

## Section 1. Household Food Security

Food security—access by all people at all times to enough food for an active, healthy life—is one of several conditions necessary for a population to be healthy and well nourished. This section provides information on food security, food insecurity, and food insecurity with hunger in U.S. households based on the December 2003 food security survey—the ninth annual survey in the Nation’s food security monitoring system.

### Methods

The results presented in all three sections of this report are based on data collected in the Current Population Survey (CPS) food security surveys for the years 1995-2003. The CPS includes about 60,000 households<sup>2</sup> and is representative, at State and national levels, of the civilian, noninstitutionalized population of the United States. About 47,000 households completed the food security section of the survey in December 2003; the remainder were unable or unwilling to do so. Weighting factors were calculated by the Census Bureau so that, when properly weighted, the food security survey, like the full CPS, is representative at State and national levels.<sup>3</sup> All statistics in this report were calculated by applying the food security supplement weights to the surveyed households to obtain nationally representative prevalence estimates. Household supplement weights were used to calculate household-level statistics and person supplement weights were used to calculate statistics for all individuals, for adults, and for children.

The food security statistics presented in this report are based on a measure calculated from responses to a series of questions about conditions and behaviors known to characterize households having difficulty meeting basic food needs.<sup>4</sup> Each question asks whether the condition or behavior occurred at any time during the previous 12 months and specifies a lack of money or other resources to obtain food as the reason for the condition or behavior. Voluntary fasting or dieting to lose weight are thereby excluded from the measure. The series includes 10 questions about food conditions at the household level and among adults in the household and, if there are children present in the household, an additional 8 questions about their food conditions (see box, “Questions Used to Assess the Food Security of Households in the CPS Food Security Survey”). Response frequencies for the 18 items used to classify households are provided in appendix A.

All interviewed households are classified into one of three categories—food secure, food insecure without hunger, and food insecure with hunger—based on the number of food-insecure conditions and behaviors the household reports.<sup>5</sup> Households are classified as food secure if they report no food-insecure conditions or if they report only one or two food-insecure conditions. (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.) They are classified as food insecure if they report three or more food-insecure conditions. Households without children are classified as food insecure with hunger if they report six or more food-insecure conditions. Households with children are classified as food insecure with hunger if they

<sup>2</sup> The size of the CPS sample was increased in 2001; it had been around 50,000 households during the 1990s.

<sup>3</sup> Reweighting of the Supplement takes into consideration income and other information about households that completed the labor force portion of the survey but not the Food Security Supplement. This corrects, to some extent, biases that could result from nonresponse to the Supplement by households that completed only the labor force part of the survey.

<sup>4</sup> The methods used to measure the extent of food insecurity and hunger have been described in several places (Hamilton et al., 1997a, 1997b; Andrews et al., 1998; Bickel et al., 1998; Carlson et al., 1999; Bickel et al., 2000; Nord and Bickel, 2002).

<sup>5</sup> To reduce the burden on higher-income respondents, households with incomes higher than 185 percent of the Federal Poverty line and who give no indication of food-access problems on either of two preliminary screening questions are deemed to be food secure and are not asked the questions in the food security assessment series. The preliminary screening questions are as follows:

- People do different things when they are running out of money for food in order to make their food or their food money go further. In the last 12 months, since December of last year, did you ever run short of money and try to make your food or your food money go further?
- Which of these statements best describes the food eaten in your household—enough of the kinds of food we want to eat, enough but not always the kinds of food we want to eat, sometimes not enough to eat, or often not enough to eat?

report eight or more food-insecure conditions, including conditions among both adults and children. Households with children are further classified as food insecure with hunger among children if they report 5 or more food-insecure conditions among the children (that is, in response to questions 11-18).

Thus, households classified as food insecure without hunger have reported multiple indications of food access problems, but typically have reported few, if any, indications of reduced food intake. All households classified as food insecure with hunger have reported multiple indications of reduced food intake and disrupted eating patterns due to inadequate resources for food, although not all have directly reported that household members were hungry.

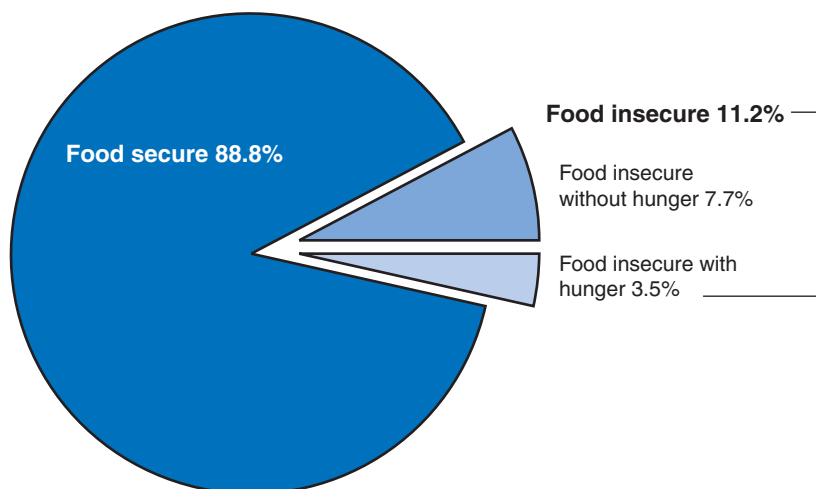
## Prevalences of Food Insecurity and Food Insecurity With Hunger—National Conditions and Trends

Eighty-nine percent of U.S. households were food secure throughout the entire year 2003 (fig. 1). “Food secure” means that all household members had access at all times to enough food for an active, healthy life.<sup>6</sup> The remaining 12.6 million U.S. households (11.2 percent of all households) were food insecure at some time during the year. That is, they were, at times, uncertain of having, or unable to acquire, enough food for all household members because they had insufficient money and other resources for food. About two-thirds of food-insecure households avoided hunger, in many cases by relying on a few basic foods and reducing variety in their diets. But 3.9 million households (3.5 percent of all U.S. households) were food insecure to the extent that one or more household members were hungry, at least some time during the year, because they couldn’t afford enough food.

<sup>6</sup> Food security and insecurity, as measured for this report, are based on respondent perceptions of whether the household was able to obtain enough food to meet their needs. The measure does not specifically address whether the household’s food intake was sufficient for active, healthy lives. Nonetheless, research based on other surveys has found food security, measured as in this report, to be associated with health, nutrition, and children’s development in a manner that generally supports the conceptualized link with sufficiency for active, healthy lives.

Figure 1

### U.S. households by food security status, 2003



Source: Calculated by ERS using data from the December 2003 Current Population Survey Food Security Supplement.

