of employment, and the high costs of housing and medical care for low-income households. Indeed, the single fastest growing group of people having to rely on food banks and emergency

feeding programs for meals is the working poor: households where both parents may be working, or where one is holding down one or more low-wage jobs. The pay they receive for their hard work is inadequate to meet household needs. Expenses like rent, utilities and medical care are fixed, but food purchases are elastic or expendable. The rent must be paid and heating oil must be bought, but for food, families "choose" to do without, or sharply cut back to try to get by.

For this reason, the problem of hunger is somewhat different from that of other outcomes for which cost burdens have been estimated. Hunger is not typically associated with individual pathology or bad judgment, but exists due to external factors, both economic and political in nature, which leave a significant portion of people deprived of one of our most basic needs, enough food to eat--a basic *right* according to the United Nations. For this problem there exist both individual and collective costs. This is an analysis of the latter: how much the nation pays annually for extensive hunger in our midst.

3. Charity: The Cost to Individuals, Organizations and Communities

Charity is what we practice when things do not work out as they should. A home burns down and we console the family with lodging or other forms of care. We realize that our aid is not a meaningful long-term solution to the loss of housing, but we respond as we can for the interim. When a family loses income due to a job loss, we provide food to help them get by. Here too, we realize that this is only a temporary fix because they will be hungry again tomorrow. But we aid them as we can in the hope that a more lasting, structural solution will enable them to again be on their feet.

It is in this respect that the charitable community has faced a crisis in domestic hunger since the early 1980s (Physician Task Force on Hunger in America, 1985). Charities have to play an immediate mitigation role to address the needs of families that go hungry today. At the same time, the charitable community has been called upon to play a role in finding lasting public policy solutions to hunger by preventing its root causes. Because charity is a short-term response and not a basic solution, the charitable community has had to develop both immediate and longer-term strategies to address the problem.

This charitable role has been elevated to a sophisticated art form. With about 35 million Americans consistently living in households that struggle each year to get enough to eat,[3] the charitable response has shifted from individual in nature to largely an institutional one. And while the charitable institutions that now exist are among the first to proclaim that their job should not exist—hand-outs are not the preferred way to feed families in a wealthy democracy—charitable efforts are needed until economic opportunity and public policy combine to strengthen family economic security. In the meantime, America arguably has become a soup kitchen nation. Tens of thousands of "emergency" feeding programs now dot the landscape of the nation, so many in fact that if they were evenly distributed, about one thousand would exist in *each* state of the fifty states. (Cohen, 2006).

The largest domestic hunger relief organization is America's Second Harvest, an umbrella organization that represents a network of more than 200 food banks and food rescue organizations across the country that serve the smaller emergency programs mentioned above.[4] Located in every state, these entities collect canned, boxed and sometimes fresh foods from industry and other sources, and then distribute it to a variety of local programs to feed the hungry with actual meals or periodic bags of groceries. Another 50 or so food banks exist

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[3] See Table 2, herein, for annual fluctuations since the year 2000.
[4] Headquartered in Chicago, IL, America's Second Harvest, The Nation's Foodbank Network is one of the largest charities in the United States.

outside the Second Harvest system [5] meaning that the nation has an average of five food banks for each state (though not actually so distributed).

These 250-plus food banks exist to provide food pantries that typically reside in church basements and social service agencies. These facilities usually bag the food products to distribute weekly to families depending on household size. The banks also service soup kitchens, establishments where individuals and families can come for a sandwich or even a hot meal. America's Second Harvest reports that its food banks alone service more than 40,000 food pantries and soup kitchens across the nation. In 2005, these Second Harvest programs fed more than 24 million people (Cohen, 2006). When non-Second Harvest food banks and other programs are factored in, the number of people fed through charitable efforts in the nation is substantially higher.

It is the nature of charity that it typically is a donation: a family is hungry and is given soup. But the soup itself is not free. Somewhere along the line it was bought and paid for. Even the act of giving the soup was not free. To get it to the family in need required personal or volunteer time and institutional overhead, both of which have calculable economic costs.
In this sense, America's huge charitable enterprise, developed largely over the past twenty-five years, is not free. In fact, its price tag, its economic investment to feed the hungry, is more than $14 billion each year. (Appendix A describes the methodology for estimating charitable costs and other burdens described in this report and Appendix B lists the literature reviewed). Table 3 provides details about costs for charity only; other costs associated with hunger in America are addressed in subsequent sections.

Table 3
Annual Cost Burden of Charitable Efforts to Feed Hungry Americans

Charitable Activities	Estimated Cost 2005
Food Banks: products, operations and depreciation	$ 3.8 billion
Local Feeding Programs: food pantries and soup kitchens	7.5 billion
Volunteer Support: volunteer hours and expenses (1. and 2.)	1.1 billion
Other National Feeding Programs (non-food bank related)	0.7 billion
Unaffiliated Local Programs	1.4 billion
Total costs	$ 14.5 billion

Source: Authors' calculations. See Appendix A and Appendix B

Critics might question counting the cost of food as a cost of hunger, since the users would have to obtain food somewhere. While this is true, due to their restricted hours and limited locations, Food Banks and local feeding programs impose time and travel costs on their users—a

[5] Authors' telephone and email discussions with America's Second Harvest representatives, June, July, 2006

component that we have not factored in. Overall, we believe that the estimate of $14.5 billion to feed hungry households each year somewhat under-represents total charitable costs. This is particularly so since conservative assumptions and prudent standards were utilized in constructing this analysis. Nevertheless, even if the actual figure is somewhat higher, the significance of spending $14.5 billion annually to feed the hungry through charitable efforts is striking when compared to the projected cost of actually ending hunger in the nation.

Various scholars, as well as some of the nation's leading national hunger organizations,[6] have estimated that Congress could essentially end hunger in the nation by expanding existing programs (Food Stamps, Child Nutrition and Elderly Feeding) by $10-12 billion over current program expenditures (Brown, 2006; National Anti-Hunger Organizations, 2004). Hence, it is notable that were such a public policy solution adopted to ending hunger, it actually would represent a savings over what is now spent on annual charitable efforts. In short, it would be far more cost effective to eliminate hunger as a serious national problem than to continue to mount these expensive charitable efforts each year.

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[6] Membership in the National Anti-Hunger Organizations (NAHO) includes: Bread for the World, Share Our Strength, MAZON, America's Second Harvest, Center on Hunger and Poverty, World Hunger Year, Food Research and Action Center, Congressional Hunger Center, RESULTS, Center on Budget and Policy Priorities, and others.

4. Illness: The Costs of Mental Health and Medical Care

The extensive prevalence of hunger in the nation exacts other costs as well. Some of these costs are immediate, such as missed days of school, while others are more long-term, such as the cost of a lifetime of lowered productivity. We turn now to those costs of hunger that are unrelated to charitable initiatives. In this section we evaluate and summarize the economic costs of poorer health, illness, increased utilization of psychological services, and other psychosocial outcomes that are shown by research to be associated with not enough to eat

An extensive body of scholarly research shows that hunger, even in its milder form of food insecurity, is directly linked to adverse outcomes that are harmful to the individual and costly to society. While much of the relatively recent research about the impact of hunger on the individual has focused on the pediatric population, it is now considered that there is no "safe" level of involuntary hunger at any age. Hunger born of insufficient resources is harmful to the human body and the cognitive function of the brain (Center on Hunger and Poverty, 2002). In a survey of relevant scholarly work for example, researchers reported in *Scientific American* that, "Undernutrition triggers an array of health problems… weight loss, stunted growth, weakened resistance to infection… [and] hinders mental development." (Brown and Pollitt, 1996). Basing their conclusion on work conducted both in the United States and abroad, the authors noted that, "Prevention of malnutrition remains the best policy, not only on moral grounds but on economic ones as well… billions of dollars in education goes to waste when children appear at the school door crippled from undernutrition." (Brown and Pollitt, 1996). Numerous scholarly findings reported in scientific journals over the past decade have linked hunger or food insecurity with a variety of adverse health outcomes (See Appendix B). While there are variations in the findings, this growing body of evidence indicates that even relatively mild food deprivation poses a variety of threats to the body. These include outcomes that can range from minor to more severe in nature, such as chronic headaches, stomach aches, and weakened physical conditions that involve greater susceptibility to disease and generally poorer health status. Hunger and food insecurity also are associated with more doctor visits, higher rates of hospitalization and other preventable medical care. In general, the scholarly literature now links hunger with many factors associated with poor health outcomes, although it bears remembering that the outcomes are not always statistically significant, or necessarily to the same degree.

Members of food-deprived groups, for example, often have higher rates of various adverse conditions:
Higher rates of iron deficiency anemia (1.66 times more likely)[7]
Frequent headaches (1.92)
More stomach aches (2.16)
Greater frequency of colds (1.54)
More activity-limiting health impairments (2.95)
Specific nutrient deficiencies (2.85 to 4.39)
More hospitalizations and longer in-patient stays (1.3)
Poorer overall health status (2.9)

Whenever possible, we selected multivariate risk ratios or odds ratios of these adverse outcomes from the literature. This choice increases our confidence that the associations of adverse outcomes with hunger or food insecurity remain after controlling statistically for other explanatory factors for the households under study.

In addition to physical well-being, hunger is also linked to adverse mental health and psychosocial outcomes. Lack of food, or the depletion of dietary energy maintained by the body, can induce changes in both mental function and stability (Center on Hunger and Poverty, 2002). These changes typically are more noted in children for a variety of factors, but extend to the adult population including the elderly. The elevated rates of mental and behavioral outcomes associated with hunger and food insecurity, based on a number of recent studies, include these examples:

Anxiety and irritability (1.95 times as likely)
Depression (3.50)
Withdrawn behavior (1.74)
Psychosocial dysfunction (7.0)
Suicidal thoughts and behaviors (5.00)
Need for special education (2.07)
Need for mental health services (1.93)

Table 4 summarizes calculable costs in the areas for which the scientific literature provides likelihood odds ratios (elevated outcomes) for people who experience hunger and food insecurity. The total cost from a societal perspective for mental health services and ill health, assuming these outcomes are independent, comes to $66.8 billion annually, in 2005 dollars. It is to be noted, however, that for technical reasons this cost estimate is believed to be quite

[7] The odds ratio of 1.66, for instance, means that members of food insecure households are 1.66 times more likely to be iron deficient than members of food secure households. The increased prevalence rates used in sections 4 and 5 of this report were obtained from many individual studies (see Appendix B). The mean odds ratio was used where multiple studies were available for a single topic.

conservative. For some outcomes associated with insufficient food, such as attention deficit hyperactivity disorder (ADHD), we concluded that the existing likelihood ratio for excess outcomes was insufficient to rely on. For yet other outcomes such as iron deficiency, hospitalizations, and excess costs of fair and poor health status, we were able to compute direct costs but not indirect costs because available data did not provide a basis for estimating indirect costs. The fact that these and other costs were not fully attributed suggests that while our estimate of $66.8 billion is appropriately conservative from a research perspective, the full cost of hunger probably is not captured in the table below. (The procedures behind these calculations and those in the next chapter are described in the section on methodological approach in Appendix A.)

Table 4

Annual Societal Cost Burden of Hunger-Related Illness and Psychosocial Dysfunction

Adverse Outcome	2005 Direct and Indirect Costs
Migraines	$ 1.7 billion
Colds	0.4
Iron deficiency	0.2
Depression	15.6
Anxiety	9.2
Suicide	6.4
Upper gastrointestinal tract disorders*	2.5
Other hospitalization*	7.1
Excess cost of other fair or poor health status*	23.7
Total costs	$ 66.8 billion

* Direct cost only (indirect costs are not available).
Source: Authors' calculations. See Appendix A and Appendix B

5. Limited Learning: The Costs of Lowered Economic Productivity

In recent years some of the more remarkable findings about the consequences of food insufficiency pertain to its impact on cognitive function, the capacity of the brain to perform optimally as children and adults engage in their educational, social and work environments. For many years the medical research community believed that underfed children sustained brain impairments only if there was structural damage (morphological change) to the brain itself (Pollitt et al., 1996). Anything less, and particularly what is now called mild under-nutrition, was considered to pose little threat to brain function. It is now known that even mild forms of hunger or food insecurity are not safe, as even relatively small exposures to hunger can impair cognitive function, particularly in children.

When faced with insufficient dietary intake, the human body engages in a form of triage by directing limited energy to be used for its most important functions. Chief among these is maintaining critical organ function. If enough dietary energy remains after allocation to key bodily organs, the second priority is body health, which in children means normal height and weight gain. The final priority, depending on the availability of energy, is the individual's interaction with the social environment—playing with peers, interacting with parents and siblings, and awareness and participation in school. Hungry children haven't the capacity for normal learning and play; while their bodies are in the classroom they lack the dietary fuel required to engage meaningfully with those around them. As a result, their cognitive abilities deteriorate not because of changes in brain structure, but due to the seemingly more "benign" cause of insufficient dietary energy.

This deterioration, directly linked to food insufficiency, impairs cognitive function and the impact can last a lifetime. Hungry children do less well on tests of mental ability and school performance, and are more likely to fail, be held back, and drop out. They require more educational services and mental health interventions, as noted in the previous chapter, and also do significantly more poorly on standardized outcome measures such as academic performance, standardized testing and completion of school. As an example of many such studies, see Kleinman et al. (1998).

According to a number of recent studies (see Appendix B), children from food insecure households are more likely than their non-food insecure peers to experience higher rates of various forms of educational trauma:
Missed days of school (1.6 times more likely)
School suspensions (1.95)
Repeating a grade (1.44)

These and related outcomes are linked to an increased likelihood of school failure, including dropping out of school. In their adult years, children so affected will face greater likelihood of limited employability, lessened workforce productivity, and poorer judgment and job performance. It is in this way that hunger exacts a significant monetary cost to the nation, as the value of educational investments is squandered when children are unable to learn. Having experienced hunger as children, those entering the workforce as adults represent two cost burdens: a more limited lifetime earning potential, and lowered workforce productivity. Table 5 estimates the cost burden. This estimate is conservative because the available data do not permit us to quantify all the mechanisms by which hunger may lower productivity.

Table 5

Annual Societal Cost Burden of Less Education and Lower Productivity

Adverse Outcome	2005 Direct and Indirect Costs
Absenteeism	$ 4.2 billion
Grade retention (drop out)	$ 5.0 billion
Total costs	$ 9.2 billion

Source: Authors' calculations. See Appendix A and Appendix B.

6. The Bill: The Total Cost Burden of Hunger in America

We have developed attributable costs to capture the burden of hunger based on the variables for which scholarly evidence reveals excess (higher than for the general population) rates of adverse outcomes among the 35 million persons who live in households that do not get enough to eat. Table 6 below summarizes the cost of domestic hunger, totaling more than $90 billion annually, based on the outcomes discussed in the three previous sections.

Table 6
Minimum Total Cost Burden of Hunger in America

Cost Burden by Outcome	2005 Direct and Indirect Costs	
Charity	$	14.4 billion
Illness and psychosocial dysfunction		66.8
Less education and lowered productivity		9.2
Total costs	$	90.4 billion

Source: Authors' calculations. See Appendix A and Appendix B

This is a substantial bill, one that comes to both the taxpayers of our nation as well as to those who go hungry. But as with any cost burden estimates, the actual total cost can be somewhat uncertain. The scholarly literature in the field of outcomes associated with inadequate nutrition is fairly recent. Moreover, the plethora of studies that do exist sometimes provide no values, or even conflicting values, for particular outcomes. In numerous instances we made our most objective judgment as to how to treat the available data, and often relied on scholars in particular fields to help us. In some instances, we developed mean values when various studies suggested different prevalence rates for adverse outcomes among the population of food insecure households. And we always excluded outcomes for which available data were too sparse or varied widely. It is known, for example, that attention deficit hyperactivity disorder (ADHD) is higher among children who experience hunger. But the research in this field is too recent to yield a prevalence rate in which we had confidence. Hence, we discarded our effort to calculate the cost burden of hunger as it impinges on this and several other outcomes associated with hunger.

Because we were conservative in our approach, declining to calculate costs for some outcomes as noted above, we believe that our estimate of the true cost of hunger for the nation is actually somewhat higher than $90 billion. This estimate is based on exclusion of some components for which adequate data were entirely absent, and the counting of only direct costs for other components when we unable to develop estimates of indirect costs. For conditions for which indirect costs were available, they were generally higher than the direct costs. It is noteworthy, for example, that the calculation for the costs of illness and psychosocial dysfunction ($66.8 billion) in Table 6 was based on *direct* linkages between food insecurity and hunger and each outcome derived from the scholarly literature. Yet the calculation of educational and productivity costs in the same table ($9.2 billion) had to be based on the *indirect* cost associated with dropping out of school, thereby attenuating the impact significantly. While more research is

desirable with respect to the direct costs of lowered education and productivity, we estimate that the actual costs are far more than $9.2 billion annually.

Aside from this cost burden estimate of hunger in America being at the lower bound of its likely effects, stands the significance of the bill itself. What, we might ask, does it mean to pay more than $90 billion each year to let hunger exist in our nation? No doubt there are numerous ways to consider this matter. Distributed on an individual basis, it means that on average each person residing in the U.S. pays $300 annually for the hunger bill. Distributed on a household basis, it means that the annual cost is closer to $800 each year. And calculated on a lifetime basis, each individual's bill for hunger in the nation is nearly $22,000.

The payments we each make to pay for the existence of hunger in our nation typically are not direct. Usually we pay our bill through higher taxes to cover the costs of outcomes that the victims of hunger suffer, we pay through charitable contributions we make, and we pay indirectly for things such as lowered productivity and loss of U.S. competitiveness in the international arena.

Through whatever lens we seek to view the cost of hunger and grapple with how we pay the bill for its existence, one thing is paramount: *The nation pays far more by letting hunger exist than it would if our leaders took steps to eliminate it.*

If, even at the high end, it would cost $12 billion over current spending for Congress to expand existing programs to nearly end hunger, this is about 13% of what our country is now paying for tolerating hunger. In other words, we pay more than $90 billion annually to let people go hungry in America. Yet we can virtually end hunger in our nation for an additional $10-12 billion over current expenditures (Brown, 2006; National Anti-Hunger Organizations, 2004).

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Appendix A: Methodological Approach

Researchers bear the burden of ensuring the quality of their work, and describing their methodology in a manner sufficient for others to replicate or refute the outcomes. This latter responsibility includes highlighting assumptions made during the course of data analysis so that others can concur or challenge them and readers can decide the reasonableness of researchers' decisions and findings. The remainder of this appendix is designed to fulfill these obligations as they pertain to the estimation of the cost burden of hunger in America.

Definitions of key concepts

In 1995 the federal government adopted a standardized measure for both food insecurity and hunger. Known as the Federal Food Security Module, this measure has been applied each year to a national representative sample of U.S. households as part of the U. S. Census Bureau's annual *Current Population Survey*. The outcome, the number of people living in households that experience food insecurity and/or hunger, is reported jointly each year by U. S. Census Bureau and the U. S. Department of Agriculture.

The federal definition of food insecurity is "The limited or uncertain availability of nutritionally adequate and safe foods, or limited or uncertain ability to acquire acceptable foods in socially acceptable ways." (Bickel et al., 2000) In lay language, we would consider people to be food insecure if they don't know where their next meal will come from, haven't sufficient money or food on hand to provide for their families' nutritional needs, or have to go to soup kitchens or food pantries to eat. Each year since 1995, the federal government has reported between 33 and 38 million people living in households that experience food insecurity, a number much larger than those experiencing hunger per se.

The federal definition of hunger is "The uneasy or painful sensation caused by lack of food, [or] the recurrent and involuntary lack of access to food. Hunger may produce malnutrition over time…" (Bickel et al., 2000). The governmental distinction that is made between people who don't get enough to eat and/or don't have access to an adequate diet (the condition that is called food insecurity) and those whose stomachs ache due to the condition defined as hunger, is an item of debate in the health and policy communities. But these are the existing definitions used by the federal government, based on definitions adopted by nutritionists and published by the Life Sciences Research Office of the Federation of American Societies for Experimental Biology in 1994 (Bickel et al., 2000).

While the title of our analysis refers to the cost burden of hunger to the nation, we actually have assessed what the federal government refers to as food insecurity, which includes the above definition in addition to hunger. This is because existing research reveals that food insecurity, not simply a painful sensation, is associated with adverse outcomes in children and adults.

Occasionally research articles have adopted similar but somewhat different definitions from food insecurity and hunger, the most recurrent one being food insufficiency. Food insufficiency is a non-specific term, but operationally used in a manner similar to food insecurity to characterize the condition of a person, family or population group not having sufficient money for and/or

access to a nutritious diet. Another term, often heard by the public but typically not used as a standard in U.S.-based research, is malnutrition. Literally meaning "bad nutrition," the term usually is associated with quite extreme dietary deficiencies more prevalent in very low-income nations.

Measurement and reporting of food insecurity and hunger in the U.S.

In each year that the decennial (ten-year) census is not conducted, the Census Bureau conducts a survey by sampling thousands of American households. Called the *Current Population Survey (CPS)*, it characterizes the well-being of the population on a number of variables, including income and health. In 1995, the Bureau added a supplement to its on-going survey at the request of Congress and the Department of Agriculture. Called the CPS Food Security Supplement, and known as the Federal Food Security Module, the supplement annually reports on the number of people who live in households without enough to eat.

