

Over 2.2 Million Low-Income California Adults are Food Insecure; 658,000 Suffer Hunger

Gail G. Harrison, Charles A. DiSogra, George Manalo-LeClair, Jennifer Aguayo, Wei Yen

November 3, 2002

More than 2.24 million low-income adults in California cannot always afford to put food on the table and as a result almost one out of three of these adults, 658,000, experience episodes of hunger. This is a sad reality in a state that has the largest agricultural economy in the United States and produces an abundance of high-quality fruits and vegetables for much of the nation. The ranks of “food insecure” Californians include not just the most impoverished individuals but working adults, retired older persons with fixed incomes and many parents with children.

These new findings are based on data from the California Health Interview Survey (CHIS 2001). CHIS 2001 is California’s largest representative health survey of the state and its counties. The survey included a sizeable sample of the estimated 8 million low-income Californians – those living in households with incomes *below 200% of the federal poverty level**. It was found that more than 8.3% of these low-income adults experience food insecurity with hunger. Another 20.0%, one out of five low-income adults, experience food insecurity that falls short of hunger. Food insecurity, with or without hunger, causes families to forego such basic needs as rent, utilities, and medical care in order to put food on the table. Food security is defined as access to an adequate nutritious diet. Food security is a goal of any society; essential for the good health of all. Based on these new CHIS 2001 findings, the paradox of food insecurity and hunger in food-abundant California clearly shows that this state can do better.

Measuring Food Insecurity

Lack of assured access to enough food through socially acceptable means is termed “food insecurity.” In its extreme form, this results in hunger - going without food for lack of money or other resources. Over the last several decades, health advocates and researchers have worked on ways to accurately measure the prevalence of hunger and food insecurity in order to track trends using this basic indicator of human welfare. These efforts have resulted in the development of standard instruments to estimate the prevalence and severity of the problem. The food security measure that was used in CHIS 2001 is an abbreviated six-item scale derived from the 18-item US Household Food Security Module used in national surveys¹. In CHIS 2001, the food security questions were asked only of individuals in households whose incomes were estimated to be less than 200% of the federal poverty level. The survey asked about a person’s food security over the previous 12-month period and focused on the lack of resources or money as reasons for food insecurity. The survey only interviewed persons living in households with telephones. Households without telephones and the homeless population are not included in these results.

Food Insecurity is a Risk to Health

While closely associated with poverty, food insecurity is a threat to well-being and long-term health. There is abundant evidence from other studies that hunger and food insecurity pose substantial risks to health resulting in large costs to society through increased needs for medical care. There are also related social and mental health costs. Individuals who are food insecure have been shown to have poor quality diets making them vulnerable to a wide variety of diseases. There are also health risks and

* Example: 200% FPL is \$36,200 per year for a family of four.

consequences related to the worry, anxiety, and management tradeoffs that must be employed in food-insecure households. Whether mediated through malnutrition or other routes, the negative impacts are substantial. Children living in food-insecure households tend to do less well in school with increased absences, tardiness, more school suspensions, and poorer cognitive functioning²⁻⁴. Their overall health status is worse with more health problems such as headaches, colds, and ear infections than other children^{5,6}. Adolescents in food-insecure households have higher rates of depressive and suicidal symptoms and are more than twice as likely to have seen a psychologist than other teenagers⁷. Adults who are food insecure tend to forego needed medical care when hunger threatens. For example, food insecure adults with diabetes have more costly and life-threatening complications of their illness; requiring more physician visits and medical care than food-secure persons with diabetes⁸.

Food Insecurity and Hunger in California

CHIS data show that 28.3% of low-income adults in California are food insecure; this represents about 2.24 million adults. Although this study only looked at low-income adults, it should be understood that some fraction of adults above 200% of poverty also experience food insecurity intermittently, seasonally or in response to sudden shocks such as job layoffs or illness. Thus, it is reasonable to conclude that among all California adults, the number of food insecure is higher than 2.24 million. When children in these households are taken into account, the actual number of persons may exceed 5 million according to estimates by the U.S. Department of Agriculture⁹.

Based on the recent CHIS 2001 data, among the poorest adults, those in households with incomes below 100% of the federal poverty line, 36.2% or 1.2 million adults had experienced food insecurity sometime in the twelve months prior to the survey (see Exhibit 1).

Among adults living in households with incomes between 100% and 199% of poverty, 22.7% or almost 1.05 million were food insecure. Among all adults in households with incomes below 200% of poverty, 28.3%, or 2.24 million were food insecure in 2001. The CHIS 2001 results show that for all adults below 200% of poverty who are food insecure, one in three experience hunger. Statewide this is estimated to be 658,000 persons. More than half of these persons, 365,000 are below 100% of poverty.