## **Questions Used To Assess the Food Security of Households in the CPS Food Security Survey**

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 you couldn’t afford enough food? (Yes/No)
8. In the last 12 months, did you lose weight because you didn’t have 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 under 18 years old)**

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)
17. (If yes to Question 16) How often did this happen—almost every month, some months but not every month, or in only 1 or 2 months?
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)

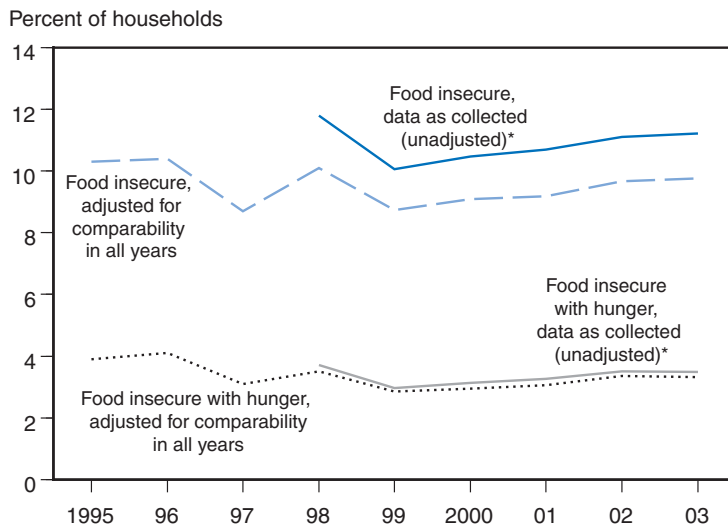
In most households, children were protected from substantial reductions in food intake and ensuing hunger. However in some 207,000 households (0.5 percent of households with children) food insecurity was sufficiently severe that one or more children in each household were also hungry on one or more days during the year because the household lacked money for enough food. In some households with more than one child, not all the children experienced hunger. Younger children, in particular, may have been protected from hunger.

When interpreting food security statistics, it is important to keep in mind that households are classified as food insecure or food insecure with hunger if they experienced the condition at any time during the previous 12 months. The rates of food insecurity and hunger on any given day are far below the annual rates. For example, the prevalence of hunger on an average day during the 30-day period from mid-November to mid-December 2003 is estimated to have been about 12 to 18 percent of the annual rate (see box, page 7), or 0.4 to 0.6 percent of households (490,000 to 698,000 households).

The prevalence rates of food insecurity and food insecurity with hunger were statistically unchanged from 2002 to 2003, and remained below the levels at which they were first measured in 1995 (fig. 2 and table 1).<sup>7</sup> The year-to-year deviations from a consistent downward trend from 1995-2000 included a substantial 2-year cycle that is believed to result from a seasonal influence on food security prevalence rates (Cohen et al., 2002a). The CPS food security surveys over this period were conducted in April in odd-numbered years and August or September in even-numbered years.

<sup>7</sup> Because of changes in screening procedures used to reduce respondent burden, food security statistics from 1995-97 are not directly comparable with those from 1998-2003. Figure 2 presents statistics for the years 1995-2003, adjusted to be comparable across all years, as well as statistics for 1998-2003 based on data as collected. See Andrews et al. (2000) and Ohls et al. (2001) for detailed information about questionnaire screening and adjustments for comparability.

Figure 2  
**Trends in prevalence of food insecurity and food insecurity with hunger in U.S. households, 1995-2003**



\*Data as collected in 1995-97 are not directly comparable with data collected in 1998-2003.

Source: Calculated by ERS based on Current Population Survey Food Security Supplement data.

**Table 1—Prevalence of food security, food insecurity, and food insecurity with hunger, by year**

Unit	Total <sup>1</sup>	Food secure		Food insecure							
		All	Without hunger	With hunger	All		Without hunger		With hunger		
	1,000	1,000	Percent	1,000	Percent	1,000	Percent	1,000	Percent	1,000	Percent
<b>Households:</b>											
1998	103,309	91,121	88.2	12,188	11.8	8,353	8.1	3,835	3.7		
1999	104,684	94,154	89.9	10,529	10.1	7,420	7.1	3,109	3.0		
2000	106,043	94,942	89.5	11,101	10.5	7,786	7.3	3,315	3.1		
2001	107,824	96,303	89.3	11,521	10.7	8,010	7.4	3,511	3.3		
2002	108,601	96,543	88.9	12,058	11.1	8,259	7.6	3,799	3.5		
2003	112,214	99,631	88.8	12,583	11.2	8,663	7.7	3,920	3.5		
<b>All individuals (by food security status of household):<sup>2</sup></b>											
1998	268,366	232,219	86.5	36,147	13.5	26,290	9.8	9,857	3.7		
1999	270,318	239,304	88.5	31,015	11.5	23,237	8.6	7,779	2.9		
2000	273,685	240,454	87.9	33,231	12.1	24,708	9.0	8,523	3.1		
2001	276,661	243,019	87.8	33,642	12.2	24,628	8.9	9,014	3.3		
2002	279,035	244,133	87.5	34,902	12.5	25,517	9.1	9,385	3.4		
2003	286,410	250,155	87.3	36,255	12.7	26,622	9.3	9,633	3.4		
<b>Adults (by food security status of household):<sup>2</sup></b>											
1998	197,084	174,964	88.8	22,120	11.2	15,632	7.9	6,488	3.3		
1999	198,900	179,960	90.5	18,941	9.5	13,869	7.0	5,072	2.5		
2000	201,922	181,586	89.9	20,336	10.1	14,763	7.3	5,573	2.8		
2001	204,340	183,398	89.8	20,942	10.2	14,879	7.3	6,063	3.0		
2002	206,493	184,718	89.5	21,775	10.5	15,486	7.5	6,289	3.0		
2003	213,441	190,451	89.2	22,990	10.8	16,358	7.7	6,632	3.1		
<hr/>											
						Food insecure					
	Total <sup>1</sup>	Food secure		All		Without hunger among children		With hunger among children			
	1,000	1,000	Percent	1,000	Percent	1,000	Percent	1,000	Percent	1,000	Percent
<b>Households with children:</b>											
1998	38,036	31,335	82.4	6,701	17.6	6,370	16.7	331	.9		
1999	37,884	32,290	85.2	5,594	14.8	5,375	14.2	219	.6		
2000	38,113	31,942	83.8	6,171	16.2	5,916	15.5	255	.7		
2001	38,330	32,141	83.9	6,189	16.1	5,978	15.6	211	.6		
2002	38,647	32,267	83.5	6,380	16.5	6,115	15.8	265	.7		
2003	40,286	33,575	83.3	6,711	16.7	6,504	16.1	207	.5		
<b>Children (by food security status of household):<sup>2</sup></b>											
1998	71,282	57,255	80.3	14,027	19.7	13,311	18.7	716	1.0		
1999	71,418	59,344	83.1	12,074	16.9	11,563	16.2	511	.7		
2000	71,763	58,867	82.0	12,896	18.0	12,334	17.2	562	.8		
2001	72,321	59,620	82.4	12,701	17.6	12,234	16.9	467	.6		
2002	72,542	59,415	81.9	13,127	18.1	12,560	17.3	567	.8		
2003	72,969	59,704	81.8	13,265	18.2	12,845	17.6	420	.6		

<sup>1</sup>Totals exclude households whose food security status is unknown because they did not give a valid response to any of the questions in the food security scale. In 2003, these represented 381,000 households (0.3 percent of all households.)

<sup>2</sup>The food security survey measures food security status at the household level. Not all individuals residing in food-insecure households are appropriately characterized as food insecure. Similarly, not all individuals in households classified as food insecure with hunger, nor all children in households classified as food insecure with hunger among children, were subject to reductions in food intake or experienced resource-constrained hunger.

Sources: Calculated by ERS using data from the August 1998, April 1999, September 2000, December 2001, December 2002, and December 2003 Current Population Survey Food Security Supplements.

