



# Hunger in America

Suffering We All Pay For

---

By Donald S. Shepard, Elizabeth Setren, and Donna Cooper    October 2011

Center for American Progress



# Hunger in America

Suffering We All Pay For

---

By Donald S. Shepard, Elizabeth Setren, and Donna Cooper    October 2011

# Contents

- 1 Introduction and summary**
- 4 How we calculated the hunger bill**
- 10 Breaking out the costs of hunger in America**
- 13 America's hunger Bill: \$167.5 Billion**
- 14 Every state experienced a rising hunger bill**
- 17 Conclusion**

# Introduction and summary

The Great Recession and the currently tepid economic recovery swelled the ranks of American households confronting hunger and food insecurity by 30 percent. In 2010 48.8 million Americans lived in food insecure households, meaning they were hungry or faced food insecurity at some point during the year. That's 12 million more people than faced hunger in 2007, before the recession, and represents 16.1 percent of the U.S. population.<sup>1</sup>

Yet hunger is not readily seen in America. We see neither newscasts showing small American children with distended bellies nor legions of thin, frail people lined up at soup kitchens. That's primarily because the expansion of the critical federal nutrition assistance program, the Supplemental Nutrition Assistance Program, helped many families meet some of their household food needs.

But in spite of the increase in Supplemental Nutrition Assistance Program funding, many families still have to make tough choices between a meal and paying for other basic necessities. In 2010 nearly half of the households seeking emergency food assistance reported having to choose between paying for utilities or heating fuel and food. Nearly 40 percent said they had to choose between paying for rent or a mortgage and food. More than a third reported having to choose between their medical bills and food.<sup>2</sup>

What's more, the research in this paper shows that hunger costs our nation at least \$167.5 billion due to the combination of lost economic productivity per year, more expensive public education because of the rising costs of poor education outcomes, avoidable health care costs, and the cost of charity to keep families fed. This \$167.5 billion does not include the cost of the Supplemental Nutrition Assistance Program and the other key federal nutrition programs, which run at about \$94 billion a year.<sup>3</sup>

We call this \$167.5 billion America's hunger bill. In 2010 it cost every citizen \$542 due to the far-reaching consequences of hunger in our nation. At the household

level the hunger bill came to at least \$1,410 in 2010. And because our \$167.5 billion estimate is based on a cautious methodology, the actual cost of hunger and food insecurity to our nation is probably higher.

This report also estimates the state-by-state impact of the rising hunger bill from 2007 through 2010. Fifteen states experienced a nearly 40 percent increase in their hunger bill compared to the national increase of 33.4 percent. The sharpest increases in the cost of hunger are estimated to have occurred in Florida (61.9 percent), California (47.2 percent), and Maryland (44.2 percent).

Our research in this report builds upon and updates a 2007 report principally sponsored by the Sodexo Foundation and written by Brandeis University Professor Donald Shepard, the principal author of this report; Larry Brown, who was then on the faculty at of the Harvard School of Public Health; and Timothy Martin and John Orwat from Brandeis University.<sup>4</sup> That initial report, “The Economic Costs of Domestic Hunger,” was the first to calculate the direct and indirect cost of adverse health, education, and economic productivity outcomes associated with hunger. This study extends the 2007 study, examining the recession’s impact on hunger and the societal costs to our nation and to each of the 50 states in 2007 and 2010. It also provides the first estimate of how much hunger contributes to the cost of special education, which we found to be at least \$6.4 billion in 2010.

The 2007 report estimated America’s hunger bill to be \$90 billion in 2005, sharply lower than the \$167.5 billion bill in 2010. In the pages that follow, we will describe how we calculated our nation’s annual hunger bill. We then argue that any policy solutions to address the consequences of hunger in America should consider these economic calculations. The reason: We believe our procedures for expressing the consequences of this social problem in economic terms help policymakers gauge the magnitude of the problem and the economic benefits of potential solutions.

In this paper we do not make specific policy proposals beyond adopting our methodology for calculating hunger in America, but we do point out that expanding the Supplemental Nutrition Assistance Program to all food insecure households could cost about \$83 billion a year. While we do not recommend this approach, we note that nonetheless it would cost the nation much less than the most recent hunger bill in 2010 of \$167.5 billion.

There are other policy approaches that also could achieve sustained reduction in hunger and food insecurity—approaches that rely on a mix of federal policies to

boost the wages of the lowest-wage earners, increase access to full-time employment, and modestly expand federal nutrition programs. These policies are consistent with the variables used to allocate federal nutrition funding to states under The Emergency Food Assistance Program. In using the state's poverty and unemployment rates, this program recognizes that improved economic conditions reduce hunger and the need for emergency support.