The level of food insecurity and hunger among low-income adults varies across the state. Exhibit 2 is a map showing the geographic distribution of food insecurity across California in the 33 counties and 8 county groupings measured in the survey*. Many of California's northern rural counties and the agriculturally rich San Joaquin Valley have the highest rates of food insecurity, exceeding 30% of low-income households in several northern counties and ranging from 33% to 41% in the San Joaquin Valley. The highest rates are found in Tulare (41.4%) and Fresno (35.7%) counties. Exhibit 3 shows the percent of low-income adults who are food insecure and the percent that are food insecure with and without experiencing hunger for each of the 41 counties and geographic areas surveyed. Hunger was also prevalent among low-income adults across most of the state's northern rural Sierra range counties and across the San Joaquin Valley. The highest rates of hunger were reported for the Humboldt-Del Norte area (15.9%) and Shasta County (15.6%).

In the more populous urban areas, Los Angeles County has a food insecurity prevalence of 30.1% among low-income households and, due to its large population, contributes the largest number of the state's adults, approximately 777,000 living under the threat of hunger or actually experiencing hunger. Among the San Francisco Bay Area's low-income adults, food insecurity ranges from 22% to 31% across

*CHIS sampled 33 individual counties and 8 geographic areas made up of groupings of smaller counties. When combined, these 41 counties and geographic areas encompass the entire state.

counties. The highest rates of hunger are reported in Sonoma, Solano, Marin and Napa counties.

Among race/ethnic groups, the highest rates of food insecurity are among low-income American Indian/Alaska Natives, African Americans, and Latinos. American Indian/Alaska Natives and African Americans report the most severe problems reflected in the highest hunger rates of 16.9% and 14.6%, respectively (see Exhibit 4).

Among the most vulnerable adults in the population in terms of the effects of being hungry, are pregnant women and the elderly. Approximately 14.4% of older, low-income adults, those over 65 years old, were found to be food insecure. Among low-income pregnant women, the prevalence of food insecurity was 29.5%. As many as 41.9% of low-income adults in single-parent families with children were food insecure and one out of three of these experienced hunger. Among low-income families, being unemployed and looking for work conferred additional risk. There was a 39.1% food insecurity prevalence among these persons contrasted with 27.8% for those who reported working. Undocumented individuals seem to be at particular risk; 35.8% of low-income adults who reported not being legal residents were food-insecure compared to 25.2% of US citizens of similar income levels (see Exhibit 5).

Food Assistance Programs

Good jobs with livable wages and an adequate social safety net for people who are unable to work are California's primary defenses against hunger. Absent these, the next best response to hunger and food insecurity is wide participation in the federal food assistance programs. Each program [see box] has a unique and necessary role in reducing food insecurity.

The Food Stamp Program: Enables low-income children, families and individuals to buy nutritious food through normal channels like supermarkets and grocers.

Women, Infants and Children Special Supplemental Nutrition Program (WIC): This highly effective program sees that low-income pregnant women and their babies, and young children determined to be at nutritional risk have access to the nutritious food and prenatal care they need.

The CHIS 2001 data show that some adults in need of help are participating in the federal Food Stamp program. Also, women in most need are likely to be enrolled in the Women, Infants and Children Special Supplemental Nutrition Program (WIC). Among the estimated 4.95 million adults in families with incomes low enough to be eligible for food stamps, that is, below 130% of the federal poverty level, about 496,000 or 10.2% reported receiving food stamps. Of these Food Stamp participants, 51.1% had experienced food insecurity in the previous year compared to only 27.7% of the non-participants. However, among adults below 130% of poverty who experience hunger, 80.5% (approximately 358,000 adults) were not in the Food Stamp program.

For all pregnant women who are below WIC's income eligibility criterion, that is, 185% of the poverty level, 31.7% or almost 31,000 report being food insecure. One out of four of these food insecure women (24.1%) report not being enrolled in WIC. Among these 31,000 food insecure pregnant women, over 8,300 reported experiencing hunger with one in three (34.2%) not being enrolled in the WIC program (see Exhibit 6).

Nutritional risk as well as income are criteria used for WIC eligibility. Just looking at the estimated 1 million income-eligible women who reported being pregnant and/or had one or more children under age 5, almost 58.5% reported being enrolled in WIC with two out of five of these women being food insecure. And although

about 8% or 78,000 of this population of women reported hunger whether or not they were enrolled in WIC, the WIC enrollees tended to be poorer (70.7% below the poverty line vs. 46.2% for non-enrollees), younger and much more likely to be unemployed. Since poverty is associated with hunger, these data suggest that the WIC program is enrolling those in greatest need. This also suggests that WIC is potentially checking hunger among participants because the hunger rate is not greater than that of non-participants.

