

## **Section A. Identifying and Understanding the Target Audience**

### **1. NEEDS ASSESSMENT METHODOLOGY & FINDINGS**

#### **Needs Assessment Methodology**

*Describe and justify your methodology for assessing the needs of Food Stamp program eligibles in California*

Since Food Stamp Nutrition Education (FSNE) began at the University of California (UC) in FFY 1992 and expanded to the California Department of Health Services (CDHS) in FFY 1997, needs assessment methods have been continually upgraded to plan, run, and evaluate California's large and diverse Food Stamp Nutrition Education (FSNE) campaign. Initially, we built on available research and existing reporting systems. As targeting requirements became more specific, existing data sources were tailored for the United States Department of Agriculture's (USDA) new requirements, additional surveys were tapped to provide needed information, and special reporting systems were developed.

#### **Needs Assessment Data Sources**

The University of California-FSNE Program (UC-FSNEP) conducted a cost-benefit study for nutrition education in California and it was reported in October 2006 that for every dollar spent on nutrition education in California, between \$3.67 and \$8.34 is saved in health care costs. This study was published in *California Agriculture* (<http://CaliforniaAgriculture.ucop.edu> October-December 2006). This study demonstrated that nutrition education programs are a good investment and funding them is sound public policy. The Food Behavior Checklist (FBC) was used to measure food and dietary-related changes in low-income participants in California. In 2004, the amount of money saved on food purchases was evaluated in 460 food stamp eligible persons enrolled in the UC-FSNEP program. In this study which was published also in *California Agriculture* (October 2004), significant improvements were demonstrated both in money saving practices and in improved dietary quality.

The UC-FSNEP program uses this FBC to assess the diet, food-related skills and behavior practices of all individuals enrolled in the program. In FFY 06, evaluation results using the FBC demonstrated that food stamp eligible persons improved their fruit and vegetable consumption by 43% (statewide average), decreased their soda drink consumption by 35% and reduced their fat consumption by 43% (*UC-FSNEP Final Report, November 2006*). The FBC is an instrument with 21 questions, with 9 of them validated for fruit and vegetable consumption (Townsend, Kaiser, Allen, Joy, Murphy, *Journal of Nutrition Education and Behavior*, 35:69-82, 2003). Other questions assess food safety needs, food shopping needs, and other diet practices related indirectly to fruit and vegetable consumption (eating at fast food restaurants, drinking soda, high fat food consumption, drinking low-fat milk).

For FFY 2008, the Cancer Prevention and Nutrition Section (CPNS) uses findings from the 1999, 2001, 2003, and 2005 *California Children's Healthy Eating and Exercise Practices Survey*, the 1998, 2000, 2002, and 2004 *California Teen Eating, Exercise, and Nutrition Survey*, the 2001, 2003, and 2005 *California Dietary Practices Survey (CDPS)*, and the 2006 *California Nutrition Network Benchmark Communications Survey (Benchmark Survey)* to monitor the nutrition-related behavioral and lifestyle characteristics of FSNE-eligible persons, as compared with other Californians. The emphasis is on fruits, vegetables, physical activity, food insecurity, and –more recently– body weight. Over the past 15 years the CPNS surveys have advanced the evidence base for implementing large-scale, vertically integrated social marketing campaigns. Starting in 1995, over-sampling of the FSNE-eligible population was increased in order to better target low-income audiences for the purpose of providing support, guidance and redirection for Food Stamp nutrition education interventions.

CPNS conducts three specialized representative surveys with over-samples of the FSNE-eligible target population.

- The California Dietary Practices Survey of Adults (18 years and older; CDPS) – Biennially, since 1989
- The California Teen Eating, Exercise and Nutrition Survey (12-17 years old; CalTEENS) – Biennially, since 1998
- The California Children's Healthy Eating and Exercise Practices Survey (9-11 years old; CalCHEEPS) – Biennially, since 1999

Beginning in 2004, the *Network Communications Benchmark Annual Survey* was initiated to evaluate CPNS *Campaign* media efforts (message recall) directed to the target audience (low-income women and children 9-11 years old). In addition to these fully-funded CPNS surveys, CPNS also adds special questions (topics noted in parentheses) to larger representative surveys conducted by others.

- The Behavioral Risk Factor Surveillance System (BRFSS) – (fruit and vegetable consumption, physical activity, and food security) - Annually, since 1984
- The California Women's Health Survey - (fruit and vegetable consumption, physical activity, and food security) - Annually, since 2000

CPNS also plays an active part in the DHS California Health Interview Survey planning group. Staff has been instrumental in securing placement of several key question topics (noted in parentheses below) on the survey:

- The California Health Interview Survey (CHIS) - (fruit and vegetable consumption, high-sugar foods, physical activity, and food security) - Biennially, since 2001

In addition, data from two independent survey sources are utilized:

- Physical Fitness Testing - *FITNESSGRAM* - body composition, fitness standards achieved for all 5th, 7th and 9th graders - Annually, since 1998

- Pediatric Nutrition Surveillance System (PedNSS) monitors nutritional status of children (0-19 years old) who participate in publicly funded health programs (short stature, underweight, overweight and at-risk for overweight, anemia, low birth weight, and high birth weight) – Annually, since 1988

To illustrate the demographic characteristics of Food Stamp program eligible persons in California, the needs assessment also incorporates data from the, California Department of Social Service's *Food Stamp Characteristics Survey FFY2002*; USDA Characteristics of Food Stamp Households FFY05, USDA's Household Food Security in the United States, 2005, the U.S. Census 2000 and the 2005-06 data from California Department of Education CalWORKS. The following attachments supplement this section:

- Attachment 1—Food Stamp Households, Ethnic Profile and Totals, by County
- Attachment 2—County Level Poverty, Food Insecurity and Food Stamp Participation
- Attachment 3—2000 Census Demographic Profile, by County, <130 percent and <185 percent FPL, by Race/Ethnicity, Age, and Family Composition of Persons; Educational Attainment for Adults <125 percent and <185 percent FPL, by County
- Attachment 4—California FSNE Projects/Sites with Eligible Individuals, Census Tracts, and Schools, by County
- Attachment 5—California Schools where  $\geq 50$  percent Receive Free/Reduced Priced Meals (with FSNE projected *Network* and UC FSNEP Schools), by County
- Attachment 6—Type and Location of Food Stamp Retailers by Eligible Census Tracts, <130 percent FPL and <185 percent FPL
- Attachment 7—Brief Summaries of Other Nutrition-Related Programs Serving Low-Income Persons in California
- Attachment 8—California FSNE Infrastructure FY2008 Planned Sites, with *Network* Projects and UC FSNEP Sites, by County

## **Needs Assessment Findings**

### **a. Demographic characteristics of Food Stamp Program eligibles in California.**

*If information is available, discuss geographic location, race/ethnicity, age, gender, family composition, education, and primary language.*

Applying Food Stamp Nutrition Education (FSNE) eligibility categories, California's total state/federal FSNE efforts target approximately 10.1 million people (See Table 1). The people in these categories are very diverse and in many cases transitional because families struggling out of poverty typically have fluctuating incomes that make them intermittent participants in the Food Stamp Program (FSP). For community interventions, this income level harmonizes with eligibility levels of other means-tested programs such as WIC and free and reduced price school meals.

	<b>Category 1: Certified eligible (people receiving food stamps)<sup>1</sup></b>	<b>Category 2: Likely eligible (gross income &lt; 130% Federal Poverty Level (FPL) but not receiving food stamps<sup>2</sup></b>	<b>Category 3: Potentially eligible: (gross income &gt;130% and ≤185 Federal Poverty Level (FPL) <sup>3</sup></b>	<b>Total<sup>4</sup></b>
<b>Number</b>	2,020,145	4,636,260	3,472,226	10,128,631
<b>California Population<sup>5</sup></b>	6.2%	14%	10.5%	30.6%

1 Average monthly number of FSP participants (federal food stamps and California Food Assistance Program) in 2006. Source: CDSS Data Systems and Survey Design Bureau FS04b, FS04 released June 5, 2007. DFA 256

2 Category 2 is an estimate based on number of people with income < 130% FPL (US Census 2000) minus average monthly number of FSP participants in FY06.

3 Source US Census 2000.

4 Same figure as US Census 2000 estimate for number of people with incomes < 185%FPL.

5 Using US Census 2000 figure total population = 33,100,044

### Category 1: Certified Eligible (e.g. Food Stamp Program participants)

During 2006, the average monthly FSP participation (federal Food Stamps and California Food Assistance Program) was just over 2 million of California's 35 million people (6.2%). According to USDA's most recent Characteristics of Food Stamp Households Report FFY 2005, FSP households in California tend to be even poorer than national figures with only 5.9 percent in California having incomes above the poverty level compared to 11.5 percent nationally (USDA's Characteristics of Food Stamp Households FFY05).

FSP recipients in California are also more likely to be identified as Hispanic and less likely to be identified as African American or White than national figures. Based on FFY 2005 DSS demographic information, 51 percent of the FSP recipients were Hispanic, 21 percent White, 18 percent Black, and 10 percent Other (California Department of Social Services (CDSS) website). Attachment 1 provides the race/ethnic breakdown of Food Stamp households for all California counties where the data are available from the Department of Social Services (DSS). See Table 2 for race/ethnicity by FSNE eligibility category.

