

# Summary of Implications of the Arizona Nutrition Network Needs Assessment for FY 2010

## State Overview

- Three-quarters of population live in Maricopa and Pima Counties.
- Population in the state is relatively young.
- Unemployment rate is similar to the national average (6.9% compared to 7.2%), but some counties have much higher unemployment rates.
  - Yuma County had the highest unemployment rate with 19.7%, followed by Apache (12.8%) and Santa Cruz (12.7%).
- Per capita income is lower than national average (\$32,833 compared to \$38,615).
  - Navajo County had lowest per capita income (\$20,369).

## Demographics of the SNAP Population

### *SNAP Recipients:*

- Number of participants has increased by 25.7% from December 2007 to December 2008.
- Almost three-quarters of a million participants (742,936) in December 2008.
  - Average monthly per person benefit was \$112.19.
  - Average monthly household benefit was \$270.38.
  - Total issuance for the month of December totaled over \$83 million.
- Majority (88.7%) of participants have incomes lower than the federal poverty level.
- More than half (59.6%) are preschool age children.
- 12.7% are elderly.
- Just under one-third (32.0%) of households are single parents with children.
- Almost half of recipients were Hispanic (47.4%).
  - Indices a strong need for bilingual materials.
- Over half (58.2%) of recipients were under age 20.
- Approximately two-thirds of recipients age 20 and older were female (64.3%).

### *Families in Poverty:*

- Almost one-quarter (24%) of families were living <185%FPL in Arizona in 2000.
  - Almost half (42%) of families living <130%FPL were single parents with children.
  - More likely to be female headed.

### *Poverty in Schools:*

- Apache, La Paz, and Santa Cruz Counties had the highest percentage of qualifying schools, with over 90% qualifying for SNAP-Ed.
  - Over a half-million students (544,939) receive free or reduced cost lunches per day.

### *Geographic Location:*

- SNAP Recipients:
  - Half (51.8%) of SNAP participants reside in Maricopa County.
  - Approximately one-fifth (16.3%) reside in Pima County.

## **Nutrition Related Behavioral and Lifestyle Characteristics of SNAP Eligibles**

### *Dietary Attitudes and Behaviors:*

- More than half of deaths in Arizona are from diseases for which diet and lack of physical activity increase risk.
- Adults in the state with incomes below the 130% of the federal poverty level were:
  - More likely to be overweight or obese.
  - Less likely to have met recommendations for physical activity than adults not in poverty.

### *Fruits and Vegetables:*

- Arizona is the third largest producer of vegetables and citrus fruit in the United States, however less than one-quarter (24%) of Arizona adults consumed the recommended five or more servings of vegetables and fruits each day in 2008.
  - The percentage of adults in Arizona who consumed five or more servings of fruits and vegetables per day ranged from a high of 25% of adults with incomes between 130-185% of the federal poverty level to low of 19% of adults living below 130% of the federal poverty level.
- The majority (82.9%) of high school students fell short of meeting recommendations for fruit and vegetable intake.
  - American Indians were much more likely to have met recommendations than other race/ethnicities (32% compared to 16% for Whites).
- Social Marketing formative research indicates that SNAP eligibles:
  - Are aware of the importance of eating fruits and vegetables.
  - Stated reasons for not eating fruits and vegetables include: short shelf life, expensive, no time to prepare, don't like vegetables, and not in the habit of eating vegetables.
  - Believe that frozen and canned fruits and vegetables are not as nutritious as fresh.
  - Over half of mothers say veggies are in the top three things most often on their grocery list.

### *Overweight and Obesity:*

- Over half (57.6%) of adults in Arizona are overweight or obese.
  - Seven year summary (2001 to 2007) of BRFSS data indicates that the highest levels of overweight and obesity are seen in American Indians and African Americans.
- One-quarter (25.9%) of high school students were at risk of becoming overweight or were overweight.
  - African Americans (29%) and Hispanics (19%) were more likely to be at risk for overweight compared to Whites (10%).
  - American Indians (20%) and Hispanics (17%) were more likely to be overweight compared to Whites (7%).
- 14.4% of children age two and older enrolled in the Arizona WIC program were overweight.
- 23.9% of children age two and older enrolled in the Inter Tribal Council of Arizona WIC program were overweight.
- 17.3% of children age 2 and older enrolled in the Navajo WIC program were overweight.

### *Physical Activity:*

- Over half (57.6%) of Arizona adults fall short of meeting the recommendations for physical activity.
  - Adults with incomes below 130% FPL had lower rates of moderate and/or vigorous physical activity compared to adults not in poverty.
- Two-thirds (68%) of high school students fell short of meeting the recommendations for physical activity in the past week.
  - One-quarter (28%) reported spending at least three hours watching TV per day.
  - One-fifth (21%) reported spending at least three hours playing video games per day.
  - No statistically significant differences between race/ethnic groups.
- Social Marketing formative research indicates that SNAP eligibles:
  - Believe that getting exercise regularly is the key to a healthy lifestyle.
  - State they do not exercise due to: laziness, too tired, not enough will-power, and too busy.
  - Half (51%) of moms report doing some physical activity every day.
  - Two-thirds (66%) of moms report that their children do physical activity every day.

#### *Food Security:*

- USDA's report on Food Security in the United States indicates that in Arizona:
  - 12% households experienced food insecurity, and 4.6% experienced food insecurity with hunger.
- The Arizona Nutrition Network 2006-2007 surveys indicate that of the 339 people surveyed:
  - 40% were food insecure, and 6.2% experienced food insecurity with hunger.
- Arizona's emergency food network served almost half a million people (479,000) in 2005.
- Social Marketing formative research indicates that SNAP eligibles:
  - Describe using SNAP benefits to buy the more expensive food items (like meat and vegetables) and using their own money for lower cost canned items.
  - List foods they could buy when they had SNAP benefits like more meat, more yogurt, and more nutritious foods.
  - Indicate they can buy a greater variety of fruits and vegetables when they have SNAP benefits.
  - Discuss using WIC checks for milk, eggs, and juices and their own money for lower cost items.

#### *Food Borne Illness:*

- Rates of food borne illnesses are highest for children under the age of five.
- Graham County had the highest rate of Salmonellosis, with 44.1 cases per 100,000 population compared to an average 15.5 cases per 100,000 for the state in 2007.
- Social Marketing formative research from 2001 to 2004 indicate that SNAP eligibles:
  - State that they try to remember to wash their hands regularly, but are doubtful that they practice proper hand washing all of the time.
  - Believe that leftovers can be kept in the refrigerator for up to 1 week.
  - Indicate that keeping food clean and safe is important for children to be healthy.
  - Look for expiration dates on food items purchased.

## **Food Purchasing Attitudes and Behaviors**

### *Shopping Behaviors/Food Resource Management:*

- Food accounted for 12.4% of total household expenditures in the Phoenix Area.
  - Families and single consumers spent just under half (43.5% ) of their food budgets on food prepared away from home (restaurants, carry-out etc).
  - Less than ten percent (9.4%) of the food budget was spent on fruits and vegetables.
    - Percentage has remained relatively constant at 8 to 11% from 1996-2007.
- AzNN Evaluations from 2006 and 2007 indicated that of the 339 people surveyed:
  - Just under half (42%) planned meals ahead of time.
  - Over half (58%) compare prices before buying food.
  - Over half (62%) look for specials when grocery shopping.
  - Almost all (97%) shop for fruits and vegetables in supermarkets.
- Social Marketing formative research indicates that SNAP eligibles:
  - Purchases are influenced by the preferences of children and husband.
  - The number of healthy foods purchased is limited by financial constraints.
  - Use coupons, sales and inexpensive food items.
  - Limit purchase of new and unfamiliar foods.
  - Purchase dairy at practically every grocery trip.
  - Shop once per week for most food items, more often for perishables (fruits and vegetables, dairy, meat).
  - Agree that if they like a recipe from a food demo and know how to prepare the recipe, they will prepare it for their families.
  - Want food demos in familiar locations such as WIC and food banks by WIC counselors or promoters.
  - Majority of mothers include milk on their grocery lists.
  - Over half of mothers say veggies are in the top three things most often on their grocery list.

*Where and how SNAP Eligibles Eat:*

- Just under half (43.5%) of household food expenditures in the Phoenix area were on food prepared away from home for 2005 to 2006.
- Social marketing demographic surveys indicate that over half (57%) of respondents reported eating meals as a family at least five days per week.
- Eating behaviors of high school students in the past week:
  - 10% consumed three or more servings of milk.
  - 17% ate five or more servings of fruits and vegetables.
- School environment (middle and high schools):
  - Over half (57%) middle and high schools had snack foods or beverages available for purchase on school grounds from vending machines, a school store, canteen or snack bar.
    - SNAP-Ed eligible schools were less likely than non-eligible schools to have food and beverages available for purchase on school grounds (48% compared to 66%).
  - Just one-fifth to one-quarter of schools had fruits or vegetables available for purchase on school grounds (20% had vegetables available for purchase, 26% had fruit available for purchase).
    - No statistically significant differences between SNAP-Ed eligible and non-eligible schools.

- Less than half (41%) of schools limited the serving size of individual foods and beverages sold on school property.
  - SNAP-Ed eligible schools are less likely than non-eligible schools to limit serving sizes (31% compared to 51%).
- Almost half (44%) of schools provided information to students and parents on the nutrition and caloric content of the foods available.
  - SNAP-Ed eligible schools were less likely to provide information to students and parents on the nutrition and caloric content of the foods available than non-eligible schools (36% compared to 48%).
- One-fifth (20%) of schools conducted taste tests to determine food preferences for nutritious items.
  - SNAP-Ed eligible schools are less likely to conduct taste tests than non-eligible schools (15% compared to 26%).
- Almost one-quarter (22%) of schools provided opportunities for students to learn about food safety, food preparation and other nutrition related topics.
  - No statistically significant difference between SNAP-Ed eligible and non-eligible schools.
- The majority of schools prohibit the advertisement of candy, fast food restaurants and soft drinks on school grounds.
  - SNAP-Ed eligible schools were more likely to prohibit this type of advertisement on school grounds than non-eligible schools (76% compared to 67%).

#### *Food Stamp Redemption*

- A national analysis of SNAP benefit redemption patterns conducted by the USDA in 2006 on 2003 redemption patterns found that regardless of state or region of residence, SNAP recipients:
  - Used the EBT system frequently
  - Left very little unspent at the end of the month
  - Households had an average of eight transactions per month
    - ~\$25 per transaction
- Over the past five years, the food stamp EBT transactions at Arizona farmers markets have increased significantly, from just over \$500 in 2003-2004 to over \$9,000 for fiscal year 2007-2008 (based on a convenience sample of 10 markets).

