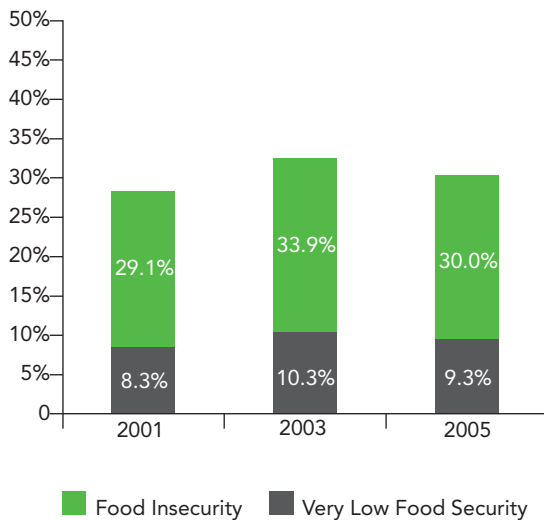


Food Security Among California's Low-Income Adults Improves, But Most Severely Affected Do Not Share in Improvement

Gail G. Harrison, Matthew Sharp, George Manalo-LeClair, Anthony Ramirez and November McGarvey

Food insecurity in California decreased during the recent economic expansion, but it has not improved to the level achieved at the end of the last period of economic growth. In 2005, 30% of the state's low-income adults experienced food insecurity, down from a high of 33.9% in 2003, but still higher than the 29.1% rate in 2001 based on analyses of the California Health Interview Survey (CHIS).¹ In 2005, approximately 2.5 million California adults (plus their family members) could not afford to put adequate food on the table on a consistent basis in the previous year.

Exhibit 1
Prevalence of Food Insecurity and Very Low Food Security Among Low-Income Households, California, 2001-2005



Source: 2001, 2003 and 2005 California Health Interview Surveys

The prevalence of adults living in households with very low food-security (indicating disruption in eating patterns and reduced food intake in the previous year) remained statistically unchanged at 9.3% in 2005, compared to 10.3% in 2003 and 8.3% in 2001 (see Exhibit 1). More than three quarters of a million adults (775,000) were in households experiencing very low food security in 2005.

Why Is Food Security Important For Health?

At mild and moderate levels, food insecurity contributes to anxiety and worry, and often results in adjusting the household budget to forego other basic needs in order to make sure that one's family is fed. Very low food security results in the disruption of eating patterns and reduced food intake. Children in food-insecure households miss more school and do less well in school. Both young children and adolescents experience more emotional problems, and adults in food-insecure households experience more anxiety



MAZON: A Jewish Response to Hunger funded this study together with California Food Policy Advocates.

and depression. Individuals in food-insecure households are more likely than others to put off or omit filling prescriptions for needed medicine or following up on needed medical care. For individuals with chronic illnesses such as diabetes or asthma, this results in increased complications, hospitalizations and emergency room visits.²

Tracking Food Security Nationally

The U.S. Department of Agriculture (USDA) is responsible for monitoring food security in the U.S. population. Since 1995, food security has been monitored annually through a supplement to the Current Population Survey, using a standard 18-item questionnaire. In response to a National Academies of Sciences panel recommendation, the term “food insecurity with hunger” has been replaced with the term “very low food security.” The rationale is that the questionnaire used to measure household food security prevalence does not measure the physiological sensation of hunger but rather a severe level of food insecurity at which eating patterns are disrupted and meals are omitted.

In 2006, the USDA applied the changed terminology describing food insecurity for national reporting (see Exhibit 2).³

Tracking Food Security with the California Health Interview Survey

The California Health Interview Survey (CHIS) has measured food security since its inception in 2001. Previous analyses of these data have raised awareness of the problem among California policy-makers and stimulated reforms in the Food Stamp program. CHIS has used a validated six-question scale⁴ derived from the 18-item U.S. Household Food Security questionnaire used in federal surveys, and has asked the food security questions only of low-income adults residing in households with incomes less than 200% of the federal poverty level.*

In this policy brief, we present results generated with data drawn from all three rounds of CHIS: 2001, 2003 and 2005. We use the new recommended terminology “very low food security” to describe the most severe food insecurity, namely that characterized by disruption of eating patterns and reduction in food intake. In earlier terminology, this was termed “food insecurity with hunger.”

