

**State-by-State  
Rates of Household  
Hunger and Food  
Insecurity, 1997-1999**

This report presents FRAC's state-by-state analysis of the most recent available hunger and food insecurity data collected by the Census Bureau and the U.S. Department of Agriculture.

**Background – Measuring Hunger and Food Insecurity**

Since 1995 the U.S. Census Bureau has conducted an annual survey of food security as part of its Current Population Survey. The Bureau surveys a nationally representative sample of approximately 40,000 families nationwide. It asks them a series of questions about inadequacy in the quantity or quality of food eaten by adults and children in the household; instances of reduced food intake or consequences of reduced food intake for adults and for children; and concerns that the household budget is inadequate to buy enough food. Households are classified as food secure, food insecure, or food insecure with hunger according to the answers to these questions. The survey is widely accepted as a reliable gauge of family well-being and will serve as the basis for evaluating the nation's progress in reducing food insecurity - one of the Surgeon General's health objectives for the nation for this decade.

Households that are classified as **hungry** are those in which adults have decreased the quality and quantity of food they consume because of lack of money to the point where they are quite likely to be hungry on a frequent basis, or in which children's intake has been reduced due to lack of family financial resources, to the point that children are likely to be hungry on a regular basis and adults' food intake is severely reduced.

Even when hunger is not present, adults in households determined to be **food insecure** by the survey are so limited in resources to buy food that they are running out of food, or reducing the quality of food their family eats, or feeding their children unbalanced diets, or skipping meals so their children can eat, or taking certain other serious steps to adjust to their economic problems that threaten the adequacy of the family's diet.

The U.S. Department of Agriculture (USDA) had previously reported, based on this survey, that in 1999 ten percent of all U.S. households, representing 19 million adults and 12 million children, were "food insecure" because of lack of resources. Of the 10.5 million households that were food insecure, 3.1 million suffered from food insecurity that was so severe that USDA's very conservative measure classified them as "hungry." Five million adults and 2.7 million children lived in these hungry households. (The food security data collected in September 2000 have not yet been released.)

## State Food Insecurity and Hunger Numbers

The Current Population Survey's national sample of 40,000 households is too small to provide a good measure of food security and hunger for each state for a single year. However, an average of three years of survey data provides a sample large enough to provide state-by-state household food security and hunger estimates with reasonable margins of error. This analysis looks at those estimates for the three years spanning 1997-1999, the latest period available.

FRAC's analysis of the state data for the years 1997, 1998 and 1999 (averaged together) is presented in Table 1, where the states are in alphabetical order. The first column in Table 1 is the estimated percent of households that are food insecure, with or without hunger. The next column is the margin of error – the percentage point(s), or fraction of points, that should be added to and subtracted from the estimate to provide a range that has a reasonable level of accuracy. The range created by applying each state's margin of error to the estimate allows us to be 90 percent confident that the true percentage of households experiencing food insecurity for that particular state falls within that range (i.e., between these two numbers). For instance, in Rhode Island, in these years, an average of approximately 6 to 8 percent of all households experienced **food insecurity**.

The third column of numbers presents the estimated percentage of all households that experienced outright hunger – food insecurity with hunger – for each state. The final column in Table 1 is the margin of error, also calculated with a 90 percent confidence interval, for the percentage of households that are food insecure with hunger. Using Rhode Island as an example again, the percent of households that experienced **food insecurity with hunger** in 1997-1999 would be about 1.5 to 2.3.

The method for determining the margins of error used for this report is the one the U.S. Department of Agriculture has used in the past.

Table 2 re-organizes the states into three categories: those that were worse than average, those that were average, and those that were better than average in their overall incidence of food insecure households. The ranges created by the margins of error allow us to make this rough distinction among states. Essentially, if the lowest percentage of food insecurity possible for a state (within the margin of error) during these years still places it above the national average (using the percentage for the nation produced by its highest margin of error, which is 9.42), then we can be confident that that state has a worse than average incidence of food insecurity. In other words, if a state's range is higher than and not overlapping the range of the national average, it is worse than average. Worse than average means a higher rate of food insecure people than the

national average. The reverse is true for determining those states that have a lower than average incidence: their highest percentage (when adding their margin of error to their estimate) is lower than the lowest percentage for the national estimate. (This rough method is refined through calculating a second margin of error, this one based on the standard error of difference between a state and the U.S. average. This more accurate calculation narrows the range of average states, pushing DC and NY into the worse than average category. Data for the year 2000, when they come available, may push these states back into the average group or further away from the average group.)

Figure 1 demonstrates the same data as Table 1 in the form of a bar graph. The states are in the order determined by the method used for groupings in Table 2. Each state's bar ends at the estimate point for food insecure households for that state. The brackets connected by the line represent the highest and lowest point for this estimate based on a margin of error established with a 90 percent confidence interval.

Figure 2 is a map showing the areas of the nation with average, above average and below average food insecurity. The worst states generally lie in an arc from Florida across the South and Southwest and up the West Coast (Florida, Tennessee, Mississippi, Arkansas, Louisiana, Texas, Oklahoma, New Mexico, Arizona, California, Oregon and Washington – plus South Carolina, Montana, the District of Columbia and New York).