According to USDA Characteristics of Food Stamp Households FFY 2005, FSP recipients in California are also much more likely (66 percent) to be children (under 18 years) and less likely (1.6 percent) to be "elderly" (60 years or older) than national figures (nationally, 50 percent and 8.2 percent, respectively). See Table 2 for age breakdown by FSNE eligibility category. According to the state's most recent Food Stamp Household Characteristics Survey report (2002), 62 percent—or approximately 1.2 million—of California's Food Stamp recipients are under the age of 16. The average child's age was 8.3 years, and the average age of head of household was 36.6 years. Among the 683,000 Food Stamp households, about 27,000—or 4 percent—were headed by a person over the age of 60, and 80,000—about 12 percent—were headed by a disabled person.

CDSS's FSP Household Characteristic Survey (2002) also reported that half of households included other persons not receiving food stamps. About half of households received cash assistance in addition to Food Stamps, and just under a third (32 percent) of

households also reported working for salary or wages. In FY05, the average number of persons per household was 2.6.

As for education, 17 percent of the heads of Food Stamp households had completed the eighth grade or less, 26 percent had completed some high school and 55 percent completed high school or some college. Seventy-six percent of the heads of household were women; non-citizens made up nine percent of all recipients; and refugees made up two percent. Although there is no primary language information available specifically for Food Stamp participants, among low-income (<150 percent FPL) Californians 5 years and older, over 39 percent report Spanish and 23 percent report Asian or Pacific Island languages as their language spoken at home (U.S. Census, 2000).

Attachment 2 shows the number of FSP participants by county based on the 2006 twelve-month average. The five counties with the largest share of California's FSP participants are as follows: Los Angeles County (31.5 percent), San Bernardino (6.8 percent), Fresno (6.0 percent), Sacramento (5.8 percent), and San Diego (4.3 percent).

Category 2: Likely Eligible (income ≤ 130 percent FPL but not participating in FSP):

According to the U.S. Census 2000, 6.7 million people in California, or 20.1 percent of the population, have incomes below 130 percent of the Federal Poverty Level (FPL). As a result, the estimated number of people in California who are likely eligible for food stamps but not participating in the program is 4,636,260 or 14 percent of the population. See Table 2 for race/ethnicity and age breakdown of people with incomes <130 percent.

Unfortunately, the U.S. Census does not provide educational attainment information at the 130 percent FPL cut-off. However, for those with gross incomes less than 125 percent FPL, 46.5 percent had not completed high school, 22.2 percent graduated from high school, and 31.3 percent had formal education beyond high school.

Attachment 3 shows the demographic profile of individuals below 130 percent including race/ethnicity, age, and family composition statewide and for each California County. Educational attainment is also provided for adults below 125 percent FPL. The five counties where the largest share of California's "likely eligibles" (<130 percent FPL but not participating in the Food Stamp Program) are as follows: Los Angeles County (36.8 percent), San Diego County (8.7 percent), Orange County (7.5 percent), San Bernardino County (5.3 percent), and Riverside County (4.9 percent).

Category 3: FSNE Potentially Eligible (all persons with incomes greater than 130 percent FPL but less than 185 percent FPL):

According to the US Census 2000, 3.5 million people (10.5% of the total population) in California have incomes greater than 130 percent FPL but less than 185 percent FPL. (See Table 2 for race/ethnicity and age breakdown for this group.) For those with gross incomes more than 125 percent FPL but less than 185 percent, 43 percent completed less than high school, 24.2 percent graduated from high school, and 32.9 percent had formal education beyond high school.

Attachment 4 shows the demographic profile of individuals below 185 percent including race/ethnicity, age, and family composition statewide and for each California county. The five counties where the largest share of California’s “potentially eligible” (incomes > 130 percent FPL but <185 percent FPL) are as follows: Los Angeles County (32.9 percent), San Diego County (8.0 percent), Orange County (7.5 percent), San Bernardino County (5.7 percent), and Riverside County (5.1 percent).

<b>Table 2: Race/Ethnicity and Age Breakdown by FSNE Eligibility Categories</b>			
	<i>Category 1: Certified eligible (people receiving food stamps)<sup>1</sup></i>	<i>Category 2: Likely eligible (gross income &lt; 130% Federal Poverty Level (FPL))<sup>2</sup></i>	<i>Category 3: Potentially eligible: (gross income &gt;130% and ≤185 FPL)<sup>3</sup></i>
<b>Race/Ethnicity</b>			
Hispanic or Latino	51%	52%	51.8%
White	21%	26%	29.4%
Black/ African American	18%	9%	6.2%
American Indian	N/A	1%	1%
Asian/ Other Pacific Islanders	N/A	10%	9%
Some Other Races or Two or More Races	N/A	3.1%	3%
Other			
<b>Age</b>	10%	N/A	N/A
0-17 Years	66.3%	36.6%	33.2%
18-64	32.1%	55.6%	55.9%
65 Years and Older	1.6%	7.8%	10.9%

1 Race/ethnic origin of household head from CDSS Food Stamp Program Information FFY2005.

2 Includes people receiving food stamps since data not available to exclude FSP recipients.

**b. Nutrition-related behavioral and lifestyle characteristics of Food Stamp Program eligible children, adolescents, and adults in California.** *If information is available, discuss implications of dietary and food purchasing habits and where and how Food Stamp eligibles eat, redeem Food Stamp benefits, live, learn, work and play in your State.*

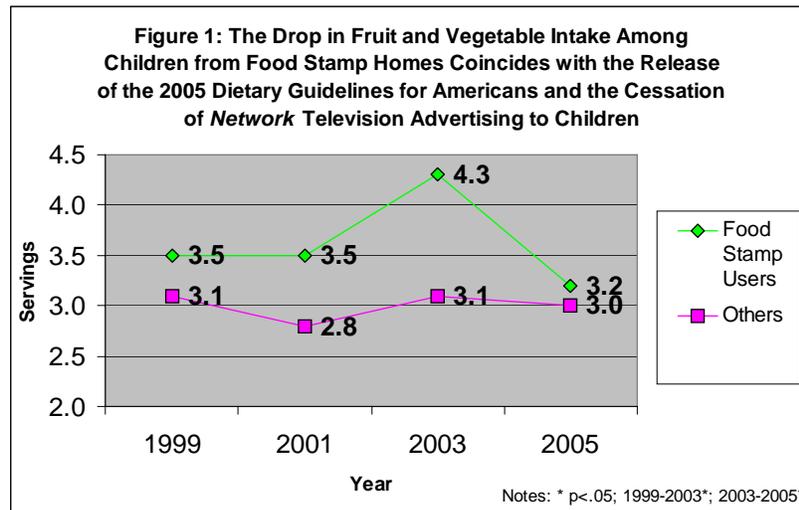
## CALIFORNIA CHILDREN - SUMMARY AND IMPLICATIONS

This profile of children is drawn from the statewide, representative 2005 *CalCHEEPS* (N=712), unless otherwise specified. Whenever the data allow, comparisons are made among four groups of 9- to 11-year-old children using Federal Poverty Level (FPL) and Food Stamp (FS) participation. The categories are very low income children with FSs ( $\leq$  130 percent FPL), very low income children without FSs ( $\leq$  130 percent FPL), low income children ( $>130\text{-}\leq 185$  percent FPL), and average or higher income children ( $>185$  percent FPL). Some comparisons are presented between children from FS homes vs. other children not receiving FSs. This occurs when only FS participation data are currently available. Children from homes  $\leq 185$  percent FPL are eligible to receive FSNE. Only statistical significant differences are reported ( $p<.05$ ), unless indicated otherwise.

**Children's Fruit and Vegetable Consumption Is Too Low:** Findings indicated that children who reside in very low income households receiving FSs averaged 3.2 servings of fruits and vegetables (FVs) on a typical school day. Although not significant, this compared to 3.1 servings among very low income children that did not receive FSs, 2.4 servings among low income children, and 3.0 servings among children from average and higher income households. Across subgroups, children fell 2 to 2½ servings below the 5 a Day recommendation. In addition, few children met the *Dietary Guidelines for Americans* (2005) that are based on gender, age, and activity level. Very low income children without FSs and low income children were less likely to meet the fruit recommendation compared to others. However, low, average, and higher income children were least likely to meet the vegetable guideline (See Table 3).

	<b>Cups of Fruit</b>	<b>Cups of Vegetables</b>
<b>Very low income with FSs</b>	39	12
<b>Very low income without FSs</b>	21	19
<b>Low income</b>	19	7
<b>Average and higher income</b>	26	8

Over 5 years (1999-2003), as *Network* and UC-FSNEP interventions aimed at elementary school children have increased, the *CalCHEEPS* documented significant increases in FV consumption among children from FS homes, while FV intake among other children not receiving FSs remained the same (See Figure 1). At baseline in 1999 (N=814), the differences between the two groups were not statistically significant. However, between 2003 and 2005, FV consumption dropped back to baseline levels for FS homes and remained stable among other children. This coincided with the release of the *Dietary Guidelines for Americans* (2005) which significantly increased fruit and vegetable recommendations and the discontinuation of the *Network's* paid advertisements on children's television.



Further investigation of the 2005 results and subsequent analysis of data from 2007 are needed to explore these findings across all four subgroups. The 2007 *CalCHEEPS* expanded the oversample of FSNE eligible children used in previous years to help investigate these issues in more detail. By 2003, the findings suggest that the interventions are both effective and properly targeted.