**Areas in Arizona Where Supplemental Nutrition Assistance Program Eligibles are Served**

	Population in 2008 <sup>1</sup>	%<130% FPL (2000) <sup>2</sup>	%<130% FPL (2007) <sup>3</sup>	% of total pop on SNAP <sup>4</sup>	% of eligible population receiving SNAP(Est.) <sup>5</sup>	% of families headed with Female with children <5 in poverty <sup>2</sup>	% elderly (65+) <130% FPL <sup>2</sup>	% unemployed <sup>6</sup>	Per capita personal income <sup>7</sup>	% <5 servings FV/day <sup>8</sup>	% Overweight/ Obese <sup>3</sup>	% not meeting Physical activity rec. <sup>8</sup>
Apache	76,156	48.9%	41.1%	26.1%	53.3%	65.5%	51.6%	12.8%	\$20,689	78.3%	63.4%	53.5%
Cochise	139,156	24.4%	20.6%	12.0%	49.0%	61.4%	17.9%	6.4%	\$29,890	74.7%	61.8%	50.7%
Coconino	135,316	24.9%	22.9%	12.7%	51.2%	55.7%	22.4%	6.0%	\$31,855	78.3%	63.4%	53.5%
Gila	57,361	25.4%	N/A	15.0%	59.0%	58.9%	15.4%	7.8%	\$27,623	78.7%	60.2%	57.4%
Graham	38,633	32.1%	N/A	12.2%	38.1%	62.1%	23.5%	9.4%	\$22,049	79.3%	66.2%	56.0%
Greenlee	8,950	14.5%	N/A	2.7%	18.9%	52.6%	16.3%	9.4%	\$31,227	79.3%	66.2%	56.0%
La Paz	21,544	28.6%	N/A	14.0%	49.0%	53.0%	22.2%	8.0%	\$23,610	78.7%	60.2%	57.4%
Maricopa	3,987,942	16.7%	17.5%	8.4%	50.4%	37.5%	11.5%	6.2%	\$36,135	76.7%	56.6%	56.5%
Mohave	205,862	20.8%	17.9%	12.8%	61.6%	45.8%	13.7%	8.4%	\$23,908	78.7%	60.2%	57.4%
Navajo	114,780	38.1%	30.6%	24.7%	64.8%	65.7%	29.4%	11.3%	\$20,369	78.3%	63.4%	53.5%
Pima	1,014,023	20.6%	20.2%	10.8%	52.5%	46.9%	12.9%	6.5%	\$31,755	78.3%	57.9%	56.5%
Pinal	350,558	23.2%	16.2%	10.0%	43.2%	50.8%	14.3%	9.2%	\$22,975	79.3%	66.2%	56.0%
Santa Cruz	47,471	35.2%	N/A	16.1%	45.7%	55.7%	31.9%	12.7%	\$23,744	73.0%	60.6%	56.4%
Yavapai	227,348	18.2%	17.0%	6.9%	38.1%	44.8%	11.8%	7.3%	\$27,620	78.7%	60.2%	57.4%
Yuma	203,779	28.4%	25.5%	14.7%	51.7%	52.6%	15.3%	19.7%	\$22,768	71.6%	67.1%	55.8%
Arizona	6,629,455	19.7%	18.9%	9.9%	50.5%	43.7%	13.4%	6.9%	\$32,833	76.5%	61.1%	56.4%
National	304,059,724	16.8%	17.3%	8.5%	50.8%	46.4%	16.3%	7.2%	\$38,615	75.6% <sup>9</sup>	63.0%	50.5% <sup>9</sup>

- 1 Arizona Department of Economic Security Population Estimate, July 1, 2008
- 2 US Census Bureau, 2000 Census.
- 3 US Census Bureau. American Community Survey, 2007
- 4 Calculated using 2008 Arizona DES population estimate and 2008 Arizona Department of Economic Security Food Stamp Participation Report
- 5 Calculated using 2008 Arizona DES population estimate, 2000 Census data on the percentage of population <130% FPL, and the 2008 Arizona Department of Economic Security Food Stamp Participation Report
- 6 Arizona Department of Economic Security, Arizona Workforce Report, December 2008 (Seasonally Adjusted Unemployment Rates)
- 7 Bureau of Economic Analysis, Regional Economic Accounts, Per Capita Income, 2007. Per capita income is the income that is received by persons from all sources, divided by the total resident population
- 8 2008 Behavioral Risk Factor Surveillance System, estimates by region.
- 9 National estimate is for 2007, which is the most recent available for these questions.

## Part II. Supplemental Nutrition Assistance Program Education Plan for FY 2010

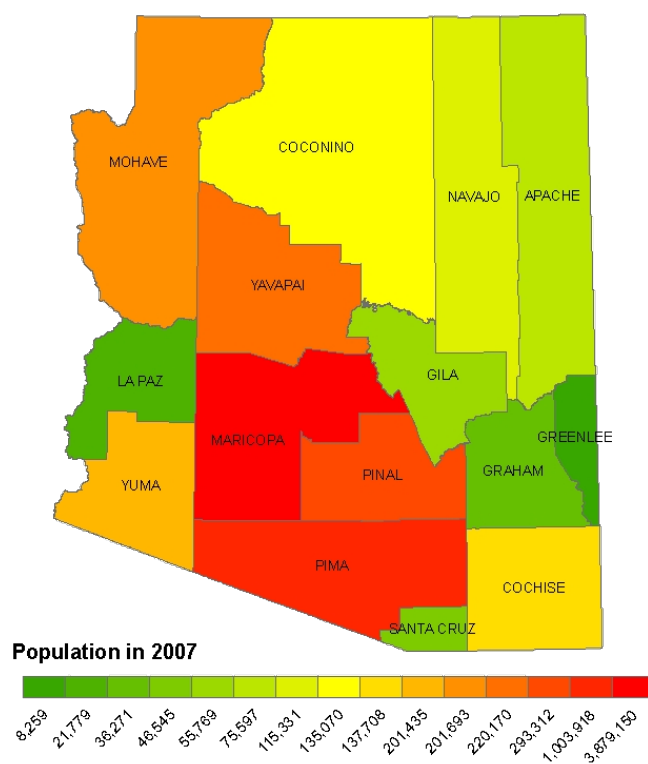
### Section A. Identifying and Understanding the Target Audience

#### Population Overview

The population within Arizona is comprised of a wide variety of ethnicities and cultural backgrounds. Additionally, the geographic composition of the state ranges from arid desert, to rocky canyons, to lush forests. Economic conditions also vary throughout the state. Within the state, disparity among populations and geographic areas exist relating to economics and health outcomes. Rural and border counties such as Apache, Cochise, Graham, La Paz, Navajo, Santa Cruz and Yuma are often at greatest need and may have limited access to services compared to urban areas. With the largest populations located in just a few counties, identifying effective population-based behavior change strategies, that can be applied to a variety of populations, is essential to effective nutrition education for eligible populations.

Arizona is the second fastest growing state in the country. Arizona ranked as the 14<sup>th</sup> largest state in the country, with an estimated 6.5 million people residing within its borders.<sup>1</sup> Phoenix ranked as the fifth largest city in the country, with an estimated 1.5 million people. This is an increase of 17% since 2000.<sup>2</sup> As seen in Figure 1, three-quarters (76%) of Arizona's population resides in either Maricopa or Pima County. The remaining one quarter of the population, are located in the other 13 counties, and often reside in small towns, rural settings or on American Indian reservations.

**Figure 1.**  
Population by County, Arizona 2007



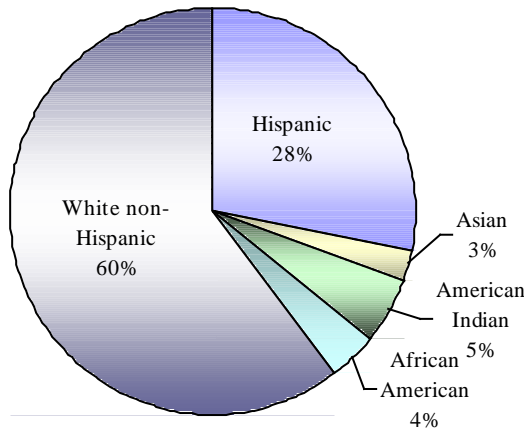
<sup>1</sup> *Estimates of Population Change for the United States, Regions, States, and Puerto Rico and Region and State Rankings: July 1, 2007 to July 1, 2008.* US Census Bureau <http://www.census.gov/popest/states/tables/NST-EST2008-03.xls> (Accessed March 2009)

<sup>2</sup> *Annual Estimates of the Population for Incorporated Places Over 100,000, Ranked by July 1, 2007 Population: April 1, 2000 to July 1, 2007.* US Census Bureau <http://www.census.gov/popest/cities/tables/SUB-EST2007-01.xls> (Accessed March 2009)



**Figure 2.**

**Percent of Population by Race/Ethnicity, Arizona 2007**

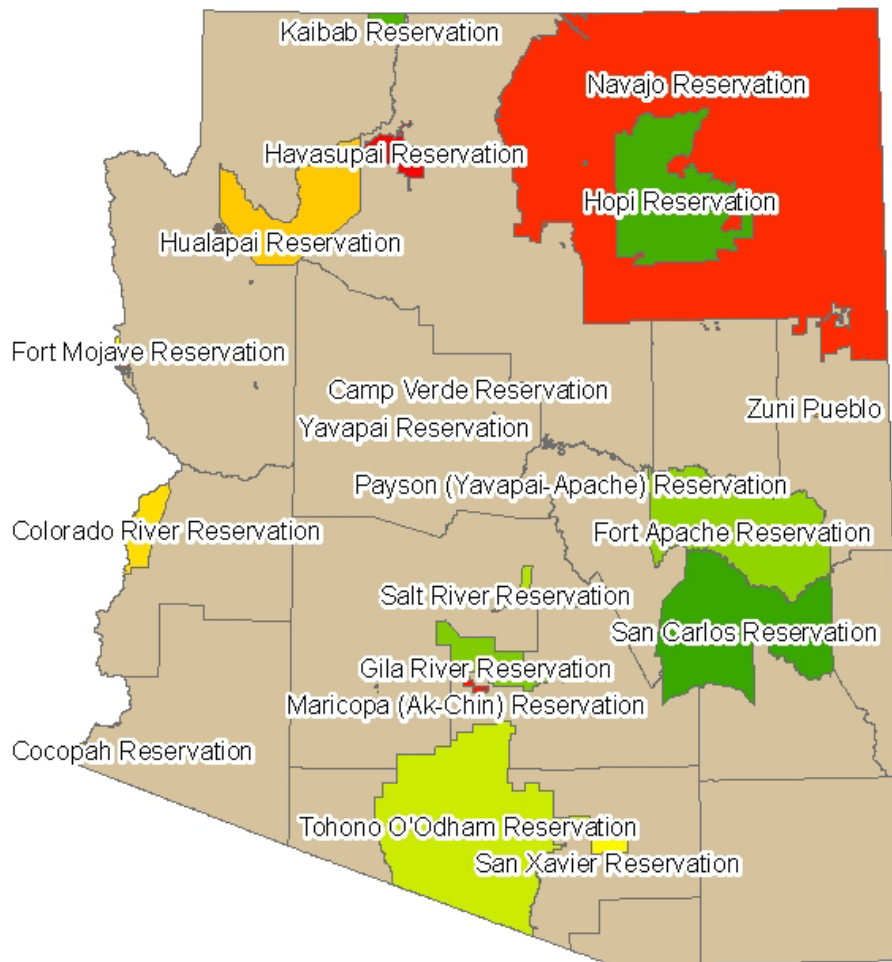


A wide variety of cultures and backgrounds are represented in the population in Arizona. As demonstrated in Figure 2, over half (60%) of the population in Arizona is White non-Hispanic, and 28% are Hispanic.