The food security survey questionnaire has eighteen items, each designed to ascertain key aspects of household nutritional adequacy. Sample questions include: "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?" or "In the last 12 months did any of the children ever skip a meal because there wasn't enough money or food?" or "In the last 12 months did any of the children not eat for a whole day because there wasn't enough money for food?" (Nord et al., 2005).

Survey results, based on the eighteen-item scale, are quite stringent. It is not sufficient for a respondent to answer yes to any one or two questions to be identified as food insecure. Based on survey experience and subsequent revisions before the procedure was officially adopted in 1995, no single factor makes a household food insecure. Affirmative answers to combinations of conditions, experience and behaviors, often entailing five or more positive answers, are required before a household is categorized as food insecure.

Analysis of study quality and consistency

To perform this analysis we first conducted a literature review of the consequences of food insecurity. We identified approximately 50 studies (see Appendix B), most conducted between 1996 and 2005, after the Federal Food Security Module went into effect. Limiting the research to this time frame lent more consistency to the analysis since researchers generally rely on the federal definitions. In the few instances where researchers used a definition such as "food insufficiency" rather than "food insecurity," we evaluated the similarity between the terms, and eliminated any studies whose operational definitions were not similar.

As a further control we relied primarily on scholarly studies published in peer-reviewed journals such as (but not limited to) the *American Journal of Public Health*, the *Journal of Nutrition*, *Pediatrics*, and the *Journal of Health Economics*. We further ensured that proper controls were used by the researchers to prevent confusion between food insecurity and its socio-economic correlates.

We also faced occasional inconsistency in study findings. One study, for example, might report that the prevalence of an outcome stemming from food insecurity as 2.7 times that of the population in general, while another might report this risk ratio at 4.3. If we had more than one estimate, we reviewed each study to ensure that the definitions of food insecurity, consequences, and controls met appropriate standards. We retained the studies that met these standards, and for all studies we included, we calculated the mean of the outcomes (3.5 for the example above).

Using studies that report outcomes for children or adults, but not for both

Research to determine adverse health and educational outcomes associated with food insecurity includes both adults and children, with a stronger focus on the latter. From a research perspective this emphasis makes sense because adults feel a deeper sense of responsibility for children, given their dependent status and their sometimes greater susceptibility to negative outcomes if they are deprived of enough to eat. But the focus on children also occurs because monitoring their health status, particularly height and weight gain, is an easy way to pick up negative trends associated with an inadequate diet.

In instances wherein the research literature addressed children but not adults, we sometimes elected not to extrapolate the outcomes for a particular finding to the adult population. Moreover, for some outcomes, particularly linked to grade retention, dropping out of school and academic achievement, the outcomes are so child-specific that, once again, no extrapolation was made to adults. In all such instances, omitting the adult population will tend to make our cost-related findings too conservative, meaning that there are costs associated with hunger that we do capture in our analysis.

In other instances where more data exist on the pediatric than the adult population, we elected to apply the child prevalence rate to the adult population. This decision is consistent with a number of outcomes where there is strong evidence to assume similar rates across age ranges. Again, doing so also tends to make our analysis a bit conservative, as rates in the adult population for certain outcomes are likely to be higher than for children. An example of this is the higher degree of psycho-social insult among food insecure children. If hungry children experience greater anxiety than non-hungry children, it is likely that hungry adults experience greater anxiety as well. Parents carry the weight of fear and anxiety about food availability for themselves and their family as well.

As we made decisions about deleting outcomes in the adult population from our analysis or extrapolating child prevalence rates to adults, we also sought expert advice from researchers in various fields. All in all, we believe that the decisions we made, while certainly open to discussion and review by others, tend to make our overall analysis of costs associated with hunger more conservative than they actually are.

Distinction between food insecurity and poverty

A typical responsibility in research is to control for so-called confounding variables. If a researcher found, for example, that people eating a certain type of food had higher rates of parasitic disease or infectious disease, it could be highly erroneous to assume that the food itself *caused* the disease. Rather, the cause might not be the food itself but the way it is prepared. Or it might not be the food at all, but the fact that it typically is consumed with some other food whose ingredients are tainted.

When evaluating the negative impacts that hunger has on its victims, one might ask, how we know it is hunger that causes the adverse consequences rather than poverty itself. After all, one might argue, most people who haven't enough to eat are likely to be poor, and the research shows that this is precisely the case. In each year since 1995, there are about 30-35 million people living below the federal poverty line in the US, and about the same number who live in households that are food insecure. How, therefore, do we know we are measuring the outcomes of hunger rather than poverty?

One answer is that even though similar numbers of people are poor and hungry, they are not always the same people. Some poor households, for example, are not food insecure because they might live in a warm climate and have a year-round garden. Others might supplement their diets by hunting and fishing. At the same time, a non-poor household might, in fact, be food insecure because their incomes are just above the poverty threshold, but they have exceptionally high medical bills or heating costs. Because they haven't sufficient income to apply to their food budget, they often go hungry to scrape by.

But the more fundamental explanation is that researchers "control" for income and other variables that could be associated with the outcome of hunger. In this instance, a careful research design can determine whether it is poverty or hunger itself that is associated with lower test scores for children, or more hospitalizations among adults or the elderly.

Attributing cost burden to food insecurity: the case of direct linkages

For the health consequences of food insecurity, the literature revealed a direct linkage between experiencing food insecurity and a higher rate of adverse consequences for which an economic cost was known. For example, national data on food insecurity found the prevalence of depression was 13.2% in 2005, our target year. The literature on consequences of food insecurity showed that people with food insecurity had 3.5 times the risk of depression compared to those without food insecurity. The literature on depression showed that the one-year prevalence of the condition was 9.3%, and that the annual economic cost of depression in the US in 2005 was $67.8 billion (see Appendix B).

To derive the portion of this cost of depression attributable to food insecurity, we considered the US population as a mixture of two groups: those with food insecurity and those who are food secure. We then needed to estimate the probabilities of the consequence (i.e., depression) among the food insecurity and non-food insecure, consistent with all existing data. As the

relationships were non-linear, we wrote an algorithm for this purpose using Matlab computer simulation algorithm. From the solution, we calculated the incremental probability of the consequence (depression) in the U.S. population as the prevalence of food insecurity times the difference in the conditional probability of the consequence in the food insecurity group compared to non-food insecure group. We next calculated a "universal" cost of the consequence as the hypothetical annual cost burden if everybody in the U.S. were affected by this consequence (i.e., if the entire US population were depressed). The attributable cost of the consequence was finally calculated as the incremental probability of the consequence times this universal cost.

The tragedy of suicide, as shown on Table 4, represents a different type of health consequence. It is a lifetime event rather than an annual condition, such as depression. To use the literature appropriately, we pro-rated the risk of suicide over the period of risk, which we based on the age range of 10 to 25 years.

Attributing cost burden to food insecurity: the case of indirect linkages

The available literature on consequences of food insecurity linked this problem to cost burdens on learning only through intermediate outcomes. Specifically, the literature review found that food insecurity was associated with higher rates of school absenteeism and grade retention (repeating a grade in school), and lower scores on standardized tests. We considered each of these as intermediate outcomes. We found no economic literature, however, that could assign a valid economic consequence to these intermediate outcomes. We found instead, food insecurity literature that linked the first two intermediate outcomes (absenteeism and retention) to a final outcome for which an economic value could be calculated—dropping out of school. Furthermore, the food insecurity literature provided the appropriate partial contribution of each intermediate outcome while controlling for the other intermediate outcome. While we found no literature independently linking scores on standardized tests to dropping out, we assumed that the impact of test scores was already captured in the analysis of school retention. Our procedure, which entailed summing these two partial contributions, ensured that we did not double count consequences in case the two intermediate outcomes were associated.

Next, we needed to adjust for the fact that the final outcomes in learning—school dropout—were lifetime events, while most adverse consequences in health were annual conditions. The available educational literature showed relationships for only a single year, but we expected that drop out was affected by several years of absence and retention. Based on the cross-sectional literature of the effect of food insecurity on school children of different ages, we assumed an exponential decay for longitudinal correlations on the intermediate outcomes across years with a half-life of 3 years.

Finally, we used our simulation algorithm in two stages. In the first stage, we estimated the incremental probabilities of absenteeism and school retention due to food insecurity. In the second stage, we calculated and summed the partial contributions of each of the incremental probabilities to dropping out of school to obtain the overall increment in dropping out as a function of food insecurity. We multiplied this incremental probability by the hypothetical universal cost of dropping out to estimate the annual cost of food insecurity on learning.

Our assumption that all of the impacts of food insecurity on learning were captured in the two intermediate outcomes is quite conservative. Given the adverse impact of food insecurity on test scores, it is plausible that food insecurity has depressed the skills or energy of children who complete secondary school. If they progressed less successfully in their subsequent education and careers, these unmeasured adverse consequences, as well as their cost, could be extremely large.

Calculating the costs of charity

The charitable cost burden was determined through different means than those described above for outcomes such as elevated rates of ill health, psycho-social problems and educational and workforce under-performance. America's Second Harvest (A2H), the umbrella organization for more than 200 member food banks, provided detailed economic data for the value of donated food, assets, annual depreciation, volunteer hours donated and other costs related to its work for the year 2005. We compared these data with A2H's submission of Form 990 to the Internal Revenue Service for the years 2004 and 2005. To broaden our analysis, we also conducted a representative sample of twenty A2H food bank members and six non-A2H food banks to assist us in extrapolating annual costs of all food bank goods and services.

To calculate estimated expenditures for charities outside the food bank system(s), we examined IRS Form 990 (2005) for the eleven largest such charities, including Feed the Children, Farm Aid, Food for the Hungry and Freedom from Hunger. In addition to these charities, we reviewed IRS Form 990 (2005) submissions and other budget materials for national hunger organizations, including entities such as Share Our Strength, MAZON, and Bread for the World. Whenever possible, we used submissions of data for 2005. For assets (e.g., buildings and vehicles), we calculated an annualized cost based on the real 3% discount rate recommended for economic analyses in health (Gold et al., 1996). At points of discretion, we utilized the more conservative (lower) costs. Costs are expressed in 2005 dollars.

NOTE: Readers who wish to receive further information or review the technical analyses that form the basis of this narrative report, may contact the authors. For information on the prevalence of hunger and food insecurity in the nation, as well as its impact on key population groups as reflected in the scientific literature, email Dr. J. Larry Brown at lbrown@hsph.harvard.edu. For an explanation of the technical analyses that constitute the basis of all cost calculations, email Prof. Donald S. Shepard at shepard@brandeis.edu.

Appendix B: Literature Reviewed in Estimating Burden by Outcome Category

1. Charity -

America's Second Harvest, (2005), Annual Report.

America's Second Harvest, (2006), Hunger in America 2006.

America's Second Harvest, Network Activity Report, (2004, 2005), Value of Donated Products.

America's Second Harvest, Network Activity Report, (2004, 2005), Member Balance Sheet Assets.

America's Second Harvest, Network Activity Report, (2004, 2005), Member Operating Expenses (Percentages).

Internal Revenue Service, Schedule A, Form 990 (2004, 2005), reviewed for America's Second Harvest and a sample of member and non-member food banks.

Internal Revenue Service, Schedule A, Form 990, (2004, 2005), reviewed for national hunger charities such as Feed the Children, Farm Aid, Food for the Hungry, Freedom from Hunger, and other organizations.

Internal Revenue Service, Schedule A, Form 990, (2004, 2005), reviewed for national hunger policy organizations such as Share Our Strength, MAZON, and other organizations.

2. Mental Health and Psycho-Social Behavior (Depression, Anxiety, Suicide)

Alimo K, Olsen C, Frongillo J. (2001) Food Insufficiency and American School-aged Children's Cognitive, Academic and Psycho-social Development. *Pediatrics* 108:44-53.

Alimo K, Olson C, Frongillo E. (2002) Family Food Insufficiency, But Not Low-Income, Is Positively Associated with Dysthymia and Suicide Symptoms in Adolescents. *Journal of Nutrition* 132:719-775.

Berto P, D'Ilario D, Ruffo P, DiVirgilio R, Rizzo F. (2005) Depression: Cost-of-Illness Studies in the International Literature, a Review. *Journal of Mental Health Policy and Economics* 3:3-10.

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Rice D, Miller L. (1998) Health Economics and Cost Implications of Anxiety and Other Mental Disorders in the United States. *British Journal of Psychiatry* 34:4-9.

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Ward D. (2002) The Role of Nutrition in the Prevention of Infection. *Nursing Standard* 16:47-52.

3. <u>Physical Health</u> (Health Status, Hospitalizations, Iron Deficiency, Migraines, Colds)

Alimo K, Olsen C, Frongillo J, Briefel R. (2001) Food Insufficiency, Family Income and Health in U.S. Pre-School and School-aged Children. *American Journal of Public Health* 91:781-786.

Biros M, Hoffman P, Resch K. (2005) The Prevalence and Perceived Health Consequences of Hunger in Emergency Department Patient Populations. *Academy of Emergency Medicine* 12:310-317.

Casey P, Szeto K, Lensing S, Bogle M, Weber J. (2001) Children in Food Insufficient Low-Income Families: Prevalence, Health and Nutritional Status. *Archives of Pediatric Adolescent Medicine* 155:508-514.

Casey P, Szeto K, Robbins J, Stuff J, Connell C, Gossett J, et al. (2005) Child Health-Related Quality of Life and Household Food Security. *Archives of Pediatric and Adolescent Medicine* 159:51-56.

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Skalicky A, Meyers A, Adams W, Yang Z, Cook J, Frank D. (2006) Child Food Insecurity and Iron Deficiency Anemia in Low-Income Infants and Toddlers. *Maternal and Child Health Journal* 10:177-185.

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The CHAIRMAN. Thank you very much, Dr. Brown.

Next we have Dr. Diana Cutts.

STATEMENT OF DIANA B. CUTTS, M.D., FACULTY PHYSICIAN, HENNEPIN COUNTRY MEDICAL CENTER; ASSISTANT PROFESSOR OF PEDIATRICS, UNIVERSITY OF MINNESOTA; PRINCIPAL INVESTIGATOR, CHILDREN'S SENTINEL NUTRITION ASSESSMENT PROGRAM (C–SNAP), MINNEAPOLIS, MN

Dr. CUTTS. Chairman Baca and distinguished Committee Members. My name is Diana Cutts and I am truly honored to be here today.

At Hennepin County Medical Center in Minneapolis, Minnesota, I practice pediatrics, teach bright young medical students and residents and direct research with Children's Sentinel Nutrition Assessment Program, C–SNAP, a national multi-site program which monitors the well-being of very young children.

I have relied on my distinguished co-panelists to dazzle you with information so I can instead share with you the experience of taking care of kids. So please join me in clinic this morning. I hope you have had a good breakfast and have lots of energy. Place your stethoscopes around your necks, but don't bother with white coats. They only scare the kids.

Julia is a 13 month old here after a 3 day hospitalization for dehydration due to a virus. Looking at her vital signs we see she is slowly regaining her weight. She screams bloody murder the minute she sees us. But after we talk to her parents and do our best possible exam, we decide she is on the mend. Mom is told to bring her back in a few months and the clinic quiets as she leaves.

Next up, Terrence, a 4 year old here to complete forms for Head Start enrollment. A quiet little guy, he doesn't pass the developmental screening. His mother, 5 months pregnant, accepts our referral to the public schools for more extensive evaluation. We are also concerned about mom's affect, she seems depressed. We talk about maternal depression and refer mom to mental health resources. Before they leave, one of the C–SNAP interviewers approaches me. "Dr. Cutts" she says "I hope it was okay that I gave that family two bags of groceries."

You see, we offer a bag of groceries to families who are surveyed for our research. It turns out you have a background in political science, and you ask me about our findings. So I explained that although Minnesota is a birth place and home to many large food corporations and has a very respectable state food insecurity rate of 8.2 percent and is a top-ranking state for most health ratings, HCMC rates of household food insecurity for families with very young children are the highest of any of the five C–SNAP sites: 35 percent compared to an average of 15 percent for Baltimore, Boston, Little Rock, and Philadelphia. The C–SNAP interviewer taps me again. "Dr. Cutts, I am really worried about that mom. She told me she hasn't had much food in the last week because she was kicked out of her apartment because the landlord defaulted on the mortgage, and now she is living with some friends and her WIC vouchers were lost when they moved."

And now we contact the clinic social worker to meet with mom. I turn to you to teach. Let's talk about the implication of food insecurity in this family. In terms of mom's pregnancy, poor maternal nutrition is associated with more risk of prematurity, complications of delivery and low birth weight, which increases the likelihood of infant mortality, infant and child health problems, long-term developmental delays and even later adult chronic disease. Food insecurity is also linked to maternal depression, which has a trickle down negative impact on children's health. For Terrance, there is an abundance of research on children from infancy to adolescence showing associations between food insecurity and lower cognitive scores and more emotional and behavioral problems. Developmental services to young children are the beginning of a societal cost of food insecurity that may be carried on into school years and throughout a lifetime.

I think back to the earlier patient we saw, Julia, the screamer. Children in food insecure households are more frequently hospitalized with an average hospital cost of over $11,000, another economic cost of food insecurity. Children of color like Julia are at highest risk for food insecurity which contributes to health and achievement disparities by race and ethnicity. As the morning goes on, we see little twins with anemia, which is 2½ times more likely in food insecure children, and when present, harms brain development. And then an adolescent weighing nearly 300 pounds with multiple medical and psychosocial problems whose C–SNAP survey many years ago revealed some of the most severe food insecurity we had ever encountered.

I plan to talk to you after clinic about the complex relationships between food insecurity and obesity. We end with a child whose asthma has relapsed because his family didn't fill his prescriptions because they had to choose between medicine, food or rent. Do all my patients' ills stem from food insecurity? Of course not. But for too many of them, food insecurity is an invisible constant companion to their health, directly and indirectly influencing it in ways both immediate and distant.

I am privileged to be their physician. But my reach as their doctor is typically one child, one family at a time. Your reach spans the country. And I urge you to think of our time together in clinic as you consider legislation like the new economic stimulus package. Temporarily increasing food stamp benefits as part of the package would do much to directly help the children I just told you about.

Other programs that address basic needs that compete with the food budget, such as housing, energy and child care assistance, are equally vital, particularly in our current economic climate of rising food and energy prices.

No child deserves to be burdened with the consequences of this fully preventable condition for the duration of his or her life. And no responsible farsighted society should permit the widespread incidence of an economic costly condition like food insecurity that is guaranteed to produce a less healthy, less capable and less productive population. I have been impressed by the insightful questions you have asked as we saw patients today and we will try to remember to give you all high marks on your rotation evaluation, if

I haven't gotten so hungry for lunch that my memory is impaired. Class dismissed. Thank you.

[The prepared statement of Dr. Cutts follows:]

PREPARED STATEMENT OF DIANA B. CUTTS, M.D., FACULTY PHYSICIAN, HENNEPIN COUNTRY MEDICAL CENTER; ASSISTANT PROFESSOR OF PEDIATRICS, UNIVERSITY OF MINNESOTA; PRINCIPAL INVESTIGATOR, CHILDREN'S SENTINEL NUTRITION ASSESSMENT PROGRAM (C–SNAP), MINNEAPOLIS, MN

Chairman Baca and distinguished Members of the Committee, my name is Dr. Diana Cutts. I am honored to be given the opportunity to share with you my experience as a pediatrician and researcher at Hennepin County Medical Center (HCMC) in Minneapolis, Minnesota.

At HCMC my colleagues and I provide care for a diverse, urban population of children, including a significant immigrant population. I work in both out-patient and in-patient settings in a large general teaching hospital, usually supervising a team of bright young medical students, interns, and residents. I have special interest in pediatric nutritional problems and direct an interdisciplinary team of professionals devoted to the care of children who are not growing well. For the past fifteen years, I've also been involved in research on childhood hunger and I am a Founder and Principal Investigator of the Children's Sentinel Nutrition Assessment Program (C–SNAP), a national, multi-site pediatric research program which focuses on the impact of public policies on babies and toddlers under the age of 3 years.

As I thought about how I could best add to the discussion today, I recognized the tremendous expertise and knowledge of those with whom I sit. And I concluded—with some relief—that I could rely on them to present specific policy information, while I could speak about a large part of what I do—take care of patients and teach trainees. So—I am going to ask you all to join me on rounds as my team this morning, as I see children. Please place your stethoscopes around your necks, but don't bother with white coats—they only scare the kids.

Our first patient is Julia, a 13 month old who is seen following her recent 3 day hospitalization for dehydration due to a stomach virus. You tell me her blood chemistries were markedly abnormal at admission, but normalized with IV fluids. Looking at the vital signs that the nurse has obtained, we see that she is regaining her weight though still underweight. In the exam room she begins to scream the minute she sees us, clutching her mother in fear. We examine her over her protests. Mom is told to bring her back for her well child visit in a few months. Her howls cease only as she is carried out of the clinic. Suddenly, the clinic is a lot quieter.