**Low-Income Children Need Improved School Environments to Facilitate Healthy Lifestyles:** The average daily participation of California students in the national school lunch program is 2.9 million, of whom 74 percent receive free and reduced price meals (*State of the States: 2007*). State surveillance showed that most children from homes using FSs (88 percent) ate school lunch 3 or more times in the previous week, with three-quarters (74 percent) eating school lunch daily. In contrast, other children not receiving FSs reported 51 and 36 percent, respectively.

Participation in school meal programs demonstrated a consistent, positive relationship to FV consumption across survey years (See Table 4). Children participating in school breakfast averaged 0.6 to 1.3 more servings of fruits and vegetables while school lunch participants reported eating 0.3 to 0.6 more servings. Higher participation in the school meal programs may help increase FV intake among low-income children.

<b>School Breakfast</b>	<b>1999</b>	<b>2001</b>	<b>2003</b>	<b>2005</b>
Yes	4.3	3.6	4.0	3.5
No	3.0	2.7	3.0	2.9
<i>Difference</i>	<i>1.3</i>	<i>0.9</i>	<i>1.0</i>	<i>0.6</i>
<b>School Lunch</b>	<b>1999</b>	<b>2001</b>	<b>2003</b>	<b>2005</b>
Yes	3.4	3.0	3.3	N/A
No	2.8	2.7	3.0	N/A
<i>Difference</i>	<i>0.6</i>	<i>0.3</i>	<i>0.3</i>	<i>N/A</i>

While almost 90 percent of children from FS homes utilized a school meal program, fewer than two out of five reported getting nutrition lessons and fewer than three out of five received lessons on exercise and health at school (See Table 5). Access to these school lessons was much more common among other children from non-FS households.

<b>Food Stamp Participation</b>	<b>Lessons on Food, Nutrition, and Health</b>	<b>Lessons on Exercise and Health</b>
Yes	39	57
No	52	69
<i>Difference</i>	<i>-13</i>	<i>-12</i>

Attending nutrition lessons showed a significant positive relationship to FV consumption in 1999, 2001, and 2005, and exercise lessons demonstrated a similar relationship to minutes of vigorous physical activity in 2001 and 2003. Increased access to nutrition, exercise, and health lessons at school, especially in conjunction with participation in nutrition assistance programs, appears likely to encourage and empower low-income children to make healthy lifestyle choices.

**Children Need to Eat Fewer High Calorie, Low Nutrient Foods:** In 2005, about three-quarters of children who resided in very low income households receiving FSs reported consuming fast food at least once in the past week (73 percent). Although not significant, this compared to 79 percent among very low income children not receiving FSs and 72 percent among children from low, average, and higher income households. Additional findings showed that very low income children with and without FSs and low income children drank 1.3 to 1.4 servings of soda and sweetened beverages on a typical school day, almost half a serving more than average and higher income children (1.0 servings).

**Low-Income Children Need More Physical Activity:** In 2005 fewer than two out of five (39 percent) children who resided in very low income FS households reported meeting the recommendation to get 60 minutes or more of moderate and vigorous daily physical activity (PA). Although not significant, this compared to 45 percent among very low income children without FSs, 41 percent among low income children, and 47 percent among children from average and higher income households.

The three state surveys between 1999 and 2003 showed significant increases in reported PA among all children in the state with increases being greatest among children from FS homes. However between 2003 and 2005, the proportion of children from FS households who reported meeting the PA guideline and the average minutes of vigorous physical activity dropped to 1999 values, similar to that found with FV consumption. Similar decreases were observed in the state sample as a whole.

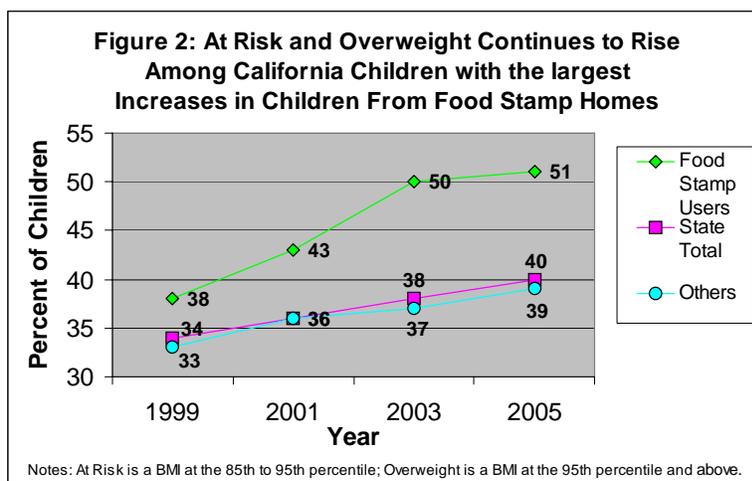
**Children Need to Reduce Sedentary Activity:** The Institute of Medicine recommends that children spend less than two hours of recreational screen time a day (*Preventing Childhood Obesity*, 2005). Children who reside in households receiving FSs reported spending an average of 103 minutes per day watching television or playing video/computer games. Very low income children not receiving FSs and low income children reported 92 to 94 minutes, respectively, whereas children from average and higher income households spent only 74 minutes, a 29 minute difference between FS homes and the highest income group.

Studies have shown that children with televisions in their bedrooms have higher BMIs than children without (*Preventing Childhood Obesity*, 2005). The 2005 *CalCHEEPS* found a positive relationship between FPL and the prevalence of televisions in a child’s bedroom. Almost three-quarters (73 percent) of children from Food Stamp homes reported having a television in their bedroom. This compared to 69 percent among very low income children not receiving FSs, 64 percent of low income children, and 45 percent among children from average and higher income households, a 28 percentage point difference between the lowest and highest income groups.

**Disparities in Rates of Healthy Weights in Low-Income Children Need to Be Eliminated:** In 2005 the rates of at-risk and overweight were 16 percentage points higher among children from FS homes when compared with children from average and higher income households. While 35 percent of children from average and higher income homes, 39 percent of low income children, and 54 percent of very low income children without FSs reported heights and weights placing them at-risk and overweight, over half (51 percent) of the children from FS homes were in fact, with 16 percent being at-risk and 34 percent already overweight (See Table 6).

	Not At Risk	At Risk	Overweight
<b>Very low income with FSs</b>	49	16	34
<b>Very low income without FSs</b>	46	24	30
<b>Low income</b>	61	12	26
<b>Average and higher income</b>	65	19	17

Since 1999 the rates of at-risk and overweight continued to rise (See Figure 2). The proportion of children from FS homes increased from 38 percent in 1999 to 51 percent in 2005 (not significant due to the small sample size). The increase was less striking but significant among children from non-FS households (increased from 33 to 39 percent).



In 2004 California ranked third, at 18 percent, for the prevalence of overweight among low income 2- to <5-year-old children (*CDC Pediatric Nutrition Surveillance 2004 Report, 2006*). This is three percentage points higher than the national average (15 percent) for low-income preschool children and eight percentage points higher than the proportion of U.S. children (10 percent) in a similar age group (2-5 years; *Hedley et al., JAMA, 2004*). Nationally, the prevalence of overweight in low income 2- to <5-year-old children has increased steadily from 1995 to 2004.

**Low-Income Parents Need Support to Help Their Children Achieve a Healthy Lifestyle:**

Returning to 9- to 11-year-old children, in 2005 children who resided in households receiving FSs were significantly less likely than other children from non-FS households to say that:

- In their home, fruit is always kept out in a place where they can get them (50 vs. 73 percent) and
- Their family exercises together by doing things like going to the park, playing sports, or riding bikes (54 vs. 75 percent).

These children were significantly more likely to say that:

- Their parents make them stay inside after school rather than letting them play outside (38 vs. 24 percent).

**CALIFORNIA ADOLESCENTS - SUMMARY AND IMPLICATIONS**

The *California Teen Eating, Exercise and Nutrition Survey (CalTEENS)* (n=1204) was drawn to be representative of the 2,890,133 (2000 *US Census*) 12- to 17-year-old California teens likely to be in middle or high school. In 2000, 10 percent of all Californians below 185 percent FPL were 12- to 17-year-old adolescents. This includes over one million teens. Eighty-one percent of low-income adolescents were non-white (2000 *US Census*), demonstrating the disproportionate number of non-white teens who are poor in California. As with many other teen surveys, the 1998-2004 *CalTEENS* did not ask for family income. However, since minority youth are much more likely to be low-income than Caucasians ( $\leq$  185 percent FPL: 50 percent of African American and 54 percent of Latino teens vs. 19 percent of White teens; 2000 *US Census*), we use minority status as a proxy indicator for FSNE eligibility. Also, questions about hunger and household participation in food assistance programs are combined as a proxy for low-income status, termed “income related food risk”.<sup>1</sup> In this section statistics are drawn from the 2004 *CalTEENS* unless reported otherwise.

**California Teens Need to Increase Fruit and Vegetable Consumption:** Fruit and vegetable consumption reported by teens remained stable from 1998 to 2004<sup>2</sup>, going from 4.3 to 4.4 servings. There were no significant differences between ethnic groups or teen income-related food risk. Of the 4.4 total servings of fruits and vegetables consumed by California teens, only 1.2 servings were from vegetables or salads, one-third or less

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<sup>1</sup> Income-related food risk included teens who reported being hungry in the past 12 months or lived in a household that received food stamps or WIC food assistance.