Arizona has 22 federally recognized tribes (each a sovereign nation) and thus has a large population of American Indians, who comprise 5% of the total population. Figure 3 shows the geographic location of the American Indian reservations throughout Arizona. As Figure 3 shows, American Indian reservations cover 27.8% of the land in the state.

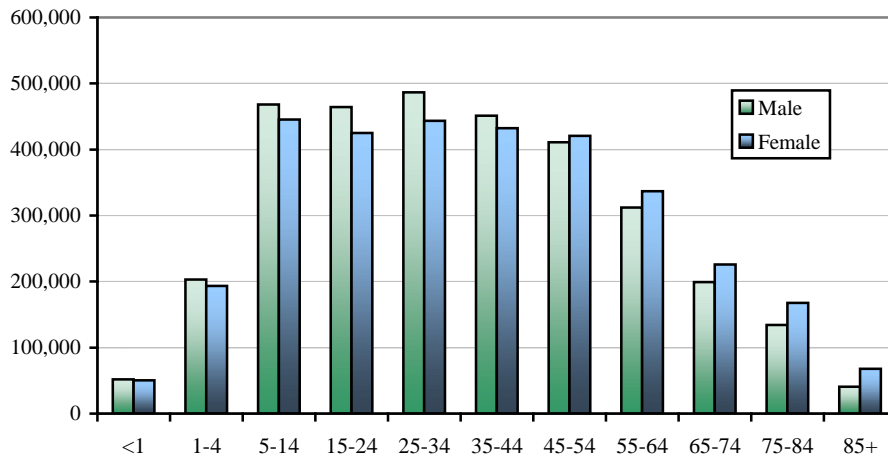
**Figure 3.**

### American Indian Reservations in Arizona



As demonstrated in Figure 4, almost two-thirds (64%) of the population residing in Arizona is less than 44 years of age. The gender ratio ranges from 1.03 males to 1 female in the youngest age group, to 0.6 males to 1 female in the oldest age group.

**Figure 4.**  
**Population by Age and Gender, Arizona 2007**



### Employment

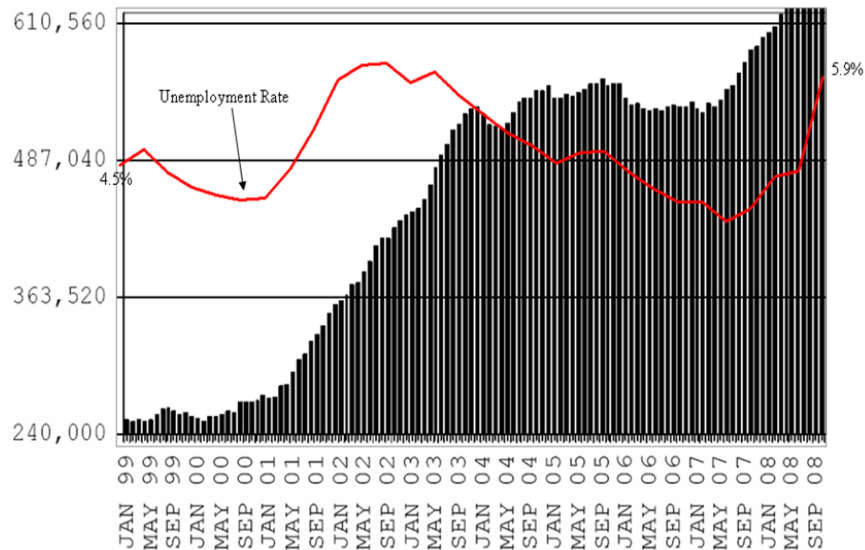
In January 2009, the minimum wage was raised to \$7.25 per hour, and will be raised annually with the increase in the cost of living to abide by the Arizona Minimum Wage Act. As of December 2008, the unemployment rate for Arizona was 6.9% compared to 7.2% for the United States overall. Table 1 to the right demonstrates the unemployment rates for each county as of December 2008.<sup>3</sup> As Table 1 demonstrates, Yuma County had the highest rate of unemployment compared to the other counties, with 19.7% compared to 6.9% for the state.

County	Percentage
Apache	12.8%
Cochise	6.4%
Coconino	6.0%
Gila	7.8%
Graham	9.4%
Greenlee	9.4%
La Paz	8.0%
Maricopa	6.2%
Mohave	8.4%
Navajo	11.3%
Pima	6.5%
Pinal	9.2%
Santa Cruz	12.7%
Yavapai	7.3%
Yuma	19.7%
Arizona	6.9%
United States	7.2%

<sup>3</sup> Arizona Department of Commerce, Research Administration. Arizona Workforce Employment Report. January 22 2009. <http://www.workforce.az.gov/admin/uploadedPublications/PrJan09.pdf>

Figure 5 shows a comparison of the number of Supplemental Nutrition Assistance Program (SNAP) recipients and the unemployment rate for the state of Arizona for January 1999 to September 2008.

**Figure 5.**  
**Comparison of the Number of Supplemental Nutrition Assistance Program Recipients and Unemployment Rate for Arizona, January 1999 to September 2008**



Source: Arizona Department of Commerce, [www.azworkforce.gov](http://www.azworkforce.gov) and Arizona Department of Economic Security, November 2008 Report  
[https://egov.azdes.gov/CMS400Min/InternetFiles/Reports/pdf/dbme\\_statistical\\_bulletin\\_11\\_2008.pdf](https://egov.azdes.gov/CMS400Min/InternetFiles/Reports/pdf/dbme_statistical_bulletin_11_2008.pdf)

Per capita income is commonly used to assess the wealth of a population. This measure gives an estimate of the average income of each person if income was equally distributed across a population. The per capita personal income in Arizona was \$32,833 for 2007. This ranged from a high of \$36,135 in Maricopa County to a low of \$20,369 in Navajo County. For comparison, the per capita personal income for the United States was \$38,615.<sup>4</sup>

The Arizona Department of Economic Security’s goal for FY 2010 is to increase SNAP participation by at least 10% of eligible persons which fall at 125% of the federal poverty level (FPL). Special targets include immigrants, the elderly, working poor and all SNAP eligible Arizonans.

<sup>4</sup> United States Department of Commerce, Bureau of Economic Analysis. Regional Economic Accounts. <http://www.bea.gov/regional/bearfacts/>

# 1. NEEDS ASSESSMENT METHODOLOGY

## a. Existing Information

Needs assessment methods used for the FY 2010 Nutrition Education Plan include review of secondary data sources including those listed in Table 2, and Arizona Nutrition Network and Arizona Supplemental Nutrition Assistance Program for Women, Infants and Children (WIC) formative research. This includes focus group reports that have been completed in previous fiscal years as well as consultation with Network Partners and nutrition professionals throughout the state.

<b>Table 2. Needs Assessment Data Sources</b>
Arizona Department of Economic Security (DES) Annual Report, 2007-2008
Arizona Department of Economic Security, Family Assistance Administration, Statistical Bulletin, December 2008
Arizona Department of Education (ADE) School Health Profile Data, 2008
Arizona Health Status and Vital Statistics, 2007
Arizona Nutrition Network Evaluation, 2006 and 2007
Arizona Nutrition Network Social Marketing Demographic Surveys, FY 2008
Arizona Unemployment Statistics, December 2008
Behavioral Risk Factor Surveillance System Reports (BRFSS), 2007 and 2008
Centers for Disease Control and Prevention (CDC) Pediatric Nutrition Surveillance Report, 2007
U. S. Census Data, 2000
U. S. Department of Agriculture (USDA), Characteristics of Food Stamp Households, Fiscal Year 2007
U. S. Department of Agriculture, Food Stamp Participation Rates 2004, 2005
U. S. Department of Agriculture, Economic Research Service, Study of Arizona Adults Leaving the Food Stamp Program, 2000
U. S. Department of Agriculture, Household Food Security in the US, 2007
U.S. Department of Commerce, Bureau of Economic Analysis, Consumer Expenditure Survey, 2006-2007
Youth Risk Behavior Surveillance (YRBS) – United States, 2007

These sources have been used to complete a systematic analysis of the extent of nutrition-related problems in the SNAP eligible population in Arizona. Implementation of social marketing, which is consumer focused, requires a needs assessment that goes beyond traditional public health data sources which considers the values, beliefs, concerns, and dietary practices of clients. This assessment provides not only information about dietary behaviors but also information on why people behave in certain manners. Additionally, it considers what might facilitate changes in eating and physical activity patterns among SNAP eligible individuals.

This needs assessment reflects findings of the Arizona Nutrition Network formative research activity performed in prior fiscal years such as focus groups. Research findings from focus groups will be used to shape content and delivery of nutrition education messages and

activities in the coming year. Input from Network Partners has also been considered in this needs assessment.

#### **b. New Information Collection**

In Fiscal Year 2009, the Arizona Nutrition Network implemented two new evaluations in order to assess the consumption patterns of the target population. The first evaluation is the Food Behavior Checklist, which is administered to food stamp eligible persons at randomly selected DES offices and WIC clinics throughout the state. The goal of the evaluation is to track the health behaviors of the food stamp eligible population and how they change over time. Questions asked are related to knowledge and behaviors with regards to fruits and vegetables, whole grains, low-fat milk, and physical activity. The second evaluation is the Fruits and Veggies More Matters® class evaluation, which is administered to third grade students before and after the Fruits and Veggies More Matters® classes. In previous years this survey has assessed knowledge change. The new survey was adapted from the School Physical Activity and Nutrition (SPAN) survey, which was developed by the University of Texas. The goal of this assessment is to evaluate the impact of the Fruits and Veggies More Matters® classes on the fruit and vegetable consumption patterns of participants. The summary report using data from the first year of data collection for the adult survey will be published in November 2009. The summary report using data from the first year of data collection for the Fruits and Veggies More Matters® survey will be published in August 2009.