Second on our schedule is Terrance, a 4 year old here to complete forms for enrollment in Head Start. He's a busy pre-schooler, but does not pass the developmental screening today. His mother, 5 months pregnant, is also concerned and accepts our referral to the public schools for more extensive developmental evaluation. Together in the room, we talk with mom and I become concerned about mom's slightly withdrawn and flat affect. She admits yes, she's tired, but she's also a bit depressed. We talk about maternal depression and refer mom to mental health resources. As we come out of the room, we worry about whether mom has the energy to take care of Terrance, the baby, and herself. The smartest among you anticipate that I will want to know if you made sure that the family is enrolled in the WIC program.

As they leave for the lab to get Terrance's CBC and lead level, one of the C–SNAP interviewers approaches me. "Dr. Cutts," she says, "I hope it was okay that I gave that family two bags of groceries." I explain to you that it is our practice to offer a bag of groceries to families who are surveyed for our C–SNAP program, which has monitored the rate of household and child food security and other hardships in the clinic for the last 10 years. It turns out you have a background in political science and you ask me more about our findings. So I explain that although Minnesota is known as one of the top-ranking states for most health parameters, the home to a large number of international food corporations and a state with an overall state food insecurity rate of 8.2%, our hospital's rates of household food insecurity for families with children under three are the highest of any of the five C–SNAP sites—35% compared to an average of 15% for the Boston, Baltimore, Little Rock, and Philadelphia sites.

The C–SNAP interviewer taps me again. "Dr. Cutts, I'm worried about that mom. She told me that she hasn't had much food for the last week because she was kicked out of her apartment building because the landlord couldn't pay the mortgage, and now she is living with some friends, and her WIC vouchers were lost when they moved, and . . ." Our morning is unraveling pretty fast—we contact the clinic social

worker and try to get a message to mom in the lab to return to clinic so she can meet with him.

I turn to you to teach—Let's talk about the implications of food insecurity for her pregnancy and that not-yet-born child. Prenatal nutrition is essential to a healthy pregnancy, but poor maternal nutrition is associated with greater risk of prematurity, complications of delivery, and low birth weight which increase the likelihood of infant mortality, infant and child health problems, long-term developmental delays, and even chronic disease, such as heart disease and diabetes in adulthood.[i] In addition, maternal depression is more than 2½ times as likely in food insecure households.[ii] Depression impacts parenting in negative ways. We've offered mental health and visiting nurse services, we've ensured that Terrance and she stay enrolled in WIC, which will help protect his health and growth and her well-being[iii]—is there more we should do?

What about Terrance's developmental delay? you ask, interrupting my litany.I am impressed with your insightful question and will try to remember to give you high marks on your rotation evaluation—I tell you that C–SNAP research has shown that very young children who live in food insecure households, even those meeting the level of only mild food insecurity, are ⅔ more likely to be at risk for cognitive, motor or socio-emotional problems on screening tests when compared to those living in food secure households.[iv] Kindergarteners who are food insecure are more likely to have emotional and behavioral problems, too.[v] In older school-age children, we know that food can make a difference in school performance. Some of the strongest words of support for school breakfast programs have come from the school staff who provide time-out supervision for children who are disrupting a classroom. They tell us that a dramatic decrease in these behaviors follows institution of breakfast programs, in addition to improved school attendance and improved standardized test scores.[vi]

At any rate, it's probably not a coincidence that this particular child, whose mother described serious food insecurity, failed our screening. Developmental services to toddlers and pre-schoolers are the beginning of a societal cost of food insecurity that may be carried on into school years and throughout a lifetime of economic and social difficulties and diminished potential.[vii]

Even I'm getting tired of my long-winded responses to your questions now and the nurse is getting worried about us being behind schedule. I wisely decide to split you all up to send you each into the rooms of the remaining waiting patients. And I sit down for a breather.

I think of the earlier patient we saw:

The little screamer, Julia, her family seemed okay, but I know from my own local data that children of color, like Julia, are at highest risk for food insecurity. Poor nutrition is an important contributor to the health disparities that are seen in children of color[viii] as well as poor children compared to more privileged children. Children from food insecure households are 30% more likely to be hospitalized because of their diminished reserve and vulnerability in the face of typical childhood illnesses.[ix] An average pediatric hospitalization for a child under three costs approximately $11,300,[x] so, at least in part, these medical costs are actually another societal economic cost of food insecurity. These kids can't just bounce back because their immune systems are depressed from inadequate nutrition and they often begin a cycle of weight loss and recurrent infections that then perpetuate each other. I'll have to keep a close eye on Julia's growth at the next visit. Could Julia's hospitalization have been avoided if she was living in a more food secure environment? Oh, and was she well-insured? Would hospital bills further erode the family's ability to put nutritious food on the table?

I take a look at the schedule which tells me which patients you are each seeing.

One of you is doing a follow-up for anemia in 6 month old twins. Young children in food insecure households are 2½ times more likely to have iron-deficiency anemia as children in food secure households.[xi] And iron deficiency anemia influences young children's brain development in detrimental ways, affecting attention, memory and language and social ability as well as depressing their immune systems. Gotta check in with mom about food security and watch their development carefully as I see them at future visits.

Someone else is interviewing Stephanie, a 14 year old whom I've known since she was 3 years old. She's struggled with childhood obesity since infancy, really, and her last recorded weight was 278 pounds. She began refusing to be weighed 2 years ago, so there's no weight recorded today by the nurse. She's had surgery to remove her tonsils and adenoids because of obstructive sleep apnea, a well-recognized complication of obesity. And she complains of chronic back pain, among other medical complaints. More threatening to her current well-being, her behavior's become out of

control—she's sampling every imaginable risky behavior and not attending her alternative school. She's even admitted to suicidal thoughts.[xii] I recall how C–SNAP data obtained from this family years ago revealed the most severe food insecurity the interviewer had ever encountered—and our subsequent discussion about the apparent paradox of obesity co-existing with food insecurity due in great part to tight food budgets forcing parents to choose low-cost foods, which are mostly high in calories and very poor in nutrition.[xiii] Many years later, we still have a long way to go to help people understand this, and to impart the message that a piece of the response to the obesity epidemic must be to address food insecurity.

We end our morning with Brandon, a 5 year old with a cough, and his grandmother. He tells me a knock-knock joke. You tell me he has a history of asthma and, in fact, was hospitalized 3 weeks ago for an asthma attack and pneumonia. He was in the hospital for 4 days, but his grandmother reports he was okay until 2 days ago, when his cough re-appeared. I'm surprised when she tells me that he's not on any medicines. She explains to me that the family was not able to afford to fill the prescriptions that were given to them at hospital discharge, stating the charge to them was well over $100, and that they needed the money for food, the gas bill, and rent. We work out a plan to provide the needed medications, and hopefully prevent another hospitalization, while still preserving food security, energy access, and housing.

It's time to dismiss you all for your noon conference while I face the chart documentation and a stack of phone messages that I need to get to.

Do all of my patients' ills stem from food insecurity? Of course not. But, my reality is that for more than a third of them, food insecurity is a constant companion to their health, directly and indirectly influencing it in both immediate and distant ways. None of these children, who each came to clinic for a different reason, had a placard around their neck or a physical sign identifying them as food insecure. They are simply the typical pediatric patients seen daily all over this country in medical clinics serving low-income populations. 29 million children in this country are considered low-income, nearly 40% of our citizens less than 18 years old.[xiv]

These are the faces of child hunger in the United States, very different from the visibly starved Appalachian babies I saw in *LIFE* magazine when I was growing up, but no less real, no less impactful. Food insecurity in childhood changes the trajectory of young lives in a real and significant way. The quality of our communities is impacted, and there are high, and rising, economic costs which we all bear.

I feel privileged to play a role in creating a healthy and bright future for the children I see at HCMC. But my reach as their doctor is typically one child, one family at a time. Your reach spans the country and I urge you to think of our time together in clinic and boldly work to create programs and policies that promote healthy and bright futures for all children. For example, I know that Congress is considering another economic stimulus package; I encourage you to make a temporarily increased food stamp benefit part of the package, as it would do so much to directly help the children I've just told you about.

Nutrition assistance programs, such as the Food Stamp Program and WIC, are the medicines needed to treat food insecurity and these accompanying illnesses, but the programs need to be dosed at levels that cure rather than just diminish the problem. The programs are also critical and economically sound investments on the health end of the equation, as they provide the physiological building blocks necessary for proper growth, health, development, and learning. Better still would be a society in which an adequate, nutritious diet is achievable for every child without targeted intervention programs. Until that day comes, preventive efforts are the best way to avoid the tangible and long-lasting costs of food insecurity in childhood. Other programs that assist low-income families with basic needs that compete with the food budget, such as housing, energy, and childcare assistance, are equally vital, particularly in our current economic climate of rising food and energy prices.

No child deserves to be burdened with the consequences of this fully preventable condition for the duration of his/her life, and no responsible, far-sighted society should permit the widespread incidence of a condition like food insecurity that is guaranteed to produce a less healthy, capable, and productive population.

Class dismissed.

Thank you.

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The CHAIRMAN. Thank you very much.

Next I would like to have Mr. Manalo-LeClair.

STATEMENT OF GEORGE MANALO-LECLAIR, SENIOR LEGISLATIVE DIRECTOR, CALIFORNIA FOOD POLICY ADVOCATES, OAKLAND, CA

Mr. MANALO-LECLAIR. Good morning, Mr. Chairman and Members of the Committee. My name is George Manalo-LeClair, and I am with the California Food Policy Advocates. We are a statewide organization dedicated to improving access to nutritious and affordable food for low-income Californians. I have come a long way to do three things: One, to describe the problem of hunger and food insecurity in California, the enormous problem that we have. I also want to tell you about how the Food Stamp Program is working to address part of that problem. However, it still falls very short in reaching a number of households, particularly working households in our state. And third, I want to say thank you for recent improvements in the farm bill to address nutrition. But because of our struggling state economy, I am going to need to ask for additional help.

So let's start with the problem of food insecurity in California. People are often surprised when I describe the situation because it is in stark contrast to the image many people have of the Golden State. The problem is real and well documented. Since 2001 the University of California Los Angeles has examined the problem of food insecurity through the nation's largest state health instru-

ment, the California Health Interview Survey also known as CHIS. My written comments go into greater detail on CHIS and its findings.

I just want to summarize the findings. As an example, a woman I met just a few years ago, she was part of a culinary training program in Silicon Valley, one of the more prosperous parts of our state. And though she was working around food all day, money was very tight, and at home she didn't have enough for her and her children. So what she would do at meal times is that every dinner she would pour herself a big glass of water and drink it, and then pour herself another one and drink it. She did this to fool herself into feeling full so she wouldn't be tempted to take food away from her children. The CHIS data make it clear that this woman is not alone. Over 2½ million adults in California struggle to put food on the table. And like this woman in Silicon Valley, many of those struggling are surrounded by wealth and food.

It is ironic that in California the counties with the greatest agricultural production output also have the highest rates of food insecurity. And as this mom knows, hard work is no guarantee against hunger. The majority of those experiencing food insecurity in California are working. The combination of high rents and low wages leave little resources for food. But while we have seen the consequences that other panelists have noted this morning, we have also seen a powerful tool at work, the Food Stamp Program in our state. It serves over two million people and brings in over $4 billion in economic activity. That does much to address the problems discussed today.

However, one of the most troubling findings from CHIS is that 77 percent of those struggling to put food on the table who are likely eligible for food stamps were not getting them. This is consistent with USDA's own estimates of over two million people in California not participating in the program and only 35 percent of working households are getting these benefits in our state. So given that working families make up the majority of those struggling, the Food Stamp Program can and must do more.

Some help is already on the way, thanks to the changes in the recently passed farm bill. So I want to extend our thanks to the Chairman and Members for their work in this area as California stands to be a big winner with these changes. But while we are very grateful, we are compelled, given the scope of the problem in our state, to ask for additional action. We need action to improve access to the Food Stamp Program, to make it more accessible to working families. We need action to increase food stamp benefits not just to address rising food costs, but also to make the cost of the program, the long waits, the paperwork, the trips to the welfare office cost beneficial to participants.

We also need to extend aid to populations whose participation in the program is currently limited, such as legal immigrants and childless adults. There are a number of Congressional proposals that already exist that would move us in this direction such as the Chairman's Nourish Act and the McGovern-Emerson Feeding America's Families Act, and moving these proposals forward would certainly help the situation. But right now things are getting worse for our low-income residents. Average gas prices in California are

over $4.51 a gallon. We have seen double-digit increases in basic foods like bread and eggs, and demand for emergency food and food stamps has increased.

We have enormous budget shortfall in our state, and we have been hit hard by the mortgage and lending crisis, but there is hope. Our legislative analysts have demonstrated that the Food Stamp Program has broad economic effects on our state. Here is the quick version of the analysis. When families get food stamps in California, it frees up resources in their tight budgets to be spent on taxable items like clothes and shoes. So our state's general fund benefits as well as local jurisdictions.

So we are requesting a short-term boost in food stamp benefits to help our struggling families and our struggling economy. We are pleased to hear that Speaker Pelosi is considering a package that includes food stamps in overall economic recovery. We strongly support efforts that help people better afford a basic healthy diet. Given the importance of agriculture and the food industry to our state's economy and because of the revenue effect discussed earlier, such action would go a long way to helping our families and our fiscal situation. We appreciate the Committee's interest in this issue and do hope that help is on the way. Thank you very much.

[The prepared statement of Mr. Manalo-LeClair follows:]

PREPARED STATEMENT OF GEORGE MANALO-LECLAIR, SENIOR LEGISLATIVE DIRECTOR, CALIFORNIA FOOD POLICY ADVOCATES, OAKLAND, CA

Good morning, Mr. Chairman and Members of the Committee.

My name is George Manalo-LeClair and I am Senior Legislative Director for California Food Policy Advocates. CFPA is a statewide public policy and advocacy organization whose mission is to improve access to nutritious and affordable food for low-income Californians.

I appreciate the opportunity to testify today, as California has much to offer to this Committee's consideration of the short and long term effects of hunger in America.

First, we have undertaken the largest statewide health survey in the country and found the problem of food insecurity is enormous in scope and impact.

Second, as our state has sought to address the problem, policymakers have acknowledged and quantified the contribution that Food Stamp Program benefits make, not only to families, but also to our state and local economies.

Third, building upon this economic benefit, I'd like to make a request for swift action to provide California residents immediate relief in these tough times.

Food Insecurity in California

Let's start with the problem of food insecurity in California. Though California has been number one in food and agriculture production in the U.S. for more than fifty years, we have millions of people struggling to put food on the table. We know this because in 2001, and biennially since, the University of California has conducted a large scale, statewide study, called the California Health Interview Survey (CHIS), to assess a broad range of health conditions, including food insecurity.

CHIS has been a massive and reliable effort. CHIS is the largest state health survey and one of the largest health surveys in the country. Because of its large sample size, with over 50,000 households interviewed, it generates statistically significant findings for the entire state and for most of our 58 counties. This biennial survey is conducted by the University of California at Los Angeles in collaboration with the California Department of Public Health, the Department of Health Care Services and the Public Health Institute

UCLA publishes the food insecurity findings every 2 years. I have been a co-author of this research since its inception and have participated in each biennial release.

At first, the scope of the food-insecurity problem seemed unbelievably large, but over time the results have painted a consistent picture. According to the most recent

CHIS release in 2007, approximately 2.5 million low-income adults in California struggle to put food on the table.[1] But this figure doesn't capture the full extent of the problem since this survey measures food insecurity only among adults. We know that these adults are not alone in their struggles, and we know that despite their best efforts, parents aren't always able to shield their kids from the consequences of hunger and food insecurity. Before I quantify the full dimension of this comprehensive understanding of how food insecurity affects real households, let me give you an example of one parent's attempt to protect her children.

Several years ago I met a woman who was in a culinary training program in our state's prosperous Silicon Valley. Money was really tight for her and despite working around food all day, she just did not have enough to provide for her family. At the dinner table she'd be hungry, but there wasn't always enough food for her children and for her. So to keep herself from taking food from her children, she'd pour herself a big glass of water. And then another. And sometimes another so that she would fool herself into feeling full and not be tempted to take food that would otherwise go to the children.

Not all parents are this successful in shielding their children. Based on the CHIS data, more than 7.5 million other people living with these adults also experience food insecurity. Given that these households share dinner tables, in many cases they must also share in their struggles with food. Understood this way, over nine million people in California—perhaps a quarter of the population—are being affected by these struggles.[2]

The wealth of data provided by the CHIS survey presents a surprising snapshot of who is hungry in the state:

- In California, hard work is no guarantee against hunger; the majority of households experiencing food insecurity are employed. Low wages and high rents mean many working families don't always have enough resources for food.
- In California, hunger does not discriminate. Food insecurity affects people of many races, though Latinos and African-Americans experience it at higher rates. Immigrants are among the hardest hit.
- Food insecurity in California also knows no boundaries as it is prevalent in all 58 counties. But some communities are hit much harder than others. It is ironic that the counties with the greatest agricultural production also have the greatest percentage of their population struggling with food.

Families with children are much more likely than families without children to struggle to put food on the table in California.

Consequences of Food Insecurity in California

It is clear that those lacking consistent access to adequate food suffer profound consequences. Other panelists today are going to go into greater detail on the health, employment and academic consequences of food insecurity. I'd also like to acknowledge the connections we have seen and measured, most notably that children in very low food-insecure households miss more school and do less well academically. And that those adults with food insecurity who experience health problems, such as diabetes and other obesity related conditions, have significantly more complications, more hospitalizations and more trips to the emergency room because of their food insecurity. One challenging finding is that in California those experiencing food insecurity are more likely to be overweight or obese. The remarkably steep price tag of obesity to our state—and the nation—is well documented.[3]

Addressing the Problem

The common factor among all of these struggling Californians is a lack of income. Policy action to increase wages, to make housing more affordable, and to adequately provide supports for the working poor like child care and health care would go a very long way to address the problem.

Short of this, we need a strong nutrition safety net. However, the CHIS data make it clear that current efforts are failing to make much progress in providing food security for low-income Californians.

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[1] UCLA Food Insecurity Brief, June 2007. *http://www.healthpolicy.ucla.edu/pubs/publication.asp?pubID=225.*

[2] *Shared Tables, Shared Struggles*. CFPA. November 2007. *http://www.cfpa.net/press/shared%202007/shared%20tables%20shared%20struggles%202007.pdf.*

[3] The *Economic Costs Of Physical Inactivity, Obesity, And Overweight In California Adults,* State Department of Health Care Services *http://www.wellnesstaskforce.org/PDF/obese.pdf.*

Problems With Food Stamps in California

One of the most troubling findings of the California Health Interview Survey was the severe underutilization of the Food Stamp Program. More than 77 percent of those households identified as experiencing food insecurity in California who had qualifying incomes were *not* participating in the program. This means that essential help—that Congress put in place precisely for these people in this predicament—is not getting to those most in need.

These CHIS findings are consistent with USDA research on food stamp participation in California. California has one of the worst food stamp participation rates in the country, and USDA estimates that over two million eligible Californians are not receiving food stamps.[4] If more Californians were receiving these valuable nutrition benefits, the problem of food insecurity discussed earlier would be greatly reduced.

The average monthly benefit per person in California is now just over $100. With rising food costs, this amount falls short of providing families with an adequate diet, but it certainly could make a tremendous difference for those not currently participating. Unfortunately, a number of state and Federal rules make it difficult for struggling households, especially working families, even to participate. More than 70 percent of the households eligible for food stamps in California are working households.[5] According to USDA, California has the worst rate of food stamp participation among working people in the country. Just 35 percent of eligible working households in California participate in food stamps.[6]

When struggling working families don't get food stamps, it is not just the families that miss out but our economy as well. As CFPA's report *Lost Dollars, Empty Plates* points out, poor participation hurts our economy as well. California is passing up over $2 billion a year in Federal nutrition benefits. This money would certainly help families, but in addition it could generate close to $4 billion annually in economic activity.

Capturing the Economic Benefits of Food Stamps to California

Policymakers in California are working to improve the reach of food stamps in our state. In response to interest from state legislators, the non-partisan Legislative Analyst's Office published a policy brief that has helped capture the economic benefits of food stamps to the state.[7]

The direct benefits of food stamps to families in our state are clear. But our analyst discovered that food stamps can also have economic benefits for our state and local economies. Under this analysis, food stamp dollars can lead to increased spending on taxable items. Though food is not taxed in our state and food stamp law prohibits taxes on food stamp purchases, increased food stamp funding nonetheless can actually increase state general fund revenues. This is so because when families get food stamps there is indeed increased spending on food but, in addition, resources are freed up in tight family budgets to be spent on taxable items such as clothes and shoes. Under this so-called "premise," this food stamp infusion generates about 45% of the value of the food stamps in taxable activity. With a state share of the sales tax pegged at 5%, one can see that increased food stamp spending can have a significant and positive impact on our state's strained general fund. And, because local communities receive a share of sales tax revenues (and in many cases add on to the sales tax), there are significant benefits from increased food stamp participation for local jurisdictions as well.

While this analysis falls short of the standard of peer-reviewed research, it is nonetheless embraced by the legislature, the Schwarzenegger Administration and advocates. Recognizing this, this analysis deserves further considerations and the Food Stamp Program deserves further investment. If Food Stamp Program participation were maximized in California, our state and counties could realize over $70 million a year in increased revenues. Given our state's fiscal crisis, we can use all the help we can get.