* The Federal Poverty Level (FPL) varies by household size. The 2005 Federal Poverty Level (100% FPL) for a family of four (two adults, two children) was \$19,806, 200% FPL for a family of four (two adults, two children) was \$39,612.

Exhibit 2

Changes in United States Department of Agriculture (USDA) Food Security Language

General Category	Detailed Category		
	Old Label	New Label	Description of Conditions in the Household
Food Security	Food Security	High Food Security	No reported indications of food-access problems or limitations.
		Marginal Food Security	One or two reported indications—typically of anxiety over food sufficiency or shortage of food in the house. Little or no indication of changes in diets or food intake.
Food Insecurity	Food Insecurity without Hunger	Low Food Security	Reports of reduced quality, variety or desirability of diet. Little or no indication of reduced food intake.
	Food Insecurity with Hunger	Very Low Food Security	Reports of multiple indications of disrupted eating patterns and reduced food intake.

Source: USDA-ERS <http://www.ers.usda.gov/Briefing/FoodSecurity/Labels.htm>; visited March 12, 2007

The prevalence of food insecurity reported here is for adults residing in households with incomes below 200% of the federal poverty level and does not include homeless individuals. There is evidence from national surveys that there is some food insecurity among households with somewhat higher incomes and therefore, the present estimates in all likelihood underestimate the absolute number of adults touched by food insecurity in California. Nevertheless, our prevalence estimate for adults residing in households with incomes below 200% of the federal poverty level is comparable to other population-based estimates for California (see the Technical Note at the end of this brief).

Why Food Insecurity Decreased Between 2003 and 2005

Overall economic trends in California during this period were favorable and the improvement noted in rates of food security may reflect these trends. Unemployment and poverty rates in the state approached the national rate by 2005, compared to each having been higher in 2003. Job growth in California has outpaced national trends since the mid-1990s, with most of the vigorous job growth observed in recent years in the service industry sector.⁵ CHIS data reflect the general overall improvement in California household incomes over this time period. In 2001, 2003 and 2005, the proportion of sampled households with incomes less than 200% of the federal poverty level continually decreased from 36.1% to 33.9%, and finally 31.4%, respectively. These results indicate the rate of population growth among California adults residing in low-income households was slower than observed for their higher income counterparts. In addition, the proportion of adults who are age 65 and older among low-income households has increased, and CHIS data have consistently shown that households with older adults have lower rates of food insecurity than those headed by younger persons.

It is important to note, however, that the prevalence of very low food security—manifested in disruption of eating patterns and reduced food intake—has *not* improved measurably over this period.

Who Is Most At Risk?

Not surprisingly, the lowest-income households are at the highest risk of food insecurity. Among households with incomes below the federal poverty level in 2005, 36.2% were food insecure, compared to 25.6% for households with incomes between 100 and 199% of the federal poverty level.

Food insecurity is more likely among adults in less than good health, although it is unclear whether food insecurity is a cause, an effect, or simply associated with lower health status. In 2005, 40.1% of low-income adults who reported fair or poor health status lived in food-insecure households, compared to 24.8% among those reporting good, very good or excellent health.

Adults living in low-income households with food insecurity were also more likely to struggle with overweight or obesity. In 2005, 64% of adults in food-insecure households were overweight or obese, compared to 58% of those in food-secure households.

Pregnant Women and Families with Children at Higher Risk

While all adults living in low-income households are vulnerable, some low-income groups are particularly vulnerable. One in five low-income pregnant women (20%) were food insecure in 2005, down from a very high 40.7% in 2003. Nearly one in three low-income households with children (30.8%) were food insecure in 2005, down from an even higher prevalence of 38.3% in 2003. The prevalence of very low food security in households with children remained statistically unchanged (11% in

Exhibit 3

Prevalence of Food Insecurity and Very Low Food Security Among Vulnerable Low-Income Adult Groups, California, 2005



Source: 2005 California Health Interview Survey

2005 compared to 10.9% in 2003). Among low-income single-parent households with children, the rates were even higher, with one in three being food insecure (33.8%) and 13.7% experiencing very low food security.