# How we calculated the hunger bill

To analyze the cost burden of domestic hunger, we used the federal Food Security Module, the standard for measuring food deprivation. This module is conducted by the Department of Agriculture and the Department of Commerce’s Bureau of the Census annually as a supplement to the Current Population Survey. While it takes a random, representative sample of U.S. households, the federal Food Security Module does not include homeless people who are not in shelters. While this approach provides a consistent measure over time, it probably underestimates the actual number of people with very low food security.<sup>5</sup>

The Food Security Module categorizes a household as having experienced hunger if a person in the household reports feeling a “painful sensation” in the stomach and facing a high degree of food deprivation. Some nutritionists and medical experts consider this standard too high because “pain” is only one of the possible sensations from hunger. Therefore this measure of hunger could underestimate the number of people experiencing hunger.

Another measure of hunger from the module is more encompassing. “Food insecure” households are “ones that had difficulty at some time during the year providing enough food for all their members due to a lack of resources.” Food insecure characteristics include:

- Relying on soup kitchens or food pantries
- Cutting back on food portions or food categories
- Facing uncertainty regarding the next time a household member will eat

We used the number and share of the U.S. population in households facing food insecurity in our calculations. (see Table 1)

**TABLE 1**  
**U.S. food insecurity snapshot**

Numbers of persons in food insecure households, 2007 to 2010

Year	Number of individuals in food insecure households (in millions)	Percent of U.S. population
2007	36.2	12.2%
2008	49.1	16.4%
2009	50.2	16.6%
2010	48.8	16.1%

Source: Alisha Coleman-Jensen and others, “Household Food Security in the United States in 2010.”

Two factors support our linkage between hunger and food insecurity. First, members of food insecure households may experience hunger sometime during the year due to insufficient food. Second, a number of scientific studies demonstrate that even the most elementary forms of food insecurity have detrimental effects on those who are hungry or food insecure.<sup>6</sup>

Malnourishment compromises the immune system, making hungry and food insecure people more susceptible to disease.<sup>7</sup> For example, children who live in hungry and food insecure households get sick more frequently, miss school more often, and perform worse in school.<sup>8</sup> The research shows that hungry and food insecure children are more susceptible to cognitive impairment, more likely to engage in antisocial behaviors, and more in need of both medical and mental health interventions.<sup>9</sup>

In short there are substantial human and social burdens when people are hungry and food insecure. Hence we treat the burden of hunger and food insecurity as a unified problem.

We searched the scientific literature and have included only those consequences for which we could find two kinds of credible evidence. The first was a quantitative estimate of the relationship between food insecurity and the consequences. The second was a study that allowed us to put a monetary value on the consequences. For topics for which we found more than one credible study, we took the mean.

This requirement for two types of quantitative evidence for each condition made our methodology conservative. First, it required that we exclude adverse outcomes for which available data were too sparse. Case in point: Attention deficit hyperactivity disorder is higher among children who experience hunger but the research in this field is too recent to quantify this relationship.

Second, it required that we limit the scope of economic consequences considered to those for which we could find credible data. For four conditions (iron deficiency, upper gastrointestinal illnesses, poor health status, and hospitalization), available economic studies reported only the impact on health care costs but not on resulting losses in productivity.



As a result of our conservative approach, we believe the true cost of hunger for the nation is actually somewhat higher than \$167.5 billion for 2010. But that's nonetheless a very high number—one that we break down by calculating the cost of hunger-induced costs for:

- Illnesses
- Poor educational outcomes and undermined lifetime earnings
- Charity

Let's examine each of these calculations in more detail. Let's examine each of these calculations in more detail.

---

## Calculating the cost of hunger-induced illnesses

To estimate the cost of adverse consequences of hunger on mental and physical health, we first searched the public health and social science literature for studies in the United States published since 1990 for studies quantifying the relationship between food insecurity and its consequences, and the economic cost of those consequences. Whenever possible, we included the so-called indirect costs of the health conditions. These are the economic losses from earlier deaths, missed workdays, and lowered ability to carry on household services, which may require paid workers or other household members to fill in. We always included the direct costs of medical care. As noted above, our inability to include indirect costs for some conditions led us to underestimate the cost of negative outcomes related to hunger.

For each illness condition, we summarized available knowledge into the annual economic cost of the condition, its prevalence (if a chronic condition, such as depression) or incidence (if a short-term condition or event, such as suicide), and the odds ratio, which indicates how much more likely the condition is to occur in a food insecure person compared to a similar person who is not food insecure. From the Food Security Module, we also knew the prevalence of food insecurity. From these data we estimated the number of people with each consequence and their average costs, and separated those with the consequence into those who were food insecure and those not food insecure. We then calculated how many more people had the consequences as a result of their food insecurity and multiplied this number times the average economic cost per person with the condition.

Our calculation of the cost of consequences uses a lifetime approach. We analyzed the effect of food insecurity in one year (2010) on those affected during that year

over what would have been the person's remaining lifetime. Food insecurity, for example, is associated with a fivefold factor in the odds of suicide.<sup>10</sup> In economic terminology, the indirect cost of a suicide is the loss in earnings and value of unpaid services that the person would have otherwise contributed to society over his or her remaining lifetime. Consistent with previous research, losses in future years are discounted at a long-term, inflation-adjusted rate of 3 percent per year.<sup>11</sup> The economic loss from suicides is the number of excess suicides attributed to food insecurity times the economic cost per suicide.