## How often were people hungry in households that were food insecure with hunger?

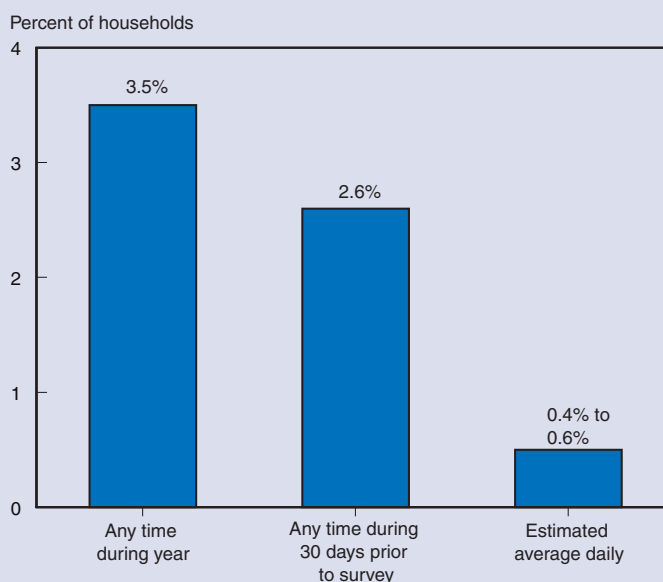
When food insecurity with hunger occurs in the United States, it is, in most cases, occasional or episodic, not chronic. The food security measurement approach used in this report is designed to register occasional or episodic occurrences. Most questions used to assess households' food security status ask whether a condition, experience, or behavior occurred at any time in the past 12 months, and households can be classified as food insecure with hunger based on a single, severe episode during the year.

It is important to keep this aspect of the scale in mind when interpreting food security and hunger statistics. Analysis of additional information collected in the food security survey on how frequently various food-insecure conditions occurred during the year, whether they occurred during the 30 days prior to the survey, and, if so, in how many days, provide further insight into the frequency and duration of hunger in U.S. households. These analyses reveal that in 2003:

- About one-third of the households that were food insecure with hunger at any time during the year experienced the condition rarely or occasionally—in only 1 or 2 months of the year. For two-thirds, the condition was recurring, experienced in 3 or more months of the year.
- For about one-fifth of households classified as food insecure and 30 percent of those classified as food insecure with hunger, occurrence of the condition was frequent or chronic. That is, it occurred often, or in almost every month.
- On average, households that are food insecure with hunger at some time during the year experience this condition in 8 or 9 months during the year (see appendix E). During the 30-day period ending in mid-December 2003, 2.6 percent of U.S. households were food insecure with hunger—about 74 percent of the number that were food insecure with hunger at any time during the year.
- Most households that are food insecure with hunger at some time during a month experienced the condition in 1 to 7 days of the month. The average daily prevalence of food insecurity with hunger during the 30-day period ending in mid-December 2003 was probably between 490,000 and 698,000 households (0.4 to 0.6 percent of all households)—about 12 to 18 percent of the annual prevalence.
- The daily prevalence of food insecurity with hunger among children during the 30-day period ending in mid-December 2003 was probably between 33,000 and 37,000 households (0.08 to 0.09 percent of households with children)—about 16 to 18 percent of the annual prevalence.

(Appendix A provides information on how often conditions indicating food insecurity and hunger occurred as reported by respondents to the December 2003 food security survey. See Nord et al., 2000, for further information about the frequency of food insecurity and hunger.)

**Prevalence of food insecurity with hunger, by reference period**



Source: Calculated by ERS using data from the December 2003 Current Population Survey Food Security Supplement.

Measured prevalence of food insecurity was higher in the August/September collections suggesting a seasonal response effect. Beginning in 2001, the survey has been conducted in early December. Data collection is planned for December in future years, which will avoid further problems of seasonality effects in interpreting annual changes.<sup>8</sup>

## Prevalences of Food Insecurity and Food Insecurity With Hunger—Conditions and Trends, by Selected Household Characteristics

The prevalence rates of food insecurity and food insecurity with hunger varied considerably among household types (table 2). Rates of food insecurity were well below the national average of 11.2 percent for households with more than one adult and no children (6.6 percent) and for households with elderly persons (6.0 percent).<sup>9</sup> Rates of food insecurity substantially higher than the national average were registered by the following groups:

- Households with incomes below the official poverty line (35.1 percent),<sup>10</sup>
- Households with children, headed by a single woman (31.7 percent) or a single man (21.7 percent),
- Black households (22.1 percent), and
- Hispanic households (22.3 percent).

Overall, households with children reported food insecurity at more than double the rate for households without children (16.7 vs. 8.2 percent).<sup>11</sup> Among households with children, those with married-couple families showed the lowest rate of food insecurity (10.8 percent).

The prevalence rates of food insecurity for households located in central cities (14.8 percent) and nonmetropolitan areas (11.6 percent) substantially exceeded the rate for households in suburbs and other metropolitan areas outside central cities (9.0 percent). Regionally, the prevalence of food insecurity was higher in the South and West (12.4 and 12.1 percent, respectively) than in the Northeast and Midwest (9.6 and 9.9 percent).

The prevalence rates of food insecurity with hunger in various types of households followed a pattern similar to that observed for food insecurity. Hunger rates were lowest for married couples with children (1.9 percent), multiple-adult households with no children (2.3 percent), and households with elderly persons (1.7 percent). Rates of food insecurity with hunger were higher than the 3.5 percent national average among families with children headed by single women (8.7 percent), Black and Hispanic households (6.8 and 5.4 percent, respectively), households with incomes below the poverty line (12.6 percent), and households living in metropolitan central city areas (4.7 percent).

Households showing the lowest rates of hunger among children were married-couple families, White non-Hispanic households, and households with higher incomes (table 3). Children living with a single mother were more affected by resource-constrained hunger, as were Black and Hispanic children.

<sup>8</sup> A smaller food security survey was also conducted in April 2001 to provide information to bridge the new December series to the previous years' statistics, since seasonal effects of conducting the survey in December were unknown. Comparison of food security statistics from the April 2001 survey with those from April 1999 and December 2001 suggests that seasonal effects in early December were similar to those in April (Nord et al., 2002a).

<sup>9</sup> "Elderly" in this report refers to persons age 65 and older.

<sup>10</sup> The Federal poverty line was \$18,660 for a family of four in 2003.

<sup>11</sup> The higher rate of food insecurity for households with children results, in part, from a difference in the measures applied to households with and without children. Responses to questions about children as well as adults are considered in assessing the food security status of households with children, but for both types of households, a total of three indications of food insecurity is required for classification as food insecure. Even with the child-referenced questions omitted from the scale, however, households with children were 60 percent more likely to be food insecure than were households without children. This measurement issue does not bias comparisons at the hunger threshold because a higher threshold is applied to households with children consistent with the larger number of questions taken into consideration.