Food Security Continues to Vary by Ethnic Group and Age

Food security varies by ethnicity and the variation among ethnic groups has remained constant over the three rounds of the California Health Interview Survey to date. In 2005, low-income African Americans had the highest rate of household food insecurity (37.5%) followed by Latinos at 32.6%. Whites and Asians had lower rates at 28.6% and 24.1%, respectively. When we look at very low food security, in which eating patterns are disrupted, Latinos show lower prevalence (9%) than African Americans (16.8%) and Whites (10.2%). Asians in low-income households had the lowest rate of very low food insecurity at 4.4%.

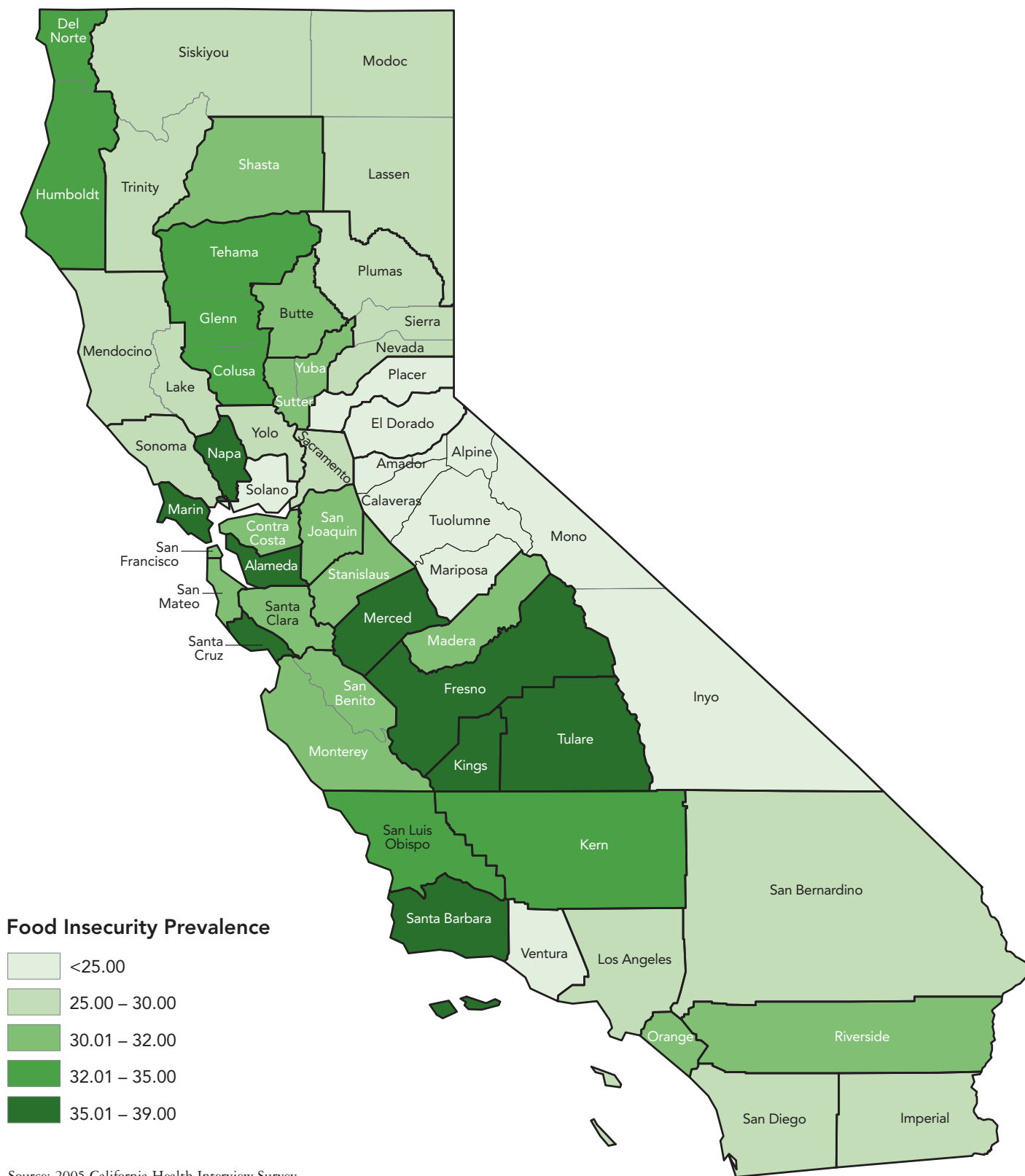
Among low-income adults age 65 and older, 17.4% resided in food-insecure households in 2005, down from 20% in 2003. However, the prevalence of very low food security for this group remained statistically unchanged at 4.2% in 2005 (from 4.3% in 2003; Exhibit 3).