<sup>2</sup> Only 100 percent fruit juices were included in the 2004 *CalTEENS* analysis.

than the minimum amount recommended (5 servings for girls and 7 servings for boys) for this age group by the then current *Dietary Guidelines for Americans* (2000).

While there was little change in mean fruit and vegetable intake, the prevalence of teens who reported eating no fruits and vegetables increased significantly from 6 percent in 1998 to 10 percent in 2004. In 2004, teens that were at risk for overweight and overweight and those at income-related food risk reported eating no fruits and vegetables significantly more often than teens not at risk (See Table 7). Conversely, the proportion of teens meeting the minimum recommendation for fruit and vegetable consumption increased marginally from 30 to 33 percent between 1998 and 2004.

<b>Weight Status</b>	
At Risk or Overweight	14
Not At Risk	9
<b>Low Income Status</b>	
At Income Related Food Risk	14
Not At Income Related Food Risk	9

**Hunger was Highest Among African American and Asian Adolescents:** In 2004, 8 percent of African American and 6 percent of Asian teens reported being hungry in the past year because “there was not enough food in the house,” far higher than the percent reported by Caucasian and Latino teens (2 and 4 percent, respectively).

Teens that ate lunch provided by school were more likely to report consuming five servings of fruits and vegetables compared to teens that reported getting their lunch from another source. Minority teens are also more likely to eat school meals. Latino and African American teens were twice as likely to report eating free or reduced price breakfast and lunch as Caucasian teens (Table 8). Teens that were at income-related food risk were almost three times as likely to report receiving free or reduced price school breakfast and twice as likely to eat free or reduced price school lunch compared to teens that were not at risk (44 percent compared to 17 percent and 60 percent for breakfast compared to 24 percent, respectively for lunch).

	<b>School Breakfast</b>	<b>School Lunch</b>
<b>Ethnicity</b>		
Caucasian	13	17
Latino	30	36
African American	35	48
Asian/Other	22	30
<b>Low Income Status</b>		
At Income Related Food Risk	44	60
Not at Income Related Food Risk	17	24

**Teen Consumption of High Calorie/Low Nutrient Foods Needs to Decrease:** Almost three quarters (73 percent) of teens at income related food risk reported consuming two or more servings of high calorie/low nutrient foods, significantly higher than teens not at risk (64 percent). Teens at income related food risk consumed more soda on average than teens not at risk (1.4 sodas compared to 1.1, respectively). Two out of five (38 percent)

African American teens reported eating at a fast food restaurant on the previous day compared to one of five teens of other ethnicities (26 percent of Latino teens, 24 percent of Caucasian teens, and 23 percent of Asian/Other teens).

**Teen Physical Activity Needs to Increase; Low Rates Steady Since 1998:** In 2004, only 40 percent of teens reported being physically active for an hour or more on the previous day, which has dropped 1 percentage point since 1998; a non-significant change. The percentage of African American teens active for one or more hours on the previous day decreased from 44 percent in 1998 to 32 percent in 2004, the largest decrease among ethnic groups. Teens at income-related food risk were less likely to get an hour of physical activity on the previous day than teens that were not at risk, 29 percent and 45 percent respectively.

The 2005-2006 FITNESSGRAM, conducted by the California Department of Education (CDE) in all California public schools for 5<sup>th</sup>, 7<sup>th</sup>, and 9<sup>th</sup> graders, measures adolescent fitness performance.<sup>3</sup> The survey found that 33 percent of 7<sup>th</sup> and 32 percent 9<sup>th</sup> graders scored below the healthy fitness zone for body composition. African American and Latino teens showed the highest percentage not in the healthy fitness zone (Latinos with 40 percent among 7<sup>th</sup> graders and 39 percent of 9<sup>th</sup> graders, African American teens with 35 percent of 7<sup>th</sup> graders and 36 percent of 9<sup>th</sup> graders).

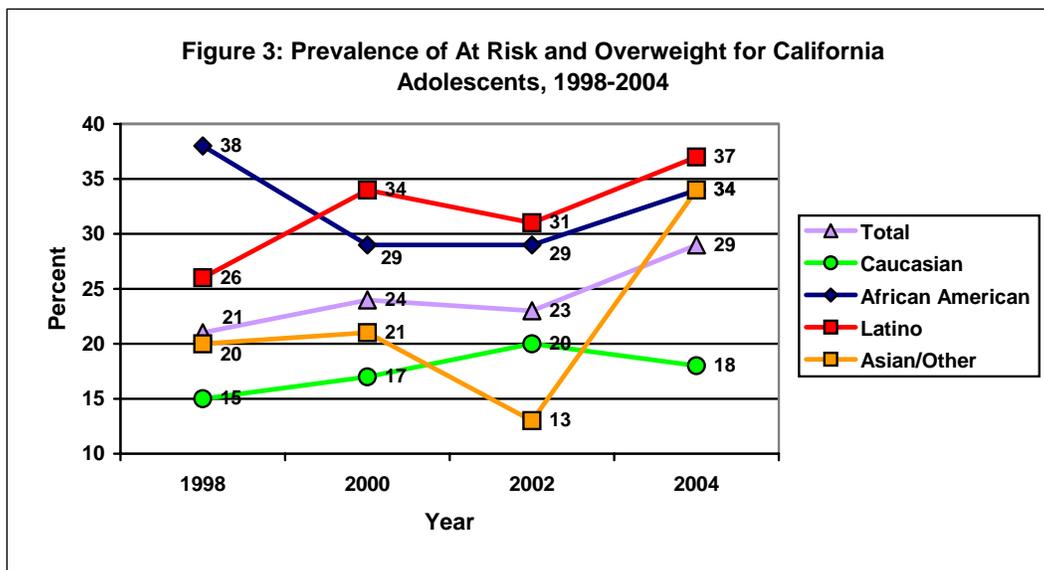
The 2005-2006 FITNESSGRAM reports that 30 percent of 7<sup>th</sup> and 27 percent of 9<sup>th</sup> graders achieved 6 of 6 fitness standards tested. Again, Latino teens scored the lowest with only 23 percent of 7<sup>th</sup> graders and 21 percent of ninth graders meeting all 6 fitness standards, compared to 37 percent of Whites in 7<sup>th</sup> and 35 percent of 9<sup>th</sup> graders who achieved all 6 fitness standards.

**Teens Need to Reduce Sedentary Activities:** On average, Teens reported just over two hours (129 minutes) of watching television and using the computer for fun in 2004. Since 1998 the amount of television that teens watched has only decreased by two minutes. African American and Asian/Other teens reported watching significantly more television than Latino and Caucasian teens on the previous day (Table 9). Also, teens at income related food risk reported watching 40 minutes more than teens that were not at risk.

<b>Ethnicity</b>	<b>Mean Minutes</b>
Caucasian	114
Latino	165
African American	125
Asian/Other	164
<b>Low Income Status</b>	
At Income Related Food Risk	159
Not at Income Related Food Risk	119

<sup>3</sup> Performance indicators, termed “in the healthy fitness zone” or “needs improvement”, are set to measure whether the adolescents’ level of fitness offers some degree of protection against diseases that result from sedentary living. Body composition is measured through BMI or skin-fold testing as one of the standards for youth to meet the “healthy fitness zone” and is reported independently of the other standards. Standards for the six measures can be found at <http://dq.cde.ca.gov/dataquest/PhysFitness/appendix1.htm>

**Rates of Overweight and Obesity in Teens Needs to Decrease:** In 2004, 29 percent of teens were at-risk (BMI  $\geq$  85<sup>th</sup> percentile but  $<$  95<sup>th</sup> percentile) or already overweight (BMI  $\geq$  95<sup>th</sup> percentile), a significant increase of 8 percentage points from 21 percent in 1998 (See Figure 3). In 2004, 37 and 34 percent of Latino and African American teens were at risk for overweight or already overweight, compared to 18 percent of Caucasian teens. The prevalence of at risk and overweight among Latino teens increased significantly from 26 percent in 1998 to 37 percent in 2004, the most significant change among all ethnic groups. Teens at income-related food risk were more likely to report being at risk or overweight compared to teens not at risk (35 percent vs. 27 percent respectively).



**School-Based and Youth-Led Nutrition and Physical Activity Programs Need Expansion in Middle and High Schools:** School-based nutrition programs with youth involvement show significant positive results among those involved in promotional activity (Hamdan, Story, French, Fulkerson, Nelson, *Journal of Amer. Dietetic Assoc.*, Feb 2005). Similarly, teens who reported having a class on the health benefits of physical activity also reported being active over a day more each week (6.1 vs. 5.0 days, respectively) and for 18 minutes more daily than those who didn't have the class (72 vs. 54 minutes, respectively; 2000 *CalTEENS*). The 2002 results showed an association between class participation and days of physical activity per week. In 2004, three out of five (61 percent) California teens reported having a class on healthy eating. Those students who reported having a class on healthy eating reported eating a whole serving more of fruits and vegetables than those who did not (4.8 servings compared to 3.8 servings). This relationship has been consistent since 1998.

#### **CALIFORNIA ADULTS - SUMMARY AND IMPLICATIONS**

The data provided in this section come from the 2005 *California Dietary Practices Survey (CDPS)* or the 2003 *CDPS* data when more recent data is unavailable, the 2006 *CA Nutrition Network Benchmark Survey (Benchmark)*, and the 2005 *California Health Interview Survey (CHIS)*.