## 2. NEEDS ASSESSMENT FINDINGS

### a. Demographic Characteristics of Supplemental Nutrition Assistance Program Eligibles in Arizona

#### *Race/Ethnicity*

The USDA Characteristics of Food Stamp Households: Fiscal Year 2007<sup>5</sup> report indicates that among SNAP participants in Arizona:

- Almost half (47.7%) have incomes of 50% or less than the federal poverty level.
- The majority (88.7%) have incomes lower than the federal poverty level.
- More than half (59.6%) are preschool age children.
- An estimated 12.7% are elderly.
- Just under one-third (32.0%) of households consist of a single adult with children.
- The average household benefit was \$242.59 per month.

Data from the Arizona Department of Economic Security<sup>6</sup> indicates that from July 2007 to June 2008, SNAP program participant race and ethnicity included:

- 47.4% Hispanic
- 29.6% White, non-Hispanic
- 13.1% American Indian
- 8.2% African American
- 1.5% Other (Asian, Native Hawaiian, Unknown)

With an emphasis on including immigrants in SNAP outreach efforts and nearly half (47.4%) of SNAP participants in Arizona being Hispanic, ensuring that nutrition education materials and messages are available in both English and Spanish is important. A program review indicates the use of messages and materials appropriate for low literacy audiences is essential. A further reflection of the need for language-appropriate materials is validated by the fact that 28.5% of the women and 38.5% of the children receiving benefits from the WIC program reported Spanish as their primary language.<sup>7</sup>

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<sup>5</sup> Characteristics of Food Stamp Households: Fiscal Year 2007. United States Department of Agriculture. <http://www.fns.usda.gov/OANE/MENU/Published/FSP/FILES/Participation/2007Characteristics.pdf>

<sup>6</sup> Arizona Department of Economic Security, Special Data Request. July 2007-June 2008.

<sup>7</sup> Arizona Department of Health Services, WIC program. Special Data Request. February 2009

*Age*

Many public programs use the federal poverty level to determine eligibility for program benefits. As demonstrated in Table 3, almost one-third (30.8%) of Arizona’s population lives under 185% of the federal poverty level. Just under half of children under 18 years of age are living in families below 185% of the federal poverty level.

	<100% FPL	<130% FPL	<185% FPL
Under 5 years:	21.2%	29.6%	44.6%
5-17 years	18.5%	26.0%	39.5%
18-64 years	12.7%	17.7%	27.6%
65+ years	8.4%	13.4%	24.4%
<b>ALL AGES</b>	<b>13.9%</b>	<b>19.6%</b>	<b>30.8%</b>
*Note Categories are cumulative. <185% includes <130% and <100%, <130% includes <100%			

	Age 0-19	Age 20+	All Ages
American Indian	12.4%	14.0%	13.1%
Black	8.2%	8.2%	8.2%
Hispanic	56.7%	34.5%	47.4%
White	21.4%	41.1%	29.6%
Other*	1.3%	2.3%	1.5%
* Other= Asian, Native Hawaiian and Unknown			

According to reports from the Arizona Department of Economic Security, for the period of July 2007 to June 2008, over half (58.2%) of SNAP recipients were under age 20, and 41.8% were 20 or older. Table 4 shows the breakdown of SNAP recipients by age and race/ethnicity for July 2007 through June 2008.

*Gender*

Half (49.9%) of SNAP recipients under the age of 20 years old were female, and half (50.1%) were male. For recipients over the age of 20, 64.3% were female and 35.7% were male.<sup>9</sup>

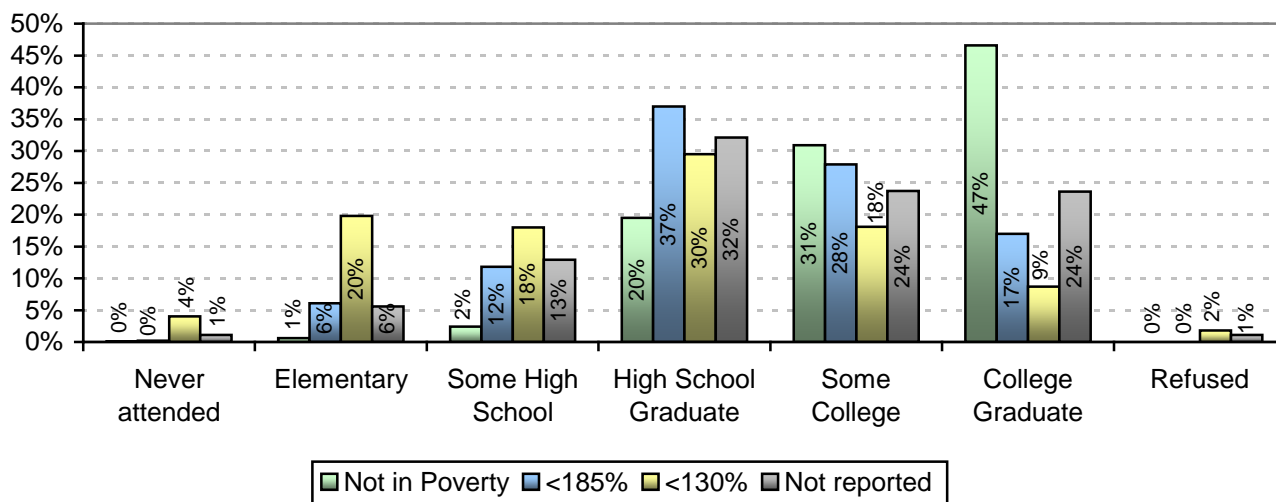
*Education*

Results from the 2008 Arizona Behavior Risk Factor Surveillance System (BRFSS) indicate that almost half (41.8%) of people with incomes at or below 130% of the federal poverty level had less than a high school education, compared to less than one-fifth (18.1%) of people who had incomes between 130% and 185%, and 3.1% of people who had incomes above 185% of the federal poverty level. Less than ten percent (8.7%) of people with incomes at or below 130% of the federal poverty level had completed college; however 18.1% had completed some college or technical school. Less than one-fifth (17.0%) of people with incomes between 130% and 185% of the federal poverty level had completed college; however over one-quarter (27.9%) completed some college or technical school. Among people who were not in poverty (incomes 185% of the federal poverty level or higher), just under half (46.6%) had completed college, and just under one-third (30.9%) had completed at least some college. Figure 6 shows educational attainment by poverty level from the 2008 Arizona BRFSS.

<sup>8</sup> US Census Bureau, 2000

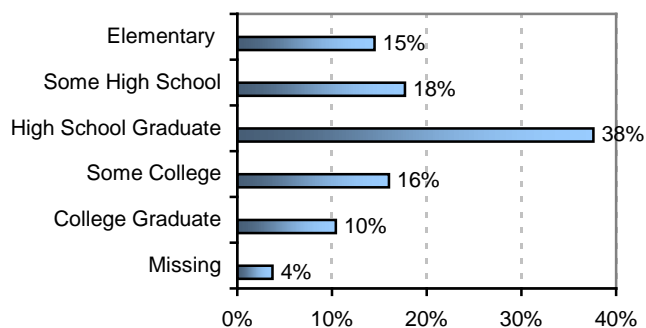
<sup>9</sup> Arizona Department of Economic Security, Special Data Request, March 2009

**Figure 6.**  
**Educational Attainment by Poverty Level,**  
**Arizona BRFSS 2008**



Social marketing demographic surveys for the Fiscal Year 2008 Fruits and Veggies, and Go Low Campaigns showed that of the 1,421 people surveyed, almost two-thirds (64%) had completed high school, and one-third (33%) had less than a high school education. Figure 7 shows the percentage of respondents by educational attainment.

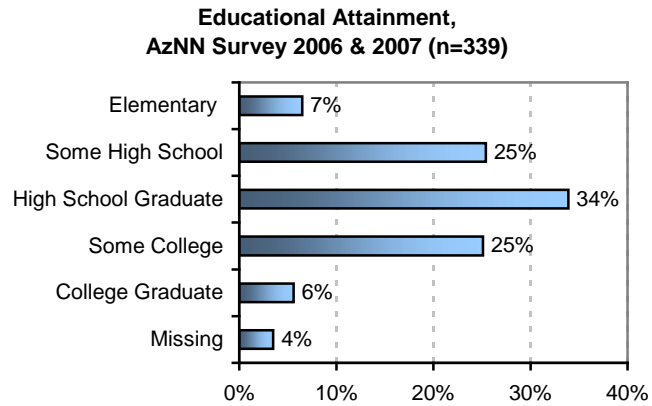
**Figure 7.**  
**Educational Attainment,**  
**Demographic Surveys FY 2008 (n=1,421)**





The Arizona Nutrition Network’s 2006 and 2007 surveys found that of the 339 women interviewed, just under one-third (32%) had less than a high school education. Just over one-third (34%) of respondents had completed high school, and just under one-third (31%) had completed at least some college. Figure 8 shows the percentage of respondents by educational attainment from the 2006 and 2007 Arizona Nutrition Network evaluation surveys.

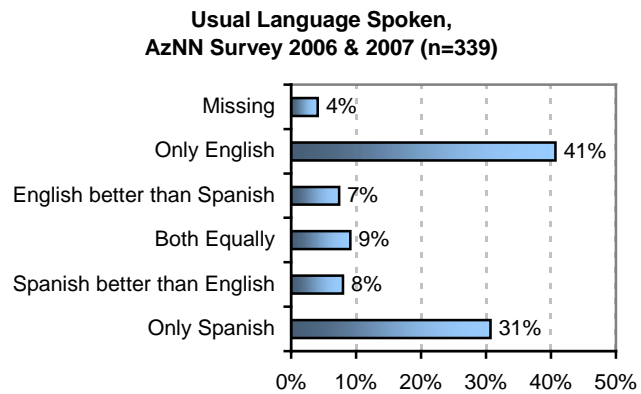
**Figure 8.**



*Primary Language*

Demographic surveys conducted with focus groups and intercept interviews for the Fiscal Year 2008 social marketing campaigns showed that of the 1,421 people surveyed, almost half (46%) spoke English as their primary language, 44% spoke Spanish, and 8.2% spoke both Spanish and English. One percent spoke another language, and another one percent did not answer the question.