**Table 2—Prevalence of food security, food insecurity, and food insecurity with hunger, by selected household characteristics, 2003**

Category	Total <sup>1</sup>	Food secure		Food insecure							
		All	Without hunger	With hunger	All		Without hunger		With hunger		
	1,000	1,000	Percent	1,000	Percent	1,000	Percent	1,000	Percent	1,000	Percent
All households	112,214	99,631	88.8	12,583	11.2	8,663	7.7	3,920	3.5		
Household composition:											
With children < 18	40,286	33,575	83.3	6,711	16.7	5,165	12.8	1,546	3.8		
With children < 6	18,110	14,933	82.5	3,177	17.5	2,516	13.9	661	3.6		
Married-couple families	27,484	24,503	89.2	2,981	10.8	2,446	8.9	535	1.9		
Female head, no spouse	9,623	6,572	68.3	3,051	31.7	2,210	23.0	841	8.7		
Male head, no spouse	2,475	1,937	78.3	538	21.7	401	16.2	137	5.5		
Other household with child <sup>2</sup>	704	563	80.0	141	20.0	108	15.3	33	4.7		
With no children < 18	71,928	66,057	91.8	5,871	8.2	3,498	4.9	2,373	3.3		
More than one adult	42,553	39,753	93.4	2,800	6.6	1,840	4.3	960	2.3		
Women living alone	16,724	15,032	89.9	1,692	10.1	964	5.8	728	4.4		
Men living alone	12,651	11,271	89.1	1,380	10.9	694	5.5	686	5.4		
With elderly	25,946	24,391	94.0	1,555	6.0	1,105	4.3	450	1.7		
Elderly living alone	10,574	9,921	93.8	653	6.2	430	4.1	223	2.1		
Race/ethnicity of households:											
White non-Hispanic	81,080	74,733	92.2	6,347	7.8	4,169	5.1	2,178	2.7		
Black non-Hispanic	13,156	10,251	77.9	2,905	22.1	2,010	15.3	895	6.8		
Hispanic <sup>3</sup>	12,034	9,347	77.7	2,687	22.3	2,034	16.9	653	5.4		
Other non-Hispanic	5,944	5,301	89.2	643	10.8	450	7.6	193	3.2		
Household income-to-poverty ratio:											
Under 1.00	12,739	8,266	64.9	4,473	35.1	2,863	22.5	1,610	12.6		
Under 1.30	18,143	12,245	67.5	5,898	32.5	3,845	21.2	2,053	11.3		
Under 1.85	27,104	19,357	71.4	7,747	28.6	5,107	18.8	2,640	9.7		
1.85 and over	62,145	59,116	95.1	3,029	4.9	2,274	3.7	755	1.2		
Income unknown	22,965	21,160	92.1	1,805	7.9	1,281	5.6	524	2.3		
Area of residence:											
Inside metropolitan area	90,708	80,611	88.9	10,097	11.1	6,903	7.6	3,194	3.5		
In central city <sup>4</sup>	27,682	23,581	85.2	4,101	14.8	2,804	10.1	1,297	4.7		
Not in central city <sup>4</sup>	47,243	42,996	91.0	4,247	9.0	2,879	6.1	1,368	2.9		
Outside metropolitan area	21,505	19,020	88.4	2,485	11.6	1,760	8.2	725	3.4		
Census geographic region:											
Northeast	21,306	19,267	90.4	2,039	9.6	1,343	6.3	696	3.3		
Midwest	25,941	23,360	90.1	2,581	9.9	1,752	6.8	829	3.2		
South	40,554	35,541	87.6	5,013	12.4	3,472	8.6	1,541	3.8		
West	24,412	21,463	87.9	2,949	12.1	2,096	8.6	853	3.5		

<sup>1</sup>Totals exclude households whose food security status is unknown because they did not give a valid response to any of the questions in the food security scale. In 2003, these represented 381,000 households (0.3 percent of all households.)

<sup>2</sup>Households with children in complex living arrangements—e.g., children of other relatives or unrelated roommate or boarder.

<sup>3</sup>Hispanics may be of any race.

<sup>4</sup>Metropolitan area subtotals do not add to metropolitan area totals because central-city residence is not identified for about 17 percent of households in metropolitan statistical areas.

Source: Calculated by ERS using data from the December 2003 Current Population Survey Food Security Supplement.



**Table 3—Prevalence of food security, food insecurity, and food insecurity with hunger in households with children, by selected household characteristics, 2003**

Category	Total <sup>1</sup>	Food secure		Food insecure						
		1,000	1,000	Percent	All		Without hunger among children		With hunger among children	
				1,000	Percent	1,000	Percent	1,000	Percent	
All households with children	40,286	33,575	83.3	6,711	16.7	6,504	16.1	207	0.5	
Household composition:										
With children < 6	18,110	14,934	82.5	3,176	17.5	3,109	17.2	67	.4	
Married-couple families	27,484	24,502	89.2	2,982	10.8	2,929	10.7	53	.2	
Female head, no spouse	9,623	6,571	68.3	3,052	31.7	2,917	30.3	135	1.4	
Male head, no spouse	2,475	1,937	78.3	538	21.7	519	21.0	19	.8	
Other household with child <sup>2</sup>	704	563	80.0	141	20.0	140	19.9	1	.1	
Race/ethnicity of households:										
White non-Hispanic	25,419	22,539	88.7	2,880	11.3	2,817	11.1	63	.2	
Black non-Hispanic	5,591	3,999	71.5	1,592	28.5	1,542	27.6	50	.9	
Hispanic <sup>3</sup>	6,816	4,902	71.9	1,914	28.1	1,823	26.7	91	1.3	
Other non-Hispanic	2,460	2,134	86.7	326	13.3	322	13.1	4	.2	
Household income-to-poverty ratio:										
Under 1.00	5,865	3,278	55.9	2,587	44.1	2,474	42.2	113	1.9	
Under 1.30	8,099	4,689	57.9	3,410	42.1	3,280	40.5	130	1.6	
Under 1.85	11,897	7,498	63.0	4,399	37.0	4,242	35.7	157	1.3	
1.85 and over	21,833	20,359	93.2	1,474	6.8	1,439	6.6	35	.2	
Income unknown	6,556	5,718	87.2	838	12.8	823	12.6	15	.2	
Area of residence:										
Inside metropolitan area	33,050	27,612	83.5	5,438	16.5	5,256	15.9	182	.6	
In central city <sup>4</sup>	9,388	7,200	76.7	2,188	23.3	2,098	22.3	90	1.0	
Not in central city <sup>4</sup>	18,001	15,710	87.3	2,291	12.7	2,214	12.3	77	.4	
Outside metropolitan area	7,236	5,963	82.4	1,273	17.6	1,248	17.2	25	.3	
Census geographic region:										
Northeast	7,319	6,212	84.9	1,107	15.1	1,078	14.7	29	.4	
Midwest	9,073	7,722	85.1	1,351	14.9	1,322	14.6	29	.3	
South	14,602	12,001	82.2	2,601	17.8	2,499	17.1	102	.7	
West	9,292	7,638	82.2	1,654	17.8	1,606	17.3	48	.5	
Individuals in households with children:										
All individuals in households with children	158,945	132,481	83.4	26,464	16.6	25,643	16.1	821	.5	
Adults in households with children	85,976	72,778	84.6	13,198	15.4	12,797	14.9	401	.5	
Children	72,969	59,704	81.8	13,265	18.2	12,845	17.6	420	.6	

<sup>1</sup>Totals exclude households whose food security status is unknown because they did not give a valid response to any of the questions in the food security scale. In 2003, these represented 167,000 households with children (0.4 percent.)

<sup>2</sup>Households with children in complex living arrangements—e.g., children of other relatives or unrelated roommate or boarder.

<sup>3</sup>Hispanics may be of any race.