While these federal programs help reduce hunger and food insecurity, they are underutilized. The Food Stamp Program reaches only 49% of eligible Californians according to the U.S. Department of Agriculture¹⁰. There are several determining factors for eligibility for food stamps, including income. Households may be eligible for food stamps if their incomes are below 130% of the federal poverty level. CHIS suggests that 1.46 million adults experiencing food insecurity in California have incomes below this 130% level, yet almost 1.21 million are not getting food stamps. The CHIS findings indicate that this is resulting in unnecessary hunger because food stamps can and do help.

Policy Recommendations

It is no surprise that poverty and hunger go hand in hand. Increases in the resources that Californians have for food can be achieved through improved wages and adequate cash assistance programs for seniors, the disabled and the unemployed and underemployed. In the meantime, the following policy options should be considered.

1. Hunger and food insecurity should be routinely included as basic health indicators in all health surveillance surveys in California, as it is in national surveys.
2. Increase participation in the federal food programs by streamlining enrollment procedures. State policymakers can make application processes easier, especially for

busy working families, by doing the following:

- a. Reduce trips to the food stamp office. It takes an average of 5 hours and 3 trips to a county office to get food stamps¹¹. Legislators can require the use of appropriate alternatives, such as telephone and mail-in applications.
 - b. Automatically enroll low-income children in school meals. California is just one of three states that does not match state welfare data with state education data to automatically enroll its children in the free and reduced priced school meal programs.
 - c. Eliminate the practice of finger-imaging applicants. Food Stamp applicants in California must submit to a finger print type scan in order to get help. This costly imaging adds time to an already lengthy process. The California State Auditor is currently examining if and how this may be deterring eligible people from applying.
3. Seize the opportunity provided by the Congressional Reauthorization of Child Nutrition Programs in 2004. As the data indicate, families with children, especially single-parent families, had higher rates of food insecurity. Congress can address this next year when it reviews child nutrition. Among the things Congress can do:
 - a. Expand the reach of the School Breakfast Program and move toward a “universal” breakfast system, where all students can start the day with breakfast regardless of income. It can also promote the “breakfast in the classroom” alternative that is intended to remove the problems of space and time for breakfast at many schools.
 - b. Ensure children are fed year round by making it easier for community-based organizations to serve meals when

school is out by combining the Summer Food Program and Child Care Food program.

- c. Serve more children in school by offering all low-income children free meals. Schools offer meals in three categories: full-price, reduced-price and free. The reduced price category serves children between 130% and 185% of poverty and these students are required to partially pay for their meal. This partial payment can be burdensome for many low-wage families and is also burdensome for schools to administer.

4. Invest in outreach for the Food Stamp program and WIC since their target populations are the groups with the highest prevalence of food insecurity and hunger.

* * *

Data Source

This policy brief on food insecurity and hunger in California is based on findings from the 2001 California Health Interview Survey (CHIS 2001). CHIS 2001, the largest health survey ever conducted in any state and one of the largest in the nation, covers a broad range of public health concerns including health status and conditions, health-related behaviors, health insurance coverage and access to health care services. CHIS 2001 interviewed 55,428 households randomly drawn from every county in California for its random-digit dial (RDD) telephone survey, providing a sample that is representative of the state's non-institutionalized population (data were weighted based on the 2000 Census). CHIS 2001 interviewed one sample adult in each household. The data on food insecurity and hunger are derived from the adult interviews from households with incomes below 200% of the federal poverty definition. The interviews, available in six languages, were conducted between November 2000 and September 2001.

Author Information

Gail G. Harrison is Professor in the Department of Community Health Sciences at the School of Public Health at UCLA, and Associate Director of the UCLA Center for Human Nutrition, Los Angeles. George Manalo-LeClair is Director of Legislation and Policy for California Food Policy Advocates. Charles A. DiSogra is Director of the California Health Interview Survey at the UCLA Center for Health Policy Research with Jennifer Aguayo, CHIS Research Associate, and Wei Yen, CHIS Associate Director for Research.

Acknowledgements

The authors appreciate the contributions of: Hongjian Yu, Lu-May Chiang, Lida Becerra, Jenny Chia, Rong Huang, Carolyn Mendez and reviewers E. Richard Brown and Roberta Wyn.