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[4] *Reaching those in need.* USDA. October 2007. *http://www.fns.usda.gov/OANE/MENU/Published/FSP/FILES/Participation/Reaching2005.pdf.*

[5] *Comparison of Participation Rates Working vs. Non-Working.* CFPA. April 2001. *http://www.cfpa.net/foodstamps/Participation/workpart.pdf.*

[6] *State Participation Rates for the Working Poor.* USDA. *http://www.fns.usda.gov/OANE/MENU/Published/FSP/FILES/Participation/WorkingPoor2003.pdf.*

[7] LAO Budget Analysis Food Stamp Program. *http://www.lao.ca.gov/analysis_2004/health_ss/hss_20_foodstamps_anl04.htm.*

Taking Action

Recent Progress

Some help is already on the way, thanks to changes in the recently passed farm bill. We want to thank the Chairman and Members for your efforts to improve food stamps. The actions taken will help stop the erosion of food stamp benefits, will provide additional relief for working families with high child care costs, and help remove several disincentives to savings and asset development.

California stands to be a big winner with these changes. Support for nutrition will increase by an estimated $700 million dollars over the next 5 years. More than 800,000 California residents will feel these benefits.

While we are very grateful for this new investment, given the scope of the problem we are compelled to ask for additional action. We need to bring benefits to those struggling families who aren't participating in food stamps and we need to improve benefits for those that are. California needs a combination of actions which:

1. Simplify the program and improve access for working people who often can't complete program requirements because of work commitments.
2. Increase benefits not only to address rising food costs and to better support a healthy diet but also to better offset the 'costs' of participating in food stamps (long waits, lots of paperwork, many trips to the food stamp office) to families.
3. Extend aid to populations whose participation in food stamps is currently limited, such as legal immigrants and childless adults.

Congressional proposals already exist which would continue the progress already made by the farm bill and help families meet the demands of rising food prices. There are a number of provisions from the Chairman's "*Nourish Act*" that were not incorporated in the farm bill that would help—most notably a restoration of benefits to legal immigrants who are currently denied help. The McGovern-Emerson "*Feeding America's Families Act*" has additional provisions, which if enacted would further improve benefits, help vulnerable childless adults, and further support savings and asset development. If Congress were to enact the provisions found in these two pieces of legislation, the pain of hunger would be lessened in our state.

A New Opportunity To Help Struggling Families and Our Economy

We will soon have an updated picture of the problem of food insecurity, as a new round of health survey data has been collected for the next CHIS report. Though updated, it still won't capture the most recent impacts of rising food and gas prices and other struggles. Our state legislature recently convened hearings on the topic and it was clear things were getting worse for low-income residents: Average gas prices over $4.51 a gallon. Double digit increases for basic foods like bread and eggs. There have been increased demands for emergency food and food stamps. More needs to be done.

Our state economy needs help, too. We have an enormous budget shortfall—currently estimated at more than $15 billion. Unemployment is rising with preliminary estimates for June of a 6.9% unemployment rate. And we have been hit hard by the mortgage and lending crisis.

A short-term boost in food stamp benefits could help our struggling families and our struggling economy. The annual adjustment in food stamp benefits scheduled for October 1st will fall well short of providing what struggling families need for a bare-bones diet. Because the data used to calculate these benefit levels is already out of date, the new increase—on the day it is delivered—may already be more than $40 a month less than what a family of four needs to purchase a minimally adequate diet. Given this forecast, swift action is needed.

We are pleased to hear that Speaker Pelosi is considering including food stamps in an economic recovery package. We strongly support efforts to provide a temporary boost in basic food stamp benefit levels to help people afford a basic healthy diet. We would welcome the opportunity to help the Committee shape such a package—its passage would minimize hunger by giving families a boost to meet these rising demands.

We also need this boost to help our state's struggling economy.

Given the importance of agriculture and the food industry to our state's economy, such action would go a long way in improving our fiscal situation. We hope that any new stimulus package would include this much-needed economic spark.

Thank you for your consideration.

The CHAIRMAN. Thank you very much.

Next is Mr. Weill.

STATEMENT OF JAMES D. WEILL, PRESIDENT, FOOD RESEARCH AND ACTION CENTER, WASHINGTON, D.C.

Mr. WEILL. Good morning. Chairman Baca, Members of the Subcommittee, I am Jim Weill from the Food Research and Action Center. And I deeply appreciate the opportunity to testify today. We greatly appreciate as well the work you did to produce such an excellent nutrition title in the farm bill.

The number of people living in households facing food insecurity is far too high in this country and it has been growing. It rose from 31 million in 1999 to more than 35 million in 2006. And the problem has been getting deeper as well as broader. The large majority of that numerical growth in that period was in the most severe subcategory, very low food security or what USDA used to call food insecure with hunger. And almost certainly the problem is considerably worse today than in 2006 as families face declining wages and rising food and energy prices. That is why it is important for Congress to pass a temporary boost, as has been mentioned, in food stamp benefits soon that will not only mitigate the impact of rapid food inflation and the worsening economy, but will also provide real stimulus.

Dollar for dollar, there is no better economic stimulus, both conservative and liberal economists have recognized this, there is no better economic stimulus expenditure than food stamp benefits because they get into the economy so fast and have multiplier effects.

But too many families were struggling with hunger before the recent economic problems. So even if and when we get back to the situation in 2006, we badly need long-term solutions as well.

We need solutions because, as the panel has said, hunger and food insecurity harm physical, social and cognitive development, education, health and mental health and productivity. They contribute to obesity, stress and depression. They increase public and private health costs, mental health costs, hospitalization and educational and other costs. And even when parents skip meals to insulate their children from hunger, the parents' own struggle, their stress and depression, ultimately affects the children.

As Dr. Mark Nord indicated earlier, parents do a great deal to protect children against the worst deprivation of food insecurity in the household. But the children can suffer considerable harm nonetheless.

We should be appalled that our society allows all of this to happen. And it is well within our capacity to end hunger. Yet we have more than 35 million people in households where members are skipping meals, where unhealthy diets are routine because of economic necessity, where children dread weekends because there are no school meals and cupboards at home are nearly empty. And these problems are interwoven with other national challenges that we face. We are going to have to solve the food insecurity problem: if we want an effective and cost-effective national health strategy; if we want a successful anti-obesity strategy; and if we want to improve schools and student performance.

Food stamps alone can't end hunger in this country. We also need better wages and stronger programs for economic security. And we need stronger child nutrition programs, school meals and WIC and summer and after-school food and childcare food. The food

stamps are the critical base of the strategy. The recent farm bill, as you know, made some important improvements. Again, we thank you, Mr. Chairman and the Subcommittee. But the Food Stamp Program, or as it will be known from October 1, the Supplemental Nutrition Assistance Program, or SNAP, has to be strengthened further.

First, allotments just aren't enough to sustain health and well-being. Benefits typically run out well before the end of the month. The many Members of Congress, journalists, religious leaders and others who, over the last 18 months have taken the food stamp challenge, trying to live for a week on a typical food stamp allotment, have spoken eloquently to the hardships. Dr. Debbie Frank, a C–SNAP colleague of Dr. Cutts, has referred to food stamps as the equivalent of a magical medicine or vaccine, but one that we provide in a sub-therapeutic dose. We need to make the dose adequate to create and sustain health.

We also need the program to reach many more low-income people. This means removing some arbitrary barriers. But it also means better efforts at all levels of government to connect eligible people to benefits. Nationally only 67 percent of those eligible actually receive benefits. And in many places the number is far worse because there is too much red tape or too little outreach or state and local rules purposefully narrow participation.

When my organization looked at participation in 24 big cities, the estimated rates were as low as 35 percent in San Diego. USDA's study show some states with participation rates as low as 49 percent, and 39 percent for working families. Of course this harms low-income people, but it also harms local economies. Every dollar of benefits that enter a community produces nearly twice that much in economic activity.

So in sum, the cost of hunger is far too high to continue to tolerate such losses rather than to seize the potential for gains by making every American family food secure. There is too much at stake, not only in terms of health and early childhood development in education, but also productivity, economic growth and community development. And we look forward to working with you to make a stronger SNAP program a far more reliable bulwark against hunger in this country. Thank you.

[The prepared statement of Mr. Weill follows:]

PREPARED STATEMENT OF JAMES D. WEILL, PRESIDENT, FOOD RESEARCH AND ACTION CENTER, WASHINGTON, D.C.

Chairman Baca and Members of the Subcommittee, I am Jim Weill, President of the Food Research and Action Center, and we deeply appreciate the opportunity to testify at this important hearing today.

We greatly appreciate as well the work you did to produce an excellent nutrition title in the farm bill over the past 18 months; and we applaud your leadership in taking up so quickly the important concern of what remains to be done to address hunger in America and its harmful effects.

Before talking about the *effects* of hunger on the people of this country, I would like to discuss very briefly the *extent* of hunger and food insecurity. It is, after all, only because the problems of hunger and food insecurity are so unnecessarily widespread in our country that the effects are so significant for children and for adults, for our nation's health and educational systems and outcomes, for our nation's productivity, and for the economy as a whole and our fiscal well-being.

The latest official poverty data and hunger data from the Census Bureau and the U.S. Department of Agriculture are for 2006, and they tell us that, even as the econ-

omy grew in the early part of this decade, lower-income Americans were receiving a shrinking share of the economic pie. Because of inadequate wages and economic supports, the number of people living in poverty rose from 31.6 million in 2000 to 36.5 million in 2006. The number of people living in households facing food insecurity—the government phrase for families without the resources to feed themselves enough, or unable for economic reasons to purchase a healthy diet, or otherwise struggling with hunger—rose from 31 million in 1999 to 35.5 million in 2006. More than 12 million of the people living in food insecure households were children.

The problem not only has been getting broader, it has been getting deeper: almost all of the growth in food insecurity from 1999 to 2006 was in the most severe sub-category, what USDA now calls "very low food insecurity" (and which was known, until 2 years ago, as "food insecure *with hunger*"). The number of people in households in this most severe sub-category rose from 7.8 million in 1999 to 11.1 million in 2006.

Almost certainly the numbers are considerably worse today. For much of the last year the economic data have been dominated by rising food and energy prices, stagnant or declining wages, and growing unemployment, as well as severe housing problems. The food insecurity numbers described earlier were for 2006. There is little doubt that the 2007 data, which will be released in November, will be worse, and that the data for 2008, which we will not see released for another 16 months, will be worse still.

There are interventions needed *now* to mitigate the impacts of wider and deeper food insecurity caused by the current inflation and economic downturn. The suffering of families has deepened considerably. For example, the Food Research and Action Center estimates that the monthly cost of the Thrifty Food Plan (the food stamp market basket) has grown by $40 for a family of four since food stamp benefits were last adjusted for inflation—a huge impact on low-income families that already had inadequate resources to purchase a healthy diet.

Most important, in the short run, is the need for a temporary boost in food stamp benefits. This not only will help low-income families grapple with weak economic conditions, including rapidly rising food prices, but also will provide real economic stimulus to the nation's economy. Dollar for dollar there is no better stimulus expenditure than food stamp benefits because they get into the economy so fast: USDA and the states can get them quickly onto beneficiaries' Electronic Benefit Transfer cards, and hard-pressed beneficiaries will spend the boost quickly. This has been noted in the last 6 months by economists and budget experts ranging from Martin Feldstein to Robert Rubin, and from Ben Bernanke to Peter Orszag.* It is *essential* that a significant increase in food stamp help be part of any forthcoming economic stimulus or economic recovery package.

But we also must recognize that this nation had intolerably high levels of food insecurity before the economic downturn and escalating food price inflation, and will have them after economic recovery unless we focus on long-term solutions as well.

Long-term solutions are essential because the damage from hunger and food insecurity to individuals and families, to schools and the health care system, and to our economy as a whole is so great. I am just going to summarize how the harms play out, and then focus briefly on a couple of particular points.

- Maternal undernutrition can impair body, organ and cellular growth in the fetus; increases the risk of certain birth defects; and contributes to low infant birthweight, which is strongly correlated with perinatal and infant mortality.
- Food insecurity among very young children can cause stunted growth, iron deficiency anemia and delayed cognitive development. Cognitive delays then can last well beyond the period of nutritional deficiency—the resulting impaired IQ, motor skills and coordination can last into the elementary school years and beyond.
- Food insecurity harms children's physical growth and immune systems, and causes weakened resistance to infection. Food insecure children are far more likely to be reported in poor health, to catch colds, and to have stomach aches, headaches, ear infections and asthma.
- Food insecurity in both early childhood and the school years means that children lag their peers and learn less, and these learning deficits cumulate. School-age children who are food insecure are more likely to be absent from school, be hyperactive; behave poorly; be held back; do worse on tests; and be placed in special education.

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*These and other statements can be found at *www.realstimulus.org.*

All of these consequences of hunger and food insecurity result in increased health, mental health, hospitalization, educational, juvenile justice and other costs. As just one example, among children under age 3, according to one study, those who are food insecure are 90 percent more likely to be in poor health and 30 percent more likely to require hospitalization.

For adults as well, there is a broad range of adverse outcomes of food insecurity. Some of them carry over from childhood. But food insecurity during the adult years independently means lower productivity and, as is true with children, means more doctor visits, higher rates of hospitalization and longer hospital stays, and poorer health.

Adult hunger and food insecurity also harm the children in the household. Two examples show how not only does hunger harm adults and children, but also how children will suffer even when adults bear the brunt and the children have enough to eat. One example involves depression, anxiety and stress; the other, overweight and obesity.

Often both of the parents or the single custodial parent in a household do everything they can to protect the children from the direct consequences of food insecurity or hunger: the children eat first, and get "enough" to eat (it may be filling but not be an adequate, healthy diet because of the resource constraints). But the parents are often hungry or skipping meals to protect the children. The resulting stress and depression with which food insecurity is associated harm not only the parents but the children's health and mental proficiency. Food insecurity adversely affects parent-child relationships.

One survey of several thousand mothers of 3 year old children in 18 large cities found that mental health problems in mothers and behavioral problems in their preschool-aged children were twice as likely in food insecure households as in food secure households. In discussing their findings, the researchers assert: "Social policy can address food insecurity more directly than it can address many other early-life stresses, and doing so can enhance the well-being of mothers and children."

As to obesity, research has shown that obesity too can be a consequence of food insecurity. Obesity among both adults and children means more cardiovascular disease, diabetes, and hypertension. Among adult food insecure women who have children, the reasons for obesity may include the ways in which low-income mothers must cope with limited resources for food—sacrificing at times their own nutrition in order to protect their children from hunger and lower nutritional quality. Food insecurity and poverty may also act as physiological stressors leading to hormonal changes that predispose adult women to obesity.

But there are connections between food insecurity and obesity for children as well. Children in food insecure households are more likely to be at risk of overweight or to be obese. When children are both born at low birthweight and live in a family suffering from food insufficiency, they have a 27.8 times higher chance of being overweight or obese at age 4½.

Finally, we must not forget that food insecurity harms seniors. 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 a "Take with food" label on the prescription bottle because without food the drug will be less effective. Medically this is self-defeating, and, ultimately, costly. And from the patients' perspective it is a cruel "Catch-22."

What all this comes down to is that hunger and food insecurity not only are unnecessary and immoral in our wealthy nation, but they are vastly counter-productive in every important realm. They are a hindrance to our accomplishment of a range of essential national goals:

- At a time when the nation is looking for strategies to broaden health insurance coverage and improve quality of health care while controlling costs, eliminating food insecurity is a necessary part of an effective and cost-effective national health strategy.
- As the nation struggles to address its obesity epidemic, establishing food security and assuring that families have resources adequate to purchase a healthy diet are essential components of a successful anti-obesity strategy.
- At a time when our scientific knowledge of the critical importance of early childhood development has been growing by leaps and bounds—although our policy development is having trouble keeping pace—eliminating food insecurity is a prerequisite to the strongest possible early childhood policy.

- As the nation struggles with education policy and the reauthorization of the No Child Left Behind Act, eliminating food insecurity is a compelling and cost-effective strategy to improve schools and student performance.
- And as we struggle to restore economic growth, boost productivity, improve our competitiveness, and keep deficits under control, eliminating food insecurity is one important key to improving the nation's economic and fiscal futures.

It is essential that we address hunger and food insecurity in this nation and thereby eliminate the harms they cause. The Food Stamp Program and other Federal nutrition programs have brought the nation a long way; and the recent farm bill made some important improvements in the Food Stamp Program. Again, we thank you, Mr. Chairman, and the Subcommittee, for your leadership in accomplishing this. But the Food Stamp Program (or, as it will be known from October 1st, the Supplemental Nutrition Assistance Program, or SNAP) in particular must be strengthened further so we can truly move towards eradicating hunger and food insecurity in the midst of our great affluence.

This requires three broad strategies: making benefit allotments adequate; opening eligibility to more needy people; and connecting more eligible people with benefits, since only 65 percent of currently eligible people, and barely half of eligible low-income working families, participate in the program.

Food stamps alone can't end hunger in this country—we also need stronger cash programs for economic security (refundable tax credits, unemployment insurance and other investments) and stronger child nutrition programs (school meals, WIC, summer and after-school food, child care food). But food stamps are the critical base of the anti-hunger strategy.

Let me first address the pre-eminent need—to make benefit allotments more adequate. Food stamps are extraordinarily effective for families, but allotments just aren't enough to sustain health and well-being. 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 Thrifty Food Plan, which is the underlying structure for the benefit amounts, has never represented what a family needs to purchase a minimally adequate diet, other than on an emergency basis. This shortfall of benefits was bad enough before, but it has been exacerbated by program changes in the 1980s and 1990s that, through several negative actions, cut benefits. (One 1996 change, freezing the standard deduction from income, was fixed prospectively by this year's farm bill; but much of the damage that the 1996 law and earlier changes have caused to benefit levels remains unremedied. As just two examples: benefits used to be adjusted for inflation twice a year, but now it is only once a year, which is particularly damaging in times of high inflation; and maximum benefit allotments were cut across the board by three percent in 1996.)

As this nation seeks to reduce the effects of hunger and food insecurity, *adequate food stamp allotments* are essential. SNAP benefits should be based on a food plan that reflects what it actually costs to feed a family a healthy diet, and the income counting rules that determine what share of a full allotment a family gets should be based in current economic realities.

The nation will need as well to have the program reach more low-income people. This means removing some arbitrary barriers to access for very needy people that are still in Federal law. But it also means better efforts, at all levels of government, to connect already *eligible* people to benefits.

Only 65 percent of eligible people actually receive food stamp benefits. In many states, cities, towns and rural areas the number is far worse, because there is too much red tape, or too little outreach, or state and local rules narrow and discourage participation. Last autumn the Food Research and Action Center released a report on Food Stamp Access in Urban America. That analysis found that in 2007, in the 24 cities we looked at, the estimated rates of participation ranged from a low of 35 percent in San Diego, California to 98 percent in Detroit (Wayne County), Michigan. Three of the cities and counties with the lowest rates were in California—San Diego, Los Angeles, and Oakland (Alameda County).

When states or cities, or any areas, forego food stamp benefits, it harms low-income people. But it also harms local economies. USDA has found that every dollar of food stamp benefits, paid for by the Federal Government, that enters a community produces nearly twice that much in economic activity. In other words, there is nearly a 2:1 multiplier effect. The food stamp benefits not only, therefore, reduce hunger and poverty, but they create jobs and other economic benefits that further combat hunger and poverty and boost the community economy.

But states and cities are foregoing many billions of these dollars. Our 24 city study, for example, found that the cities were leaving $2.27 billion in federally-funded food stamp benefits unclaimed.

The cost of hunger and food insecurity to individuals, families, communities and the nation is far too high to continue to tolerate these and other losses. It is too high a cost in terms of health, education, productivity, mental health, economic growth, and community development. It is within this nation's capacity to end hunger and food insecurity. We look forward to working together with the Members of the Subcommittee to make a stronger, more adequate and more accessible SNAP program a far more reliable bulwark against hunger in America.

The CHAIRMAN. Thank you very much, Mr. Weill. And I want to thank all of the panelists for their statements.

At this time, we will entertain questions from all of us, and I will begin myself and then call on Mr. Boustany and then Mr. Kagen to ask some questions as well. And my first question is for Dr. Nord. Could you please clarify the difference between food insecurity and hunger in terms of the gathered data?

Dr. NORD. Can you repeat the question? I am not quite sure I understood.

The CHAIRMAN. Could you please clarify the difference between food insecurity and hunger in terms of the gathered data.

Dr. NORD. The data that we collect in the current population survey, which is our national annual survey, asks questions about economic access to food. So it really is directly a measure of that, of what we call food security, of whether households can afford enough food. We do not ask the kind of questions about physiological symptoms, about stomach pain or weakness or those kind of symptoms that you might want if that is the type—the kind of notion of hunger that you were trying to measure.

So what we are measuring currently is economic access to enough food. This is the context in which hunger may occur, but we don't measure directly whether hunger ensues from those conditions.

The CHAIRMAN. Okay. Thank you.