The *CDPS* over-samples low-income Latinos, African Americans, and other adults to provide greater sensitivity for analyzing data on these typically underrepresented population segments. This allowed data to be analyzed by ethnicity, income, and by four educational categories, consistent with those used by the national Behavioral Risk Factor Surveillance Survey coordinated through the CDC. Beginning with the 2003 *CDPS*, data analysis also included the assessment of results by two new subpopulations of FSNE-eligible adults, (Food Stamp (FS) participants and non-FS participants with household incomes below 130 percent of the federal poverty level (FPL)). The FSNE-eligible subpopulation of non-FS participants with household above 130 percent FPL was not included in the 2003 and 2005 *CDPS* data analysis but will be for future analyses.

The *Benchmark* survey provides data on three subpopulations of FSNE eligible women between the ages of 18-54 (FS recipients, low-income mothers with household income below 130 percent of FPL, and low-income mothers with household incomes between 185 to 130 percent of FPL).

The *CHIS* survey provided data on food security among low-income California adults (household income below 200 percent FPL).

**Many Low-Income Adults Are Food Insecure:** According to the 2005 California Health Interview Survey (CHIS), 2.5 million low-income adults (< 200 percent FPL) in California could not always afford to put food on their table. Thirty percent of low-income adults were food insecure as compared to 33.9 percent in 2003. However, the percentage of low income adults living in households classified as very low food-security (defined as “disruption in eating patterns and reduced food intake in the previous year”) was 9.3 percent in 2005 compared to 10.3 percent in 2003 which was a statistically insignificant decline. For California households overall (all income brackets), USDA estimates food insecurity at 11.7 percent (average 2003-05) compared to the national rate of 11.4 percent (2003-05; Nord et. al, 2006).

**Fruit and Vegetable Intake Among Low-Income Adults Is Too Low:** Many published studies by faculty at the University of California have shown that fruit and vegetable consumption practices of low-income Food Stamp families are below the national recommendations (Joy, *California Agriculture*, 58:206-208, 2004; Joy, Feldman, Fuji, Garcia, Metz, *California Agriculture*, 53:24-28, 1999; Lamp, West, George, Wright, and Joy, *Journal of Nutrition Education*, 31:941-98, 1999; Joy and Doisy, *Journal of Nutrition Education*, 28: 123-126, 1996; Townsend, Kaiser, Allen, Joy, Murphy, *Journal of Nutrition Education and Behavior*, 35: 69-82, 2003; West, Lamp, Joy, Murphy, *California Agriculture*, 53:29-32, 1999; Heneman, Zidenberg-Cherr, Joy, Donahue, Garcia et al., *Journal of Amer. Dietetic Assoc.*, 2005). Dietary behavior practices have been measured over the last 10 years in 1,447 Food Stamp clients enrolled in the University’s nutrition education program. Published results, even before the higher 2005 *Dietary Guidelines for Americans* were issued, demonstrate that increased fruit and vegetable consumption was needed by over 70 percent of Food Stamp clients (Joy, *California Agriculture*, 2004). In addition, a number of other dietary factors that are also indicate need for nutrition education include: consumption of a high fat diet by >70 percent of clients; consumption of

a diet high in sugar and low in calcium, and a high consumption of soda beverages (instead of water or milk) among adults and youth (Joy, *California Agriculture*, 2004). A diet rich in folate foods (which include fruits and vegetables) is also needed (Clifford, Noceti, Joy, Block, Block, *Journal of Nutrition*, 124: 137-143, 2005).

The 2005 CDPS of 1,408 adults revealed that California adults consumed, on average, 4.4 servings of fruits and vegetables daily. Very low-income adults<sup>4</sup> consumed, on average, only 3.9 servings of fruits and vegetables daily, compared to 4.9 servings for adults with the highest incomes<sup>5</sup>, the group reporting the most servings. Similar differences among income levels occurred for the percent of adults who reported to eating 5 or more servings of fruits and vegetables daily. Only one-third (34 percent) of the very low-income adults reported eating 5 a day, while over half (51 percent) of adults in the highest income group did so.

In California, as is also true nationally, there is an association between income and race/ethnicity (See Table 10). Twenty-two percent of African Americans in California, 16 percent of Hispanics, and 13 percent of Asian-Americans have a household income below the federal poverty level, compared to 10 percent of Non-Hispanic Whites (US Census, 2000). In terms of fruit and vegetable consumption, African Americans consumed, on average, 3.6 servings of fruits and vegetables, while Non-Hispanic Whites consumed, on average, 4.5 (2005 CDPS). Hispanics' fruit and vegetable consumption was similar to their Non-Hispanic White counterparts (4.3 servings). Asian and Pacific Islanders reported eating more servings than the other race/ethnic groups (5.2 servings).

<b>Table 10. Adults Meeting Fruit and Vegetable Recommendations Based on the Dietary Guidelines for Americans (2000)</b>		
	<b>Percent Eating 5 or More Fruits and Vegetables</b>	<b>Mean Servings of Fruits and Vegetables</b>
<b>Total</b>	<b>42</b>	<b>4.4</b>
<b>Income</b>		
Less than \$15,000	34	3.9
\$50,000+	51	4.9
<b>Ethnicity</b>		
White	42	4.5
Hispanic	38	4.3
Black	31	3.6
Asian/ Pacific Islander	60	5.2
<b>FSNE eligible status</b>		
FS participants	44	4.6
Non-FS participants <130% FPL	31	4.0
Non-FS participants 130-185% FPL	NA	NA

Data Source: California Dietary Practices Survey, 2005

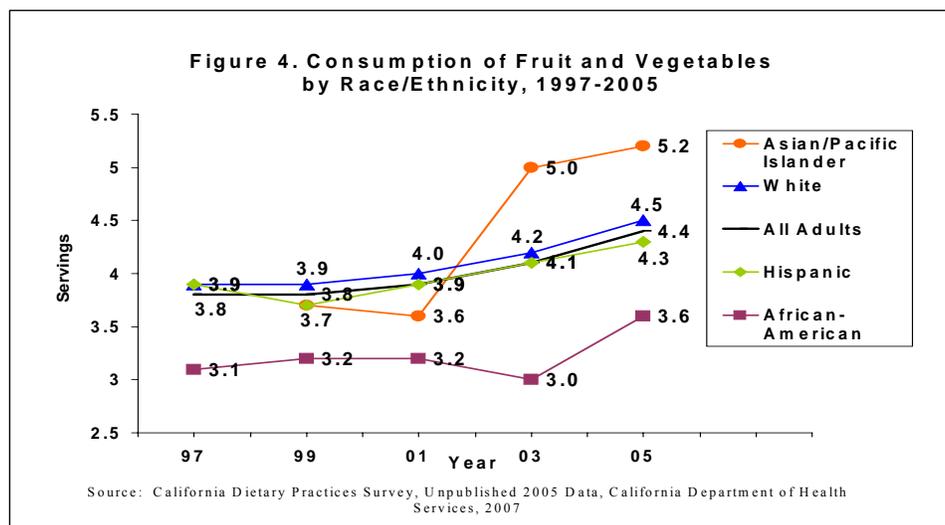
<sup>4</sup> Very low-income adults included those having an annual household income of less than \$15,000.

<sup>5</sup> The highest income adults included those having an annual household income of greater than \$50,000. These income categories are consistent with the CDC's BRFSS.

Data on the FSNE-eligible subpopulations revealed that Non-Food Stamp participants with household income below 130 percent of FPL consumed fewer fruits and vegetables compared to FS participants (4.0 vs. 4.6 servings, respectively). FS participant's fruit and vegetable consumption was slightly higher than the state average of 4.4 serving. Also, a greater proportion of FS participants reported eating 5 a day than non-FS participants below 130 percent FPL as well as the state average (44 vs. 31 and 42 percent, respectively) (2005 CDPS).

There are indications that trends in fruit and vegetable consumption are shifting upward in California. Comparing CDPS data from our 1997 Network baseline to the most recent CDPS data (2005) revealed a 9 point increase in the state average (from 33 to 42 percent, respectively). Similarly, there was a 10 percentage point increase (from 24 to 34 percent, respectively) among very low-income adults who ate 5 or more servings. However, adults in the highest income category (\$50,000+) who ate 5 or more servings increased by 18 percentage points. Over this same period, very low-income adults' daily fruit and vegetable consumption increased 0.8 of a serving—from 3.1 servings in 1997 to 3.9 servings in 2005. Daily fruit and vegetable consumption increased by 0.6 servings in the statewide population and 1 serving in adults in the highest income category.

The proportion of African American and Non-Hispanic White adults who reported eating 5 or more fruits and vegetables increased by 9 percentage point between 1997-2005 (22 to 31 percent, respectively) and (33 to 42 percent, respectively). There was a 3 percentage point increase among Hispanic adults who reported eating 5 or more. From the addition of the race/ethnic category Asian/ Pacific Islander in 1999 to 2005, there was a 15 point increase in the percent of those who reported eating 5 or more servings. There were significant increases in the servings of fruits and vegetables consumed by Non-Hispanic White and Hispanic adults (0.6 and 0.4 servings, respectively, 1997-2005; See Figure 4). African American adults had the lowest reported servings of fruits and vegetables during this time period but saw a 0.5 serving increase in fruit and vegetable consumption. However, this change was not statistically significant. Asian/Pacific Islander adults increased their fruit and vegetable consumption by 1.5 servings from 1999 to 2005.