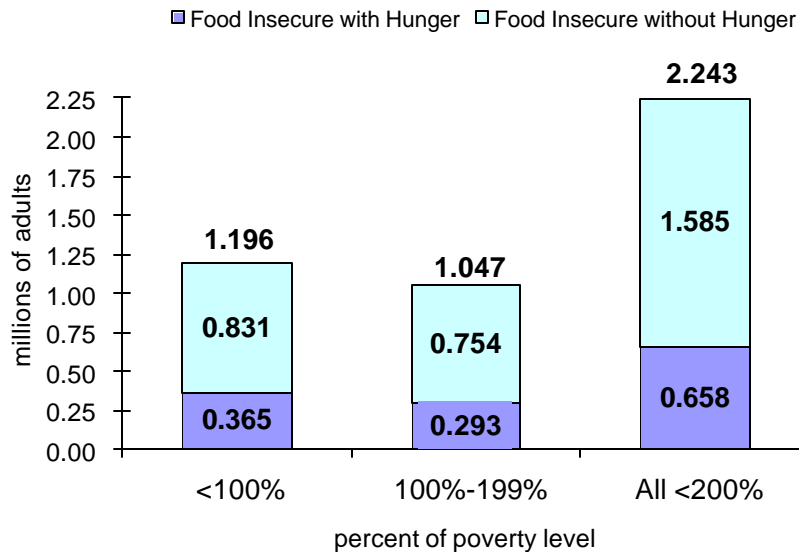
References

1. Blumberg SJ, Bialososky K, Hamilton WL, Briefel RR (1999). The effectiveness of a short form of the household food security scale. *Am J Public Health* 89: 1231-1234.
2. Alaimo K, Olson CM, Frongillo EA Jr. Food insufficiency and American school-aged children's cognitive, academic, and psychosocial development. *Pediatrics* 108: 44-53, 2001.
3. Kleinman RE, Murphy JM, Little M, Pagano M, Wehler, CA, Regal K, Jellinek MS. Hunger in children in the United States: Potential behavioral and emotional correlates. *Pediatrics* 101: 1-6, 1998.
4. Murphy JM, Wehler CA, Pagan ME, Little M, Kleinman RE, Jellinek MS. Relationship between hunger and psychosocial functioning in low-income American children. *J American Academy of Child & Adolescent Psychiatry* 37: 163-170, 1998.
5. Alaimo K, Olson CM, Frongillo EA Jr, Briefel RA. Food insufficiency, family income and health in US preschool and school-aged children. *Am J Public Health* 91: 781-786, 2001.
6. Casey PH, Szeto K, Lensing S, Bogle M, Weber J. Children in food-insufficient, low-income families: prevalence, health and nutritional status. *Archives of Pediatrics and Adolescent Medicine* 155: 508-514, 2001.
7. Alaimo K, Olson CM, Frongillo EA Jr. Family food insufficiency, but not low family income, is positively associated with dysthymia and suicide symptoms in adolescents. *J Nutrition* 132; 719-725, 2002.

8. Nelson K, Cunningham W Anderson R, Harrison G, Gelberg L Does food insufficiency affect health status and health care utilization among diabetics? Data from NHANES III. Am. J. Internal Medicine 16:404-411, 2001.
9. Sullivan AF, Choi E (2002). Hunger and Food Insecurity in the Fifty States, 1998-2000. Boston: Brandeis University Center on Hunger and Poverty.
10. Reaching those in Need: State Food Stamp Participation Rates, June 2002. Mathematica Policy Research for USDA. <http://www.fns.usda.gov/oane/MENU/Published/FSP/FILES/Participation/1999rates.pdf>
11. Ponza M, Ohls JC, Moreno L, Zambrowski A, Cohen R. (1999). Customer Service in the Food Stamp Program. Mathematica Policy Research, Inc. for USDA. <http://www.fns.usda.gov/oane/MENU/Publish ed/FSP/FILES/Program%20Operations/fspcu st.pdf>

Exhibit 1.

Number of Low-Income Adults Reporting Food Insecurity and Hunger in California



Source: 2001 California Health Interview Survey

Exhibit 2.
PREVALENCE OF FOOD INSECURITY BY COUNTY
Adults (Ages 18+), Below 200% Poverty
California, 2001

The different colors and patterns used represent ranges of prevalence of food insecurity (with and without hunger), and do not necessarily represent statistically significant differences among counties. For information on rates and confidence intervals, please see Exhibit 3.