Mr. Brown the Sodexho study estimates that limited education and workforce productivity costs Americans about $9.2 billion annually. Could you explain the statistics in more detail?

Dr. BROWN. I will, Mr. Chairman. But I would like to do that by deferring to Dr. Shepard.

The CHAIRMAN. Sure.

Dr. SHEPARD. Thank you very much, Mr. Chairman. The way we did that was to look at the increased rate of absenteeism and of repeating a grade in school, which were higher for people that were food insecure: 1.66 times the rate of absenteeism and 1.44 times the rate of missing a grade. Other literature, in turn, showed that those are related to a higher risk of then dropping out of school. And we related that to the economic loss when somebody drops out of school and has, over the entire rest of their life, has lower lifetime productivity. So linking those together gave us the $9.2 billion of cost. It is very likely conservative but that is what the available literature allowed, sir.

The CHAIRMAN. Let me follow up on one of the things that you mentioned and about which we are very much concerned. As we try to address the dropout rate and the impact it is having on us—and a lot of times—what affects then in numbers do we have of the effects of hunger on the dropout rate too, as well as we begin to ad-

dress it? We know that there are a lot of problems that cause dropout rates. But to what extent then does hunger impact the dropout rate that we have? Because we have a high number right now.

Dr. SHEPARD. We couldn't—as my colleague Dr. Brown indicated, we searched literature for consequences of hunger. And we couldn't find a study that directly linked hunger or food insecurity with dropouts in one single study. So the available literature allowed us to look at it through this two-step process of first finding that the two factors I mentioned of missed days and repeating grades were associated with hunger. And then other literature, in fact, showed that those studies—that those two factors were then related to dropouts. And so it certainly occurs and would welcome further—literature would further link directly the available literature that showed it indirectly.

The CHAIRMAN. Right. And then the other effects that it does have too as well is that hunger—is No Child Left Behind, definitely has an impact on a lot of our teachers now that are required to make sure that they are meeting the standards, to leave no child behind. But yet at the same time consideration is not given to the child that is undernourished or based on hunger too that impacts not only that child's learning ability but also you know the attendance as it was mentioned before. Could you elaborate a little bit more? And what effects does it really have on No Child Left Behind?

Dr. BROWN. I can tell you what effects it has on education and then you can extrapolate from that the No Child Left Behind, Mr. Chairman. This is going to sound crass. But we can easily take a child who is well nourished and doing well in school, manipulate her dietary intake and easily impact the next day her ability, or I should say her inability to participate in the educational process through the processes that I described about body triage of dietary energy that I mentioned earlier.

In other words, simply missing a breakfast, one meal can have a serious impact on a child's ability to learn. A child, as you know from your own children, doesn't eat three meals a day. They graze pretty much all day long. And this is because children have small livers, and they store dietary energy in the form of glycogen, and they have to continually replenish their energy supply. And so the educational process for children is very susceptible or very dependent on an adequate supply of nutrient energy.

The CHAIRMAN. Thank you. The next question that I have is for Dr. Shepard. Do the numbers that you use for food banks and local feeding programs as charitable contributions include the Federal funds?

Dr. SHEPARD. No. Dr. Brown also worked on that. But it was the private fund, private charitable funds that amounted to $14 billion. So the Federal direct support we didn't—it is part of the solution. We didn't consider that part of the consequence in this analysis.

The CHAIRMAN. Okay. Thank you. Dr. Cutts, thank you for your insight and your moving testimony. And as a pediatrician who works directly with children and families who suffer from hunger-related issues you are in an unique position to comment on human impact and hunger in America. In your opinion, what is the most

important thing that the government can do to end childhood hunger in America?

Dr. CUTTS. Big question. You know, I think the theme that I am hearing as I sit here very much is how the vital importance of food stamps—and I would agree with that, it is the number one hunger relief program in this country. And as I see the issue of access, I am very concerned as I hear your concern.

I think especially as we see such disparities in hunger, I think we see great disparity in the way people access the program. And that is something that deserves a lot more attention. I, for example, am particularly concerned about the large immigrant population that I see who are children of immigrants and U.S. citizens, 96 percent of them, who access this program at very low rates, mainly due to fear. I am concerned about rural populations, who I believe access at lower rates due to stigma and the fact that they cannot remain anonymous in their community as they access this assistance program.

So I think one of the highest priorities would be to take a look at this vital program, the number one assistance program and to really scrutinize what is the issue about access and utilization.

The CHAIRMAN. Okay. Thank you. Mr. LeClair, as a Member of the California Delegation in Congress, your testimony is very relevant to me and all of my constituents in the 43rd Congressional District. In particular, the statistics that California is missing out on an additional $4 billion in economic activities annually because of the low food stamp participation rate, are staggering. Earlier this year I wrote Governor Arnold Schwarzenneger, urging him to invest more on state funds and food stamps outreach enrollment efforts because we want to be cost effective.

As we look at the needs, and all of you have indicated that there is a need for an additional $12 billion, probably even going higher, but at the same time we would like to do that. But we also want to be cost effective in saying, are we really utilizing food stamps? We just don't want to just put in dollars, and we know that there is a need out there, but it is not being utilized effectively. And that is part of the problem that we have.

So from your perspective, what steps should we improve for food stamp participation to make sure that we do do the outreach that needs to be done and that people are aware that there is a service for them as well? And I know that we changed the index too, as well, to allow more people to be eligible in this food stamp bill than in the previous ones. And then, of course, the eligibility that becomes a problem, too, as well. Who is actually eligible and to what extent can those individuals apply? So can you please reply?

Mr. MANALO-LECLAIR. Sure. I think we take a number of steps with regard to outreach to let, particularly, the working poor know that they are eligible. Many people are under the misconception that if you work, you can't get food stamps. We need to start there. But that goes along with some efforts to actually make the program work better and become more accessible for people who are employed particularly during the hours of 9 to 5. Just a quick story, I was outside a food stamp office in Sacramento, and it was around 9 a.m. and a gentleman ran by me, nearly knocked me over. I asked him what the hurry was. He said, "He had to get to

work." What he had tried to do is go to the food stamp office at 7:30 a.m. that morning and get through the process before 9 a.m. so that he could get on the job. I said, "Is it okay for you to be late?" He said, "No. My boss is cool but not that cool." I think it is a good example of how the Food Stamp Program can be—here in Congress you can take some steps to make it easier for people who can't jeopardize their employment to complete the process.

At the same time, we need to do a better job locally of making sure that, particularly, the working poor knows that the program is there and it provides substantial benefits. I think that is one of the things that families need to know more about in terms of what they can do to get help to support a healthy diet. And one of the things Congress can do is help make those benefits more substantial because working families do a bit of math in their head when they consider participation in the Food Stamp Program.

If it takes an average of 5 hours and three trips to the food stamp office, and the perception is, you are only going to get $10 or $20 in benefits, families recognize that they don't want to take those risks and jeopardize their employment.

So, improving access and increasing the benefits to make them more substantial, I think those kinds of steps would help really reach that working poor population that is struggling in our states.

The CHAIRMAN. Well, thank you. I think we can increase and look at access, but yet how do we market it, and what kind of a plan needs to be done, and what kind of collaboration can we do with both the Federal, the state and the local entities in informing people that they are eligible for food stamps?

And that is part of the problem. And that is what we see as legislators out here saying, "Well, we would like to increase the funding, we see there is a need, but if it is underutilized, then we have X number of dollars that come back year after year after year because they are not being utilized by people that need it." And when we look at your statistics that come out and it says, okay, there is a high number of people that are going hungry in the United States, yet we have not done a good job in marketing. And that is what we need to do, is to make sure that we work together with all entities, and that includes our local churches and other organizations within the community, about the eligibility.

And then changing the stigma, because I think the stigma of food stamps also—you know, it is very difficult. Because I received food stamps, and the stigma itself—it is like—I don't want to be labeled as a person that was receiving food stamps during that period of time. And I am glad that we have debit cards now at least to change part of it. It at least has a little integrity for someone that says, all right, I am on food stamps. But as you said, you described a particular individual that went to apply for food stamps and then had to rush back to work.

And then somebody mentioned about the paperwork and the bureaucracy that is there. That also needs to be addressed and expedited. But at the same time, we also want to make sure that people are eligible and not fraudulently just applying as well, because we care about that in part of the concerns.

Thank you.

The next question, I guess I will turn it over to Mr. Boustany.

Mr. BOUSTANY. Thank you, Mr. Chairman.

Dr. Nord, you gave us some statistics at the outset of your testimony. And nearly 11 percent were deemed food-insecure. Do we have more of a breakdown, rural *versus* urban, elderly, without transportation? Is there information available there?

Dr. NORD. We do publish a breakdown by a number of demographic and economic categories. We have, for example, metropolitan-nonmetropolitan.

Household structure is a fairly important factor. For example, single women with children have a rate of food insecurity around—I am just looking here—30 percent compared to a national average of 11. So household structure matters. Income, of course, we would expect that. So the rates for households with incomes below the poverty line are around 30, 33 percent.

We publish information for metropolitan *versus* nonmetropolitan areas, which is kind of a proxy for rural. There is not a great deal of difference there. There is a little bit more hardship in the more urban core areas and in the most rural areas.

Mr. BOUSTANY. Right.

Dr. NORD. But the differences are not stark.

Mr. BOUSTANY. Well, the reason I raise that is because, if we are going to really try to target strategies dealing with this, we need to know what populations we are dealing with. Because one strategy perhaps for, say, urban Chicago is going to be different from rural Arkansas. And so I think it is really important to try to focus down and take that 11 percent, 10.6 percent number that we have and really try to get those different groups, so we can target strategies.

Mr. Carlson, from your standpoint, clearly we have increased funding for the program in the farm bill. But I know it is difficult for the Department here in Washington to make recommendations that would apply state by state, community by community. But I think one thing you could do would be to give us information on what kind of metrics should we be looking at and asking the states to provide to help us kind of focus in on these kind of individual strategies.

Should the states be reporting information on steps to improve efficiency in the program, outreach and those kinds of things? Are we getting reporting data currently?

Mr. CARLSON. Yes, sir, there is a significant amount of information available about both what states are doing and what they are achieving. We report every year on the rate of participation among people who are eligible for food stamp benefits by state. We have an annual report on the characteristics of the people who are receiving food stamp benefits.

Many states have engaged in a variety of outreach activities to try to reach those who are eligible for those benefits, supported in many ways by the Federal Government itself. We are in the fifth year of a national media campaign to inform people about the availability and benefits of the Food Stamp Program. There are numerous flyers, brochures and other information out there. There is a toll-free hotline number. We have put out almost $13 million in grants to states and communities to help them improve access.

So there is a significant effort underway and a significant amount of information about what is being achieved.

Mr. BOUSTANY. And clearly that is a big effort, but it is still not reaching far enough, because when a state like California claims that we have access—now, I don't want to cast blame on the Department, because I don't think the Department can do this alone. I think it has to be a top-down and a bottom-up effort. And I want to get into this aspect of it.

But is the Department sharing best practices and information in that regard? Is this information that you are collecting, is it being used in a very thoughtful way to provide guidance to the states?

Mr. CARLSON. We believe it is, sir. The agency has created an outreach coalition, consisting of partners here in Washington and across the country. Our regions work very closely with states across the country to ensure that information on best practices is available.

And I would point out, if I may, that we agree wholeheartedly that more can be done and that more needs to be achieved. But in talking about the fact that only ⅔ of all the people who are eligible for benefits receive them, it is also important to understand that about 80 percent of the benefits that we could pay out if everyone who was eligible was participating in fact are being paid out.

So we are doing a pretty good job. We, in partnership with the states and communities across the country, are doing a pretty good job of reaching those who are in greatest need.

Mr. BOUSTANY. I thank you for your answer.

Dr. Brown, in your testimony you spoke about we could come close to seriously ending this problem if we strengthen nutrition programs and, particularly, invested $10 billion to $12 billion more over current spending.

We have taken that step in the farm bill, a little over $10 billion. But clearly, with today's inflation, energy costs, everything else, that number is going to be higher. So, in a sense, we are chasing this on the expenditures, but it seems to me we still have a lot of inefficiencies. As we heard from the State of California, that even though the program is there, many folks aren't accessing it.

What else do you recommend besides the additional investment of dollars?

Dr. BROWN. I actually have been sitting here impressed with the demeanor of each of you, your bipartisanship, your clear concern about the problem, both physicians and non-physicians and pretend physicians up there—or honorary ones, I should say, Mr. Chairman.

[Laughter.]

The CHAIRMAN. Thank you for that clarification.

Dr. BROWN. So with the great respect that I have for you, and seeing you and hearing you, I want to say in response to that question that sometimes I think we make problems more difficult than they actually are.

Other industrialized nations have virtually eradicated hunger. The percentage of hunger that we have in our nation, hunger, food insecurity, is excessively high compared to other western democracies. If we were hearing that our military members were going hungry, we would figure out a way to fix that in about a week.

And they are not going hungry, except when they come back. We now are seeing soldiers coming back from Iraq and Afghanistan who are appearing in soup kitchens and food pantries across the country. That is a parenthetical statement.

We do know how to fix problems, and we can end hunger in America, as other nations have done.

The low participation rate, in my view, is not one of the bigger problems. And I will explain why. I am not saying it is not a problem at all, as you are suggesting. We want everybody who is needy and eligible to receive assistance. So let's just stipulate to that. But we can increase the low participation rate, if we do several things.

Many elders will tell you that they will not bother applying for food stamps because of the limited minimum level or the bureaucratic hassles that they have to go through—having to come out of their homes, going to the office, and so on. Similarly, a lot of families get knocked off through what we in the social science community euphemistically refer to as "bureaucratic terrorism." That is, if you call somebody back to the office enough times, you are asking them for such ridiculous amounts of detailed information or they have to take off work to come back, they are not going to be on the program.

So, recognizing that what you are raising about the low participation levels is a legitimate thing to raise, I think that is not the main thing to raise. The main thing to raise are the minimum levels, figuring out ways that we can ease the bureaucratic requirements, while still maintaining the economic, financial integrity of the program and providing food stamps at a level sufficient enough to help people have enough to eat throughout the month.

Mr. BOUSTANY. And the figures you gave us, the $10 billion to $12 billion over current spending, would that cover those bureaucratic changes? Or do you think it is going to take—I mean, you gave us the $10 billion to $12 billion. Let's accept it is going to be a little higher because of inflation, fuel costs and everything else.

Dr. BROWN. Yes.

Mr. BOUSTANY. That figure that you are basically citing, does that cover all these bureaucratic changes, or is it going to take more beyond that?

Dr. BROWN. No, no. By the way, this figure came from the national anti-hunger organizations, including Mr. Weill's organization and about 10 other national hunger organizations, Bread for the World and so on.

We were simply looking at the system as it is and saying, what degree of further input—and all of that is not food stamps, but the bulk of it is—what degree of further input or expansion of existing programs could virtually eliminate hunger in the nation? And we came up with that figure.

But if we do that, we also ought to take the steps that you keep asking questions about, about increasing the participation rate. So I don't mean to minimize it. I am simply saying that is not the biggest issue.

Mr. Carlson said, for example, that they are serving about 80 percent of the need there. As a rule of thumb, that is fairly high for a Federal program, because you are always going to have some people who don't want the program, who are moving, whatever. So

for the WIC program, for example, it is a bit over that now, but everybody is pretty satisfied that we have high participation in the WIC program.

Mr. BOUSTANY. I appreciate your thoughtful answer.

Mr. Chairman, I have one more question, if I could.

The CHAIRMAN. Sure.

Mr. BOUSTANY. Dr. Cutts, you spoke on what you and your colleagues are doing at the medical center to help families learn about and begin participating in the Food Stamp Program.

Tell us in more detail about what steps are being taken at the ground level in a hospital such as yours to really educate families on all these programs, whether it is the Food Stamp Program or WIC or other local programs.

I mean, for instance, in my hometown we have a food bank. We also have a program called Meals on Wheels that takes care of the elderly that cannot get out.

Do you have a formalized program in the hospital, an outreach program?

Dr. CUTTS. Let me try and answer your question.

In terms of the children, the young children who we survey for C–SNAP, part of that process with every family is to offer resources. And as that project was conceptualized, it was important to us that we not, as a colleague might say, "We don't cure a fever by taking a temperature." We are not just collecting data; we are doing an intervention at the time that the data is collected.

So for that population, through the research we are doing an intervention. I think in the broader scale at this institution, it is a much harder question to answer. HCMC is a county-supported hospital. And like most county hospitals, which are dwindling, as you know, in number, the finances of that equation are extremely tenuous. Our social work staff has been cut and cut and cut. And I know I am not telling you something you wouldn't be aware of.

So I would ask you, whose responsibility and where does that funding come from to do what needs to be done to do an intervention such as the one you propose? It is a real concern. And I think it is going to take time, it is going to take money. And I think there are some ideas about how it could be done, and been trialed in various situations, that would be lovely to see funding to do locally.

Mr. BOUSTANY. Thank you.

The CHAIRMAN. Thank you.

I have a question for Mr. Weill.

Since you are familiar with our budget challenges, as well as the new changes in nutrition policies we passed in the farm bill, could you comment on how much more funding do you think Congress should legislate? And then specifically, any additional funding that would be a PAYGO problem that would get scored for it? And if so, could you get 90 percent participation? Wouldn't that cover a large portion of the remaining needs?

Mr. WEILL. Well, I hope you are not asking me to describe in detail where the money is going to come from.

I will say that the short-term stimulus that I and others on the panel talked about presumably wouldn't be subject to PAYGO rules. In the long term, we need to invest what is needed to address this problem. Dr. Brown has given you an approximate fig-

ure. And I think that if we invested that much money, it would have a profound effect on the food-insecurity rates in this country, on the hunger rates, and a profound positive effect on schooling and health and health-care costs and so on.

And so I think we are all agreed that the two most essential things to be done are to increase benefits across the board to more adequate levels for all beneficiaries in the program, as well as increasing the minimum benefit again—and we appreciate that the Committee did that in the farm bill, and that is an incredibly important step forward—and to improve access and get participation rates up around 90 percent, which, as indicated, as you know, is close to the best one can do in these programs.

If that costs in the neighborhood of $10 billion to $15 billion a year and PAYGO rules are still in effect next year, there are many places, obviously, to find that money. I would point out that the program spends a considerably smaller portion of the Federal budget or of the gross domestic product than it did 20 years ago, before there were some program cuts in the 1980s and 1990s—or maybe 30 years ago—before there were program cuts, before other changes reduced spending on the program as a share of the economy as a whole.

So we are talking about, in a sense, restoring strength to the program and restoring the program as a spending mechanism as a share of the economy to where it was a while ago, not adding vast new sums that this country has never spent before or contemplated before.

The CHAIRMAN. Thank you.

And one final question, and I am going to throw it open to any one of you that would like to answer the question or try to attempt to answer the question.

As we look at the need for food stamps and benefits and access to it, and we have explored some ideas, and trying to be cost-effective, too, at the same time, and allowing individuals to participate, and knowing the responsibility of the Federal and knowing the responsibility of the state and local communities and others. I know that there is a cost factor here, but have we ever utilized mobile social workers when we talk about seniors and others that are not even applying for food stamps that can go to their location instead of someone having to go to a county agency to apply for food stamps?

Have we tried that both at the Federal or state, utilizing mobile units that can go out there with social workers to try to get people that are eligible to apply for food stamps, since we have a high number of people that are going hungry?

Mr. CARLSON. Mr. Chairman, if I might, there have been a number of efforts in that direction. The one that comes immediately to mind, perhaps not exactly what you are describing, but a program in the State of Michigan known as MI CAFE, where workers are periodically outstationed in senior centers, elderly housing and so forth, places outside of the normal welfare office where people work, live and play.

I think what we learned from much of that experience is that it can be effective. It can also be relatively inexpensive. And it really reinforces the notion that, in many instances, having information

about potential eligibility and benefits is not enough, that many of these populations require more intensive, hands-on assistance in order to understand what the program rules and requirements are, in order to obtain the benefits they are entitled to.

The CHAIRMAN. Thank you.

Would anybody else like to——

Mr. MANALO-LECLAIR. Yes, I would also like to mention a promising strategy in California, and it also goes back to address some of the earlier topics of stigma in the program.

In California, both in the Central Valley and in Los Angeles, there have been mobile units that have gone to community health clinics, where people are receiving services, but also there has been tremendous efforts to enroll people in various health care programs such as our State Children's Health Program as well as Medicaid.

And with this effort, it works very well in terms of going to where needy people are, but it also helps remove the stigma, because food stamps, if they are seen more as a health program, the working poor is more receptive to it.

And so, this is clearly an outreach strategy, but one of the other things I mentioned earlier is the need for improved access. If we can do more work, both at these mobile locations but throughout the state, of connecting people who do get health care services so that food stamps become sort of add-on, a nutrition benefit that supports the health investment that we are making through programs like Medicaid. If we can do more to align those programs and connect them, I think we could do a much better job of removing stigma, reaching those working people who are struggling in our state.

The CHAIRMAN. Thank you.

Mr. Weill?

Mr. WEILL. There is more and more outreach and prescreening being done by food banks, by anti-hunger advocates in the community, in public housing, by health providers, by earned income tax credit organizations. So a lot of prescreening is being done that tells people whether they are probably eligible or not, and roughly for how much.