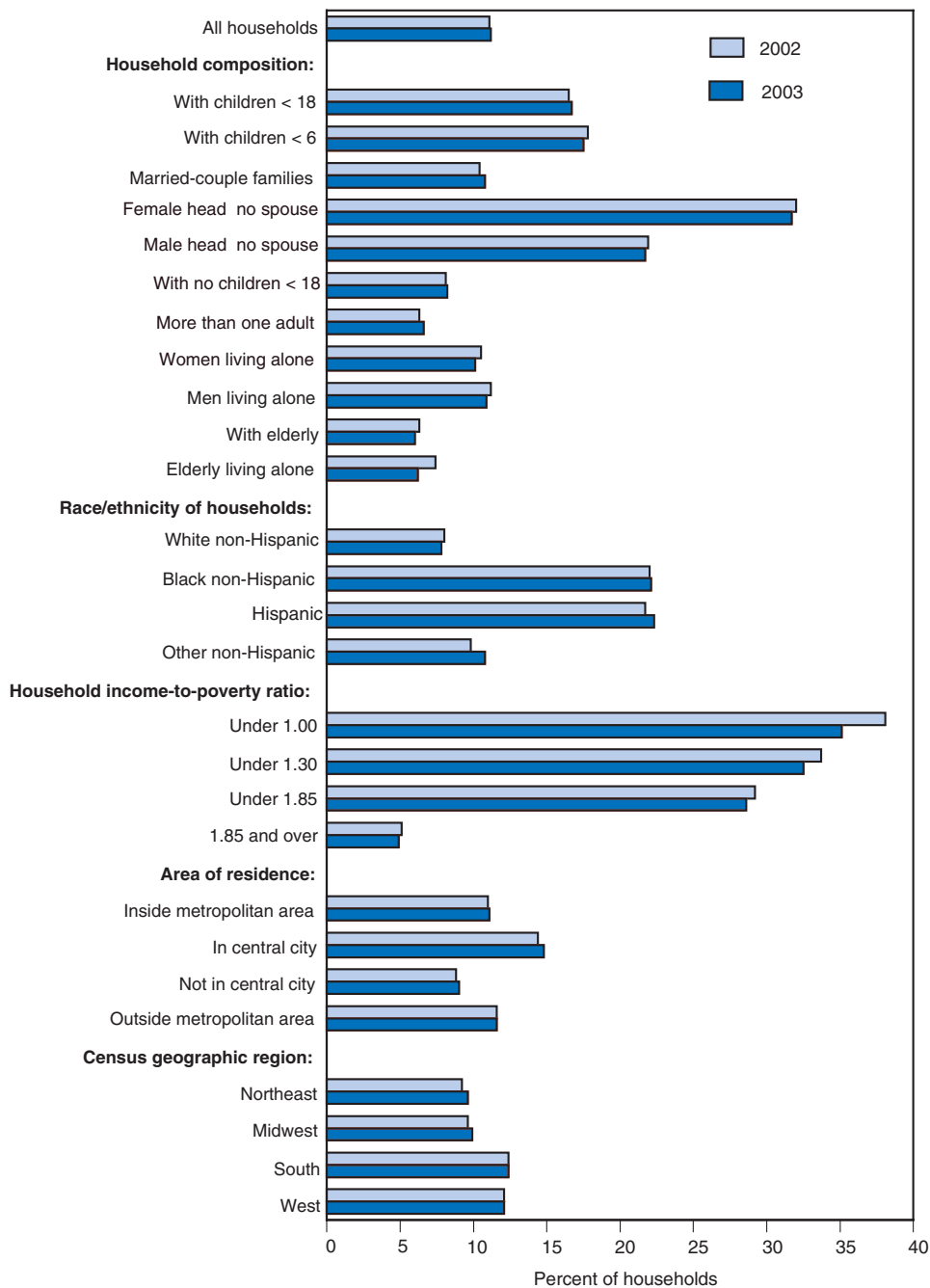
<sup>4</sup>Metropolitan area subtotals do not add to metropolitan area totals because central-city residence is not identified for about 17 percent of households in metropolitan statistical areas.

Source: Calculated by ERS using data from the December 2003 Current Population Survey Food Security Supplement.

Changes from 2002 to 2003 in the prevalence rates of food insecurity and hunger were small and statistically insignificant with one exception. Prevalence rates of both food insecurity and food insecurity with hunger declined among households with incomes below the poverty line (figs. 3 and 4). Changes in all other categories are within a range that could have resulted from sampling variation.

Figure 3

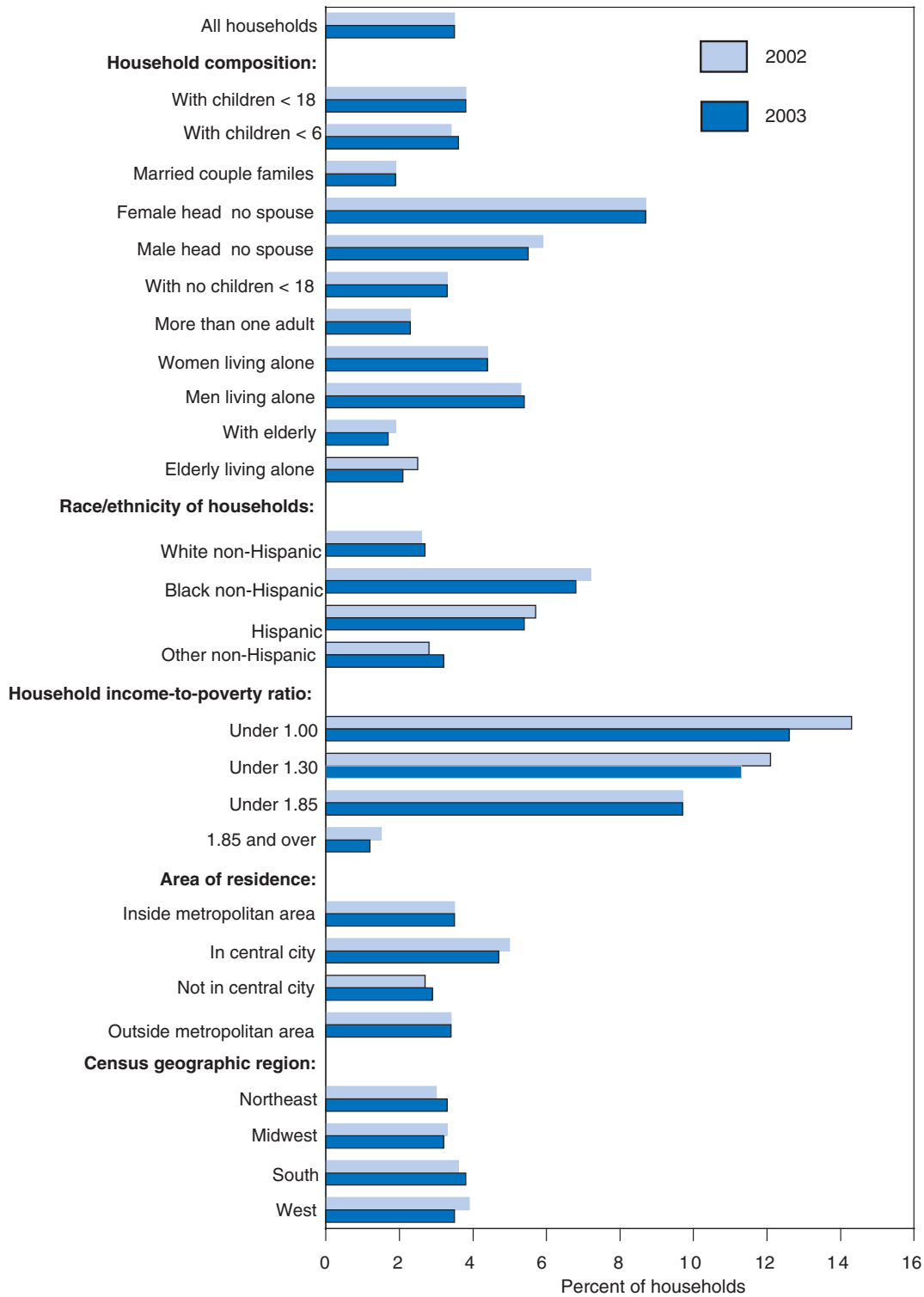
**Prevalence of food insecurity, 2002 and 2003**



Source: Calculated by ERS based on Current Population Survey Food Security Supplement data, December 2002 and December 2003.