No Improvement for the Unemployed or for Undocumented Immigrants

Unemployed adults and undocumented immigrants constitute the highest risk groups for household food insecurity, and these vulnerable groups have not shared in the general improvement over the last several years. Among unemployed low-income adults, 39.8% were residing in food-insecure households in 2005 (statistically unchanged from 40.4% in 2003), and almost half of these (18.4%) lived in households experiencing very low food security (a statistically significant increase from 14.4% in 2003). Among non-citizen adults without legal U.S. residency living in

Prevalence of Food Insecurity by County, Adults Age 18 and Over Below 200% Federal Poverty Level, California, 2005

Exhibit 4



Source: 2005 California Health Interview Survey

Exhibit 5

Prevalence of Food Insecurity and Very Low Food Security Among Adults Age 18 and Over, Below 200% FPL by County/County Group: California 2003 and 2005

Regions	2005 Food Insecure			2003 Food Insecure		2005 Very Low Food Secure			2003 Very Low Food Secure	
	%	95% CI	Est. Pop.	%	95% CI	%	95% CI	Est. Pop.	%	95% CI
Northern and Sierra Counties										
Butte	31.3	(21.8-40.1)	21,000	24.4	(17.1-31.7)	15.1	(7.9-22.3)	10,000	9.4	(4.3-14.5)
Humboldt, Del Norte	34.4	(27.1-41.7)	16,000	31.6	(24.0-39.2)	14.4	(9.6-19.2)	7,000	14.8	(9.0-20.6)
Mendocino, Lake	26.3	(20.2-32.4)	10,000	37.5	(27.9-47.0)	9.7	(6.1-13.3)	4,000	21.0	(13.0-29.0)
Nevada, Plumas, Sierra	29.4	(19.4-39.4)	7,000	33.5	(21.8-45.2)	13.0*	(5.3-20.7)	3,000	16.3	(7.3-25.3)
Shasta	31.2	(22.4-40.1)	17,000	41.0	(32.0-50.1)	8.2	(4.1-12.4)	4,000	14.7	(8.7-20.6)
Siskiyou, Lassen, Trinity, Modoc	23.7	(12.2-35.3)	6,000	23.7	(14.9-32.6)	6.1*	(1.6-10.7)	2,000	10.0*	(3.9-16.1)
Sutter, Yuba	31.5	(22.9-40.1)	13,000	42.4	(33.2-51.6)	14.5	(6.7-22.3)	6,000	17.5	(9.9-25.0)
Tehama, Glenn, Colusa	33.3	(24.4-42.1)	11,000	33.6	(24.6-42.5)	13.1	(6.6-19.5)	4,000	9.9*	(3.8-16.1)
Tuolumne, Calaveras, Amador, Inyo, Mariposa, Mono, Alpine	23.9	(12.2-35.6)	7,000	35.5	(23.9-47.0)	5.7*	(1-10.7)	2,000	17.2	(8.1-26.2)
Greater Bay Area										
Alameda	36.3	(28.5-44.1)	108,000	34.0	(29.5-38.5)	14.4	(8.1-20.7)	43,000	11.4	(8.6-14.2)
Contra Costa	30.7	(20.3-41.1)	48,000	36.3	(25.2-47.4)	11.6*	(4.7-18.6)	18,000	4.8*	(1.5-8.2)