From 2003 to 2005, there were some improvements in the fruit and vegetable consumption among FSNE-eligible adults (See Table 11). There was a 1.0 serving increase in reported fruit and vegetable consumption among FS participants (3.6 to 4.6 servings), while the state average only increased by 0.3 servings (4.1 to 4.4 servings). Little change was seen in servings of fruits and vegetables eaten by non-FS participants with household incomes below 130 percent FPL (3.9 to 4.0 servings). The proportion of FS participants who reported eating 5 a day increased by 14 percentage points between these years (30 to 44 percent; 2003-2005 CDPS). A smaller change was seen in the state average (38 to 42 percent) and the proportion of non-FS participants with household incomes below 130 percent FPL slightly decreased (35-31 percent; 2003-2005).

<b>Table 11. Adults Meeting Fruit and Vegetable Recommendations Based on the Dietary Guidelines for Americans (2000) by FSNE-Eligibility Status</b>				
	<b>Percent Eating 5 a Day</b>		<b>Mean Servings of Fruits and Vegetables</b>	
	<b>2003</b>	<b>2005</b>	<b>2003</b>	<b>2005</b>
<b>Total</b>	<b>38</b>	<b>42</b>	<b>4.1</b>	<b>4.4</b>
<b>FSNE Eligibility Status</b>				
FS participants	30	44	3.6	4.6
Non-FS participants <130% FPL	35	31	3.9	4.0
Non-FS participants 130-185% FPL	NA	NA	NA	NA

Data Source: California Dietary Practices Survey, 2003-2005

**Spreading Awareness of Healthy Eating Messages Among Low-Income Adults:** Data from the 2005 CDPS have shown a positive association between having heard the recommendations for fruit and vegetable consumption and the amount of fruits and vegetables actually consumed ( $p < .001$ ). There has been increased awareness about the daily recommended amount of fruits and vegetables needed for good health among low-income Californians. More than half of low-income adults (53 percent) reported hearing that 5 or more servings of fruits and vegetables should be eaten daily for good health. This compares with 66 percent of adults in the highest income group who were aware of the fruit and vegetable recommendations.

On average 60 percent of California adults heard that 5 or more servings of fruits and vegetables should be eaten for good health. Similarly, 56 percent of FS participants reported hearing that 5 or more servings, which was slightly more than the 48 percent of non-FS participants with household incomes below 130% FPL.

The 2006 *Benchmark Survey*, which evaluates awareness of Network messaging, assessed knowledge of potential benefits of fruits and vegetables among mothers who used FSs. The great majority agreed that eating fruits and vegetables would help reduce their risk of being overweight (95 percent), look and feel better (96 percent), and set a good example for their family (99 percent).

**Low-Income Adults Need Increased Availability of Fruits and Vegetables, and Cost Is a Significant Barrier:** The 2005 *CDPS* identified significant barriers to eating more fruits and vegetables. More than half of very low-income adults agreed that fruits and vegetables were hard to buy in fast food places (67 percent) and hard to get at work (62 percent). Forty-five percent of very low-income adults agreed that fruits and vegetables were too expensive, much higher than the 17 percent of adults in the highest income group.

Similarly, a large percentage of FSNE –eligible adults experienced barriers to fruit and vegetable consumption. Almost half of FS participants and non-FS participants with household income below 130 percent FPL agreed that finding fruits and vegetables at restaurants was a barrier to eating them (48 and 49 percent, respectively). FS participants were more likely to agree that it was hard to buy fruits and vegetables in fast food places than non-FS participants with household incomes below 130 percent FPL (74 vs. 63 percent, respectively). Also, 44 percent of FS participants and 41 non-FS participants with household incomes below 130 percent FPL saw cost of fruits and vegetables as a barrier, compared to the state average of 31 percent (2005 *CDPS*).

Results from the 2006 *Benchmark Survey* were similar; The cost of fruits and vegetables was an important barrier for 42 percent of FS mothers. The ability to find good, fresh fruits and vegetables was a barrier reported by approximately one-quarter (23 percent) of FS mothers.

**Low Income Adults Need Better Retail Access to Fruits and Vegetables:** The great majority of Californians (84 percent) reported getting most of their fresh fruits and vegetables from supermarkets or grocery stores, while 8 percent reported using farmers' markets, and 8 percent cited effected other venues (2003 *CDPS*). Low-income shoppers (<\$15,000) and FS recipients most frequently identified a specific large supermarket chain (e.g.,  $\geq 10$  stores) as the principal source of their fresh fruits and vegetables.

Convenient access to good quality and affordable fruits and vegetables is an issue for many low-income Californians. A report by the Urban and Environmental Policy Institute at Occidental College in Los Angeles found that middle and upper-income neighborhoods had 2.3 times as many supermarkets as low-income neighborhoods. Similarly, a study in three California counties found only 52 percent of residents in low-income areas lived within one-half of a mile (walking distance) of a supermarket (Transportation for Healthy Communities Collaborative, 2002). Even when available, the quality and selection of the fruits and vegetables may not be adequate to meet low-income consumers' preferences and needs. Of the 1,297 FSNE-eligible census tracts, ( $\geq 50$  percent 185 percent FPL), 676 (52 percent) do not include a supermarket, farmers market, or produce stand. These realities help explain the findings of USDA studies (Ohls, et. al, 1999) that most FS participants tend to use their benefits in areas other than those in which they live.

In California, FS participants may redeem their FS benefits at over 17,000 FS-certified retail establishments, including convenience stores, drug stores, and health food stores (Attachment 6). However, the great majority of FS dollars (84 percent) are redeemed at retailers classified as supermarkets. Certified supermarkets are less common in low-income than higher-income areas. For example, supermarkets represent almost a quarter (23 percent) of the FS certified retailers, but in FSNE-eligible census tracts ( $\geq 50$  percent 185 percent FPL) only 12 percent of the certified retailers are classified as supermarkets, suggesting that many FS participants must patronize supermarkets outside FSNE-qualified census tracts. Of the 751 certified retailers classified as “major redeemers” (\$50,000 or more in average monthly food stamp redemptions) in 2005, 71 percent (530 stores) were located outside of FSNE-eligible census tracts.

**Fast Food Intake by Low-Income Adults Is Associated with Low Fruit and Vegetable Intake:** Like other adults, those with low incomes eat many meals away from home. The 2003 Final Report to the USDA (Joy, UC-FSNEP Final Report, December, 2003) includes results on a number of indicators related to eating out in fast food restaurants. For 3,664 participants who completed the Food Behavior Checklist (FBC), over 80 percent reported that they ate at fast food restaurants 3 or more times a week.

The 2003 *CDPS* found that, on a typical day, only a quarter of very low-income adults (27 percent) ate a meal or snack outside of the home, compared to 59 percent of those in the highest income category. However, very low-income adults who ate meals outside of the home were more likely to have eaten at fast food establishments (53 vs. 30 percent, respectively). This statistic poses a serious public health concern because our data showed that the average consumption of fruits and vegetables was significantly lower in those who ate any meals from fast food establishments, compared to those who did not eat any meals outside of the home (3.3 vs. 4.3 servings, respectively,  $p < 0.001$ ; 2003 *CDPS*).

**Low-Income Adults Want and Need Help Improving Food Preparation and Shopping:** Published results for a study of the food preparation practices of 97 low-income clients reported that most low-income families would benefit from nutrition education. Cooking skills are needed to prepare low-cost, nutritious meals that meet current dietary guidelines (West, Lamp, Joy, Murphy, et al., *California Agriculture* 53:29-32, 1999). Focus groups conducted before the study indicated that low-income families were greatly interested in learning new ways to prepare foods, especially fruits and vegetables and low-fat recipes.

**Physical Activity Levels Among Low-Income Adults Are Too Low:** The 2005 *CDPS* showed that very low-income respondents were significantly more likely to be sedentary, when compared to those in the highest income category (39 vs. 13 percent, respectively,  $p < .001$ ). When looking at participation in sedentary activities, such as watching television, very low-income watched significantly more television than adults highest income category ( $p < .001$ ). Only 38 percent of very low-income adults in the engaged in moderate or vigorous physical activity for at least 30 min, at least 5 days a week outside of their regular job, compared to 62 percent of those in the highest income category.

However, very low-income adults were more likely to report that their jobs consisted of mostly heavy labor, when compared to adults in the highest income category (10 vs. 6 percent, respectively).

Similarly, differences in physical activity levels were seen between FSNE eligible adults and the statewide average. FS participants and non-FS participants with household incomes below 130 percent FPL were more likely to be sedentary, when compared to the state average (40 and 43 vs. 26 percent, respectively). Thirty-nine percent of FS participants and 35 percent of non-FS participants in households with incomes below 130 percent FPL were moderately active for at least 30 min, at least 5 days a week, compared to 50 percent of the state average.

**Low-Income Adults Encounter Barriers to Physical Activity:**

While the 2006 *Benchmark Survey* found that the majority (88 percent) of FS mothers said they were “somewhat” or “very” sure they could be physically active for at least 30 minutes per day, this group reported low rates of physical activity. They reported many barriers. Cost of exercise clothes, equipment, and gym memberships was a barrier for a large percentage of FS mothers (76 percent). Finding a safe place and time to be physically active were also barriers being physically active for about 30 percent of FS mothers.