**Table 1: Food Insecurity, by State, with Margins of Error**

	Food Insecure (with or without hunger)	Margin of Error	Food Insecure with Hunger	Margin of Error
AK	8.4	1.78	3.8	1.11
AL	10.0	1.53	2.7	0.67
AR	11.3	1.50	3.4	0.52
AZ	11.5	1.94	3.7	0.63
CA	10.8	0.68	3.5	0.43
CO	7.5	1.15	2.6	0.69
CT	7.8	1.69	3.5	1.35
DC	10.6	1.34	4.0	0.99
DE	7.4	1.00	2.4	0.83
FL	10.5	0.82	3.7	0.43
GA	8.5	1.07	2.8	0.71
HI	9.2	1.33	2.3	0.64
IA	6.5	1.08	2.2	0.62
ID	9.6	1.42	3.3	0.64
IL	7.8	0.88	2.7	0.48
IN	7.6	1.43	2.4	0.59
KS	9.6	1.44	3.5	0.90
KY	8.2	1.06	2.9	0.56
LA	12.2	1.79	4.1	1.06
MA	6.8	1.29	2.0	0.54
MD	7.1	1.31	3.2	1.03
ME	8.6	1.55	3.2	0.72
MI	7.5	1.02	2.3	0.42
MN	6.3	0.96	2.5	0.68
MO	7.5	1.25	2.2	0.66
MS	11.4	1.74	2.9	1.03
MT	11.2	1.36	3.5	0.55
NC	7.9	1.02	2.3	0.52
ND	5.1	0.72	1.4	0.50
NE	7.5	1.13	2.3	0.62
NH	6.6	1.08	2.2	0.62
NJ	7.3	0.75	2.7	0.41
NM	13.8	1.61	4.6	0.79
NV	8.6	1.61	3.4	0.92
NY	10.0	0.79	3.8	0.38
OH	7.5	0.75	2.8	0.40
OK	11.3	1.56	3.3	0.65
OR	12.3	1.75	5.7	0.82
PA	6.6	0.55	2.0	0.31
RI	7.0	1.05	1.9	0.43
SC	9.9	1.06	3.2	0.81
SD	6.3	1.10	1.9	0.61
TN	11.1	1.22	3.9	1.03
TX	12.4	0.69	4.2	0.61
UT	8.8	1.10	3.2	0.71
VA	7.1	1.09	2.6	0.73
VT	7.4	1.16	2.0	0.49
WA	11.5	1.08	4.7	0.98
WI	7.2	1.11	2.4	0.61
WV	8.7	1.07	3.1	0.72
WY	8.6	1.51	2.8	0.69
U.S.	9.2	0.22	3.1	0.13

**Table2: Better than Average, Average and Worse than Average Incidences of Food Insecurity, by State with Margins of Error**

	Low	Estimate	High	
Worse than Average	NM	12.16	13.77	15.38
	TX	11.70	12.38	13.07
	OR	10.58	12.33	14.08
	LA	10.39	12.18	13.96
	AZ	9.60	11.55	13.49
	WA	10.46	11.54	12.62
	MS	9.69	11.43	13.16
	AR	9.83	11.33	12.83
	OK	9.75	11.31	12.86
	MT	9.80	11.16	12.52
	TN	9.90	11.12	12.35
	CA	10.08	10.76	11.43
	DC	9.23	10.57	11.91
	FL	9.72	10.54	11.35
	NY	9.25	10.05	10.84
	Average	AL	8.42	9.95
SC		8.81	9.87	10.92
ID		8.21	9.63	11.06
KS		8.19	9.63	11.07
HI		7.89	9.22	10.55
Average		8.97	9.20	9.42
UT		7.67	8.77	9.88
WV		7.67	8.74	9.82
ME		7.08	8.63	10.18
WY		7.10	8.61	10.12
NV		6.98	8.59	10.20
GA		7.43	8.50	9.56
AK		6.64	8.42	10.21
KY		7.15	8.21	9.27
CT		6.08	7.77	9.46
Better than Average		NC	6.90	7.92
	IL	6.93	7.80	8.68
	IN	6.13	7.56	8.99
	NE	6.41	7.54	8.67
	MO	6.29	7.53	8.78
	CO	6.38	7.53	8.68
	OH	6.75	7.50	8.25
	MI	6.48	7.49	8.51
	DE	6.43	7.44	8.44
	VT	6.20	7.37	8.53
	NJ	6.50	7.25	8.01
	WI	6.11	7.22	8.33
	MD	5.82	7.14	8.45
	VA	5.99	7.08	8.17
	RI	5.97	7.02	8.07
	MA	5.52	6.82	8.11
NH	5.56	6.65	7.73	
PA	6.06	6.62	7.17	
IA	5.42	6.49	7.57	
MN	5.38	6.34	7.30	
SD	5.17	6.26	7.36	
ND	4.39	5.11	5.83	

**Figure 1: Estimated Percent of Food Insecure Households, by State, and the National Average**  
 (Three-Year Averages for 1997-1999, Including Margin of Error of Estimate)