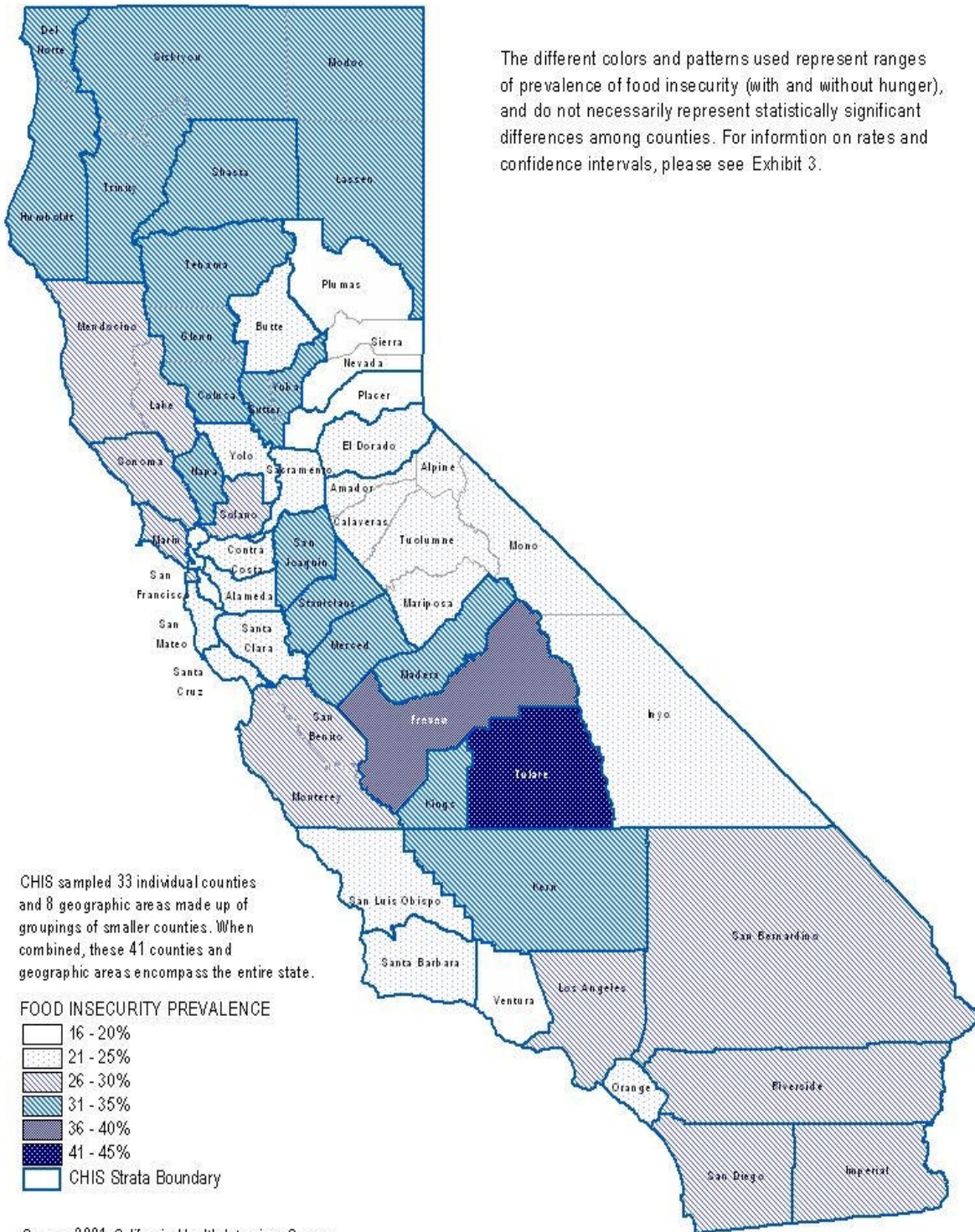


Exhibit 3.

Prevalence of Food Insecurity (with and without hunger) among Adults (Ages 18+) below 200% poverty, by County/County Group*, California, 2001