Marin	32.9	(25.2-40.7)	9,000	20.4*	(8.2-32.7)	11.8	(6.6-17.1)	3,000	8.2*	(0.3-16.1)
Napa	38.4	(25.5-51.4)	10,000	41.9	(29.0-54.9)	8.4	(2.8-14.0)	2,000	15.9*	(4.7-27.2)
San Francisco	27.8	(20.0-35.6)	46,000	26.3	(18.4-34.1)	7.0*	(2.9-11.2)	12,000	5.2*	(1.7-8.7)
San Mateo	28.9	(16.8-41.1)	32,000	40.7	(26.6-54.8)	10.6*	(3.5-17.8)	12,000	3.7*	(0.3-7.0)
Santa Clara	31.0	(22.9-39.0)	94,000	30.0	(23.4-36.5)	7.9	(4.3-11.5)	24,000	12.0	(7.3-16.6)
Solano	23.2	(16.6-29.8)	14,000	39.0	(26.0-52.0)	9.1	(4.9-13.3)	6,000	13.5*	(5.5-21.5)
Sonoma	26.7	(15.6-37.8)	23,000	33.1	(21.2-45.1)	9.2*	(2.7-15.8)	8,000	6.8*	(2.0-11.5)
Sacramento Area										
El Dorado	24.5	(14.8-34.1)	7,000	29.1	(17.9-40.3)	9.4*	(3.1-15.7)	3,000	13.5*	(4.3-22.8)
Placer	14.0*	(5.6-22.3)	6,000	30.6	(18.3-42.9)	2.9*	(0.0-6.1)	1,000	12.7*	(3.4-22.0)
Sacramento	29.6	(21.8-37.7)	71,000	29.5	(22.7-36.2)	7.2	(3.5-10.9)	17,000	7.4	(4.1-10.7)
Yolo	26.3	(15.1-37.6)	10,000	26.9	(17.8-36.0)	4.5*	(0.8-8.3)	2,000	7.7*	(2.6-12.8)
San Joaquin Valley										
Fresno	37.1	(29.0-45.1)	104,000	35.8	(28.1-43.4)	9.3	(4.8-13.7)	26,000	7.6	(4.1-11.2)
Kern	32.1	(24.8-39.4)	73,000	45.2	(36.0-54.4)	12.7	(6.8-18.6)	29,000	21.1	(13.7-28.4)
Kings	38.6	(29.0-48.2)	14,000	35.2	(27.2-43.2)	12.3	(6.2-18.3)	5,000	7.6	(3.2-11.9)
Madera	30.1	(21.3-38.9)	12,000	38.1	(29.5-46.7)	10.6	(5.8-15.4)	4,000	11.1	(5.7-16.6)
Merced	37.3	(28.2-46.3)	25,000	34.9	(27.1-42.6)	13.2	(7.9-18.5)	9,000	9.2	(4.7-13.8)
San Joaquin	30.0	(19.2-40.9)	49,000	41.0	(31.0-51.0)	9.0	(3.8-14.2)	15,000	11.4	(6.1-16.7)
Stanislaus	30.6	(22.0-39.3)	43,000	38.6	(30.0-47.3)	7.5*	(2.2-12.7)	11,000	15.4	(9.0-21.9)
Tulare	36.0	(27.6-44.5)	45,000	40.1	(32.7-47.6)	14.0	(8.1-20.0)	18,000	11.3	(6.3-16.3)
Central Coast										
Monterey, San Benito	31.3	(23.5-39.1)	41,000	38.1	(29.5-46.6)	10.7	(5.0-16.4)	14,000	12.7	(6.7-18.6)
San Luis Obispo	32.6	(18.2-47.0)	16,000	29.8	(19.5-40.0)	14.7*	(3.7-25.7)	7,000	4.7*	(1.2-8.1)
Santa Barbara	36.4	(23.4-49.3)	32,000	34.9	(23.3-46.5)	17.6	(8.3-26.8)	15,000	13.7	(6.0-21.3)
Santa Cruz	34.7	(23.2-46.2)	17,000	36.3	(26.1-46.4)	13.3*	(3.4-23.2)	6,000	16.3	(8.3-24.4)
Ventura	24.8	(16.2-33.4)	36,000	27.5	(16.6-38.4)	5.3*	(1.6-8.9)	8,000	5.1*	(0.2-10.0)
Los Angeles										
Los Angeles	27.9	(25.6-30.2)	740,000	34.3	(32.3-36.3)	8.5	(7.1-9.9)	226,000	10.3	(9.0-11.5)