We first performed these calculations for 2010. We then extended them to 2007 by estimating the number of people with each consequence and cost per person affected in 2007 based on the rate of food insecurity and population size in that year. We expressed all amounts in 2010 dollars by adjusting for inflation using the Consumer Price Index for urban areas, or CPI-U, Medical Care component for direct medical costs, the CPI-U Hospital Costs Index for hospitalizations, and the gross domestic product deflator for other costs.

### Calculating the cost of hunger-induced loss of poor educational outcomes and reduced lifetime earnings

Our calculations for the impact of hunger on educational and life earnings relied on a slightly different method to adapt to available data. First, we estimated the incremental probability that a hungry or food insecure student would have a high absence rate or repeat a grade using the same methodology used to estimate the impact on negative health outcomes. Then we estimated the added risk of dropout from a high absence rate or being held back a grade or more in school. We multiplied the incremental probability times the added risk of dropping out and summed the two products.

This sum was the combined effect of food insecurity on the chances of dropping out through these two parallel paths. High school dropouts earn \$260,000 less over a career than high school graduates or workers with a high school equivalency diploma, the GED.<sup>12</sup> We then multiplied the increased chance of dropping out per food insecure person times the number of school-aged food insecure people times the reduction in lifetime earning per dropout.

Our assumption that all of the adverse consequences of food insecurity on learning were captured in being held back a grade or more in school and high absenteeism is conservative. Given the evidence of food insecurity on test scores, it is plausible that food insecurity depresses the skills or energy of children who com-

plete secondary school. If they progressed less successfully in their subsequent education and careers, these unmeasured adverse consequences, as well as their costs, could be extremely large.

## Calculating the cost of charity to address hunger

The charitable response to hunger seeks to mitigate the suffering of food insecurity by providing free meals and food to people in need through emergency food programs—food pantries, kitchens, and shelters serving short-term residents. Some of these are freestanding but many are components of larger religious or human service organizations. These community organizations are generally supplied by food donated through regional food banks, most of which are members of and supported by the major national network Feeding America. According to a study released by Feeding America in 2010, emergency food programs served 37 million different people annually, 46 percent more than in 2005. These recipients include 33.9 million pantry users, 1.8 million kitchen users, and 1.3 million shelter users.<sup>13</sup>

Our cost analysis began with the 205 food banks active in 2010 under the Feeding America network. For a random sample of 10 of these organizations, we tallied their expenses (which include the wholesale value of donated food) as reported in their latest Form 990 (generally the fiscal year ending December 31, 2009). Charitable organizations must file these forms annually with the Internal Revenue Service and they are available for public inspection.

We estimated the annual operating cost of food pantries, kitchens, and shelters through a survey of these organizations in the previously mentioned report by Feeding America.<sup>14</sup> The survey reported the estimated number of such organizations and numbers of paid staff and weekly volunteer hours. From this we estimated the annual payroll cost (conservatively assuming \$15 per hour for salary and fringe benefits) and adopting the report's valuation of volunteer time at \$8.96 per hour.<sup>15</sup>

To estimate the nonpersonnel costs (to cover transportation, equipment, utilities, occupancy, etc.), we assumed that their nonpersonnel costs were equal to the cost of their paid staff based on a review of Form 990s from charitable organizations for which food pantries was their primary purpose. We obtained the annual cost of national coordination of Feeding America for its services other than food donation from its latest financial report (describing its fiscal year 2010, which ended June 30, 2010).<sup>16</sup>

We estimated the charitable costs to the Feeding America network for each fiscal year from 2002 through 2011 (in 2010 prices) assuming they were proportional to

the number of pounds of donated and purchased food through that network.<sup>17</sup> We converted the results to calendar years by averaging adjacent fiscal years.

Feeding America estimates that about 85 percent of the food in the emergency food program is distributed through food banks affiliated with Feeding America.<sup>18</sup> This estimate is consistent with an earlier estimate by the Department of Agriculture that the Feeding America network represents about 80 percent of the country’s food banks and that the affiliated food banks tend to distribute more tons of food annually than the independent food banks.<sup>19</sup> Therefore we divided our results by 85 percent to extrapolate to the entire national system.

---

### The result—\$167.5 billion hunger bill

From 2007 to 2010 the number of Americans who were hungry or food insecure rose by 30 percent, an increase of 12.6 million individuals. Over that same period the cost of hunger rose by \$42 billion or slightly more than 33 percent. The combined cost of hunger for poor education and adverse health outcomes and the opportunity costs of contributions to emergency food organizations were \$125.5 billion in 2007, rising to \$167.5 billion for 2010. (see Table 2)

In the next section of our paper, we delve more deeply into the costs of hunger and food insecurity in these three categories outlined in this section in Table 2.