Figure 4

**Prevalence of food insecurity with hunger, 2002 and 2003**



Source: Calculated by ERS based on Current Population Survey Food Security Supplement data, December 2002 and December 2003.

## Food Insecurity and Food Insecurity With Hunger in Low-Income Households

Food insecurity and food insecurity with hunger, as reported here, are by definition conditions that result from insufficient household resources. In 2003, food insecurity was nearly six times as prevalent in households with annual incomes below 185 percent of the poverty line as in households with incomes above that range (table 2). However, many factors that might affect a household's food security (such as job loss, divorce, or other unexpected events) are not captured by an annual income measure. Some households experienced episodes of food insecurity, or even hunger, even though their annual income was well above the poverty line (Nord and Brent, 2002; Gundersen and Gruber, 2001). On the other hand, many low-income households (including almost two-thirds of those with incomes below the official poverty line) were food secure.

Table 4 presents food security and hunger statistics for households with annual incomes below 130 percent of the poverty line.<sup>12</sup> One in three of these low-income households was food insecure, and in 11.3 percent, household members were hungry at times during the year. Low-income households with children were more affected by food insecurity than low-income households without children (42.1 percent vs. 24.8 percent), although the prevalence of hunger was about the same in the two groups. Low-income single mothers with children were especially vulnerable to both food insecurity and hunger; 47.2 percent of these households were food insecure, including 14.0 percent in which one or more persons, usually the mother, was hungry at times during the year because of lack of money or other resources for food.

<sup>12</sup> Households with income below 130 percent of the poverty line are eligible to receive food stamps, provided they meet other eligibility criteria. Children in these households are eligible for free meals in the National School Lunch and School Breakfast Programs.

**Table 4—Prevalence of food security, food insecurity, and food insecurity with hunger in households with income below 130 percent of the poverty line, by selected household characteristics, 2003**

Category	Total <sup>1</sup>	Food secure		Food insecure							
		All	Without hunger	With hunger	All		Without hunger		With hunger		
	1,000	1,000	Percent	1,000	Percent	1,000	Percent	1,000	Percent	1,000	Percent
All low-income households	18,143	12,245	67.5	5,898	32.5	3,845	21.2	2,053	11.3		
Household composition:											
With children < 18	8,099	4,688	57.9	3,411	42.1	2,490	30.7	921	11.4		
With children < 6	4,474	2,703	60.4	1,771	39.6	1,323	29.6	448	10.0		
Married-couple families	3,483	2,218	63.7	1,265	36.3	978	28.1	287	8.2		
Female head, no spouse	3,839	2,027	52.8	1,812	47.2	1,274	33.2	538	14.0		
Male head, no spouse	645	356	55.2	289	44.8	203	31.5	86	13.3		
Other household with child <sup>2</sup>	132	87	65.9	45	34.1	35	26.5	10	7.6		
With no children < 18	10,043	7,556	75.2	2,487	24.8	1,355	13.5	1,132	11.3		
More than one adult	3,705	2,790	75.3	915	24.7	554	15.0	361	9.7		
Women living alone	3,986	3,112	78.1	874	21.9	460	11.5	414	10.4		
Men living alone	2,352	1,653	70.3	699	29.7	342	14.5	357	15.2		
With elderly	4,915	4,126	83.9	789	16.1	520	10.6	269	5.5		
Elderly living alone	3,048	2,639	86.6	409	13.4	242	7.9	167	5.5		
Race/ethnicity of households:											
White non-Hispanic	9,414	6,866	72.9	2,548	27.1	1,507	16.0	1,041	11.1		
Black non-Hispanic	3,848	2,281	59.3	1,567	40.7	1,053	27.4	514	13.4		
Hispanic <sup>3</sup>	3,833	2,334	60.9	1,499	39.1	1,097	28.6	402	10.5		
Other non-Hispanic	1,047	762	72.8	285	27.2	189	18.1	96	9.2		
Area of residence:											
Inside metropolitan area	13,621	9,028	66.3	4,593	33.7	2,980	21.9	1,613	11.8		
In central city <sup>4</sup>	5,755	3,643	63.3	2,112	36.7	1,344	23.4	768	13.3		
Not in central city <sup>4</sup>	5,009	3,399	67.9	1,610	32.1	1,059	21.1	551	11.0		
Outside metropolitan area	4,522	3,216	71.1	1,306	28.9	865	19.1	441	9.8		
Census geographic region:											
Northeast	2,750	1,912	69.5	838	30.5	514	18.7	324	11.8		
Midwest	3,726	2,530	67.9	1,196	32.1	763	20.5	433	11.6		
South	7,813	5,309	68.0	2,504	32.0	1,682	21.5	822	10.5		
West	3,853	2,493	64.7	1,360	35.3	886	23.0	474	12.3		
Individuals in low-income households (by food security status of household):											
All individuals in low-income households	47,853	30,313	63.3	17,540	36.7	12,275	25.7	5,265	11.0		
Adults in low-income households	31,032	20,720	66.8	10,312	33.2	6,955	22.4	3,357	10.8		
Children in low-income households	16,821	9,592	57.0	7,229	43.0	5,321	31.6	1,908	11.3		

<sup>1</sup>Totals exclude households whose income was not reported (about 21 percent of households), and those whose food security status is unknown because they did not give a valid response to any of the questions in the food security scale (0.7 percent of low-income households).

<sup>2</sup>Households with children in complex living arrangements—e.g., children of other relatives or unrelated roommate or boarder.

<sup>3</sup>Hispanics may be of any race.

<sup>4</sup>Metropolitan area subtotals do not add to metropolitan area totals because central-city residence is not identified for about 17 percent of households in metropolitan statistical areas.

Source: Calculated by ERS using data from the December 2003 Current Population Survey Food Security Supplement.

## Number of Persons by Household Food Security Status and Household Type

The food security survey is designed to measure food security status at the household level. While it is informative to examine the number of persons residing in food-insecure households, these estimates should not be used to characterize the number of individuals affected by food insecurity and hunger. Not all persons in food-insecure households are necessarily food insecure. Similarly, people who live in households classified as food insecure with hunger, especially young children, are not all subject to reductions in food intake and do not all experience hunger.

In 2003, 36.3 million people lived in food-insecure households (table 1). They constituted 12.7 percent of the U.S. population and included 23.0 million adults and 13.3 million children. Of these individuals, 6.6 million adults and 3.0 million children lived in households where someone experienced hunger during the year. The number of children living in households classified as food insecure with hunger among children was 420,000 (0.6 percent of the children in the Nation; table 1). Tables 5 and 6 present estimates of the numbers of persons and the numbers of children in the households in each food security status and household type.