**Disparities in Overweight/Obesity Among Low-Income Adults Must Be Eliminated:**

Low-income Californians, as well as certain ethnic groups, have much higher rates of overweight and obesity. The 2005 *CDPS* found that 30 percent of very low income adults were obese, compared to the 11 percent of adults in the highest income category (See Table 12). African Americans and Hispanics had a higher rate of obesity than their White and Asian counterparts (29 and 27 percent vs. 14 and 3 percent, respectively). Education level was also significantly associated with weight status ( $p < .01$ ). Adults who had less than a high school education had rates of obesity more than twice that of college graduates (30 vs. 13 percent respectively). FSNE eligible adults were more likely to be obese compared to the state average.

<b>Table 12. Percent of Adults Overweight or Obese, 2005</b>		
	<b>Overweight</b>	<b>Obese</b>
<b>Total</b>	<b>36</b>	<b>19</b>
<b>Income</b>		
Less than \$15,000	35	30
\$50,000+	40	11
<b>Ethnicity</b>		
White	36	14
Hispanic	40	27
Black	37	29
Asian/ Pacific Islander	39	3
<b>Education</b>		
Less than high school	36	30
High school graduate	38	20
Some college	36	16
College graduate	36	13
<b>FSNE eligible status</b>		
FS participants	32	33
Non-FS participants		
<130% FPL	36	29
Non-FS participants		
130-185% FPL	NA	NA

**Public Awareness and Use of the Food Stamp Program Needs to Increase:** According to the most recent USDA participation rates, less than half (46 percent) of the people who are eligible for FSs in California receive them (Castner, et. al, 2006). Research has shown that income-eligible persons often do not participate in the FSP because they are unaware of the program or they do not believe they are eligible. The amount of FSP promotion that FSNE is allowed by USDA to provide is very limited.

**c. Other nutrition-related programs serving low-income persons in California.**

*Discuss the availability of other nutrition-related programs, services, and social marketing campaigns (i.e., EFNEP, Child Nutrition Services, etc).*

USDA's 2008 FSNE Guidance asked for a complete summary of each state's nutrition education activities. California's State agencies administer federal categorical programs that may include nutrition education, principally through USDA, the Health Resources and Services Administration, and the Centers for Disease Control and Prevention. Some State funded categorical programs allow local contractors to include nutrition education as an option through "local assistance" funding to units of local government and through competitive grants to public and non-profit organizations. Over the past decade as concern about obesity has risen, so too has the allocation by county, school district, and other local governments of local and State funds for nutrition education. By far, most of these funds appear to be targeting lower-income groups and communities. In spite of the increasing number of federal and state laws on school wellness and nutrition policies, there are as yet no federal or state funds earmarked for nutrition education in schools.

The list of other nutrition-related programs serving low-income persons in California is available below. Brief summaries of current program activities are provided in Attachment 7.

- \* California Obesity Prevention Plan
- \* California Department of Health Services Reorganization
- \* California Legislation

#### CATEGORICAL PROGRAMS OPERATED BY CALIFORNIA STATE GOVERNMENT

- \* Department of Social Services
  - Emergency Food Assistance Program
  - California Food Assistance Program
- \* Department of Health Services
  - Women, Infants and Children (WIC) Program - [www.wicworks.ca.gov](http://www.wicworks.ca.gov)
  - The Maternal, Child and Adolescent Health (MCAH) - <http://www.mch.dhs.ca.gov/>
  - The Office of Family Planning (OFP) Branch - <http://www.ofp.dhs.ca.gov/>
  - The Children's Medical Services (EPSDT) - <http://www.dhs.ca.gov/pcfh/cms/>
  - California Project LEAN (Leaders Encouraging Activity and Nutrition) (CPL) - [www.CaliforniaProjectLEAN.org](http://www.CaliforniaProjectLEAN.org)
  - The California Center for Physical Activity (Center) - [www.caphysicalactivity.org](http://www.caphysicalactivity.org)
  - School Health Connections - [www.dhs.ca.gov/schoolhealth](http://www.dhs.ca.gov/schoolhealth)
- \* Department of Aging - <http://www.aging.ca.gov/>
- \* University of California
  - Center on Weight & Health, UC Berkeley – [www.cnr.berkeley.edu/cwh](http://www.cnr.berkeley.edu/cwh)
  - Center for Social Marketing and Nutrition, UC Davis – [www.socialmarketing-nutrition.ucdavis.edu](http://www.socialmarketing-nutrition.ucdavis.edu)
- \* California Department of Education – [www.cde.ca.gov](http://www.cde.ca.gov)
- \* California Department of Food and Agriculture
  - The Dairy Council of California - [www.dairycouncilofca.org](http://www.dairycouncilofca.org)
  - The California School Garden Network (CSGN) - <http://www.csgn.org/>
- \* The California Children and Families Commission - <http://www.ccfc.ca.gov/>

#### INTRA- AND INTER-GOVERNMENTAL INFRASTRUCTURE TO COORDINATE EFFORTS AMONG PROGRAMS

#### **d. Areas of California where Food Stamp Program eligibles are underserved or have not had access to FSNE previously**

All 58 counties receive Food Stamp nutrition education support through the 11 *Regional Networks* of the Network for a Healthy California (Attachment 8). The Regions provide technical assistance, coordination, media and public relations, educational materials, specific *Network Campaign* interventions, including programs with qualifying retail food stores, and some staff support for public/private Regional Collaboratives that focus on regional priorities. Low-resource schools/districts may also receive specific technical

assistance from the Regional Nutrition Education Consultants who are out-stationed in their area. All these activities focus on better serving FSNE-eligible populations.

The attached California map shows where the *Network* projects and UC FSNEP intervention sites are serving FSNE eligible families (Attachment 8). Planned for FFY08, UC-FSNEP projects will provide nutrition education at 1,227 school sites in 38 counties. *Network* projects (includes LIAs and special projects but not RNN and faith-based projects) plan to provide nutrition education at 10,401 sites in 36 counties. All but 12 counties have at least one direct service FSNE project. Projects may be administered through the County Extension, a public agency with a Local Incentive Award or a local organization receiving a special project grant from the *Network*.

# ATTACHMENT 8: California FSNE Infrastructure FY 2008 Planned Sites

County	CPNS Sites <sup>1</sup>	UCD Sites <sup>2</sup>
Alameda	895	19
Alpine	*	
Amador	*	10
Butte	170	53
Calaveras	*	22
Colusa	*	7
Contra Costa	536	93
Del Norte	47	
El Dorado	*	
Fresno	318	84
Glenn	*	15
Humboldt	53	
Imperial	20	27
Inyo	*	
Kern	147	**
Kings	*	18
Lake	*	28
Lassen	*	
Los Angeles	2,568	38
Madera	66	
Marin	66	15
Mariposa	*	6
Mendocino	39	
Merced	116	75
Modoc	6	
Mono	*	
Monterey	54	44
Napa	6	
Nevada	*	5



— Continued —

County	CPNS Sites	UCD Sites
Orange	1,202	
Placer	30	14
Plumas	*	
Riverside	278	7
Sacramento	127	4
San Benito	*	
San Bernardino	92	
San Diego	149	88
San Francisco	228	63
San Joaquin	27	105
San Luis Obispo	*	22
San Mateo	119	43
Santa Barbara	39	7
Santa Clara	123	56
Santa Cruz	6	2
Shasta	458	71
Sierra	*	
Siskiyou	10	
Solano	21	52
Sonoma	36	22
Stanislaus	102	
Sutter	*	
Tehama	*	29
Trinity	*	20
Tulare	179	34
Tuolumne	*	3
Ventura	102	1
Yolo	81	25
Yuba	*	
Statewide <sup>3</sup>	1,885	
Total	10,401	1,227

<sup>1</sup> Includes planned sites reported by all Local Incentive Award (LIA) and Local Food and Nutrition Education (LFNE) projects but not the planned sites for the *Regional Networks for a Healthy California*, *Network for a Healthy California Campaigns*, and Faith Based projects.

<sup>2</sup> Includes planned school sites only.

<sup>3</sup> Sites planned by three statewide LIA contractors: CA Association of Food Banks, CA Department of Education and Healthy Cities.

\* Regional Coverage

\*\* Project has not been approved

FSNE efforts are concentrated in locations demonstrating the most economic need based on USDA specifications for the prevalence of FSP participation/eligibility, low-income census tracts, or schools with high numbers of Free and Reduced Price school meals. The direct service projects target the approximately 1,300 census tracts (of 7,049 in the State) where  $\geq 50$  percent of the residents have incomes below 185 percent of the federal poverty level, other proxy venues serving large numbers of low-income people, and the 5,243 schools (of 9,600+ in the State) where  $\geq 50$  percent of the students qualify for Free and Reduced Price Meals (FRPM) (CDE, 2006-07 FRPM data file) (Attachment 5). Most FSNE eligible people live outside FSNE eligible census tracts (e.g. 58 percent of Food Stamp participants (FFY0X Medi-Cal Eligibility Data System (MEDS)) and 63 percent of persons with incomes  $<185$  percent FPL (2000 U.S. Census). Expanded use of high volume venues like media, supermarkets, low-wage worksites, faith organizations, and community settings is needed to reach this segment of the FSNE audience.