**TABLE 2**  
**America’s hunger bill**

Illness, education, and charity costs of hunger, 2007 and 2010, in billions of 2010 dollars

Component	2007	2010	Increased cost over	Percent increase over
Illness costs	\$98.4	\$130.5	\$32.1	33%
Education and related costs	\$13.9	\$19.2	\$5.3	38%
Charity costs	\$13.2	\$17.8	\$4.6	35%
<b>Total hunger bill</b>	<b>\$125.5</b>	<b>\$167.5</b>	<b>\$42</b>	<b>33%</b>

Source: Authors’ calculations.

# Breaking out the costs of hunger in America

Our calculations based on our research enable us to break out the consequences of hunger and food insecurity in America fairly rigorously. We find that in 2010:

- Hunger and food insecurity increased illness costs by \$130.5 billion.
- The value of increased poor educational outcomes and lost lifetime earnings as a result of hunger and food insecurity was \$19.2 billion.
- Charitable contributions to help address hunger and food insecurity cost \$17.8 billion.

Now let's look at each in more detail.

---

## Hunger increases illness costs by \$130.5 billion

The medical research we examined for this study identified the increased likelihood of experiencing various conditions among the food insecure, controlling for other factors, compared to similar food secure people. These increased likelihoods include:

- Iron deficiency (1.66 times)<sup>20</sup>
- Headaches (1.92 times)<sup>21</sup>
- Stomach aches (2.16 times)<sup>22</sup>
- Frequency of colds (1.54 times)<sup>23</sup>
- Activity-limiting health impairments (2.95 times)<sup>24</sup>
- Specific nutrient deficiencies (2.85 to 4.39 times)<sup>25</sup>
- More hospitalizations and longer inpatient stays (1.3 times)<sup>26</sup>
- Poorer overall health status (2.9 times)<sup>27</sup>

Mental health conditions with a higher rate of adverse conditions among the food insecure include:

- Anxiety and irritability (2 times)<sup>28</sup>
- Depression (3.5 times)<sup>29</sup>
- Withdrawn behavior (1.74 times)<sup>30</sup>

- Psychosocial dysfunction (7 times)<sup>31</sup>
- Suicidal thoughts and behaviors (5 times)<sup>32</sup>
- Need for mental health services (1.93 times)<sup>33</sup>

Our data indicate that hungry Americans were sicker and, as a result, their health care needs and indirect costs were \$130.5 billion greater than they would have been had these individuals not suffered hunger or food insecurity in 2010. (see Table 3)

### Hunger-induced costs for lower educational outcomes and reduced lifetime earnings \$19.2 billion

Children from food insecure households are more likely than their food secure peers to experience higher rates of various forms of educational problems. They are at least 50 percent more likely to miss days of school (1.6 times), nearly twice as likely to be suspended (1.95 times), and almost 50 percent more likely to have to repeat a grade (1.44 times).<sup>34</sup>

These and related adverse outcomes are linked to an increased likelihood of school failure, including dropping out of school. These outcomes lead to a greater likelihood of limited employability, lessened workforce productivity, poorer judgment and job performance, and \$260,000 lower lifetime earnings.<sup>35</sup> Therefore since food insecurity impedes learning and school performance and ultimately lowers productivity and earning potential, hunger exacts a significant monetary cost.

We calculate that the impact of being held back a grade or more in school resulting from hunger and food insecurity resulted in \$6.9 billion in lost income for 2009 dropouts in 2010 and that high school absenteeism led to a loss of \$5.8 billion, also in 2010. In total, food insecurity led to a loss of \$19.2 billion in earnings in 2010. (see Table 4)

**TABLE 3**  
**Breaking out the health care costs of hunger**

Costs of hunger-induced illnesses, 2007 and 2010, in billions of 2010 dollars

Adverse health condition	2007	2010	Increased cost over three years
Poor health (excluding items below)	\$28.7	\$38.9	\$10.2
Depression	\$2.2	\$29.2	\$7.1
Suicide	\$15.8	\$19.7	\$3.9
Anxiety	\$12.9	\$17.4	\$4.5
Hospitalizations	\$12.1	\$16.1	\$4.0
Upper gastrointestinal disorders	\$4.2	\$5.7	\$1.4
Colds, migraines, and iron deficiency	\$2.5	\$3.5	\$1.0
<b>Total illness costs caused by hunger</b>	<b>\$98.4</b>	<b>\$130.5</b>	<b>\$32.1</b>

**TABLE 4**  
**Breaking down educational costs from hunger**

Cost of poor educational outcomes due to food insecurity, 2007 to and 2010, in billions of 2010 dollars

Component	2007	2010	Increase
Drop out due to grade retention	\$5.1	\$6.0	\$1.9
Drop out due to absenteeism	\$4.2	\$5.8	\$1.6
Special education	\$4.6	\$6.4	\$1.8
<b>Total cost of poor educational outcomes and annual value of reduced lifetime earnings</b>	<b>\$13.9</b>	<b>\$19.2</b>	<b>\$5.3</b>

---

## Charitable contributions to help address hunger and food insecurity cost \$17.8 billion

Within the charitable response to hunger in our country, the largest component is the cost of regional food banks, which receive both cash donations and donated food from individuals and companies. In many cases transporters also donate all or part of their services. Staff time, facilities, and volunteers at the community level are other important contributions. (see Table 5) The charitable response does not include the value of food distributed through major federal government programs that mitigate hunger, such as the federal commodity distribution programs.