**Table 5—Number of individuals, by food security status of households and selected household characteristics, 2003**

Category	Total <sup>1</sup>	Food secure		Food insecure							
		All	Without hunger	With hunger	All		Without hunger		With hunger		
	1,000	1,000	Percent	1,000	Percent	1,000	Percent	1,000	Percent	1,000	Percent
All individuals in households	286,410	250,155	87.3	36,255	12.7	26,622	9.3	9,633	3.4		
Household composition:											
With children < 18	158,945	132,481	83.4	26,464	16.6	20,588	13.0	5,876	3.7		
With children < 6	74,272	60,749	81.8	13,523	18.2	10,772	14.5	2,751	3.7		
Married-couple families	115,922	102,355	88.3	13,567	11.7	11,137	9.6	2,430	2.1		
Female head, no spouse	32,096	21,745	67.7	10,351	32.3	7,484	23.3	2,867	8.9		
Male head, no spouse	8,428	6,436	76.4	1,992	23.6	1,545	18.3	447	5.3		
Other household with child <sup>2</sup>	2,499	1,945	77.8	554	22.2	422	16.9	132	5.3		
With no children < 18	127,465	117,674	92.3	9,791	7.7	6,034	4.7	3,757	2.9		
More than one adult	98,090	91,370	93.1	6,720	6.9	4,376	4.5	2,344	2.4		
Women living alone	16,724	15,032	89.9	1,692	10.1	964	5.8	728	4.4		
Men living alone	12,651	11,271	89.1	1,380	10.9	694	5.5	686	5.4		
With elderly	48,708	45,277	93.0	3,431	7.0	2,476	5.1	955	2.0		
Elderly living alone	10,574	9,921	93.8	653	6.2	430	4.1	223	2.1		
Race/ethnicity of households:											
White non-Hispanic	196,848	180,352	91.6	16,496	8.4	11,620	5.9	4,876	2.5		
Black non-Hispanic	34,397	26,138	76.0	8,259	24.0	6,060	17.6	2,199	6.4		
Hispanic <sup>3</sup>	38,792	29,131	75.1	9,661	24.9	7,552	19.5	2,109	5.4		
Other non-Hispanic	16,372	14,532	88.8	1,840	11.2	1,391	8.5	449	2.7		
Household income-to-poverty ratio:											
Under 1.00	33,246	20,204	60.8	13,042	39.2	8,976	27.0	4,066	12.2		
Under 1.30	47,853	30,313	63.3	17,540	36.7	12,275	25.7	5,265	11.0		
Under 1.85	71,891	48,996	68.2	22,895	31.8	16,226	22.6	6,669	9.3		
1.85 and over	159,130	150,857	94.8	8,273	5.2	6,586	4.1	1,687	1.1		
Income unknown	55,389	50,301	90.8	5,088	9.2	3,810	6.9	1,278	2.3		
Area of residence:											
Inside metropolitan area	233,664	204,306	87.4	29,358	12.6	21,462	9.2	7,896	3.4		
In central city <sup>4</sup>	67,762	55,885	82.5	11,877	17.5	8,760	12.9	3,117	4.6		
Not in central city <sup>4</sup>	126,089	113,457	90.0	12,632	10.0	9,074	7.2	3,558	2.8		
Outside metropolitan area	52,745	45,848	86.9	6,897	13.1	5,159	9.8	1,738	3.3		
Census geographic region:											
Northeast	54,103	48,329	89.3	5,774	10.7	4,095	7.6	1,679	3.1		
Midwest	64,940	57,756	88.9	7,184	11.1	5,196	8.0	1,988	3.1		
South	101,611	87,569	86.2	14,042	13.8	10,337	10.2	3,705	3.6		
West	65,757	56,503	85.9	9,254	14.1	6,993	10.6	2,261	3.4		

<sup>1</sup>Totals exclude individuals in households whose food security status is unknown because they did not give a valid response to any of the questions in the food security scale. In 2003, these represented 1 million individuals (0.4 percent of all individuals.)

<sup>2</sup>Households with children in complex living arrangements—e.g., children of other relatives or unrelated roommate or boarder.

<sup>3</sup>Hispanics may be of any race.

<sup>4</sup>Metropolitan area subtotals do not add to metropolitan area totals because central-city residence is not identified for about 17 percent of households in metropolitan statistical areas.

Source: Calculated by ERS using data from the December 2003 Current Population Survey Food Security Supplement.

**Table 6—Number of children, by food security status of households and selected household characteristics, 2003**

Category	Total <sup>1</sup>	Food secure		Food insecure					
		1,000	1,000	Percent	All		Without hunger among children		With hunger among children
				1,000	Percent	1,000	Percent	1,000	Percent
All children	72,969	59,704	81.8	13,265	18.2	12,845	17.6	420	0.6
Household composition:									
With children < 6	35,896	28,860	80.4	7,036	19.6	6,904	19.2	132	.4
Married-couple families	51,423	45,103	87.7	6,320	12.3	6,221	12.1	99	.2
Female head, no spouse	16,763	10,987	65.5	5,776	34.5	5,482	32.7	294	1.8
Male head, no spouse	3,815	2,888	75.7	927	24.3	902	23.6	25	.7
Other household with child <sup>2</sup>	968	726	75.0	242	25.0	240	24.8	2	.2
Race/ethnicity of households:									
White non-Hispanic	45,356	39,925	88.0	5,431	12.0	5,340	11.8	91	.2
Black non-Hispanic	10,864	7,514	69.2	3,350	30.8	3,239	29.8	111	1.0
Hispanic <sup>3</sup>	12,603	8,719	69.2	3,884	30.8	3,678	29.2	206	1.6
Other non-Hispanic	4,146	3,545	85.5	601	14.5	588	14.2	13	.3
Household income-to-poverty ratio:									
Under 1.00	12,006	6,580	54.8	5,426	45.2	5,183	43.2	243	2.0
Under 1.30	16,821	9,592	57.0	7,229	43.0	6,943	41.3	286	1.7
Under 1.85	24,135	15,003	62.2	9,132	37.8	8,783	36.4	349	1.4
1.85 and over	37,253	34,752	93.3	2,501	6.7	2,456	6.6	45	.1
Income unknown	11,581	9,949	85.9	1,632	14.1	1,606	13.9	26	.2
Area of residence:									
Inside metropolitan area	59,926	49,094	81.9	10,832	18.1	10,441	17.4	391	.7
In central city <sup>4</sup>	17,082	12,604	73.8	4,478	26.2	4,290	25.1	188	1.1
Not in central city <sup>4</sup>	32,864	28,323	86.2	4,541	13.8	4,367	13.3	174	.5
Outside metropolitan area	13,042	10,609	81.3	2,433	18.7	2,404	18.4	29	.2
Census geographic region:									
Northeast	12,943	10,887	84.1	2,056	15.9	1,993	15.4	63	.5
Midwest	16,510	13,793	83.5	2,717	16.5	2,660	16.1	57	.3
South	25,953	20,946	80.7	5,007	19.3	4,820	18.6	187	.7
West	17,563	14,077	80.2	3,486	19.8	3,372	19.2	114	.6

<sup>1</sup>Totals exclude children in households whose food security status is unknown because they did not give a valid response to any of the questions in the food security scale. In 2003, these represented 338,000 children (0.5 percent.)

<sup>2</sup>Households with children in complex living arrangements—e.g., children of other relatives or unrelated roommate or boarder.