And what has been found is that when people learn how much they would be eligible for—when they don't know, they tend to estimate low. When they find out how much they would be eligible for, even though it is not adequate, it surprises them on the high side, and they are more likely to apply. And then the actual processing is done by state employees.

I would just add, there is an interesting model in New Orleans, in Louisiana, at Kingsley House, a program called Walkers and Talkers, that goes door to door doing both Medicaid and SCHIP outreach and food stamp outreach that has been very, very successful.

The CHAIRMAN. Thank you.

Dr. Shepard?

Dr. SHEPARD. Yes, there has also been interesting work with other behaviors that are stigmatized that might be useful here, with people who have drug or alcohol problems, where there is a similar goal of trying to engage them in treatment. An approach that has been very promising there is called response-driven sam-

pling, in which members of that community recruit their own friends and colleagues and, in some programs, get incentives. So perhaps a person might get a bag of groceries for bringing in somebody else who proves to be eligible for this program.

So a model like that might provide double duty of both being a relatively inexpensive way of bringing people in, because you are not paying them except when they are successful, as well as providing some additional help to members of this community for doing this extra service.

The CHAIRMAN. Thank you.

And one final question—I am going to call on Mr. Boustany—is we have increased on the farm bill and allowed veterans and our military personnel now—and maybe statistics that would tell us how many of our military personnel are actually utilizing food stamps. And hopefully that we can do a study there, too, as well, to see if it is cost-effective, are they utilizing it, and to what extent are the military personnel utilizing food stamps that they are eligible for?

Are there any numbers that have been done at this point in reference to the military?

Mr. CARLSON. Mr. Chairman, the information we have in answer to that question is relatively old, but the Department of Defense has done periodic examinations of military personnel and their utilization of food stamps. My recollection is, the last time they looked at this, they estimated roughly 10,000 to 12,000 service members qualified for and received food stamp benefits.

That was a number of years ago, so the situation may have changed. But I don't believe we have more current information.

The CHAIRMAN. Thank you.

Mr. Weill, did you want to——

Mr. WEILL. We did an estimate of the number of veterans who received benefits about a year ago, and I am trying to remember exactly what it was. It was well in excess of a hundred thousand at any given time. We will provide that to the Committee, because I don't trust my memory on the exact number.

The CHAIRMAN. I appreciate that very much. Thank you.

Mr. Boustany?

Mr. BOUSTANY. Thank you, Mr. Chairman. Just a few more questions, and then perhaps a comment.

A couple of you just made note of some best practices that are very useful and interesting. And that is, how do you bring a service closest to the person or family in need? And that is more of what we need to get from you, so that we can share that type of information.

I recently partnered with our State Secretary of Health and Hospitals back home in my Congressional district to hold SCHIP enrollment programs. And we got the press to participate so that the impact was outside the room, as well, and urged businesses, schools, churches to get the word out. And it has been very successful. And I intend to hold one in each of the parishes—we have parishes in Louisiana instead of counties—I am going to hold one in each of my parishes. The two have been very successful so far.

I think you rightly point out the linkage between nutrition, health care, education and workforce. These are linked. And one of

the things I have tried doing in my hometown, and I want to expand this effort, is to get all the nonprofits together and ask them to coordinate their efforts. Because a lot of them are duplicating efforts and actually spending money in duplicative ways, whereas I think, if they coordinated efforts, you can leverage what you have. And, actually, the byproduct of that is greater than the sum of the parts. And that is something that perhaps might work in different communities and states.

I guess the final challenge is, how do we structure a layered safety net? Because today we have focused on the Federal program, but how do we bring these nonprofits into the equation, our churches into the equation, to make sure that we do have a structured safety net so that perhaps no family goes hungry? That may be the mechanism by which we get beyond that 80 percent participation and get close to 100 percent participation.

So if anyone wants to comment on any of those. I guess it is really not a question, but I just wanted to throw that out. Thank you.

The CHAIRMAN. Dr. Brown?

Dr. BROWN. Congressman, I am glad that you raised those points, in particular the last point. Because I have often heard, in talking with Members and also various Administrations—and because I go back a while, I am talking about Democratic and Republican Administrations—and I have heard people talk about the public-private initiative to reduce hunger in the nation. And I think that it is important to remember that, while we do need that public-private initiative and the type of activities that you have just suggested and other Members have suggested in terms of outreach and pulling people in and so on, that our goal is not to create more and more charity in America. It is to have a nation where we need very little charity at all.

We don't want to become or continue to be a nation of soup kitchens and food banks. That is not really America. That is not what our aspirations are all about.

And while it is much more productive in terms of nutrient efficiency to feed people through food stamps, and also does a lot more for their own integrity, our goal isn't even to have a nation where we have more and more people on food stamps.

We want to have a nation where people can be independent, self-sufficient and feed themselves in their own homes from money that they earn in the marketplace. That is the long-term goal.

But the first thing we ought to do is to have a vision of our society where we don't have this enormous charitable sector, because we have expanded programs, they reach people adequately. And then we can begin working on those economic issues that pertain to employment and wages and so on, so that we can start decreasing the food stamp roles as well.

Mr. BOUSTANY. But, Dr. Brown, I am deeply troubled by the fact that we have 35 million Americans who—we really haven't made a dent in that. It seems to be a constant and slightly growing figure.

And so I would submit that we have to look at all the possible tools available. And this great country has a strong tradition of charitable giving. So I wouldn't just shove it aside. I think it is an important component. And I do think it helps to get beyond the

stigma question that most of you have pointed out that is a barrier to the Federal program working.

So I am just simply saying that we have to have—we ought to make use of a coordinated, layered effort to reduce hunger. Because that is ultimately the goal. And one way or another, somebody is paying for it, whether it is the taxpayer or charitable contributions. To my mind, as long as we are taking care of the problem and doing it as efficiently as possible, I think that is my measure of success.

Dr. BROWN. Yes. Congressman, the last thing that I want to do is get rid of that charitable sector right now, because these are the people who literally have their fingers in the dike. I am saying, but what is our longer-term vision, a decade or 2 down the road?

Speaking of stigma, I can tell you that one of the worst things is to watch a family take their children into a soup kitchen to feed them. I mean, think how dehumanizing that would be for any of us to have to do that. They are grateful for the food, they are very grateful for the food, but it feels awful to have to go into facilities like that.

Mr. BOUSTANY. No, I have been in soup kitchens, and I understand that. And, of course, my time at the Charity Hospital in New Orleans, where we treated the poorest of the poor, gave me plenty of experience with the difficulties we had with postoperative patients who we discharge and there is nothing out there to provide for them. So I am very, very sympathetic to all this. And, ultimately, what we want to do is to try to take care of the problem. And I guess the bottom line is I am disturbed by this 35 million figure, that we just haven't seemed to have found a way to reduce that.

Thank you.

The CHAIRMAN. Thank you very much, Mr. Boustany.

And, yes, you are correct in terms of trying to find the solution to reduce the hunger here in the United States, not only the 35 million or potentially even more now that are losing their jobs and foreclosing and have lost—and the high gas prices. It is either we pay now or pay later. And the burden is on our taxpayers to address this particular problem.

And, hopefully, we can find effective ways to provide the kind of assistance, because, in the long run, it is going to help both the public and the private sectors that are both impacted in terms of our costs, and our schools, too, as well, that are impacted. So we look at hospitals that are impacted, with the problems that are there, along with the physicians and other individuals.

So, in closing, before we adjourn, I would like to thank each of you for participating in today's hearing, on your thoughtful testimony. Your knowledge and research will, I hope, be used by Congress to find the best policies and solutions to end hunger in America. That is, hopefully, that we can do that. We can look at short and long range to take care of many of the people that are there, too, as well. It will also help make us more aware of both economic and human effects on hunger in our own communities and neighborhoods.

And, again, I want to thank each one of you for your testimony here today.

And then I will allow Mr. Boustany to have a closing statement. And then I will, before adjourning, read some little comments.

Mr. BOUSTANY. Thank you, Mr. Chairman. This has been a good dialogue. I appreciate your thoughtful approach to all this and the efforts you are making. And I found this a helpful start for us here in Congress, as we try to deal with this difficult problem.

And so I look forward to working with Chairman Baca as we try to dig into this a little further and to continue to work with you. And I congratulate you on the great work that you are doing in the trenches. Thank you.

The CHAIRMAN. In a bipartisan fashion, even though he is here right now, I will allow Mr. Moran to either make a statement or ask a question at this point.

Mr. MORAN. Mr. Chairman, thank you very much.

I just would like to indicate that my absence from this hearing does not reflect my interest, but the schedule on the House floor. And I appreciate the opportunity to read the testimony of the witnesses that you all have heard from this morning.

These are important topics. And I appreciate the attention that this Subcommittee is giving to the issue of hunger in the United States.

I am also grateful that one of our other subcommittees in Agriculture held a hearing last week regarding hunger issues in the world. And I think it is important for this Committee to recognize its role not only in farm and agricultural policy but in the nutrition aspect of our jurisdiction.

So I thank the Chairman for his interest in this topic, and I am glad to join him here briefly, both he and the Ranking Member, Mr. Boustany.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Mr. Moran.

With that, before we adjourn, under the rules of the Committee, the records of today's hearing will remain open for 10 days to receive additional material and supplement the written responses from witnesses to any questions posed by Members of the panel.

With that, the hearing of the Subcommittee on Department Operations, Oversight, Nutrition, and Forestry is adjourned. Thank you.

[Whereupon, at 11:34 a.m., the Subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]

The Impact of Food Insecurity on the Development of Young Low-Income Black and Latino Children

Protecting the Health and Nutrition of Young Children of Color: The Impact of Nutrition Assistance and Income Support Programs

Research Findings from the Children's Sentinel Nutrition Assessment Program (C-SNAP)

Prepared for the Joint Center for Political and Economic Studies Health Policy Institute

MAY 2006

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THE IMPACT OF FOOD INSECURITY ON THE DEVELOPMENT OF YOUNG LOW-INCOME BLACK AND LATINO CHILDREN

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May 2006

EXECUTIVE SUMMARY

The link between food insecurity and the physical health of children has been well documented; however, a gap remains in the research on the impact of food insecurity on young children. Analyses of the effects of food insecurity on the development of infants and toddlers have not been published to date, while only a few studies have specifically focused on food insecurity among young black and Latino children. This report links food insecurity and child development, with a specific focus on black and Latino children under the age of three who are living in low-income households.

Food insecurity refers to a household's uncertain or limited access to enough food for all household members to lead an active and healthy life. It is deeply rooted in poverty and usually occurs as a result of constrained financial resources. Black and Latino children experience disproportionately higher rates of poverty compared with children of other racial/ethnic groups, which in turn places them at an increased risk for both food insecurity and developmental impairments.

Poverty has been shown to negatively affect child development through a range of complex pathways, including a lack of resources for learning in the home environment. Child development refers to the ways in which children acquire skills in a range of domains, including memory, cognition, language, gross and fine motor, social interaction and behavior, and perception. The first three years of life constitute a rapid phase of brain development, so young children under the age of three are the most vulnerable to biological, environmental, and socioeconomic threats to optimal development. In recent years, there has been much concern about the pronounced achievement gap that exists between black and white children, and between Latino and white children, in the United States. Whether poverty impedes the development of young children via food insecurity has not been previously evaluated, however.

This study was conducted by pediatric clinicians and public health specialists of the Children's Sentinel Nutrition Assessment Program (C-SNAP). C-SNAP collects data on a sentinel sample of children under age three who attend urban emergency departments or clinics that serve large numbers of low-income families. Black and Latino children represent over 80 percent of the total sample. The children included in this particular analysis either had no health insurance or received public insurance. In order to assess developmental concerns, C-SNAP utilized the Parent's Evaluation of Development Status (PEDS), a parent report screening instrument used to detect developmental concerns about children from birth to eight years of age.

The analysis reveals that food insecurity is linked to developmental risk, which is a continuum of risks with developmental delay at one end and learning and other developmental disabilities at the other. Young children of color who live in low-income, food-insecure households are more likely to be at developmental risk than their counterparts living in low-income but food-secure households. In addition, the effects of food insecurity are not always visible. Even after taking into account a child's low birthweight or current underweight status, food insecurity is still associated with developmental concerns.

This report has several important implications. First, food insecurity increases the odds that children will develop difficulties in important functional areas, such as cognition, language, motor skills, behavior, learning, and socio-emotional development. These difficulties may, in turn, jeopardize the ability of young children of color to later succeed in school—a finding that has great significance given the achievement gap that exists between black and white students and between Latino and white students. Second, the developmental effects of food insecurity during the first few years of life may persist well into adulthood. As a result, such effects may significantly decrease the future economic opportunities of low-income black and Latino individuals who experience food insecurity during early childhood, thereby perpetuating the cycle of poverty. Lastly, this report has implications for policymaking. Federal anti-poverty programs that mitigate the impact of food insecurity could play an important role in decreasing the achievement gap, as well as ensuring the future economic well-being and productivity of low-income black and Latino children in the United States.

INTRODUCTION & BACKGROUND

The link between food insecurity and the physical health of young children has been well documented.[1] Yet, while a few studies have addressed the impact of food insecurity on the educational attainment and behavioral problems of school-age children, studies assessing the effects of food insecurity on the development of infants and toddlers have not been published to date. In addition, analyses specifically focusing on food insecurity among young black and Latino children remain scarce. This is the first report to investigate the effects of food insecurity on the development of young low-income black and Latino children in the United States.

Food Insecurity in Black and Latino Households

Food insecurity refers to a household's uncertain or limited access to enough food for all household members to lead a healthy and active life due to constrained resources. In 2004, 12 percent of all U.S. households (13.5 million households) were food insecure at some point during the year.[2]

Food insecurity is deeply rooted in poverty. As a result, low-income households experience considerably higher rates of food insecurity than higher-income households. For example, in 2004, food insecurity was more than five times more prevalent in lower-income households (under 185 percent of the Federal Poverty Level) than in higher-income households (over 185 percent of the FPL).[3] According to the U.S. Department of Health and Human Services, the 2004 FPL for a family of four was $18,850.[4] Between 2004 and 2005, the national poverty rate increased from 12.7 percent to 13.1 percent.[5]

In the United States, blacks and Latinos face profound social inequalities arising from disproportionately high rates of poverty and low income compared with their white counterparts. In 2004, 24.7 percent of blacks and 21.9 percent of Latinos lived below 100 percent of the FPL, compared with 8.6 percent of whites. Similarly, blacks had the lowest median household income ($30,134) and Latinos had the second lowest ($34,241), while whites had the highest median household income ($48,977).[6] As might be expected, pronounced racial and ethnic disparities therefore also exist among rates of food insecurity. In 2004, 23.7 percent of black households and 21.7 percent of Latino households were food insecure, as opposed to 8.6 percent of white households.[7]

Table 1. Poverty Rate and Median Household Income, by Race/Ethnicity, 2004.

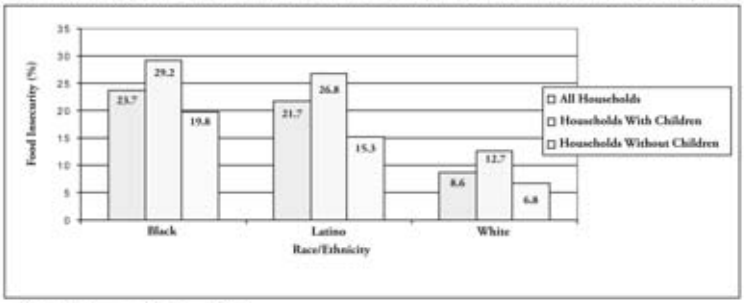
	Poverty Rate (100% Below Federal Poverty Level)	Median Household Income
Black	**24.70%**	**$30,134**
Latino	**21.90%**	**$34,241**
White	**8.60%**	**$48,977**
National	**12.70%**	**$44,389**

Source: DeNavas-Walt, Proctor, and Lee 2005.

Food Insecurity in Black and Latino Households with Children

All households with children are at a significantly higher risk for poverty and food insecurity than households of the same race/ethnicity without children. In 2004, households with children under the age of 18 reported roughly twice the rate of food insecurity as households without any children (17.6 percent vs. 8.9 percent).[8] Black and Latino

Figure 1. Food Insecurity in All U.S. Households vs. Households With and Without Children, by Race/Ethnicity, 2004.



Source: Nord, Andrews, and Carlson 2005.

households with children face particularly high rates of food insecurity. In 2004, 29.2 percent of black households with children under age 18 and 26.8 percent of Latino households with children under age 18 reported experiencing food insecurity at some point in time, compared with 12.7 percent of white households with children under age 18.[9] Underlying these disparities are disproportionately elevated rates of poverty among U.S. households with children and even higher rates among black and Latino households with children.[10] In 2004, 33.6 percent of black households with children and 28.9 percent of Latino households with children lived below 100 percent of the FPL, as opposed to 10.5 percent of white households with children.[11]

Federal Public Assistance Programs: Protecting Young Low-Income Black and Latino Children from Poverty and Food Insecurity

A number of federal public assistance programs mitigate the effects of poverty and food insecurity on low-income households by providing either cash assistance or in-kind benefits.[12] These policies play an important role in promoting the health and well-being of young low-income children by improving their access to basic necessities, such as food, housing, education, and health care.[13] Nutrition assistance programs such as the Food Stamp Program and the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) provide low-income households with increased resources for food.[14] Temporary Assistance for Needy Families (TANF) is the nation's primary income support program and provides low-income families with minimal income to meet their basic needs. The Low-Income Home Energy Assistance Program (LIHEAP) and Subsidized Housing provide support for other survival expenses, such as heating, cooling, and housing costs.

The companion report to this study, entitled *Protecting the Health and Nutrition of Young Children of Color: The Impact of Nutrition Assistance and Income Support Programs*, reveals that federal assistance programs decrease food insecurity and improve the health outcomes of low-income black and Latino children less than three years of age. More specifically, TANF, WIC, Subsidized Housing, the Food Stamp program, and LIHEAP mitigate the effects of food insecurity on the health and growth of low-income black children. Also, low-income Latino children whose families receive TANF, WIC, Subsidized Housing, or food stamps are more likely to be food secure than low-income Latino children whose families do not receive these benefits.

Development of Young Low-Income Black and Latino Children

Over the years, the factors that affect children's cognitive, social, and emotional development have been well documented. Recently, more researchers have focused on poverty and the pathways through which it affects

child development and functioning. McLoyd found that, despite prominent racial and ethnic disparities in child development, the economic context in which low-income black and Latino children live is a more important factor in determining their developmental outcomes than their race/ethnicity.[15]

Poverty and Development

Recent studies show that poverty, particularly long-term poverty, substantially affects young children's development through a range of complex mediators.[16] Much of the scientific literature focuses on family-level characteristics such as the quality of the home environment.[17] For instance, Brooks-Gunn and others have noted that low-income children are more likely to live in a home environment that lacks the experiences and resources necessary for learning and intellectual stimulation, which in turn negatively affects their cognitive development.[18] Furthermore, McLoyd and her colleagues have shown that, by causing psychological distress, economic hardship can negatively affect parents' interaction with their children, thereby increasing the risk of poor child developmental outcomes.[19] While the home environment appears to play a significant role in the relationship between poverty and child development, it is also important to consider the broader socioeconomic context. For instance, exposure to violence, poor housing conditions, and a lack of access to health care have all been associated with impaired cognitive, behavioral, and social development and competence in children.

> ***Child development*** refers to the ways in which children acquire skills in a range of domains, including memory, cognition, language, gross and fine motor, social interaction and behavior, and perception.

Food Insecurity and Development

In light of these findings, this report investigates the link between food insecurity and the development of young low-income black and Latino children. The analyses presented specifically pertain to children under the age of three, the time at which the brain is undergoing some of its most rapid development and has the highest nutrient needs.[20] Indeed, according to developmental psychologist Piaget, infancy and early childhood are times during which children experience unique transformations in their motor activity, memory skills, mobility, language ability, and knowledge of the world.[21] Thus, as might be expected, the developmental effects of poverty during early childhood appear to be the most severe and persistent.[22]

ASSESSING THE IMPACT OF FOOD INSECURITY ON THE DEVELOPMENT OF LOW-INCOME BLACK AND LATINO CHILDREN

The Children's Sentinel Nutrition Assessment Program (C-SNAP)

The Children's Sentinel Nutrition Assessment Program (C-SNAP) is a national network of pediatric clinicians and public health specialists whose mission is to intervene on behalf of individual children, conduct research, and provide evidence to policymakers to combat child hunger and promote children's health. Since 1998, C-SNAP has administered household surveys to the caregivers of children under the age of three seeking care in emergency departments (ED) and acute care clinics in C-SNAP medical centers. The survey asks detailed questions about household demographics, child health, parent health, and public assistance program participation. It also includes the United States Department of Agriculture (USDA) U.S. Food Security Scale to assess household and child food insecurity. C-SNAP has sites in major cities throughout the United States, including Baltimore, Boston, Little Rock, Los Angeles, Minneapolis, Philadelphia, and Washington, DC.