**TABLE 5**  
**The charitable cost of alleviating hunger**

Charitable costs of response to food insecurity, 2007 and 2010  
in billions of 2010 dollars

Component	2007	2010	Increase
National coordination and support	\$0.1	\$0.1	\$0.0
Regional food banks (including food donations)	\$8.0	\$10.8	\$2.8
Community organizations	\$4.4	\$5.9	\$1.5
Value of community volunteers	\$0.7	\$1.0	\$0.2
<b>Total</b>	<b>\$13.2</b>	<b>\$17.8</b>	<b>\$4.6</b>

Source: Authors' calculations.

---

## The total cost burden of hunger in America—\$167.5 billion

In 2007, the year before the Great Recession, America's hunger bill was \$125.5 billion (in 2010 dollars). In 2010 it stood at \$167.5 billion, an increase of 33 percent in just three years. (see Table 6 on next page)

In the next section of this paper, we examine what our calculations of the costs of hunger mean at the state level.

# America's hunger Bill: \$167.5 Billion

**TABLE 6**  
**America's hunger bill in 2010**

Total hunger bill in 2007 to 2010, in billions of 2010 dollars

Elements of the hunger bill	2007	2010	Increase
<b>Health conditions</b>			
Poor health	\$28.7	\$38.9	\$10.2
Depression	\$22.2	\$29.2	\$7.1
Suicide	\$15.8	\$19.7	\$3.9
Anxiety	\$12.9	\$17.4	\$4.5
Hospitalizations	\$12.1	\$16.1	\$4.0
Upper gastrointestinal disorders	\$4.2	\$5.7	\$1.4
Migraines, colds, and iron deficiency	\$2.5	\$3.5	\$1.0
<b>Total illness costs</b>	<b>\$98.4</b>	<b>\$113.1</b>	<b>\$14.6</b>
<b>Lower educational productivity and lifetime earnings</b>			
Drop out due to grade retention	\$5.1	\$6.9	\$1.9
Drop out due to absenteeism	\$4.2	\$5.8	\$1.6
Special education	\$4.6	\$6.4	\$1.8
<b>Total productivity and education costs</b>	<b>\$13.9</b>	<b>\$19.1</b>	<b>\$5.3</b>
Charity costs	\$13.2	\$17.8	\$4.6
<b>Total</b>	<b>\$125.5</b>	<b>\$167.5</b>	<b>\$42</b>

Source: Authors' calculations.



## Every state experienced a rising hunger bill

The rise in America's hunger bill since the onset of the Great Recession affected every state. Fifteen states experienced a nearly 40 percent increase in their hunger bill based on our calculations in this paper compared to the national increase of 33 percent. The sharpest increases in the cost of hunger are estimated to have occurred in Florida (61.9 percent), California (47.2 percent), and Maryland (44.2 percent). (see Table 7 on next page)

**Table 7**  
**Breaking down the hunger bill by states**

The state-by-state total hunger bill in 2007 to 2010, in billions of 2010 dollars

Rank	State	Cost, 2007	Cost, 2010	Increase, 2007–2010	Percent increase, 2007–2010	Rank	State	Cost, 2007	Cost, 2010	Increase, 2007–2010	Percent increase, 2007–2010
1	FL	7.24	11.72	4.48	61.9%	27	CO	2.12	2.77	0.65	30.7%
2	CA	13.34	19.63	6.29	47.1%	28	KY	2.06	2.66	0.60	29.2%
3	MD	1.82	2.62	0.80	44.2%	29	PA	4.76	6.12	1.37	28.7%
4	WA	2.68	3.85	1.17	43.6%	30	NH	0.42	0.53	0.12	27.6%
5	HI	0.42	0.59	0.18	42.5%	31	IN	2.58	3.27	0.69	26.8%
6	MT	0.42	0.59	0.17	41.0%	32	MO	2.85	3.60	0.75	26.3%
7	AL	2.17	3.03	0.86	39.5%	33	WY	0.23	0.29	0.06	24.9%
8	CT	1.16	1.61	0.45	38.4%	34	LA	1.91	2.36	0.45	23.8%
9	MA	1.98	2.72	0.75	37.7%	35	TN	2.89	3.58	0.68	23.6%
10	NV	1.24	1.71	0.46	37.1%	36	VA	2.54	3.13	0.59	23.4%
11	NJ	2.56	3.49	0.93	36.3%	37	UT	1.11	1.36	0.25	22.4%
12	AZ	2.93	3.96	1.03	35.1%	38	MI	4.50	5.51	1.01	22.4%
13	IL	4.51	6.07	1.56	34.6%	39	DC	0.30	0.36	0.06	21.6%
14	VT	0.25	0.34	0.09	33.9%	40	SC	2.25	2.71	0.46	20.6%
15	OH	5.21	6.97	1.76	33.7%	41	ID	0.62	0.75	0.13	20.3%
16	NE	0.66	0.88	0.22	33.3%	42	DE	0.31	0.37	0.06	20.1%
17	OK	1.79	2.38	0.59	32.9%	43	OR	1.75	2.10	0.35	20.1%
18	WV	0.80	1.07	0.26	32.7%	44	KS	1.36	1.62	0.27	19.7%
19	TX	12.10	16.04	3.94	32.6%	45	ME	0.66	0.79	0.13	19.5%
20	GA	4.68	6.20	1.52	32.4%	46	ND	0.19	0.23	0.04	18.3%
21	AR	1.53	2.03	0.50	32.3%	47	AK	0.34	0.40	0.06	17.7%
22	WI	2.04	2.68	0.64	31.5%	48	MN	1.93	2.25	0.32	16.5%
23	NC	4.14	5.44	1.30	31.5%	49	MS	1.84	2.09	0.25	13.6%
24	RI	0.45	0.58	0.14	31.3%	50	NM	1.18	1.33	0.15	12.5%
25	NY	7.09	9.28	2.19	30.9%	51	IA	1.30	1.45	0.15	11.5%
26	SD	0.31	0.40	0.09	30.8	<b>Total</b>	<b>US</b>	<b>125.50</b>	<b>167.50</b>	<b>42.00</b>	<b>33.5%</b>