**Figure 9.**

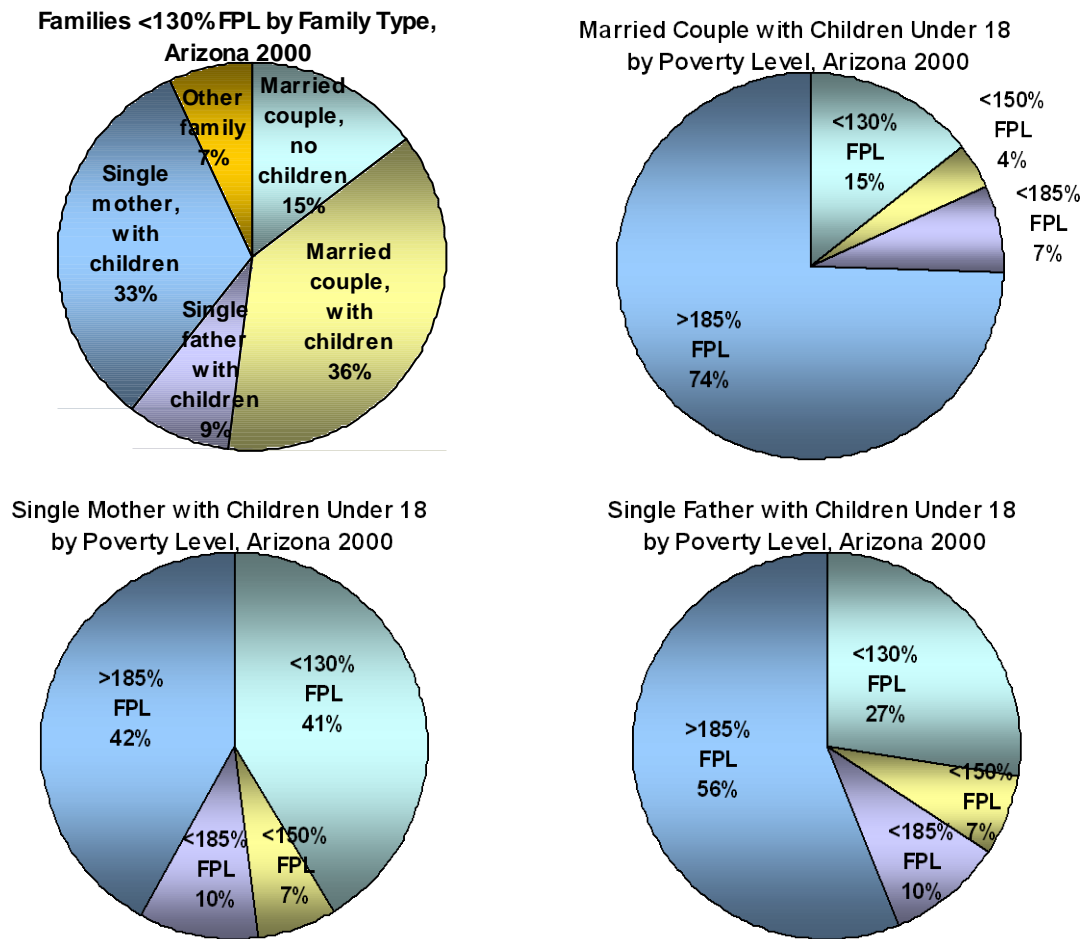


The Arizona Nutrition Network’s 2006 and 2007 surveys found that of the 339 women interviewed, just under half (41%) spoke English as their usual language, and just under one-third (31%) spoke Spanish as their usual language. Figure 9 shows the percentage of respondents by usual language spoken from the 2006 and 2007 Arizona Nutrition Network evaluation surveys.

*Family Composition*

According to the 2000 Census, 23.9% of families in Arizona were living under 185% of the federal poverty level. For families under 130% of the federal poverty level, almost half (42%) were single parents with children, and 36% were married couples with children. As demonstrated in Figure 10, single parent households headed by a female were more likely to be under 130% of the federal poverty level than single father households (41% compared to 27%). As also demonstrated in Figure 10, single parent households were more likely to be living in poverty than married couple households.

**Figure 10. Poverty Status by Family Type**



*Program Participation*

From December 2007 to December 2008, the number of households in Arizona receiving SNAP benefits increased by 63,049, and the number of people receiving SNAP benefits increased by 145,007. A total of 308,274 households and 742,936 people were receiving SNAP benefits as of December 2008.<sup>10</sup> The average per person SNAP benefit was \$112.19 per month, and \$270.38 per household. Total coupon issuance for the month of December in 2008 equaled \$83,352,327. In 2000, to be potentially eligible (at or below 130% FPL) for

<sup>10</sup> Arizona Department of Economic Security, Family Assistance Administration Statistical Bulletin, March 2008

SNAP benefits, a family of four had to make less than \$19,266 per year. For 2009, that amount increased to \$28,665.

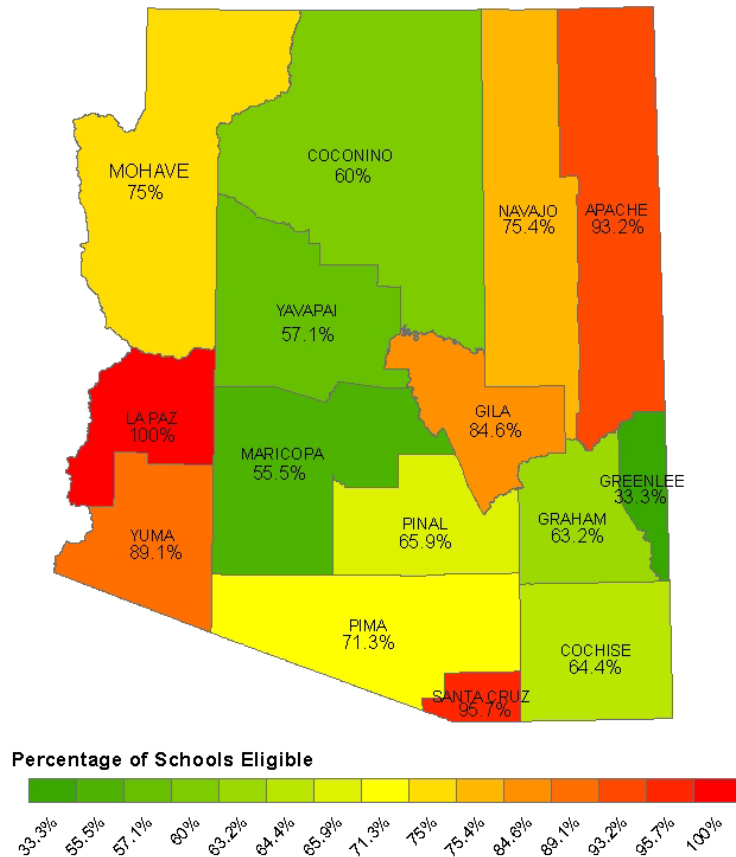
In 2008, the Arizona Supplemental Nutrition Assistance Program for Women, Infants and Children (WIC) served an average of 176,000 women, infants and children per month. Forty-seven percent of participants were children ages one to four, 25% were pregnant, postpartum, and breastfeeding women, and 28% were infants. A family must make less than 185% of the federal poverty level in order to qualify for WIC benefits.

*Free and Reduced Lunch*

The Federal National School Lunch Program and School Breakfast Program provide nutritious meals to low-income school children at little or no cost to the families. It is mandatory to offer the program to students for all elementary, middle and junior high schools that have a minimum of 100 students; however participation by the families is voluntary.

As of October 2008, two-thirds (65.8%) of schools in Arizona had at least 50% of their students eligible for the Free and Reduced Lunch Program. Figure 11 shows the percentage of schools in each county who had at least half of their students eligible for the Free and Reduced Lunch Program. As Figure 11 demonstrates, Apache, La Paz, and Santa Cruz Counties had the highest percentage of schools with over 90% of schools having at least half of students eligible for the Free and Reduced Lunch Program, while Greenlee County had the lowest percentage, with 40%.<sup>11</sup>

**Figure 11.**  
**Percentage of Schools Eligible for the Free and Reduced Lunch Program by County, Arizona (October 2008)**



<sup>11</sup> Arizona Department of Education, Free and Reduced Lunch Schools Report. October 2008  
<http://www.azed.gov/health-safety/cnp/frpercentages/>

In October 2008 half (51.7%) of students in Arizona were eligible for the Free and Reduced Lunch Program. This translates to 544,939 students. Table 5 shows the number and percentage of students who were eligible for a free or reduced lunch by county. The percentage of students who qualified for a free or reduced cost lunch ranged from a low of 32.7% in Greenlee County to a high of 74.6% in La Paz County. Detailed information regarding Arizona schools participating in the Free and Reduced Lunch Program can be accessed at <http://www.ade.az.gov/health-safety/cnp/frpercentages/>.

<b>County</b>	<b>Number</b>	<b>Percentage</b>
Apache	9,685	73.2%
Cochise	11,343	54.2%
Coconino	11,832	48.7%
Gila	4,955	58.2%
Graham	3,125	49.4%
Greenlee	629	32.7%
La Paz	1,890	74.6%
Maricopa	314,419	48.4%
Mohave	14,952	58.5%
Navajo	14,472	62.6%
Pima	82,981	54.9%
Pinal	26,772	53.3%
Santa Cruz	8,591	76.6%
Yavapai	12,334	46.5%
Yuma	26,959	72.0%
<b>Total</b>	<b>544,939</b>	<b>51.7%</b>

According to the United States Department of Agriculture, for Fiscal Year 2008, there was an average of 219,433 students participating in the Free and Reduced Breakfast Program per day in Arizona.<sup>12</sup> The federal reimbursement for school breakfasts was \$49,418,700. There was an average of 647,667 students participating in the Free and Reduced Lunch Program per day. The federal reimbursement for school lunches was \$188,138,519.<sup>13</sup>



<sup>12</sup> United States Department of Agriculture, Food and Nutrition Service. National School Breakfast Annual Participation Tables. [www.fns.usda.gov/pd/08sbfypart.htm](http://www.fns.usda.gov/pd/08sbfypart.htm)

<sup>13</sup> United States Department of Agriculture, Food and Nutrition Service. National School Lunch Annual Participation Tables. [www.fns.usda.gov/pd/01slfypart.htm](http://www.fns.usda.gov/pd/01slfypart.htm)

*Geographic Location*

As of December 2008, half (51.8%) of SNAP recipients in Arizona resided in Maricopa County, and 16.3% of recipients resided in Pima County. Table 6 shows the number and percentage of SNAP recipients by county as of December 2008.