The counties covered only by the *Regional Networks* are Alpine, El Dorado, Inyo, Lassen, Mono, Plumas, San Benito, Sierra, Sutter, and Yuba. Based on 2006 monthly averages, those ten counties have 25,496 FSP participants, or 1.3 percent of the State's total FSP participants. From a *FSNE Guidance* perspective, a barrier to providing FSNE in these counties is the low number of qualifying census tracts and school districts in these rural areas. For those 10 counties combined, there are only 10 qualifying census tracts, with 7 counties having none. There are only 112 qualifying low-resource schools, sixty percent being in Yuba, Sutter, and Lassen counties; they tend to be small districts unlikely to have the infrastructure needed to administer FSNE. In FFY 08, UC FSNEP and the *Network* will continue looking into ways that these counties might be better supported. If possible, we will identify and work with local agencies in those counties and the *Regional Networks* to identify opportunities.

In counties and project sites the *Network* and UC FSNEP are both serving, services are coordinated in a variety of ways. For example, the *Power Play! Campaign's School Idea & Resource Kits* are on the approved materials list for the UC FSNEP Programs. Many of UC FSNEP's counties promote the *School Kit* to fourth and fifth grade teachers, while promoting Reading Across MyPyramid to the lower elementary grades. Where appropriate, the *Power Play! Campaign* Regional Coordinators also promote Reading Across MyPyramid to interested Kindergarten through third grade teachers. Most *Power Play! Regional Coordinators* work closely with EFNEP and FSNEP staff to cross-promote the programs and coordinate services. State-level *Power Play! Campaign* staff will continue to encourage these relationships and help to facilitate them as necessary. In addition, state-level *Power Play! Campaign* and Community Development team staff will conduct periodic meetings with UC FSNEP staff to coordinate efforts.

The *Power Play! Campaign* and UC FSNEP have procedures in place to avoid double counting of duplicate school sites in which these programs serve. There is standard language in LIA scopes of work which states that LIAs will coordinate and collaborate with UC FSNEP agencies in their communities in delivering nutrition education. The state-level UC FSNEP and *Power Play! Campaign* staff have agreed to identify a model region in which the two organizations successfully work together to promote nutrition

education opportunities to educators. The processes used by the model region will then be shared with the organizations' regional and county level staff across the state.

## **Evaluation Methods**

### **A. UC FSNEP:**

UC-FSNEP will provide statewide outcome evaluation which demonstrate changes in food-related behavior and skills. When Food Stamp recipients are enrolled in FSNEP, demographic data will be collected using **the FSNEP Family Record Form** (name, address, phone number, ethnicity, gender, family size). This form is stored in the county office. Data from the form is coded and entered into the ERS (Evaluation and Reporting System) for statewide reports on program success. All enrolled clients will be evaluated using the FSNEP Food Behavior Checklist (FBC). Results from county programs are used to measure program impact and reported in the Final Report. Trained paraprofessional staff will recruit and teach Food Stamp families using a variety of program delivery approaches including: group instruction, videotapes, shopping tours, discussions, hands-on activities, cooking demonstrations and other nutrition education methods.

Each FSNEP program delivers staff nutrition assistant/program representative will recruit and teach a minimum of 100-200 Food Stamp Eligibles. At least 25% of enrolled participants will be evaluated by one of the following instruments: Food Behavior Checklist, 24-hour Food Recall and/or Pre/Post tests. The FBC (pre/post test) measures fruit and vegetable intake, beverage consumption, fat intake and a variety of food safety, food planning and economical shopping practices.

For the Youth program, each participating county will target eligible youth in schools. County Extension staff will recruit and train teachers and other volunteers to deliver the nutrition education experience (15 hours) in school and community after-school settings. Teachers from target schools will be recruited by FSNEP Youth Assistants and will be trained to deliver the FSNEP program. The overall mission of this project will be to provide practical and reliable information to youth audiences in the areas of nutrition, food safety, and literacy (reading basics and nutrition education). An evaluation of the FSNEP Youth program will use the youth evaluation instruments (teacher evaluation form, nutrition to grow on pre/post test, eat fit pre/post test and a school garden instrument).

### **B. Network for a Healthy California (*Network*):**

In FFY 07, the *Network* from the logic model approach recommended by the Institute of Medicine in its 2007 report, *Progress in Preventing Childhood Obesity—How Do We Measure Up?*

## Evaluation Framework for Childhood Obesity Prevention Policies and Interventions.

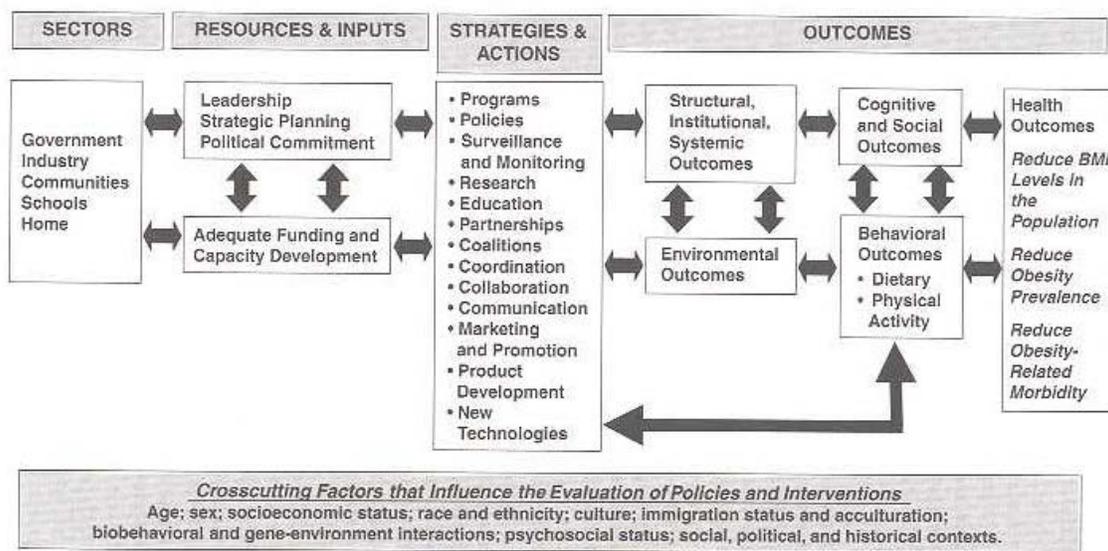


FIGURE 2-2 Evaluation framework for childhood obesity prevention policies and interventions.

Measurement occurs through statewide and special surveys, the Semi-Annual Activity Reporting System, media reports, impact evaluation conducted by the 45 largest local projects, and *Communities of Excellence in Nutrition, Physical Activity and Obesity Prevention (CX<sup>3</sup>)*. In FFY 08 we will augment these efforts by working with other states and USDA to design systems and obtain data required by the new reporting requirement, EARS.

The *State Program* evaluates all programs that it develops. The cycle begins with literature reviews, environmental assessment, and original formative research, followed by pilot testing, revision and statewide roll-out. Conversely, when a local program appears successful as per anecdotal reports, spontaneous adoption by new intermediaries, positive local evaluation, and other indications of success, the State office will take responsibility for adapting it for more widespread use, taking the upgraded intervention to-scale, and evaluating it in new settings. *Harvest of the Month* which began in a few Southern California school districts is an example of how this works.

All *Network* contractors conduct some type of evaluation:

- Formative evaluation conducted at the local level includes needs assessments and focus groups of FSNE participants, intermediaries conducting FSNE interventions, other stakeholders and opinion leaders.
- Process evaluation is conducted by all funded projects. This includes participation numbers, participant satisfaction surveys, numbers of intervention sites, and numbers of materials distributed as appropriate for their contracted scope of work.

- Impact evaluation is required for contractors receiving over \$350,000 in Federal Share. In FFY 06, the 46 participating local projects expended nearly \$45 million, which is about 49% of the *Network's* budget, of whom 45 submitted evaluation reports.

*The questions addressed* with process evaluation lead partners to capture the number of individuals reached through mediums like TV, radio, small and mass media. Results are stratified by channel, target audience and other variables. Impact evaluation addresses change in fruit and vegetable consumption and related determinants like knowledge, preferences and self-efficacy.

The *approaches used* are standardized, and refinements are tailored to meet each contractor's specific needs. Protocols are developed for focus groups, and the Semi-Annual Activity Report (SAAR) captures process data. For impact evaluation, contractors primarily use pretest-posttest and pretest-posttest with control group *designs*. Some compare high-dose interventions with medium-dose interventions and/or comparison sites without intervention. Most projects use one of 37 CPNS-recommended instruments, or an adaptation of one, to assess impact. Many of the instruments used have been validated.

*Data collection* is done by contractors and entered into a database. These approaches ensure respondent confidentiality. Continuing from FFY 07, the *Network* will develop protocols and instruments that use techniques of community-based participatory research in order to capture other measures that collect more useful and appropriate intervention data to our local community partners.

*Plans to use the results* are usually implemented at the end of each fiscal year. Formative evaluation results are used to refine that which is being evaluated (e.g., interventions, materials, etc.). Process data are used to maximize reach, and impact evaluation results are discussed with contractors during group teleconferences. These activities lead to improved nutrition education activities and customized evaluation plans that can capture change resulting from program improvements.