Source: "Education Week: Graduation Rates Map," available at <http://www.edweek.org/apps/gmap/>; "Food Security in the United States: Key Statistics and Graphics," available at [http://www.ers.usda.gov/Briefing/FoodSecurity/stats\\_graphs.htm#food\\_secure](http://www.ers.usda.gov/Briefing/FoodSecurity/stats_graphs.htm#food_secure); "U.S.A. Suicide: 2007 Official Final Data," available at [http://www.suicidology.org/c/document\\_library/get\\_file?folderId=232&name=DLFE-232.pdf](http://www.suicidology.org/c/document_library/get_file?folderId=232&name=DLFE-232.pdf). USDA's estimates of food insecurity for 2005-2007; the 2010 estimates are 2008-2010.

And here is a table of those states where the hunger bill rose by more than \$1 billion. (see Table 8)

**Table 8**  
**The billion-dollar club**

States with hunger bills of more than \$1 billion in 2010 compared to their 2007 hunger bill, in billions of 2010 dollars

Rank	State	Cost, 2007	Total, 2010	Increase, 2007–2010
1	California	13.34	19.63	6.29
2	Florida	7.24	11.72	4.48
3	Texas	12.10	16.04	3.94
4	New York	7.09	9.28	2.19
5	Ohio	5.21	6.97	1.76
6	Illinois	4.51	6.07	1.56
7	Georgia	4.68	6.20	1.52
8	Pennsylvania	4.76	6.12	1.37
9	North Carolina	4.14	5.44	1.30
10	Washington 2.68	3.85	1.17	
11	Arizona	2.93	3.96	1.03
12	Michigan	4.50	5.51	1.01

Source: Authors' calculations.

# Conclusion

In 2010 America's hunger bill cost us at least \$542 per person, or \$1,410 for every American household. If the number of hungry Americans remains constant, on a lifetime basis, each individual's bill for hunger in our nation will amount to about \$42,400 (based on the average life expectancy of 78.3 years per the U.S. Census Bureau).

Of course, the average American doesn't receive a real bill for these costs. Instead the costs are reflected in taxes, our contributions to charities that address hunger, and the costs paid directly and indirectly for the poor health condition of those who are hungry and their lower productivity.

Federal programs can and do address hunger and food insecurity directly. To a large measure they help mitigate enormous economic and societal costs of hunger. For instance, without federal funds supporting the more than 42 million Americans with Supplemental Nutrition Assistance Program benefits, America's hunger bill would have skyrocketed. If high levels of unemployment continue and wage stagnation remains, the number of hungry and food insecure families will either stay the same or rise. So, too, will America's hunger bill.

What remains unchanged from our original research in 2007 is the most salient point: "The nation pays far more by letting hunger exist than it would if our leaders took steps to eliminate it."

This paper is intended to update the full cost of what can be credibly considered the consequences of hunger and food insecurity. We believe our procedures

**TABLE 9**  
**The federal food safety net**

Maximum monthly Supplemental Nutrition Assistance Program (food stamp) benefits or allotments for all states except Alaska and Hawaii, October 2010 to September 2011

Household size	Amount, Oct. 2011–Sept. 2012
1	\$200
2	367
3	526
4	668
5	793
6	952
7	1,052
8	1,202
<b>Each additional person</b>	<b>150</b>

Source: "Eligibility," available at [http://www.fns.usda.gov/snap/applicant\\_recipients/eligibility.htm](http://www.fns.usda.gov/snap/applicant_recipients/eligibility.htm)

## Federal hunger assistance program

The federal government spent nearly \$94 billion on federal food assistance programs in 2010. The Department of Agriculture reports that the largest federal nutrition programs are:

- Supplemental Nutrition Assistance Program (formerly food stamps), which in fiscal helped 42.9 million people. Table 7 shows the maximum monthly benefits (allotment) in the continental United States.
- Special Supplemental Nutrition Program for Women, Infants and Children, which assisted 9.2 million women and children on a monthly basis.
- National School Lunch Program, which reached 31.6 million children each school day.

for expressing the consequences of this social problem in economic terms help policymakers gauge the magnitude of the problem and the economic benefits of potential solutions.