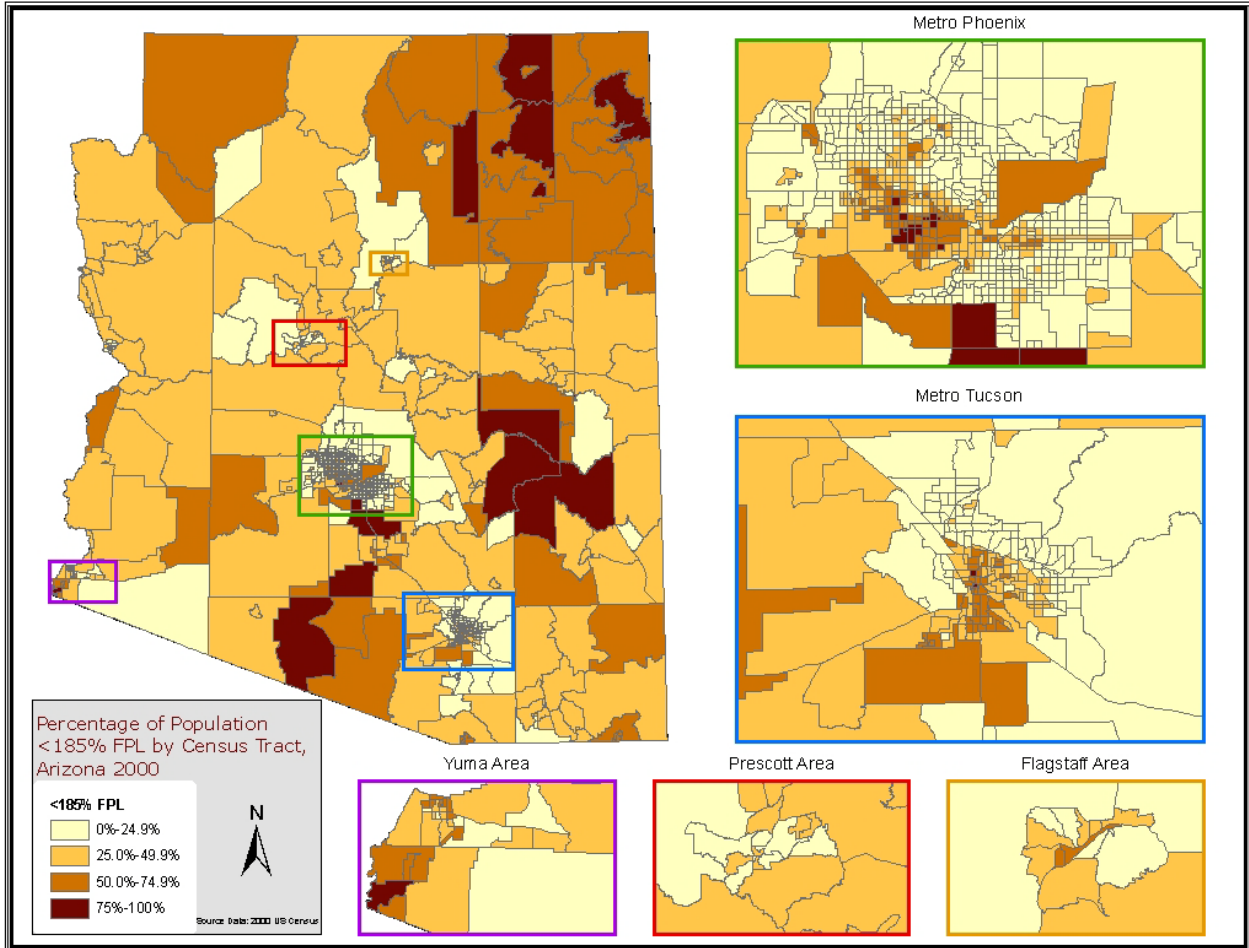
Table 7 demonstrates that just under one-fifth (19.6%) of the individuals in Arizona had incomes below 130% of the federal poverty level, according to the 2000 Census. The percent of the population living at that level of poverty varies from a low of 14.5% in Greenlee County to a high of 49.3% in Apache County.

County	Number of participants	Percentage of Recipients
Apache	20,409	2.7%
Cochise	18,151	2.4%
Coconino	18,878	2.5%
Gila	9,566	1.3%
Graham	5,272	0.7%
Greenlee	653	0.08%
La Paz	3,257	0.4%
Maricopa	384,722	51.8%
Mohave	29,767	4.0%
Navajo	30,225	4.0%
Pima	120,810	16.3%
Pinal	40,378	5.4%
Santa Cruz	9,097	1.2%
Yavapai	19,176	2.6%
Yuma	32,575	4.4%
Arizona	742,936	

	<130% FPL	130%-184% FPL	185%+ FPL
Apache	49.3%	12.8%	37.9%
Cochise	24.4%	13.4%	62.2%
Coconino	25.1%	11.3%	63.6%
Gila	25.2%	14.1%	60.6%
Graham	32.0%	15.2%	52.9%
Greenlee	14.5%	10.8%	74.7%
La Paz	28.2%	16.6%	55.2%
Maricopa	16.7%	10.1%	73.3%
Mohave	20.8%	14.3%	64.8%
Navajo	38.1%	13.8%	48.0%
Pima	20.6%	11.7%	67.7%
Pinal	23.1%	12.9%	64.1%
Santa Cruz	34.7%	17.0%	48.3%
Yavapai	18.4%	12.3%	69.3%
Yuma	28.4%	15.0%	56.7%
Arizona	19.6%	11.1%	69.2%

As demonstrated by Figure 12, a large proportion of the population in Arizona is considered potentially eligible by site or location for Supplemental Nutrition Assistance Nutrition Education (SNAP-Ed) based on the criteria that 50% or more of the population residing in the census tract has incomes below 185% of the federal poverty level. As Figure 12 shows, rural areas which include American Indian reservations have a very high percentage of the population with incomes below 185% of the federal poverty line.

**Figure 12.**



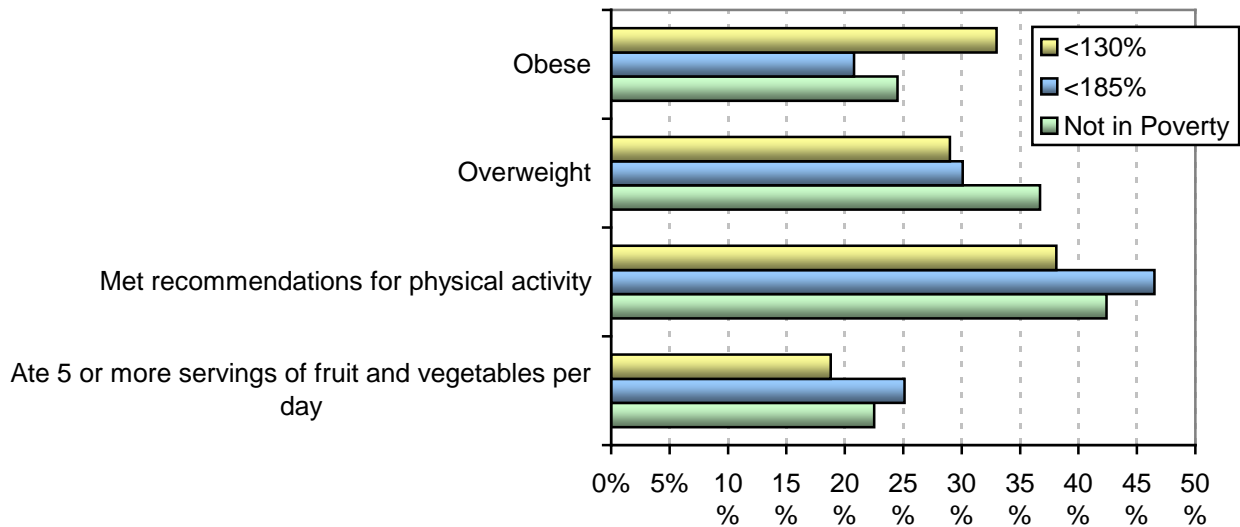
**b. Nutrition-Related Behavioral and Lifestyle Characteristics of Supplemental Nutrition Assistance Program Eligibles in Arizona**

*Dietary Attitudes and Behaviors*

In 2007, more than half of the deaths in Arizona (52.3%) were from diseases for which diet and lack of physical activity are known to increase risk including heart disease (22.7%), cancer (22.3%), stroke (4.7%) and diabetes (2.6%).<sup>14</sup>

Illustrated in Figure 13 are selected risk factors that contribute to premature death. Adults in the state with incomes below the 130% of the federal poverty level were more likely to be overweight or obese, and were less likely to have met recommendations for physical activity than adults not in poverty. Adults with incomes in the middle ranges (from 130%-185% of the federal poverty level) were less likely to be overweight or obese, but were more likely to meet fruit and vegetable consumption recommendations, and to have met recommendations for physical activity than adults not in poverty.

**Figure 13.**  
**Risk Factors by Poverty Level,**  
**Arizona BRFSS 2008**



<sup>14</sup> Arizona Health Status and Vital Statistics, 2007. Arizona Department of Health Services, Bureau of Public Health Statistics

Table 8 summarizes the results of the formative research conducted surrounding the Arizona Nutrition Network’s social marketing campaigns.