	<i>Food Insecure</i>		<i>Food Insecure WITHOUT Hunger</i>		<i>Food Insecure WITH Hunger</i>	
	Prevalence	95% C.I.**	Prevalence	95% C.I.	Prevalence	95% C.I.
NORTHERN AND SIERRA COUNTIES						
Butte	24.2	(18.8-29.5)	12.9	(8.9-17.0)	11.2	(7.2-15.2)
Shasta	35.0	(28.1-41.8)	19.4	(13.3-25.4)	15.6	(10.5-20.7)
Humboldt, Del Norte	31.8	(25.6-38.0)	16.0	(11.2-20.7)	15.9	(10.9-20.8)
Siskiyou, Lassen, Trinity, Modoc	30.8	(24.6-37.0)	18.9	(13.7-24.1)	11.9	(7.3-16.5)
Mendocino, Lake	28.2	(21.9-34.4)	16.2	(10.5-21.8)	12.0	(8.0-16.0)
Tehama, Glenn, Colusa	32.6	(26.7-38.6)	20.1	(15.1-25.2)	12.5	(8.1-16.9)
Sutter, Yuba	31.8	(25.5-38.0)	21.1	(15.4-26.8)	10.7	(6.7-14.6)
Nevada, Plumas, Sierra	19.8	(11.9-27.7)	15.9	(8.1-23.6)	4.0	(1.4-6.6)
Tuolumne, Calaveras, Amador, Inyo, Mariposa, Mono, Alpine	25.2	(18.5-31.7)	14.8	(9.4-37.0)	10.3	(5.6-15.1)
GREATER BAY AREA						
Santa Clara	25.1	(18.4-31.8)	19.9	(13.5-26.3)	5.2	(2.3-8.1)
Alameda	21.7	(16.4-27.0)	14.7	(10.1-19.3)	7.0	(4.1-10.0)
Contra Costa	21.6	(14.5-28.7)	17.1	(10.3-23.9)	4.5	(1.8-7.1)
San Francisco	28.8	(23.7-33.9)	19.4	(14.8-24.1)	9.4	(6.6-12.2)
San Mateo	22.0	(14.0-30.1)	15.5	(8.4-22.6)	6.5	(2.1-10.9)
Sonoma	28.9	(19.7-38.1)	14.8	(7.4-22.1)	14.1	(7.2-21.1)
Solano	30.2	(23.8-36.6)	18.8	(12.9-24.7)	11.4	(7.7-15.1)
Marin	26.1	(14.5-37.7)	15.3	(6.6-23.9)	10.8	(1.2-20.4)
Napa	31.4	(22.1-40.6)	20.1	(12.1-28.1)	11.3	(4.6-18.0)
SACRAMENTO AREA						
Sacramento	24.0	(18.4-29.7)	15.9	(10.9-21.0)	8.1	(4.8-11.4)
Placer	19.0	(10.9-27.0)	11.4	(5.3-17.4)	7.6	(1.5-13.7)
Yolo	22.9	(15.8-29.9)	14.3	(8.1-20.5)	8.6	(4.2-12.9)
El Dorado	22.0	(15.1-28.9)	9.0	(4.2-13.7)	13.0	(7.5-18.5)
SAN JOAQUIN VALLEY						
Fresno	35.7	(29.9-41.4)	24.6	(19.5-29.7)	11.1	(7.0-15.2)
Kern	33.6	(28.6-38.7)	25.4	(20.7-30.0)	8.3	(5.3-11.2)
San Joaquin	32.6	(26.7-38.5)	21.0	(15.8-26.1)	11.7	(7.9-15.5)
Stanislaus	33.0	(25.9-40.1)	22.6	(16.3-28.9)	10.4	(5.8-15.0)
Tulare	41.4	(34.7-48.0)	30.8	(24.6-37.0)	10.6	(6.5-14.6)
Merced	34.1	(28.0-40.3)	23.7	(18.0-29.5)	10.4	(6.8-14.0)
Kings	34.6	(27.9-41.4)	25.9	(19.4-32.5)	8.7	(5.3-12.1)
Madera	32.9	(27.0-38.8)	21.3	(16.2-26.4)	11.6	(7.6-15.6)
CENTRAL COAST						
Ventura	19.8	(13.2-26.4)	15.1	(9.4-20.7)	4.8	(0.7-8.8)
Santa Barbara	22.8	(17.4-28.1)	16.3	(11.6-21.0)	6.5	(3.6-9.4)
Santa Cruz	24.5	(17.6-31.4)	16.2	(10.1-22.3)	8.3	(4.2-12.4)
San Luis Obispo	25.5	(19.0-32.0)	13.0	(8.2-17.8)	12.5	(7.4-17.7)
Monterey, San Benito	29.4	(22.1-36.7)	21.9	(15.0-28.7)	7.5	(3.9-11.1)
LOS ANGELES						
Los Angeles	30.1	(28.4-31.8)	22.0	(20.4-23.5)	8.1	(7.2-9.0)
OTHER SOUTHERN CALIFORNIA						
Orange	25.5	(21.2-29.8)	19.6	(15.5-23.7)	5.9	(3.9-7.8)
San Diego	26.9	(23.1-30.8)	19.0	(15.4-22.5)	8.0	(5.8-10.1)
San Bernardino	28.5	(24.0-32.9)	19.2	(15.3-23.0)	9.3	(6.5-12.1)
Riverside	27.0	(22.3-31.7)	18.1	(13.9-22.1)	9.0	(6.0-11.9)
Imperial	26.2	(21.3-31.1)	21.3	(16.7-25.9)	4.9	(2.7-7.1)
STATEWIDE	28.0	(27.4-29.3)	20.0	(19.2- 20.9)	8.0	(7.8- 8.8)