The total C-SNAP sample currently includes over 20,000 children, the vast majority of whom are vulnerable to poverty and poor health. While black and Latino children historically have been underrepresented in most national datasets, they represent over 80 percent of the total C-SNAP sample (61 percent black and 20 percent Latino). In July 2004, C-SNAP initiated the assessment of developmental outcomes among children ages 4-36 months. Table 2 provides an overview of the differing characteristics between black and Latino children in this sample (July 2004 to June 2005).

C-SNAP Study Sites

- ***Boston Medical Center, Boston, MA (coordinating site)***
- ***Hennepin County Medical Center, Minneapolis, MN***
- ***Mary's Center for Children, Washington, DC***
- ***University of Arkansas for Medical Sciences, Little Rock, AR***
- ***University of Maryland Medical Center, Baltimore, MD***
- ***St. Christopher's Hospital for Children, Philadelphia, PA***
- ***Harbor-UCLA Medical Center, Los Angeles, CA***

While established risk factors for developmental difficulties are prevalent in both black and Latino samples, some selected caregiver and child risk factors are found significantly more often in one group than in the other, as indicated by Table 2. For example, black children are more likely to have a history of low birthweight, while Latino children are more likely to live with a caregiver who did not complete high school. Participation in federal safety net programs also differs significantly between the two groups, with black families showing higher participation rates for all programs except WIC.

The Parents' Evaluation of Developmental Status (PEDS)

In order to assess the impact of food insecurity on the development of young low-income black and Latino children, C-SNAP utilized the Parents' Evaluation of Developmental Status (PEDS).[23] PEDS is a parent report screening instrument used to detect developmental concerns about children from birth to eight years of age. Parents (or caregivers) answer ten questions on whether they have concerns about their child in the following areas of development: cognition, expressive and receptive language, fine and gross motor, behavior, socio-emotional development, self-help, and learning. All responses are recorded and scored based on the child's age, as well as the presence or absence of significant age-related concerns identified by the screening instrument.[24] For this report, the analyses are based on the total number of significant developmental concerns reported.

Table 2. Significant Differences in C-SNAP Sample Characteristics between Black and Latino Children Ages 4- 36 Months, July 2004-June 2005.

	Black	Latino	P-value
	N=1311	N=485	
Site:			
Baltimore	40%	<1%	
Boston	30%	36%	
Little Rock	17%	4%	<.0001
Minneapolis	10%	48%	
Caregiver Characteristics:			
U.S. Born	82%	32%	<.0001
Married	19%	40%	<.0001
Employed	48%	34%	<.0001
Education:			
Some High School	27%	49%	
High School Graduate	44%	36%	<.0001
College Graduate	29%	15%	
Mean Mother Age	26.1 yrs	26.4 yrs	0.04
Child Characteristics:			
Mean Child Age	16.0 mos.	15.1 mos.	0.07
Low Birthweight	17%	11%	0.002
Child Insurance			
Public	98%	96%	
None	2%	4%	0.09
Receives:			
Food Stamps	49%	32%	<.0001
TANF	31%	25%	<.0001
WIC	78%	86%	0.0002
Housing Subsidy	38%	20%	<.0001
LIHEAP	18%	7%	<.0001
Note: Sample restricted to black and Latino children, private insurance excluded.			

- **TANF:** ***Temporary Assistance for Needy Families***
- **WIC:** ***Special Supplemental Nutrition Program for Women, Infants, and Children***
- **LIHEAP:** ***Low-Income Home Energy Assistance Program***

PEDS is a standardized instrument that has demonstrated validity, reliability, and accuracy and meets the American Academy of Pediatrics standards for developmental screening. It also has proven to be largely unaffected by socio-demographic factors, geographic location, parental education/employment status, and parent/child gender.[25]

C-SNAP Findings

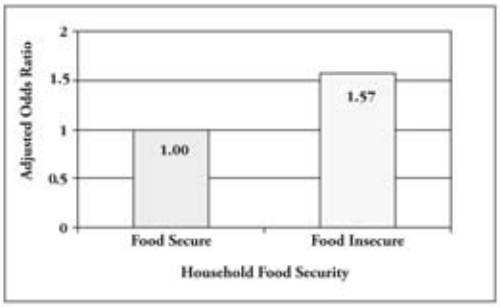
In this report, the term "developmental risk" is used to mean a continuum of risk, with developmental delay at one end and learning and other developmental disabilities at the other. PEDS is designed to identify a range of potential problems on this continuum.

Food Insecurity Linked to Developmental Risk

After controlling for potentially confounding child and caregiver variables, C-SNAP found that food insecurity is a powerful predictor of overall developmental risk among low-income black and Latino children under the age of three.

- Black children who live in low-income, food-insecure households experience 57 percent higher odds of their parents identifying significant developmental concerns than black children living in low-income but food-secure households.

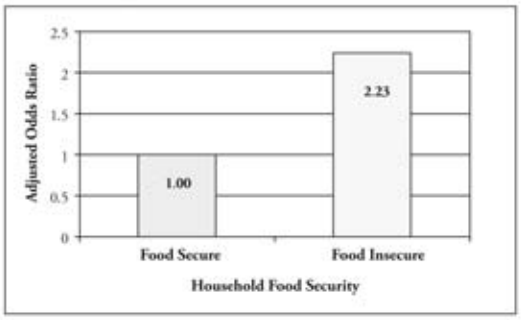
Figure 2. Significant Developmental Concerns Identified by Parents of Black Children in Food-Insecure Households.



Source: Original C-SNAP PEDS data, July 2004-June 2005. (See Appendix for control variables.)

An **Odds Ratio** of 1.00 indicates no developmental concerns.

Figure 3. Significant Developmental Concerns Identified by Parents of Latino Children in Food-Insecure Households.



Source: Original C-SNAP PEDS data, July 2004-June 2005. (See Appendix for control variables.)

- ❑ Latino children who live in low-income, food-insecure households experience more than twice the odds of their parents identifying significant developmental concerns than Latino children living in low-income but food-secure households.

Food Insecurity Linked to Developmental Risk Even With No Visible Signs

The impact of food insecurity on children is not necessarily visible to parents, healthcare providers, or policymakers. Food insecurity may have clinically meaningful effects on the development of low-income black and Latino children even if there are no physically discernable signs.

- ❑ Even after taking into account a child's low birthweight, C-SNAP analyses show that young black and Latino children living in low-income, food-insecure households face developmental risk.

- ❑ Even if they are not currently underweight, children may still be vulnerable to the impact of food insecurity on their development.

LIMITATIONS

This study has several important limitations. First, C-SNAP interviews are only conducted in English, Spanish, and Somali (Minneapolis only). In addition, Asians and Native Americans were not included in this report because the sample size was too small to yield interpretable results. Thus, while C-SNAP recognizes that the term "children of color" encompasses more than just black and Latino children, it did not examine the effects of food insecurity on the development of other infants and toddlers of color. Second, while the cross-sectional study design can demonstrate associations, it does not allow us to establish causation. Third, although potentially confounding effects of many relevant factors were statistically controlled in the analyses, other unmeasured confounders may have influenced the outcomes. Exclusion of the most severely ill or injured cases from the emergency department sub-sample may have biased the results. Fourth, while the Parents' Evaluation of Developmental Status instrument has been shown to be reliable and valid, its assessment of a child's development is limited by its reliance on parent/caregiver reports in response to ten specific questions. As a result, it is not as detailed and conclusive as an assessment conducted by a skilled clinical evaluator or an ongoing discussion between a clinician and a parent about developmental issues over time. Lastly, the population studied is not a nationally representative sample. Instead, it is a sentinel sample of families with children younger than three years of age receiving care at an emergency department or clinic that serves low-income populations in five United States cities. National survey data that would permit valid national estimates of the effects of food insecurity on the development of all young American children are not currently collected by any federal agency.

CONCLUSION

This report sheds light on an issue that no research study to date has investigated: the link between food insecurity and the development of young low-income black and Latino children in the United States. Young children of color who live in low-income, food-insecure households face higher odds of developmental delay than their counterparts living in low-income but food-secure households. Children whose development may be affected by food insecurity do not necessarily show signs of underweight, which often makes the problem less obvious to parents, healthcare providers, and policymakers.

In recent decades, the pronounced achievement gap that exists between black and white children, and between Latino and white children, has been the cause of much concern. In addition, there is increasing evidence that this achievement gap emerges at a very young age. Indeed, early childhood developmental impairments, such as those shown to be associated with food insecurity in this study, can significantly jeopardize a child's readiness for school and future educational attainment.[26] In the long term, low-income black and Latino individuals who experience economic hardship during their first few years of life can face restricted employment opportunities and decreased economic productivity as adults, rendering them vulnerable to a life-long cycle of poverty.[27]

As shown in the companion report, *Protecting the Health and Nutrition of Young Children of Color: The Impact of Nutrition Assistance and Income Support Programs*, public assistance programs that are adequately funded can play a significant role in decreasing food insecurity among vulnerable infants and toddlers. In light of increasing poverty and food insecurity rates, federal anti-poverty programs that decrease the risk of food insecurity or attenuate its health impacts can play an important role in decreasing the risk of developmental delay faced by black and Latino children living in low-income households. In turn, national safety net programs may be pivotal to narrowing the achievement gap, as well as ensuring the well-being, school readiness, and future economic productivity of low-income children of color in the United States.

ABOUT THE AUTHORS

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- Timothy Heeren, PhD
- Zhaoyan Yang, MS

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APPENDIX
PEDS Data Tables

1. Black Children (July 2004 – June 2005)

Private Insurance Excluded
N=1,320

Table 1. Unadjusted PEDS, by Food Security.				
	Total Sample N=1,320	Food Secure N=1,071	Food Insecure N=249	P-Value
PEDS: Significant Concerns	14%	13%	18%	P=.04

Table 2. Adjusted PEDS: Control for Site, Gender, Age of Child, Mother U.S.-Born, Maternal Education, Age of Mother, Low Birthweight, Z-Weight/Age (Predictor=Food Security).				
Outcomes	Food Secure	Food Insecure	95% CI	P-Value
PEDS: Significant Concerns	1.00	1.57	(1.03, 2.40)	P=.04

2. Latino Children (July 2004 – June 2005)

Private Insurance Excluded
N=487

Table 1. Unadjusted PEDS, by Food Security.				
	Total Sample N=487	Food Secure N=307	Food Insecure N=179	P-Value
PEDS: Significant Concerns	12%	11%	13%	p=.38

Table 2. Adjusted PEDS: Control for Gender, Age of Child, Mother U.S.-Born, Maternal Education, Age of Mother, Low Birthweight, Z-Weight/Age (Predictor=Food Security).				
Outcomes	Food Secure	Food Insecure	95% CI	P-Value
PEDS: Significant Concerns	1.00	2.23	(1.09, 4.54)	P=.03

ENDNOTES

[1] See www.c-snap.org.

[2] M. Nord, M. Andrews, and S. Carlson, *Household Food Security in the United States, 2004/ERR11*, Economic Research Service, U.S. Department of Agriculture (October 2005), www.ers.usda.gov/Publications/err11 (accessed November 1, 2005); Childstats.gov, *America's Children: Key National Indicators of Well-Being, 2005*, http://childstats.gov/americaschildren/pdf/ac2005/econ.pdf (accessed September 16, 2005); Children's Sentinel Nutrition Assessment Program, *The Impact of Welfare Sanctions on the Health of Infants and Toddlers* (July 2002), http://dcc2.bumc.bu.edu/CsnapPublic/Reports.htm (accessed October 13, 2005); Children's Sentinel Nutrition Assessment Program, *The Safety Net in Action: Protecting the Health and Nutrition of Young American Children* (July 2004), http://dcc2.bumc.bu.edu/CsnapPublic/Reports.htm (accessed October 13, 2005).

[3] Nord, Andrews, and Carlson 2005.

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[6] DeNavas-Walt, Proctor, and Lee 2005.

[7] Nord, Andrews, and Carlson 2005.

[8] Nord, Andrews, and Carlson 2005.

[9] Nord, Andrews, and Carlson 2005.

[10] U.S. Census Bureau, *Annual Demographic Survey March Supplement 2005*, Age and Sex of All People, Family Members and Unrelated Individuals by Family Structure, Age, and Sex, Iterated by Income-to-Poverty Ratio and Race: 2004, Below 100% of Poverty – All Races, http://pubdb3.census.gov/macro/032004/pov/new01_100_01.htm (accessed March 17, 2006).

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[13] Devaney, Ellwood, and Love 1997; A. C. Huston, "Reforms and Child Development," *Children and Welfare Reform* 12(1):59-77, http://www.futureofchildren.org (accessed December 5, 2005).

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PROTECTING THE HEALTH AND NUTRITION OF YOUNG CHILDREN OF COLOR: THE IMPACT OF NUTRITION ASSISTANCE AND INCOME SUPPORT PROGRAMS

Research Findings from the Children's Sentinel Nutrition Assessment Program (C-SNAP)

Prepared for the Joint Center for Political and Economic Studies
Health Policy Institute

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EXECUTIVE SUMMARY

Children of color, especially black and Hispanic children, are disproportionately vulnerable to poverty, poor health, and food insecurity compared with white children. The consequences of these disparities for young children of color are profound. Economic deprivation and poor health and nutrition in early life jeopardize their future success in school and the workplace.

This report shows that safety net programs mitigate the effects of poverty on young black and Hispanic children's health and physical development. It reveals that the safety net programs that make a difference include TANF (Temporary Assistance for Needy Families), the Food Stamp Program, WIC (the Special Supplemental Nutrition Program for Women, Infants, and Children), Subsidized Housing, and LIHEAP (the Low-Income Home Energy Assistance Program). Legislative and policy choices determine access to and funding for these programs.

Since 1998, the Children's Sentinel Nutrition Assessment Program (C-SNAP) has been collecting data on a sentinel sample of children younger than three years of age attending inner-city emergency departments or clinics. C-SNAP data show that the following programs have positive outcomes for black children's food security, health status, and overall growth: TANF, the Food Stamp Program, WIC, Subsidized Housing, and LIHEAP. There are serious implications for young black children's nutrition, health, and growth when their families do not receive the benefits for which they qualify. C-SNAP data also demonstrate that Hispanic children's food security, overall growth, weight, and height benefit from family receipt of TANF, food stamps, WIC, and Subsidized Housing. Young Hispanic children's health, growth, and nutrition are jeopardized when their families do not receive the benefits for which they are potentially eligible.

Increases in food insecurity and poverty levels in 2004 place all poor children, a disproportionate number of whom are children of color, in increasing need of programs that protect their health and growth in early childhood. Although evidence presented here suggests that safety net programs are "good medicine" for children's health, these programs are currently targeted for drastic reductions in funding—reductions that will disproportionately endanger poor children of color. A dispassionate reading of the medical evidence suggests that these programs should be expanded to cover impoverished American children of all races and ethnicities to provide a firm foundation for their future success as healthy citizens and productive participants in tomorrow's workforce.

INTRODUCTION & BACKGROUND

Non-Hispanic black and Hispanic[1] children now comprise 35 percent of the total population of children in the United States.[2] Children of color are disproportionately vulnerable to poverty, poor health, and food insecurity (limited or uncertain access to enough nutritious food[3]) compared with white children. The consequences of these disparities for young children of color are profound. Economic deprivation and poor health in early life jeopardize their future success in school and the workplace.[4]

Racial and Ethnic Disparities in Poverty Rates

In 2004, 37 million Americans lived in poverty. Among children, children of color in the United States are more likely to live in poverty than white children, as shown by the U.S. Census poverty data for 2004 in the table below. Among families with related children in the United States, more than one in three (38 percent) black children under the age of five live below 100 percent of the Federal Poverty Level (FPL), and more than one in five (21 percent) black children under the age of five live in extreme poverty, or below 50 percent of the FPL. For Hispanic children under the age of five, the corresponding rates are 31 percent below 100 percent of the FPL and 11 percent below 50 percent of the FPL. For white children under the age of five, the percent in poverty is lower: 12 percent live under 100 percent of the FPL and seven percent live under 50 percent of the FPL.[5]

Table 1. U.S. Census Data: 2004 Poverty Rates Among People in Families with Related Children

	Children Under Age 5 Below 100% FPL	
	Number	Percent
Black	1.15 million	38%
Hispanic	1.35 million	31%
Non-Hispanic White	1.35 million	12%
	Children Under Age 5 Below 50% FPL	
	Number	Percent
Black	636,000	21%
Hispanic	475,000	11%
Non-Hispanic White	1.15 million	7%

Source: U.S. Census Bureau 2005, http://pubdb3.census.gov/macro/032004/pov/new03_100_01.htm

The 2004 FPL for a family of four was $18,850.

Racial and Ethnic Disparities in Child Health Status

Of particular concern to pediatricians across the United States are the well-documented child health disparities among American children of differing race/ethnicities. The government's 2004 National Health Disparities Report describes racial disparities in child disease prevalence for conditions such as asthma and overweight.[6] Other researchers have documented similar disparities in the prevalence of childhood diabetes, preterm birth, low birthweight, infant death, and children's mental health problems.[7] Disparities have also been found in access to health insurance and health services, and quality of care.[8] A report from the Disparities Project of the Boston Public Health Commission notes the growing body of evidence

demonstrating that genetic factors, personal behaviors, or lower income do not adequately explain health disparities; social and environmental factors play a major role in these disparities.[9] Of these social and environmental factors, lack of access to adequate food for an active and healthy life (food insecurity) and to income maintenance, housing, and energy assistance are the focus of this report, since these are all remediable by legislative and policy choices.

Racial and Ethnic Disparities in Rates of Food Insecurity

Pronounced racial and ethnic disparities also exist in the national rates of food insecurity. While all households with children are at significantly higher risk for food insecurity than households without children, black and Hispanic households with children are disproportionately vulnerable to food insecurity. From 2003 to 2004, the number of food-insecure Americans increased by nearly one million people. In 2004, the overall rate of food insecurity among children under age 18 was 19 percent (13.87 million children, almost 600,000 more than in 2003). Among black households with children, 31 percent reported food insecurity. Similarly, among Hispanic households with children, 30 percent reported food insecurity. Among non-Hispanic white households with children, however, 13 percent reported food insecurity. These rates are very similar to the poverty rates cited previously.[10] The table below shows the 2004 prevalence of food insecurity in all households, as well as households with children.[11]

Food insecurity is the government's technical term to describe uncertain or limited access to enough nutritious food for all household members due to insufficient resources for food.

Food Insecurity is a Health Issue

Food insecurity poses a serious threat to children's health and development, especially for the youngest children who are in a uniquely vulnerable period of rapid growth and development. Since black and Hispanic children are at a higher risk than whites for living in food-insecure households, they are also at a greater risk for the long-term adverse consequences associated with food insecurity and malnutrition. Food insecurity among young children is linked with poor health and increased risk of hospitalizations,[12] as well as nutrient deficiencies,[13] learning and developmental deficits,[14] and emotional and behavioral problems.[15]

Table 2. USDA Data: 2004 Prevalence of Food Insecurity, by Selected Household Characteristics

	Total Food Insecure	
	Number	*Percent*
All Households	**13.49 million**	**11.9%**
All Black Households	3.21 million	23.7%
All Hispanic Households	2.61 million	21.7%
All White Households	7.01 million	8.6%
All children <18	**13.87 million**	**19.0%**
Children <18 in Black Households	3.39 million	31.2%
Children <18 in Hispanic Households	3.85 million	29.6%
Children <18 in White Households	5.81 million	13.0%

Source: Nord, Andrews, and Carlson 2005.

Protecting Young Children of Color from Poverty, Poor Health, and Food Insecurity: Public Assistance Programs in the United States

Several federal assistance programs exist in the United States to buffer low-income families from extreme poverty and hunger. Nutrition assistance programs such as the Food Stamp Program and WIC (the Special Supplemental Nutrition Program for Women, Infants, and Children) provide direct support for the family food budget. TANF (Temporary Assistance for Needy Families) is the nation's primary income support program that provides impoverished families with minimal income to cover their basic needs. Other assistance programs such as LIHEAP (the Low-Income Home Energy Assistance Program) and Subsidized Housing provide support for specific expenses in order to cover survival needs such as heating, cooling, and housing. Despite claims that these programs harm poor children by contributing to overweight,[16] there has been no evidence that this assertion is actually true.[17]

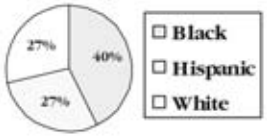
Since black and Hispanic families are disproportionately poor compared with white families, they constitute a substantial proportion of the participants in these means-tested assistance programs. For example, in 2003, over half of the nearly five million households with children who received Food Stamps were either black or Hispanic.[18] Similarly, in 2002, over half of the WIC recipients were either black or Hispanic.[19] The majority of TANF recipient children are children of color. In 2002, black children were the largest single group of TANF recipients, comprising 40 percent of the recipient children. Approximately 27 percent of TANF recipient children were Hispanic and 27 percent were white.[20] Many impoverished Hispanic families are not eligible for TANF and Food Stamps, or even if they are eligible, they do not access these programs because of immigration concerns.[21]

The charts below show food stamp and WIC program participation data from the United States Department of Agriculture (USDA) and the TANF participation data from the Department of Health and Human Services (DHHS). Although black and Hispanic children together comprise just over one-third of the total population of young children in the United States,[22] due to their disproportionately high poverty rates, they make up more than half of the assistance program participants.