<b>Table 8. Research: Message Delivery - Attitudes and Behaviors</b>	
<b>Topic:</b>	<b>Members of the Target Audience:</b>
Message Delivery	<ul style="list-style-type: none"> <li>• Remember campaign components from television advertisements (87-96%).<sup>1-3,11,12</sup></li> <li>• Recall government offices as the second most cited source for seeing campaign components.<sup>1-3,11, 12</sup></li> <li>• Report access to the internet at home, work, or a library.<sup>4</sup></li> <li>• Have cable or satellite television at home.<sup>4</sup></li> <li>• Want relative information on foods, that is, a comparison of why one food is healthier than another.<sup>7,9</sup></li> <li>• Prefer advertising that is eye-catching, fun, colorful, fun for kids, and gives good information.<sup>1-3</sup></li> </ul>
Attitudes and Behaviors	<ul style="list-style-type: none"> <li>• Consider healthy eating very important.<sup>5</sup></li> <li>• Use a grocery list.<sup>1-3</sup></li> <li>• Consider good nutrition to be eating: fruits and vegetables, lean meat, beans, rice, and milk.<sup>5</sup></li> <li>• Indicate that pre-made and fast foods are easier and more convenient.<sup>5</sup></li> <li>• Want more detailed information and recipes on how to prepare and cook meals.<sup>5</sup></li> <li>• Report eating away from home once a week, usually to fast food restaurants, and rarely super-size their meals.<sup>8</sup></li> <li>• State reasons for not eating fruits and vegetables include: short shelf life, expensive, no time to prepare, don’t like vegetables, and not in the habit of eating vegetables.<sup>6</sup></li> <li>• Drink whole milk because they prefer the flavor, because they have children under 2, and/or believe it is more nutritious.<sup>7,9</sup></li> <li>• Drink fat free or 1% low fat milk because they prefer the taste, believe it is better for them, and/or have children who are overweight or are weight-conscious themselves.<sup>7,9</sup></li> <li>• Report confusion on the vitamin and mineral content of milk as the fat content is lowered (whole vs. fat free). Some believe whole milk has more vitamins and minerals because it has the label “Vitamin D Milk.”<sup>7,9</sup></li> <li>• Consider their family doctor the best source for health information.<sup>4</sup></li> </ul>
<p>1-Fruits and Vegetables Post-Test Intercept Interviews, October 2007                  2-Go Low Post-Test Intercept Interviews, January 2008                  3-Grow a Healthy Child Post-Test Intercept Interviews, June 2007                  4-Demographic surveys collected from Go Low Post-Test Intercept Interviews, January 2008                  5-Behavior Change Research Report, April 2008                  6-Fruits and Vegetables Pre-Campaign focus groups, February 2007                  7-Go Low Pre-Campaign Focus Groups, May 2007                  8-Nutrition Focus Groups, November 2004                  9-Go Low Pre-Campaign Focus Groups, March 2008                  10-Go Low Post-Campaign Report, September 2008                  11- FVMM Post-Campaign Report, March 2009                  12- Grow a Healthy Child Post-Campaign Report, June 2008</p>	

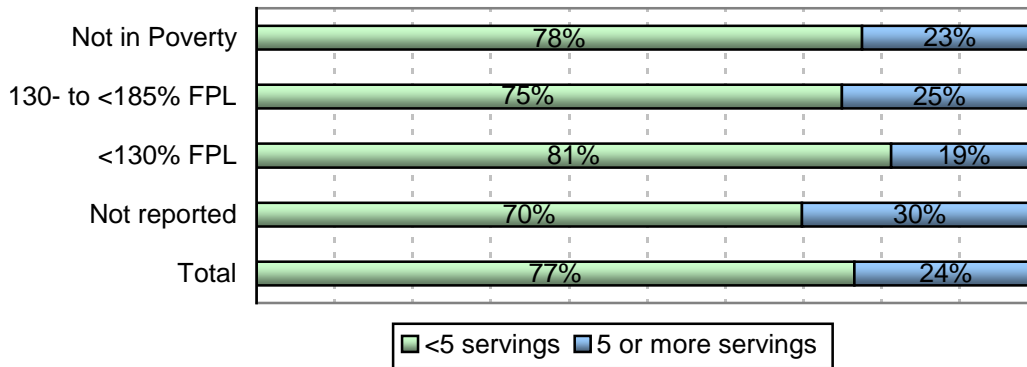


*Fruits and Vegetables*

The new 2005 United States Department of Agriculture recommendations for consumption of fruits and vegetables changed from servings to cups, however the Behavior Risk Factor Surveillance System (BRFSS) collects only information regarding servings of fruits and vegetables, and is presented below. New questions to assess cups of fruits and vegetables are currently being developed, and the Centers for Disease Control and Prevention anticipate will be added to the BRFSS in 2011.

Arizona is the third largest producer of vegetables and citrus fruit in the United States, yet less than one-quarter (24%) of Arizona adults consumed the recommended servings of vegetables and fruits each day in 2008.<sup>15</sup> The percentage of adults in Arizona who consumed five or more servings of fruits and vegetables per day ranged from a high of 25% of adults with incomes between 130-185% of the federal poverty level to low of 19% of adults living below 130% of the federal poverty level. Figure 14 shows fruit and vegetable consumption by poverty level.

**Figure 14.**  
**Fruit and Vegetable Consumption by Poverty Level,**  
**Arizona BRFSS 2008**



<sup>15</sup> Behavior Risk Factor Surveillance System, 2007.

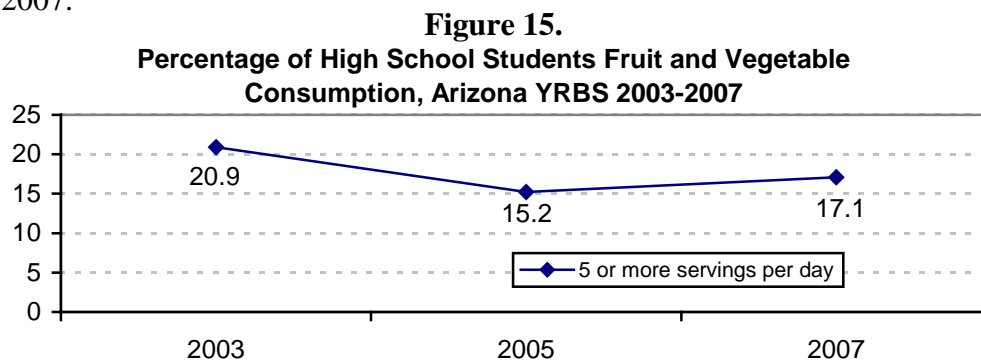
As Table 9 shows, consumption of at least five servings of fruits and vegetables a day by those below 130% of the federal poverty level was higher in regions 3, 5, 6, 7, and 8 than the state average of 18.8%. The remaining regions had lower consumption of five or more fruits and vegetables per day for persons below 130% of the federal poverty level than the state average.

County	<130%	130-184%	185%+
Region 1 - Maricopa	15.1%	24.8%	23.1%
Region 2 - Pima	9.9%*	20.3%	22.0%
Region 3 - Apache, Coconino & Navajo	21.1%	15.9%	24.1%
Region 4 - Gila, La Paz, Mohave & Yavapai	10.8%	32.8%	20.3%
Region 5 - Graham, Greenlee & Pinal	34.2%	12.9%	16.2%
Region 6 - Cochise	37.9%	9.6%*	20.7%
Region 7 - Santa Cruz	28.4%	26.7%	29.0%
Region 8 - Yuma	37.0%	26.0%	26.2%
Total	18.8%	25.1%	22.5%

\*Less than 8 cases, interpret with caution

The Arizona Youth Risk Behavior Survey (YRBS) is conducted every two years in high schools throughout Arizona, and collects information on a variety of risk factors among high school students. This database however, does not include information on the income of the student's family. Therefore, statistics presented in this report for are for all high school students, not just low-income. Additionally, the survey currently collects information regarding servings, not cups. The Centers for Disease Control estimates that they will begin collecting data in cups on the YRBS in 2011.

Among high school students in Arizona, the Youth Risk Behavior Survey 2007<sup>16</sup> results show that approximately one in five students (17.1%), report eating five or more servings of fruits and vegetables each day. The prevalence varied by race/ethnicity, with American Indian students being much more likely than other race/ethnicities to have eaten the recommended servings of fruits and vegetables (32% compared to 14.8% for African Americans, 16.5% for Hispanics, and 16.0% for Whites). Figure 15 shows the percentage of students meeting the recommended consumption levels for fruits and vegetables for 2003 through 2007.



<sup>16</sup> Arizona Department of Education. Youth Risk Behavior Survey. <http://www.ade.az.gov/sa/health/matrix/2007AZBHTrend%20Report.pdf>

### Overweight/Obesity

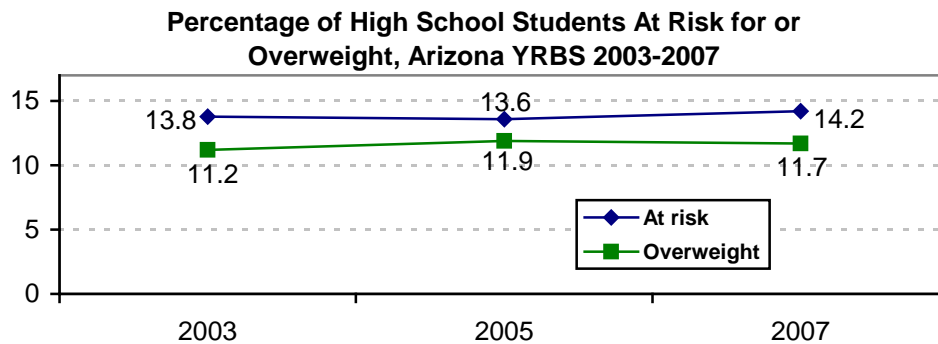
In Arizona the number of overweight (BMI >25 kg/m<sup>2</sup> – 29.9 kg/m<sup>2</sup>) or obese (BMI >30 kg/m<sup>2</sup>) adults has increased from 44.7% in 1994 to 58.7% in 2007 which is similar to national trends. A seven-year summary of BRFSS data (2001 to 2007, n= 28,702) of weight ranges by race and ethnicity indicates that the highest levels of overweight and obesity are seen in American Indian (67.0%) and African American (63.1%) individuals.

As demonstrated in Table 10, Apache, Coconino and Navajo Counties had the highest percentage of adults with incomes below 130% of the federal poverty level who were overweight or obese (80.7%). Additionally, Table 10 shows that Cochise, Pima, and Santa Cruz Counties had lower percentages of adults with incomes below 130% the federal poverty level who were overweight or obese compared to the state average of 62.0% (49.8%, 53.5% and 57.9% respectively).

County	<130%	130-184%	185%+
Region 1 - Maricopa	66.2%	39.6%	60.9%
Region 2 - Pima	53.5%	59.5%	60.1%
Region 3 - Apache, Coconino & Navajo	80.7%	69.3%	57.5%
Region 4 - Gila, La Paz, Mohave & Yavapai	71.6%	66.7%	59.4%
Region 5 - Graham, Greenlee & Pinal	73.7%	46.6%	69.4%
Region 6 - Cochise	49.8%	75.0%	65.1%
Region 7 - Santa Cruz	57.9%	65.2%	62.2%
Region 8 - Yuma	68.8%	74.4%	70.6%
Arizona	62.0%	50.9%	61.2%

The 2007 Arizona YRBS survey results show that 14.2% of high school students were at-risk of becoming overweight (BMI ≥ 85<sup>th</sup> percentile but < 95<sup>th</sup> percentile for body mass index, by age and sex) and 11.7% were found to be overweight (BMI ≥ 95<sup>th</sup> percentile for body mass index, by age and sex). Figure 16 shows the trend of at-risk and overweight high school students from 2003 to 2007. The prevalence of overweight and obesity varied by race/ethnicity, as African Americans (29%) and Hispanics (19%) were more likely to be at-risk for overweight compared to Whites (10%). American Indians were slightly more likely to be at-risk for overweight (13%), but this was not statistically significant. American Indians (20%) and Hispanics (17%) were more likely to be overweight compared to Whites (7%). African Americans were slightly more likely to be overweight (12%) than Whites, but this was not statistically significant.