Source: 2001 California Health Interview Survey

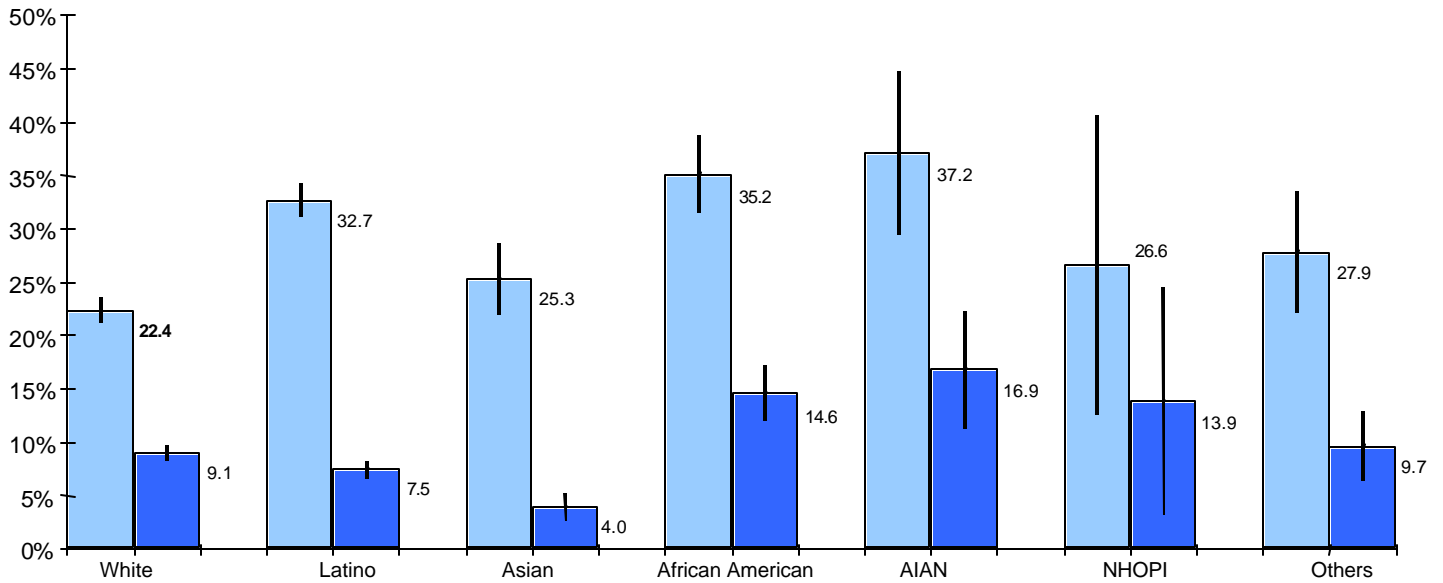
*CHIS sampled 33 individual counties and 8 geographic areas made up of groupings of smaller counties. When combined, these 41 counties and geographic areas encompass the entire state.

** The prevalence results represent estimated values that are very close to the actual values for adults (ages 18+) living below 200% of poverty who experienced food insecurity (with and without hunger) in California in 2001. Because the estimated value is based on a sample of this population, it has a degree of uncertainty, and the confidence interval (C.I.) shows the range where the actual value may lie. Hence, for 95% C.I., you can assume with 95% confidence that the actual value lies between the lower and upper C.I. range.

Exhibit 4.
Prevalence of Food Insecurity (with and without hunger)
and Prevalence of Hunger by Race/Ethnicity*
for Adults (Ages 18+), Below 200% Poverty

California, 2001

■ =Food insecure (with and without hunger)
 ■ =Hunger



* Race/Ethnicity is presented here using the UCLA Center for Health Policy Research's definition which treats Latino as a mutually exclusive category and takes into account the race/ethnicity with which respondents most identify.

**The bold, vertical bars represent the 95% confidence interval (C.I.) bands. Because the estimated value is based on a sample of this population, it has a degree of uncertainty, and the C.I. bands shows the range where the actual value may lie.