Exhibit 5 (continued)

Prevalence of Food Insecurity and Very Low Food Security Among Adults Age 18 and Over, Below 200% FPL by County/County Group: California 2003 and 2005

Regions	2005 Food Insecure			2003 Food Insecure		2005 Very Low Food Secure			2003 Very Low Food Secure	
	%	95% CI	Est. Pop.	%	95% CI	%	95% CI	Est. Pop.	%	95% CI
Other Southern California										
Imperial	29.1	(21.6-36.5)	17,000	30.0	(23.6-36.3)	8.9	(4.2-13.5)	5,000	6.1	(2.9-9.3)
Orange	30.9	(25.1-36.6)	190,000	33.1	(27.2-38.9)	5.9	(2.9-8.9)	36,000	10.5	(6.7-14.2)
Riverside	31.0	(24.4-37.7)	141,000	31.6	(25.9-37.3)	11.0	(5.9-16.0)	50,000	10.3	(6.7-14.0)
San Bernardino	29.6	(23.9-35.3)	145,000	36.2	(30.5-41.9)	8.3	(5.3-11.4)	41,000	9.6	(6.4-12.7)
San Diego	29.5	(25.3-33.7)	161,000	30.1	(25.1-35.1)	11.0	(8.3-13.7)	60,000	9.6	(6.6-12.7)
Statewide	30.0	(28.7-31.3)	2,486,000	33.9	(32.7-35.1)	9.3	(8.5-10.1)	775,000	10.3	(9.6-11.1)

Source: 2005 and 2003 California Health Interview Surveys

* Statistically unstable estimate (i.e., co-efficient of variation greater than 30% of the relative standard error).

Note: Alpha=0.05. FPL=Federal Poverty Level. The prevalence results represent estimated values that are very close to the actual values for adults (age 18 and over) living below 200% of poverty in California who experienced food insecurity and very low food security in 2003 and 2005.

The probability-weighted samples are representative of the non-institutionalized household populations in California for their respective years.

low-income households, 39.8% were in food-insecure households in 2005 (not statistically different from 44.6% in 2003).

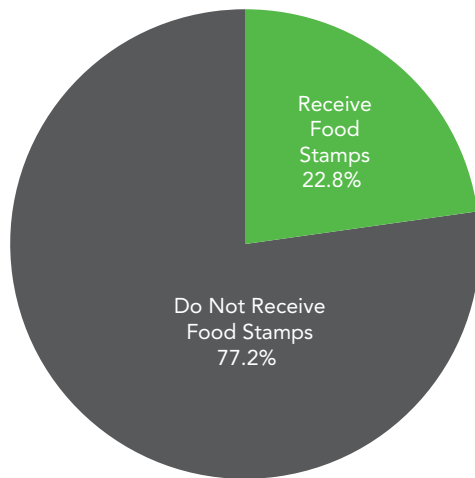
Across California's counties, there is wide variation in the prevalence of food insecurity, ranging from a low of 14% to a high of 38.6% (Exhibit 4), and in the change from 2003 to 2005 (Exhibit 5). The highest 2005 food insecurity prevalence figures come from Kings, Napa, Merced, Fresno, Santa Barbara, Alameda, Tulare, Santa Cruz, Humboldt/Del Norte and Tehama/Glenn/Colusa Counties. More than one in three low-income households were food-insecure in each of these counties in 2005.