Assessing the Impact of Assistance Programs on Young Children of Color: The Children's Sentinel Nutrition Assessment Program

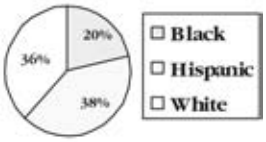
Although many black and Hispanic families participate in federal assistance programs, the programs' impact on young children of color in particular has not yet been examined. The Children's Sentinel Nutrition Assessment Program (C-SNAP) is uniquely positioned to assess the links between public assistance program

TANF Participation by Race/Ethnicity, 2002



Food Stamp Participation by Race/Ethnicity, 2003

WIC Participation by Race/Ethnicity, 2002



Note: Percents do not sum to 100 because other ethnicities are not shown.

participation and health, growth, and food security outcomes among young children of color. Established in 1998, C-SNAP is a multi-site child health research network that collects data on young children 0-3 years old who are seen in urban medical centers around the country. The C-SNAP caregiver survey instrument includes information on food security (using the 18-item U.S. Household Food Security Scale), household demographics, assistance program participation, child health status, child hospitalization history, and maternal depression. In addition, children are weighed and measured at the time of the caregiver interview. C-SNAP has published findings on the impact of public assistance programs on all young children, but until now has not assessed the data stratified by race/ethnicity.[23]

C-SNAP collects data from a sentinel sample of children younger than three years of age who attend inner-city emergency departments or clinics. Sentinel samples are used worldwide to identify "key health events that may serve as an early warning or represent the tip of an iceberg" of problems afflicting hard-to-reach populations.[24] Furthermore, as Garza and de Onis state: "The marked vulnerability of the health of infants and young children also makes assessments of child growth a 'sentinel' indicator in evaluations of the health and socioeconomic development of communities in which they live."[25]

The total C-SNAP sample, currently over 20,000 children, is a vulnerable population: 85 percent receive public insurance, 32 percent of the caregivers are immigrants, and 14 percent of the children were born with low birthweight. While minority children are underrepresented in most national datasets, black and Hispanic children comprise over 80 percent of the C-SNAP sample (59 percent are black and 22 percent are Hispanic). The table on the following page shows C-SNAP sample characteristics and unadjusted outcomes by race/ethnicity.

C-SNAP Study Sites
Emergency Departments or Acute Care Clinics in Urban Medical Centers

- ***Boston Medical Center, Boston, MA (coordinating site)***
- ***Hennepin County Medical Center, Minneapolis, MN***
- ***Mary's Center for Children, Washington, DC***
- ***University of Arkansas for Medical Sciences, Little Rock, AR***
- ***University of Maryland Medical Center, Baltimore, MD***
- ***St. Christopher's Hospital for Children, Philadelphia, PA***
- ***Harbor-UCLA Medical Center, Los Angeles, CA***

Table 3. C-SNAP Sample Characteristics by Race/Ethnicity: August 1998 – December 2004
Sample Restricted to Black, Hispanic, White

	Black N=9,582	Hispanic N=5,615	White N=3,090	P-value
Site *				
Baltimore	17%	<1%	5%	
Boston	38%	24%	17%	
Little Rock	20%	2%	60%	<.0001
Los Angeles	2%	26%	3%	
Minneapolis	23%	36%	14%	
Washington, DC	<1%	12%	<1%	
Mother U.S.-Born	76%	22%	94%	<.0001
Caregiver Married	29%	59%	60%	<.0001
Caregiver Employed	48%	32%	50%	<.0001
Caregiver Education				
Some High School	28%	57%	21%	
High School Graduate	41%	29%	37%	<.0001
Any College	31%	14%	42%	
Mother Age	26.6 yrs	26.6 yrs	27.6 yrs	<.0001
Child Age	12.5 mos	11.6 mos	13.6 mos	<.0001
Child Breastfed	47%	75%	45%	<.0001
Low Birthweight	15%	10%	13%	<.0001
Child Insurance				
Public	85%	78%	62%	
None	6%	17%	9%	<.0001
Private	9%	5%	30%	
Program Participation				
Food Stamps	45%	21%	26%	
TANF	33%	18%	13%	
WIC	80%	86%	59%	<.0001
Housing	35%	13%	9%	
LIHEAP	15%	6%	8%	
TANF Sanction **	24%	30%	22%	.001
Food Stamp Sanction **	6%	9%	8%	.02

* *Boston, Little Rock, and Minneapolis have been collecting data continuously since 1998. Due to funding constraints, Baltimore collected data from 1998-2001 and 2004-present, and Los Angeles and Washington, DC, collected data from 1998-2001. The Philadelphia site did not begin collecting data until January 2005; data from that site are not included in this analysis.*

***See box below.*

WHY ARE TANF OR FOOD STAMP BENEFITS REDUCED OR SANCTIONED (TERMINATED)?

Due to the 1996 welfare reform legislation, states can mandate or permit work requirements, living arrangements or school/training for minor parents, time limits, family cap policies, and eligibility limits for immigrant families, among other requirements. Common reasons for sanctions include missed appointments for recertification and review of eligibility, inability to meet work requirements, and failure to promptly re-pay overpayments due to a changed household situation. All of these can occur due to lack of dependable, affordable childcare and lack of information.

THE IMPACT OF PUBLIC ASSISTANCE PROGRAMS ON YOUNG CHILDREN OF COLOR: IMPORTANT FOR BLACK AND HISPANIC CHILDREN'S HEALTH

To assess the associations between assistance program participation and the health, growth, and food security of young children of color, C-SNAP looked at each racial/ethnic group separately and examined the data from five federal assistance programs: TANF, the Food Stamp Program, WIC, Subsidized Housing, and LIHEAP. Due to the relatively small sample size of white children in the C-SNAP study compared with the sample of black and Hispanic children, the results below are shown only for blacks and Hispanics. The outcomes for the white sample were usually in the same direction as the black and Hispanic children (see box below), but the sub-sample size was often not large enough to reach statistical significance. Consequently, if the same analyses were repeated with a larger group of impoverished white children, similar results *and* statistical significance would be expected.

Only statistically significant results are presented in the following summary. Data tables are presented in the Appendix. All odds ratios were adjusted for potential confounders.

WHAT DOES STATISTICAL SIGNIFICANCE MEAN?

"Statistical significance" means that data from two groups have been analyzed and the outcomes (results) for each group have been found to be different enough that they can be attributed to chance in less than five percent of cases.

When results are not statistically significant or "do not reach statistical significance," this means that the data do not definitively tell us that chance can be confidently ruled out as the reason for the results.

Sometimes, however, results are not significant but are "in the same direction" as the statistically significant results. This means that the outcomes were showing the same kinds of results but perhaps did not have a large enough group of people (sample size) to reach criteria for statistical significance.

LESS THAN OR EQUAL TO TWO STANDARD DEVIATIONS BELOW THE MEAN FOR WEIGHT OR HEIGHT:

This standard is a way of identifying the children whose weight or height falls into approximately the lowest three percent of weight or height measurements compared with the national average. A child who is less than two standard deviations below the mean for weight or height would be considered malnourished, according to the World Health Organization's international guidelines.

Z-SCORE:

This standardized measure is a way to compare an individual child with the national average weight or height for a child of the same age and gender. A negative z-score value indicates that the child weighs or measures less than the expected average.

Black Children

The following programs have positive outcomes for black children's food security, health status, and overall growth: TANF, the Food Stamp Program, WIC, Subsidized Housing, and LIHEAP. There are serious implications for young black children's food security, health, and growth when their families do not receive the benefits for which they qualify, as shown by the following results.

TANF (Temporary Assistance for Needy Families) Linked to Improved Food Security

Compared with black infants and toddlers whose family benefit was *not* reduced in the past year:

- ❑ Black infants and toddlers whose family benefit was *reduced* were *56 percent more likely to be food insecure.*

- ❑ Black infants and toddlers whose family benefit was *sanctioned* were *78 percent more likely to be food insecure.*

Food Stamps Linked to Improved Food Security and Child Health Status

Compared with black infants and toddlers whose family benefit was *not* reduced in the past year:

- ❑ Black infants and toddlers whose family benefit was *reduced* were *33 percent more likely to be food insecure.*

- ❑ Black infants and toddlers whose family benefit was *sanctioned* were *84 percent more likely to be food insecure.*

- ❑ Black infants and toddlers whose family benefit was *reduced* were *38 percent more likely to be reported as being in fair or poor health.*

Receipt of food stamps is not associated with overweight in young black children.[26]

WIC Linked to Improved Overall Growth and Healthy Weight and Height for Child's Age

Compared with black infants who received WIC, those who were potentially eligible but *did not* receive WIC were:

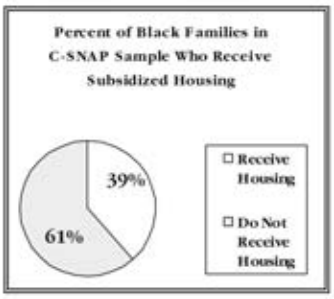
- ❑ Fifty-six percent more likely to be at nutritional risk for growth problems.

- ❑ More than twice as likely to be underweight (as measured by being less than or equal to two standard deviations below the mean for weight-for-age).

- ❑ More likely to be shorter in height (as measured by height-for-age z-score).

Receipt of WIC was not associated with overweight in young black children.[27]

Subsidized Housing Linked to Healthier Weight and Height for Child's Age

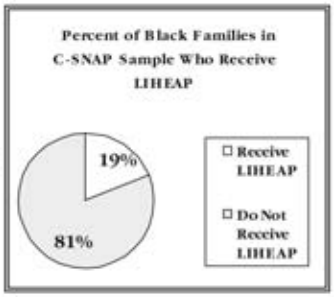


Compared with black infants and toddlers in families who received a housing subsidy, those in potentially eligible families who *did not* receive a housing subsidy were:

- Thirty-three percent more likely to be underweight (as measured by being less than or equal to two standard deviations below the mean for weight-for-age).
- More likely to be shorter in height (as measured by height-for-age z-score).

As with the Food Stamp Program and WIC, receipt of housing subsidies was not associated with overweight in young black children.[28]

LIHEAP Linked to Fewer Growth Problems and Healthier Weight for Child's Age



Compared with black infants and toddlers in families who received fuel assistance, those who were in potentially eligible families but *did not* receive fuel assistance were:

- Twenty-nine percent more likely to be at nutritional risk for growth problems (less than the 5th percentile for weight-for-age, or less than the 10th percentile for weight-for-height).
- More likely to have a lower weight (as measured by weight-for-age z-score).

Again, receipt of LIHEAP was not associated with overweight in young black children.[29]

Hispanic Children

The following programs have positive outcomes for Hispanic children's food security, overall growth, weight, and height: TANF, the Food Stamp Program, WIC, and Subsidized Housing. The associations between receipt of LIHEAP and Hispanic children's health and growth did not reach statistical significance due to the small sub-sample of Hispanic LIHEAP recipients. This limited program participation reflects the fact that a substantial proportion of the Hispanic children in this sample lived in California, where few families of any ethnicity access LIHEAP. Similar to the findings for black children, there are serious implications for young Hispanic children's health, growth, and food security when their families do not receive the benefits for which they qualify, as shown by the following results.

TANF (Temporary Assistance for Needy Families) Linked to Improved Food Security

Compared with Hispanic infants and toddlers whose family benefit was *not* reduced in the past year:

❑ Hispanic infants and toddlers whose family benefit was *reduced* were *more than twice as likely to be food insecure.*

❑ Hispanic infants and toddlers whose family benefit was *sanctioned* were *63 percent more likely to be food insecure.*

Food Stamps Linked to Improved Food Security

Compared with Hispanic infants and toddlers whose family benefit was *not* reduced in the past year:

❑ Hispanic infants and toddlers whose family benefit was *sanctioned* were *more than twice as likely to be food insecure.*

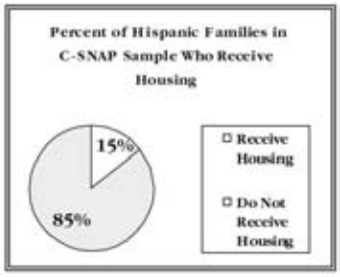
Receipt of food stamps was not associated with overweight in young Hispanic children.[30]

WIC Linked to Healthy Weight and Height for Child's Age

Compared with Hispanic infants who received WIC, those who were potentially eligible but *did not* receive WIC were:

❑ More likely to have a lower weight and be shorter in height (as measured, respectively, by weight-for-age and height-for-age z-scores).

Receipt of WIC was not associated with overweight in young Hispanic children.[31]



Subsidized Housing Linked to Healthier Height for Child's Age

Compared with Hispanic infants and toddlers in families who received a housing subsidy, those who were potentially eligible but *did not* receive a housing subsidy were:

❑ Ninety-nine percent more likely to be short in height (less than or equal to two standard deviations below the mean for height-for-age).

Again, receipt of subsidized housing was not associated with overweight in young Hispanic children.[32]

LIMITATIONS

There are several important limitations of this study. First, C-SNAP did not examine the effects of the safety net programs on the health and growth of infants and toddlers of other groups of color. C-SNAP does not

have interviewers who are able to conduct the interview in languages other than English, Spanish, or Somali (Minneapolis only). Groups other than blacks and Hispanics were not included because the sample size of other groups in the study is too small to yield interpretable results. Second, the cross-sectional study design can demonstrate associations but not causation. Third, although potentially confounding effects of many relevant factors were statistically controlled in the analyses, other unmeasured confounders may have influenced the outcomes. Exclusion of the most severely ill or injured cases from the emergency department subsample may have biased the results. Lastly, the population studied is not a nationally representative sample, but rather a sentinel sample of families with children younger than three years, who were brought for care at an emergency department or clinic serving low-income populations in five United States cities. National survey data that would permit valid national estimates of the impacts of program participation on the health and growth of all young American children are not currently collected by any federal agency.

CONCLUSION

Contrary to the popular perception that public income maintenance, nutrition support, and housing and energy assistance are of little benefit (or indeed actively harmful) to children of color, these findings suggest that participation in these programs has a measurable positive impact on indicators of health and growth in early childhood, which give children the foundation necessary for successful participation in future learning and in the workforce. In contrast, sanctioning families' TANF and food stamp benefits seriously endangers the health and food security of black and Hispanic infants and toddlers at this critical period in their growth and development. Moreover, given the increase in food insecurity and poverty levels in 2004, the current proposed cuts to safety net programs would create a serious child health crisis for all poor children, and, in particular, for children of color. Safety net programs are a wise social investment and should be expanded to cover children of all races and ethnicities who are in need. Furthermore, the impact of safety net programs on children's health, growth, and learning should be monitored in all nationally representative surveys, such as the National Health and Nutrition Examination Survey (NHANES).

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APPENDIX
Safety Net Program Data Tables

Only statistically significant results are presented below. Control variables for each analysis were selected if they met the formal statistical criteria for confounding—correlated at p less than .05 with both the predictor and the outcome.

TANF

The sample was restricted to families who reported TANF receipt within the past year.

Logistic regression results are controlled for: study site; mother U.S.-born; caregiver employment; child in day care; child low birthweight; receipt of housing subsidy; child insurance status; and receipt of SSI.

Household Food Insecurity

Black:

Outcomes	TANF Benefits Sanctioned n=819	TANF Benefits Reduced n=325	TANF Benefits "Not Decreased" n=2,217	P Values
Household Food Insecurity	1.78 (1.45, 2.20) p<.0001	1.56 (1.65, 2.09) p=.003	1.00	P < .0001

Hispanic:

Outcomes	TANF Benefits Sanctioned n=327	TANF Benefits Reduced n=87	TANF Benefits "Not Decreased" n=687	P Values
Household Food Insecurity	1.63 (1.19, 2.24) p=.002	2.17 (1.29, 1.76) p=.003	1.00	P < 0.0007

The Food Stamp Program

The sample was restricted to families who reported food stamp receipt within the past year.

Logistic regression results are controlled for: study site; mother U.S.-born; caregiver marital status; caregiver employment; child in day care; receipt of WIC; receipt of housing subsidy; child insurance status; and receipt of SSI.

Household Food Insecurity

Black:

Outcomes	FSP Benefits Sanctioned n=298	FSP Benefits Reduced n=806	FSP Benefits "Not Decreased" n=3,396	P Values
Household Food Insecurity	1.84 (1.40, 2.42) p<.0001	1.33 (1.09, 1.62) p=.004	1.00	P < .0001

Hispanic:

Outcomes	FSP Benefits Sanctioned n=121	FSP Benefits Reduced n=243	FSP Benefits "Not Decreased" n=957	P Values
Household Food Insecurity	2.10 (1.36, 3.27) p=.0009	1.15 (0.84, 1.59) p=.38	1.00	P = .004

Child's Health Status Fair/Poor

Black:

Outcomes	FSP Benefits Sanctioned n=298	FSP Benefits Reduced n=806	FSP Benefits "Not Decreased" n=3,396	P Values
Child's Health Status Fair/Poor	1.13 (0.76, 1.67) p=.55	1.38 (1.07, 1.77) p=.01	1.00	P = .04

The WIC Program

The sample was restricted to children less than 12 months old and excluded families who do not receive WIC because of "no perceived need."

Logistic regression results are controlled for: mother U.S.-born; receipt of TANF; receipt of housing subsidy; child low birthweight; child insurance status; caregiver employment; duration of breastfeeding; and age of child.

Less than or equal to two standard deviations below the mean for weight or height:

This standard is a way of identifying the children whose weight or height falls into approximately the lowest three percent of weight or height measurements compared with the national average. A child who is less than two standard deviations below the mean for weight or height would be considered malnourished, according to the World Health Organization's international guidelines.

Z-score:

This standardized measure is a way to compare an individual child with the national average weight or height for a child of the same age and gender. A negative z-score value indicates that the child weighs or measures less than the expected average.

Anthropometrics

At Nutritional Risk for Growth Problems

Black:

Outcomes	No WIC (n=382)	Receive WIC (n=4,798)	P Value
At Nutritional Risk for Growth Problems	1.56 (1.16, 2.10)	1.00	P = 0.003

≤ 2 Standard Deviations for Weight-for-Age

Black:

Outcomes	No WIC (n=382)	Receive WIC (n=4,798)	P Value
≤2SD Wt/Age	2.11 (1.35, 3.94)	1.00	P = 0.001

Weight-for-Age

Hispanic:

Outcomes	No WIC (n=262)	Receive WIC (n=3,007)	P Value
Mean Z-Wt/Age	Z = -0.066	Z = 0.136	P=.02

Height-for-Age

Black:

Outcomes	No WIC (n=382)	Receive WIC (n=4,798)	P Value
Mean Z-Ht/Age	Z = -0.396	Z = 0.100	P=.0001

Hispanic:

Outcomes	No WIC (n=262)	Receive WIC (n=3,007)	P Value
Mean Z-Ht/Age	Z = -0.311	Z = 0.062	P<.0001

Subsidized Housing

The sample was restricted to low-income families defined as renters who also participate in at least one means-tested program.

Logistic regression results are controlled for: mother U.S.-born; receipt of TANF; receipt of WIC; and food insecurity.

Anthropometrics

≤2 Standard Deviations for Weight-for-Age
Black:

Outcomes	No Subsidy (n=4,977)	Receive Subsidy (n=3,116)	P Value
≤2SD Wt/Age	1.33 (1.09, 1.63)	1.00	P = 0.006

≤2 Standard Deviations for Height-for-Age
Hispanic:

Outcomes	No Subsidy (n=4,256)	Receive Subsidy (n=720)	P Value
≤2SD Ht/Age	1.99 (1.11, 3.58)	1.00	P = 0.02

Height-for-Age
Black:

Outcomes	No Subsidy (n=4,977)	Receive Subsidy (n=3,116)	P Value
Mean Z-Ht/Age	Z = -0.005	Z = 0.134	P<.0001

LIHEAP

The sample was restricted to a low-income sample defined as renters who participate in at least one means-tested program, excluding those with private insurance.

Logistic regression results are controlled for: mother U.S.-born; year of interview; food insecurity; receipt of either TANF or food stamps; receipt of WIC; receipt of housing subsidy; caregiver marital status; and caregiver employment.

At Nutritional Risk for Growth Problems
Black:

Outcomes	Do Not Receive Fuel Assistance (n=3,313)	Receive Fuel Assistance (n=778)	P Values
At Nutritional Risk for Growth Problems	1.29 (1.00, 1.66)	1.00	P = 0.05

Weight-for-Age
Black:

Outcomes	Do Not Receive Fuel Assistance (n=3,313)	Receive Fuel Assistance (n=778)	P Values
Mean Z-Wt/Age	Z = -0.051	Z = 0.061	P=.04

ENDNOTES

[1] In this report, the words "black," "Hispanic," and "white" are used; however, the authors recognize and respect that many people prefer to identify as African American or Latino. "Non-Hispanic black," "Hispanic," and "Non-Hispanic white" are the terms that the U.S. Census and USDA/Food and Nutrition Service use. Thus, to maintain consistency with the data presented in this report, abbreviated versions of these words have been chosen. See Latin Society: Silent Voices – Latino vs. Hispanic, http://www.latinsociety.com/hispanicvslatino.html (accessed October 28, 2005).

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