<sup>3</sup>Hispanics may be of any race.

<sup>4</sup>Metropolitan area subtotals do not add to metropolitan area totals because central-city residence is not identified for about 17 percent of households in metropolitan statistical areas.

Source: Calculated by ERS using data from the December 2003 Current Population Survey Food Security Supplement.



## Prevalences of Food Insecurity and Food Insecurity With Hunger by State, Average 2001-03

Prevalence rates of food insecurity and food insecurity with hunger varied considerably from State to State. Data for 3 years, 2001-03, were combined to provide more reliable statistics at the State level (table 7). Measured prevalence rates of food insecurity during this 3-year period ranged from 6.2 percent in Massachusetts to 15.5 percent in Arkansas; measured prevalence rates of food insecurity with hunger ranged from 1.8 percent in Delaware to 5.2 percent in Oklahoma.

The margins of error for the State prevalence rates should be taken into consideration when interpreting these statistics and especially when comparing prevalence rates across States. Margins of error reflect sampling variation—the uncertainty associated with estimates that are based on information from only a limited number of households in each State. The margins of error presented in table 7 indicate the range (above or below the estimated prevalence rate) within which the true prevalence rate is 90 percent likely to be. In some States, margins of error were nearly 2 percentage points for estimated prevalence rates of food insecurity and larger than 1 percentage point for estimated prevalence rates of food insecurity with hunger. For example, the prevalence rate of food insecurity in Arkansas was 15.5 percent, plus or minus 1.75 percentage points. Considering the margin of error, it is not certain (statistically significant) that the rate of food insecurity was higher in Arkansas than in the States with the next eight highest prevalence rates of food insecurity.

Taking into account the margins of error of the State and U.S. estimates, the prevalence of food insecurity was higher than the national average in 15 States and lower than the national average in 21 States and the District of Columbia. In the remaining 14 States, differences from the national average were not statistically significant. The prevalence of food insecurity with hunger was higher than the national average in 9 States, lower than the national average in 11 States and the District of Columbia, and not significantly different from the national average in 30 States.

These State-level food security statistics cannot be compared directly with those published by ERS in *Prevalence of Food Insecurity and Hunger, by State, 1996-1998* (Nord et al., 1999) because of changes over the years in screening procedures used to reduce respondent burden in the CPS food security surveys. Appendix D provides prevalence rates for the earlier period that have been adjusted for these screening differences so as to be comparable with those for 2001-2003.

**Table 7—Prevalence of food insecurity and food insecurity with hunger, by State, average 2001-03<sup>1</sup>**

State	Number of households		Food insecure (with or without hunger)		Food insecure with hunger	
	Average 2001-03 <sup>2</sup>	Interviewed	Prevalence	Margin of error <sup>3</sup>	Prevalence	Margin of error <sup>3</sup>
	Number		Percent	Percentage points	Percent	Percentage points
U.S. total	109,546,000	144,686	11.0	0.23	3.4	0.11
AK	232,000	1,967	11.5	1.67	4.1	.79
AL	1,805,000	2,161	12.5*	1.23	3.2	.68
AR	1,062,000	1,730	15.5*	1.75	4.7*	1.21
AZ	1,958,000	1,932	12.3	1.36	3.8	.65
CA	12,617,000	9,165	12.2*	.64	3.6	.38
CO	1,717,000	2,916	9.7*	.77	3.0	.42
CT	1,287,000	2,492	8.0*	.73	3.0	.50
DC	264,000	1,782	9.0*	1.19	2.4*	.58
DE	306,000	1,827	6.7*	1.08	1.8*	.69
FL	6,532,000	6,253	11.7	.73	3.7	.47
GA	3,233,000	1,949	12.9*	1.48	3.6	.70
HI	411,000	1,595	9.9	1.40	3.3	.86
IA	1,169,000	2,593	9.5*	1.02	3.0	.71
ID	503,000	1,952	13.7*	1.45	3.9	.74
IL	4,784,000	5,046	7.9*	.68	2.5*	.44
IN	2,413,000	2,834	9.9	1.08	3.4	.65
KS	1,061,000	2,583	11.7	1.28	4.4*	.62
KY	1,638,000	2,073	11.2	1.41	3.3	.66
LA	1,689,000	1,546	12.3*	1.24	2.6*	.70
MA	2,533,000	2,857	6.2*	1.21	2.3*	.55
MD	2,096,000	2,403	7.7*	1.17	2.9	.65
ME	536,000	2,695	9.2*	1.08	2.9	.54
MI	3,965,000	3,982	10.1*	.68	3.4	.55
MN	1,918,000	2,792	7.1*	.99	2.2*	.61
MO	2,241,000	2,288	10.4	1.45	3.6	.70
MS	1,076,000	1,469	14.9*	1.43	4.0	.79
MT	376,000	1,763	12.5*	1.19	4.0	.85
NC	3,184,000	3,011	13.7*	1.26	4.5*	.59
ND	263,000	2,416	6.9*	1.07	2.0*	.54
NE	667,000	2,375	10.4	1.29	3.0	.56
NH	496,000	2,515	6.4*	.79	2.1*	.45
NJ	3,168,000	3,329	8.6*	.93	3.1	.65
NM	700,000	1,599	14.8*	1.46	4.4*	.92
NV	767,000	2,746	9.2*	.96	3.4	.64
NY	7,190,000	6,990	10.0*	.50	3.1	.45
OH	4,475,000	4,611	10.9	.90	3.6	.55
OK	1,386,000	1,983	14.1*	1.38	5.2*	.76
OR	1,388,000	2,354	12.9*	1.16	4.3*	.62
PA	4,755,000	5,302	9.5*	.70	2.6*	.47
RI	404,000	2,549	11.1	1.31	3.6	.52
SC	1,583,000	1,821	13.5*	1.23	4.9*	.93
SD	296,000	2,454	8.9*	1.09	2.4*	.50
TN	2,291,000	1,738	10.9	1.25	3.3	.70
TX	7,808,000	5,693	14.9*	.88	4.1*	.47
UT	737,000	1,811	14.6*	1.73	4.4*	.89
VA	2,835,000	2,301	8.4*	.82	2.2*	.45
VT	254,000	2,271	8.9*	.98	3.0	.62
WA	2,379,000	2,671	11.6	1.23	3.9	.67
WI	2,143,000	3,100	9.0*	.97	3.2	.51
WV	750,000	2,296	8.9*	.80	2.7*	.50
WY	205,000	2,105	10.1	1.25	4.2	.90

\*Difference from U.S. total was statistically significant with 90 percent confidence ( $t > 1.645$ ).

<sup>1</sup>Prevalence rates for 1996-98 reported in *Prevalence of Food Insecurity and Hunger, by State, 1996-1998* (Nord et al., 1999) are not directly comparable with the rates reported here because of differences in screening procedures in the CPS Food Security Supplements from 1995 to 1998. Comparable statistics for the earlier period are presented in appendix D.

<sup>2</sup>Totals exclude households whose food security status is unknown because they did not give a valid response to any of the questions in the food security scale. These represented about 0.3 percent of all households in each year.

<sup>3</sup>Margin of error with 90 percent confidence (1.645 times the standard error of the estimated prevalence rate).

Source: Prepared by ERS using data from Sept. 2000, Dec. 2001, Dec. 2002, and Dec. 2003 Current Population Survey Food Security Supplements.