Participation in Federal Nutrition Assistance Programs by the Most Severely Food Insecure

The federal food assistance programs constitute the most important safety net designed to protect American households against hunger and food insecurity. The

federal Food Stamp program is the largest program designed to mitigate food insecurity for low-income households. It provides direct subsidies for purchase of food through grocery stores. Citizens and permanent residents in households with incomes less than 130% FPL are considered income eligible. The Food Stamp program has been underutilized, particularly in California.⁶ In 2004, only 46% of eligible individuals participated in the program in California, compared to 60% nationwide.⁷ There was a drop in food stamp participation rates in California between 2000 and 2003. Subsequently, between August 2003 and August 2005, approximately 250,000 more Californians joined the program.⁸ We examined Food Stamp program participation by adults living in income-eligible households (less than 130% FPL) with very low food security. Only 22.8% of them reported receiving food stamps in 2005 (see Exhibit 6) up from 17.7% reported from CHIS 2003 data. There remains a very large

Exhibit 6

**Food Stamp Program Participation Among
Income-Eligible Adults in Very Low Food-
Secure Households, California, 2005**


Source: 2005 California Health Interview Survey

gap between Food Stamp eligibility and participation, particularly among the most severely food-insecure.

The Supplemental Nutrition Program for Women, Infants, and Children (WIC) targets pregnant and postpartum women, infants and children with low income (and nutritional risk). There is evidence that WIC program participation reduces food insecurity among pregnant women.⁹ While we could not duplicate WIC program criteria completely, we examined program participation rates among pregnant women in income-eligible households (less than 185% FPL) who reported the most severe level of food insecurity. More than half of these women reported participating in the WIC program (Exhibit 7). This is an underestimate since many women who were pregnant may have enrolled after responding to the survey interview.

Policy Implications and Recommendations

With 2.5 million adults in low-income households struggling to put food on the table on a monthly basis, policymakers need to take action to improve food security in California. The significant improvement from 2003 clearly demonstrates that the situation can improve, and that hunger and food insecurity need not be constants in modern American life—especially in the nation’s most productive food-producing state.

Policymakers should pay close attention to the factors that are associated with food insecurity. Among employed adults these factors include household income and poor health. These findings suggest that California leaders can increase food security in three policy areas. Specifically, we suggest that California’s policymakers should:

1. **Continue to seek improvements in California’s administration of federal nutrition programs to help make food affordable and accessible.**

The most direct response to food insecurity is for policymakers to find ways to reach more eligible households with nutrition assistance programs that can bring more federal dollars into the state to help with the problem. Federally-funded resources, including Food Stamps and child nutrition programs, are underutilized by food-insecure Californians, in spite of clear empirical evidence that participants benefit with better health and fewer food shortages.

Policy changes enacted in 2004 and 2005 modestly increased participation in the Food Stamp program between 2003 and 2005, but comprehensive improvements in policy (such as building nutrition insurance into health

care) will be required if major progress is to be made. Additionally, efforts are needed to remove application obstacles and reduce burdens for participants, such as ongoing paperwork and the fingerprinting requirement for food stamp applicants. Real barriers face families hoping to access or maintain their nutrition benefits.

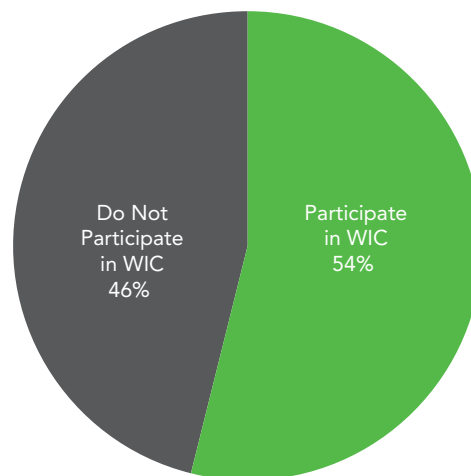
2. Continue efforts to raise wages, provide support to working families, and maintain adequate income assistance programs.