For instance, expanding the Supplemental Nutrition Assistance Program to all food insecure households could cost about \$83 billion a year. While we do not recommend this approach, we note that nonetheless it would cost the nation much less than the most recent hunger bill in 2010 of \$167.5 billion.

There are other policy approaches that also could achieve sustained reductions in hunger and food insecurity—approaches that rely on a mix of federal policies to boost the wages of the lowest-wage earners, increase access to full-time employment, and modestly expand federal nutrition programs. These policies are consistent with the variables used to allocate federal nutrition funding to states under The Emergency Food Assistance Program. In using the state’s poverty and unemployment rates, this program recognizes that improved economic conditions reduce hunger and the need for emergency support.

---

## About the authors

**Donald S. Shepard** is a professor at the Heller School, Brandeis University, in Waltham, Massachusetts, where he also directs the work group on cost and value within the Schneider Institutes for Health Policy. Professor Shepard is an internationally respected health economist who focuses on cost of illness and cost-effectiveness studies in the United States and internationally. He received his B.A. (magna cum laude with highest honors), M.P.P., and Ph.D. all from Harvard University, where he was also elected to Phi Beta Kappa. He is the author of three books and 160 other professional publications.

**Elizabeth Setren** is an assistant economist at the Federal Reserve Bank of New York researching various economic and social issues, including labor, public finance, and education. She has conducted research at the Bureau of Economic Analysis, the Johns Hopkins University Institute for Policy Studies, and the Heller School for Social Policy at Brandeis University. She graduated summa cum laude from Brandeis University with high honors in economics and mathematics and was elected to Phi Beta Kappa.

**Donna Cooper** is a Senior Fellow with the Center for American Progress. Prior to joining the Center, she was responsible for policy and program development for the city of Philadelphia and the commonwealth of Pennsylvania where she led local efforts to address education, antipoverty, economic development, and infrastructure challenges.

---

## Acknowledgments

We thank Marisol Buonomo, Shondra Jenkins, and Elaine Waxman of Feeding America, and David Noymer of the Greater Boston Food Bank for valuable advice and program data. We are grateful for the assistance of Farhad Farewar, Godfrey Mudaraki, Clare Hurley, and Kristina Costa who provided research, writing, and editorial support, and generous support from the Walmart Foundation.