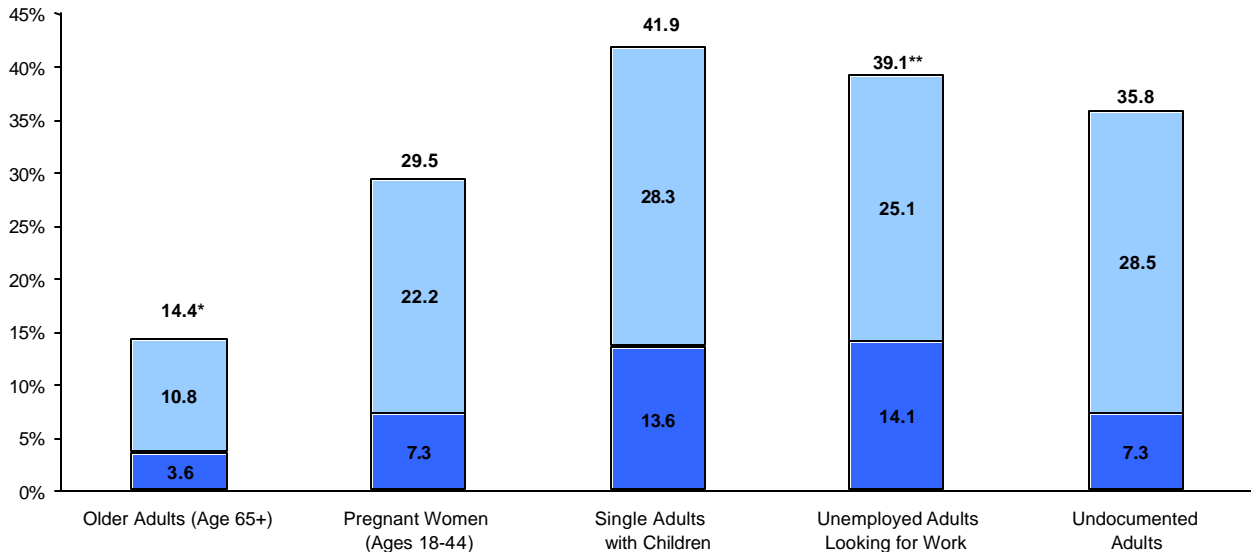
Note: American Indian and Alaska Native is abbreviated AIAN. Native Hawaiian and Other Pacific Islander is abbreviated NHOPI.

Source: 2001 California Health Interview Survey

Exhibit 5.

Prevalence of Food Insecurity (with and without hunger)
Among Vulnerable Adult Groups,
Below 200% Poverty,
California, 2001

■ Food insecure with hunger □ Food insecure without hunger



*Top numbers represent total prevalence of food insecurity (with and without hunger) for each group.

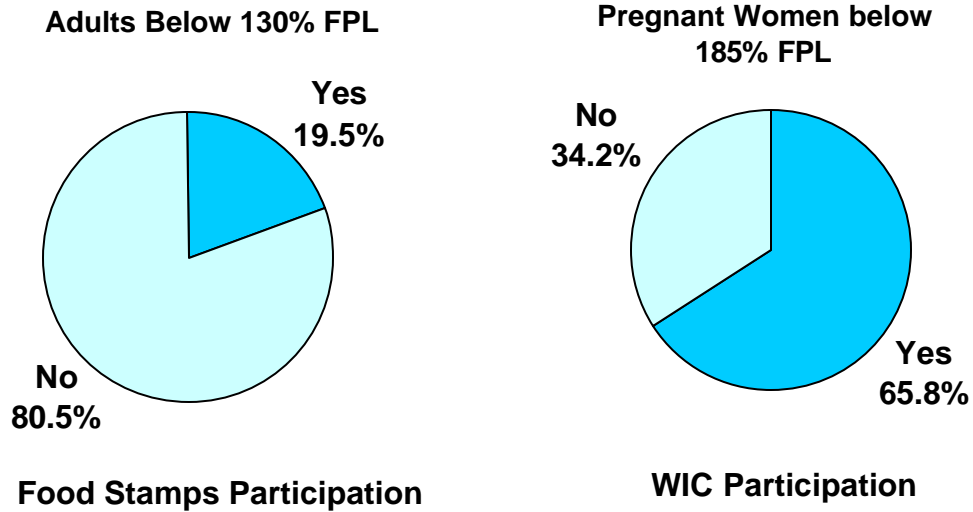
**Total prevalence of food insecurity does not add up due to rounding.

Source: 2001 California Health Interview Survey

Exhibit 6.

**Percent of Income-Eligible Person Reporting Hunger
Participating in Food Assistance Programs**

(FPL= Federal Poverty Level)



Source: 2001 California Health Interview Survey

For further information contact:

Charles DiSogra, DrPH
Director, California Health Interview Survey
UCLA Center for Health Policy Research
(310) 794-0946 cdisogra@ucla.edu