Since limited household income is directly associated with risk for food insecurity, increasing Californians' earning power (by actions such as the recently enacted minimum wage increase) will help reduce food insecurity. Food expenditures are the most flexible item in household budgets and are frequently squeezed when income dips or unemployment strikes.

Policymakers should take steps to ease household economic pressures, making sure families have sufficient resources available for nutritious food. For many food-insecure households, the most obvious way policymakers can help is to preserve the safety net assistance programs, such as CalWORKS and SSI. Other policies that merit consideration include providing earned income tax credits, increasing low-income housing options, as well as investing in job training, asset development and savings strategies to help bounce low-income Californians up the income ladder. These initiatives would assist individuals and families in climbing out of poverty and would have favorable impacts on food-security rates.

WIC Program Participation Among Income-Eligible Pregnant Women in Very Low Food-Secure Households, California, 2005

Exhibit 7



Source: 2005 California Health Interview Survey

3. Seize new opportunities to better connect health and nutrition policies.

Ensure that health care reform does not increase food insecurity. As California embarks on health care reform, the impact on food security should be considered. Given the direct connection between paying for health insurance and maintaining food security, policymakers must guarantee affordable health care to low-income individuals and families. Access to affordable health care coverage may enable families to direct more of their very limited resources to relieve other household pressures including adequate food. However, if health care coverage is not truly affordable but is required, many struggling low-income individuals and families will be forced to obtain coverage at the expense of other basic needs, including nutritious food.

Ensure that health care reform addresses prevention. Since individuals in food-insecure households are in poorer health than those in food secure-households—and experience greater rates of overweight and obesity—it is critical for prevention and wellness efforts targeting low-income Californians to be included in health care reform. Increasing access to nutritious foods—including fresh fruits and vegetables, and providing breakfast at all schools—is fundamental to ensuring healthy starts, reducing future health care costs, and improving the general health of all Californians by increasing food security among its most vulnerable residents.

Conclusion

Daily access to enough nutritious food is critical for good physical and mental health. Chronic or intermittent food insecurity is incompatible with health. Many international organizations have endorsed food security as a basic human right. National public health objectives in the U.S. call for reducing the prevalence of food insecurity by 50% by the year 2010 from a 1995 baseline. Yet food insecurity, primarily among the lowest-income portion of the population, remains a reality of daily life for many Californians. This is an important issue for policymakers to address as California debates health care reform.

Data Source

This policy brief is based on findings from the 2005, 2003 and 2001^R (Revised) California Health Interview Surveys (CHIS). CHIS covers a broad range of public health topics including health status and conditions, health-related behaviors, health insurance coverage and access to health care services. Specific numbers of households included for each analysis for all three survey years can be found at www.chis.ucla.edu.

Technical Note

To confirm the validity of our population estimates of food insecurity among California's low-income adults, we carried out a series of statistical comparisons with data for California drawn from the Current Population Survey Food Security Supplements (CPS-FSS Dec. 2001-2005). Prevalence estimates generated from these data represent adults living in low-income households that are food secure, food insecure, or very low food secure based on the full 18-item U.S. Household Food Security Survey Instrument. Based on CPS data, we estimate there were approximately 6.6 million, 7.1 million, and 8.0 million adults in California with household incomes under 200% FPL in 2001, 2003 and 2005, respectively. Among these adults, the approximate three-year probability-weighted averages for food insecurity between 2001-2003 and 2003-2005 was 31.0% (95% CI: 29.3-32.6) and 28.4% (95% CI: 26.4-30.4) respectively. Based on data captured in CHIS 2001^R, CHIS 2003 and CHIS 2005 we estimate the probability-weighted prevalence of food insecurity among adults in households with incomes below 200% FPL in California to be 29.1% (95% CI: 28.1-30.1) in 2001, 33.9% (95% CI: 32.7-35.1) in 2003, and 30.0% (95% CI: 28.7-31.3) in 2005. The close proximity of these independent estimates suggests that the population estimates presented in this brief are valid indicators of change in food security status.

Author Information

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Notes

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