---

## Endnotes

- 1 Alisha Coleman-Jensen and others, Household Food Security in the United States in 2010 (Department of Agriculture, 2011), available at <http://www.ers.usda.gov/Publications/ERR125/ERR125.pdf>
- 2 J.L. Brown and others, "The Economic Cost of Domestic Hunger: Estimated Annual Burden to the United States" (Gaithersburg, MD: Sodexo Foundation, 2007), available at [http://www.sodexofoundation.org/hunger\\_us/Images/Cost%20of%20Domestic%20Hunger%20Report%20\\_tcm150-155150.pdf](http://www.sodexofoundation.org/hunger_us/Images/Cost%20of%20Domestic%20Hunger%20Report%20_tcm150-155150.pdf).
- 3 Budget Summary and Annual Performance Plan, FY 2012 (Department of Agriculture, 2011), p. 58.
- 4 Feeding America, "Hunger in America" (2010), available at <http://feedingamerica.org/hunger-in-america/hunger-studies/hunger-study-2010/key-findings.aspx>.
- 5 Coleman-Jensen and others, Household Food Security in the United States in 2010.
- 6 M. Murphy and others, "Relationship between Hunger and Psychosocial Functioning in Low-Income American Children," *Journal of the American Academy of Child and Adolescent Psychiatry* 37 (2) (1998): 163–170.
- 7 D. Ward, "The Role of Nutrition in the Prevention of Infection," *Nursing Standard* 16 (2002): 47–52.
- 8 K. Alaimo and others, "Food Insecurity, Family Income and Health in U.S. Pre-School and School-aged Children," *American Journal of Public Health* 91 (5) (2001): 781–786; C.A. Wehler, R.I. Scott, and J.J. Anderson, "Community Childhood Hunger Identification Project" (Washington: Food Research and Action Center, 1995); Murphy and others, "Relationship between Hunger and Psychosocial Functioning in Low-Income American Children"; L.L. Reid, "The Consequences of Food Insecurity for Child Well-Being: An Analysis of Children's School Achievement, Psychological Well-Being, and Health," Working Paper 137 (Joint Center for Poverty Research, Northwestern University/University of Chicago, 2000); J. Winicki and K. Jemison, "Food Insecurity and Hunger in the Kindergarten Classroom: Its Effect on Learning and Growth," *Journal of Contemporary Economic Policy* 21 (2) (2003): 145–157.
- 9 Brandeis University Center on Hunger and Poverty, "The Consequences of Hunger and Food Security for Children" (2002); M.C. Weinstein and others, "Recommendations of the Panel on Cost-Effectiveness in Health and Medicine," *Journal of the American Medical Association* 276 (15) (1996): 1253–1258.
- 10 K. Alaimo, C. Olson and E. Frongillo, "Family Food Insecurity, But Not Low Income, Is Positively Associated with Dysthymia and Suicide Symptoms in Adolescents," *Journal of Nutrition* 132 (2002): 719–775.
- 11 P.S. Corso and others, "Medical costs and productivity losses due to interpersonal and self-directed violence in the United States," *American Journal of Preventive Medicine* 32 (6) (2007): 474–482.
- 12 C.E. Rouse, "Labor market consequences of an inadequate education," Paper prepared for The Social Costs of an Inadequate Education symposium, Teachers College of Columbia University, October 2005, available at <http://www.tc.columbia.edu/centers/EquitySymposium/symposium/resourceDetails.asp?PresId=3>.
- 13 Feeding America, "Hunger in America."
- 14 Ibid.
- 15 Ibid.
- 16 Feeding America, "Leading the Fight Against Hunger: 2010 Annual Report" (2011), available at <http://www.feedingamerica.org>.
- 17 Personal communication from Shondra Jenkins, Feeding America, September 20, 2011.
- 18 Personal communication from Elaine Waxman, Feeding America, September 15, 2011.
- 19 J.C. Ohls and others, "Providing Food for the Poor: Findings from the Provider Survey for the Emergency Food Assistance System Study" (Princeton, NJ: Mathematica Policy Research for the U.S. Department of Agriculture, 2001), available at: <http://www.ers.usda.gov/publications/fanrr16-2/fanrr16-2.pdf>.
- 20 A. Skalicky and others, "Child Food Insecurity and Iron Deficiency Anemia in Low-Income Infants and Toddlers," *Maternal and Child Health Journal* 10 (2) (2006): 177–185.
- 21 K. Alaimo, C. Olsen, and J. Frongillo, "Food Insecurity and American School-aged Children's Cognitive, Academic and Psycho-social Development," *Pediatrics* 108 (1) (2001): 44–53.
- 22 Alaimo and others, "Food Insecurity, Family Income and Health in U.S. Pre-School and School-aged Children."
- 23 Ibid.
- 24 N. Vozoris and V. Tarazuk, "Household Food Insecurity is associated with Poorer Health," *Journal of Nutrition* 133 (1) (2003): 120–126.
- 25 J.R. Sharkey, "Risk and presence of food insecurity are associated with low nutrient intakes and multimorbidity among homebound older women who receive home-delivered meal," *The Journal of Nutrition* 133 (11) (2003): 3485–3491.
- 26 J.T. Cook and others, "Food Insecurity Is Associated with Adverse Health Outcomes among Human Infants and Toddlers," *Journal of Nutrition* 134 (6) (2004): 1432–1438.
- 27 Vozoris and Tarazuk, "Household Food Insecurity is associated with Poorer Health."
- 28 R. Dupont and others, "Economic Costs of Anxiety Disorders," *Anxiety* 2 (4) (1996): 167–172.
- 29 Vozoris and Tarazuk, "Household Food Insecurity is associated with Poorer Health."
- 30 Alaimo, Olsen, and Frongillo, "Food Insecurity and American School-aged Children's Cognitive, Academic and Psycho-social Development."
- 31 R. Kleinman and others, "Hunger in Children in the United States: Potential Behavioral and Emotional Correlates," *Pediatrics* 101 (1) (1998): e3.
- 32 Alaimo, Olsen, and Frongillo, "Food Insecurity and American School-aged Children's Cognitive, Academic and Psycho-social Development."
- 33 Alaimo, Olson and Frongillo, "Family Food Insecurity, But Not Low Income, Is Positively Associated with Dysthymia and Suicide Symptoms in Adolescents."
- 34 Ibid.; Kleinman and others, "Hunger in Children in the United States: Potential Behavioral and Emotional Correlates"; Alaimo, Olsen, and Frongillo, "Food Insecurity and American School-aged Children's Cognitive, Academic and Psycho-social Development."
- 35 Rouse, "Labor market consequences of an inadequate education."
- 36 Brown and others, "The Economic Cost of Domestic Hunger: Estimated Annual Burden to the United States."

---

The Center for American Progress is a nonpartisan research and educational institute dedicated to promoting a strong, just and free America that ensures opportunity for all. We believe that Americans are bound together by a common commitment to these values and we aspire to ensure that our national policies reflect these values. We work to find progressive and pragmatic solutions to significant domestic and international problems and develop policy proposals that foster a government that is “of the people, by the people, and for the people.”

---

Center for American Progress