**Figure 16.**



Over one-quarter (28.8%) of high school students described themselves as slightly or very overweight. Females were more likely to report themselves a slightly or very overweight than males (33.7% compared to 24.0%). Just under half (45.1%) of high school students reported that they were trying to loose weight. Females were much more likely to report that they were trying to lose weight than males (58.9% compared to 31.9% of males). Well over half (61.2%) of high school students reported exercising to lose weight or to keep from gaining weight in the past 30 days. Females were much more likely to have exercised to lose weight than males (67.5% compared to 55.1%).

The Centers for Disease Control and Prevention’s Pediatric Nutrition Surveillance 2007 report indicates that in the Arizona WIC program, 14.4% of enrolled children age two and older are overweight (BMI-for-age > 95th percentile). Almost one-quarter (23.9%) of children age two and older were overweight in the Inter Tribal Council of Arizona WIC program; and in the Navajo WIC program, 17.3% were overweight. Nationally, 14.9% of children age two and older enrolled in the WIC program were overweight.

*Physical Activity*

The Arizona BRFSS 2007 data indicates that less than half (42.4%) of adults in Arizona met the recommendations for moderate and/or vigorous physical activity. Adults in the state with incomes below the 130% of the federal poverty level had lower percentages of moderate and vigorous physical activity compared to adults not in poverty.

As demonstrated by Table 11, Graham, Greenlee and Pinal Counties had the highest percentage (53.3%) of adults with incomes below 130% of the federal poverty level who met the recommendations for moderate and/or vigorous physical activity, while Pima County had the lowest percentage (30.3%).

<b>Table 11. Percent of Respondents Who Met Recommendations* for Moderate and/or Vigorous Physical Activity by Poverty Level and Region, Arizona BRFSS 2008</b>			
<b>County</b>	<b>&lt;130%</b>	<b>130-184%</b>	<b>185%+</b>
Region 1 - Maricopa	36.6%	43.6%	42.9%
Region 2 - Pima	30.3%	54.2%	40.7%
Region 3 - Apache, Coconino & Navajo	35.4%	48.7%	47.4%
Region 4 - Gila, La Paz, Mohave & Yavapai	37.5%	52.8%	38.8%
Region 5 - Graham, Greenlee & Pinal	53.3%	40.9%	42.1%
Region 6 - Cochise	39.4%	63.1%	50.2%
Region 7 - Santa Cruz	38.0%	45.7%	48.1%
Region 8 - Yuma	44.2%	46.2%	42.3%
Arizona	38.1%	46.5%	43.6%
* Moderate physical activity of ≥30 minutes per day for ≥5 days per week, or vigorous activity for ≥20 minutes per day on ≥3 days per week.			

The 2007 Arizona YRBS data indicates that one-third (32%) of high school students reported being active for at least 60 minutes on five or more days of the week. Almost as many students (28.2%) reported spending at least three hours watching television per day. Additionally, one-fifth (21.4%) of students reported spending at least three hours playing computer or video games. No statistically significant differences were found between race/ethnic groups for participation in physical activity.

Table 12 summarizes the results of the social marketing formative research regarding knowledge, attitudes, and behaviors surrounding fruits and vegetables, physical activity, milk, healthy eating and breastfeeding.

<b>Table 12: Formative Research Findings: Fruits and Vegetables, Physical Activity, 1% or Non Fat Milk, Healthy Eating, and Breastfeeding</b>	
<b>Topic:</b>	<b>Members of the Target Audience:</b>
Fruits and Vegetables	<ul style="list-style-type: none"> <li>• Are aware of the importance of eating fruits and vegetables.<sup>6,15</sup></li> <li>• State reasons for not eating fruits and vegetables include: short shelf life, expensive, no time to prepare, don't like vegetables, and not in the habit of eating vegetables.<sup>6,15</sup></li> <li>• Believe that frozen and canned fruits and vegetables are not as nutritious as fresh.<sup>6</sup></li> <li>• Half were already meeting recommendations for fruit and vegetable consumption.<sup>12</sup></li> <li>• Over half of mothers say veggies are in the top three things most often on their grocery list.<sup>12</sup></li> </ul>
Physical Activity	<ul style="list-style-type: none"> <li>• Believe that getting exercise regularly is the key to a healthy lifestyle.<sup>8</sup></li> <li>• State they do not exercise due to: laziness, too tired, not enough will-power, and too busy.<sup>8</sup></li> <li>• Know actions that promote physical activity in children such as running, swimming, and bicycling.</li> <li>• List common activities for themselves as: walking, bike riding, cleaning, going to the park with kids, walking with kids to/from school, yard work.<sup>8</sup></li> <li>• List common activities for kids as: soccer, walking to the park, running, swimming, basketball, kick ball, tennis.<sup>8</sup></li> <li>• List common activities moms and kids do together as: walking, playing ball, running, housework, and riding bikes.<sup>12</sup></li> <li>• List common activities for kids as: playing ball, running, walking, and riding bikes.<sup>12</sup></li> <li>• Two-thirds of moms report doing some physical activity every day.<sup>12</sup></li> <li>• Half of moms report that their children do physical activity every day.<sup>12</sup></li> </ul>

**Table 12: Formative Research Findings: Fruits and Vegetables, Physical Activity, 1% or Non Fat Milk, Healthy Eating, and Breastfeeding**

<b>Topic:</b>	<b>Members of the Target Audience:</b>
1% Low Fat or Fat Milk	<ul style="list-style-type: none"> <li>• Drink whole milk because they prefer the flavor, because they have children under 2, and/or believe it is more nutritious.<sup>7,10</sup></li> <li>• Drink fat free or 1% low fat milk because they prefer the taste, believe it is better for them, and/or have children who are overweight or are weight-conscious themselves.<sup>7,10</sup></li> <li>• Report confusion on the vitamin and mineral content of milk as the fat content is lowered (whole vs. fat free). Some believe whole milk has more vitamins and minerals because it has the label “Vitamin D Milk.”<sup>7,10</sup></li> <li>• Consume whole or 2% milk most often.<sup>2,7,10</sup></li> <li>• Describe people who drink 1% low fat or fat free milk as the elderly, pregnant women, or trying to lose weight.<sup>7</sup></li> <li>• Majority of mothers include milk on their grocery lists.<sup>11</sup></li> </ul>
Healthy Eating	<ul style="list-style-type: none"> <li>• Consider healthy eating very important.<sup>5</sup></li> <li>• Use a grocery list.<sup>1-3</sup></li> <li>• Consider good nutrition to be eating: fruits and vegetables, lean meat, beans, rice, and milk.<sup>5</sup></li> <li>• Indicate that pre-made and fast foods are easier and more convenient.<sup>5</sup></li> <li>• Want more detailed information and recipes on how to prepare and cook meals.<sup>5</sup></li> <li>• Report eating away from home once a week, usually to fast food restaurants, and rarely super-size their meals.<sup>8</sup></li> <li>• Consider their family doctor the best source for health information.<sup>4</sup></li> <li>• Feel overwhelmed with the time needed to shop, prepare, and cook healthy foods.<sup>5</sup></li> <li>• Report frequently eating together as a family.<sup>11</sup></li> <li>• Reported already serving healthy meals every day, or taking the steps to do so more often.<sup>11</sup></li> <li>• Report children help their mothers decide what to have for dinner.<sup>11</sup></li> <li>• Report the following benefits of healthy eating: better skin and hair, weight maintenance, increased energy, avoidance of diseases such as heart disease, diabetes and high cholesterol.<sup>13</sup></li> <li>• Report barriers to eating healthy include: fruits and vegetables are expensive, too tired at the end of a long day to prepare a healthy meal, takes too much time to prepare produce, quick spoilage of fresh produce, ease of frozen entrees, family doesn’t like fruits and vegetables, not in the habit of buying and eating produce.<sup>13</sup></li> </ul>

<b>Table 12: Formative Research Findings: Fruits and Vegetables, Physical Activity, 1% or Non Fat Milk, Healthy Eating, and Breastfeeding</b>	
<b>Topic:</b>	<b>Members of the Target Audience:</b>
Breastfeeding	<ul style="list-style-type: none"> <li>• Have a basic understanding of the benefits of breastfeeding.<sup>9</sup></li> <li>• Many do not understand the full, long-term benefits of breastfeeding.<sup>9</sup></li> <li>• Almost all participants wanted to at least attempt breastfeeding.<sup>9</sup></li> <li>• Family and friends are primary source of information regarding breastfeeding.<sup>9</sup></li> <li>• Trusted doctors and nurses for information, but women consistently did not receive helpful information.<sup>9</sup></li> <li>• Interactions with nurses varied from helpful to overbearing.<sup>9</sup></li> <li>• Young mothers were intimidated by the nurses and their mandate to breastfeed.<sup>9</sup></li> <li>• Most were not taking advantage of resources through WIC, hospital or doctors offices.<sup>9</sup></li> <li>• Women wanted to breastfeed but did not have the knowledge/assistance to be successful.<sup>9</sup></li> <li>• Mothers were surprised about the challenge of breastfeeding.<sup>9</sup></li> <li>• Mothers often pumped because of their job.<sup>9</sup></li> </ul>
1-Fruits and Vegetables Post-Test Intercept Interviews, October 2007 2-Go Low Post-Test Intercept Interviews, January 2008 3-Grow a Healthy Child Post-Test Intercept Interviews, June 2007 4-Demographic surveys collected from Go Low Post-Test Intercept Interviews, January 2008 5-Behavior Change Research Report, April 2008 6-Fruits and Vegetables Pre-Campaign focus groups, February 2007 7-Go Low Pre-Campaign Focus Groups, May 2007 8-Nutrition Focus Groups, November 2004 9-Breast Feeding Focus Groups, September 2006 10-Go Low Pre-Campaign Focus Groups, March 2008 11-Grow a Healthy Child Post Campaign Report June 2008 12- Fruits and Veggies More Matters Post Campaign Report March 2009 13 –Fruits and Veggies More Matters Pre Campaign Report June 2008 14 – Go Low Post Campaign Report, September 2008 15 – Behavior Model Research Quantitative Research Report, September 2008	

### *Food Security*

In Arizona, hunger and food insecurity are most prevalent among the poor children, elderly, and homeless. The USDA’s report entitled “Household Food Security in the United States, 2007”<sup>17</sup> estimated that from 2005 through 2007, an average of 12% of Arizona households were food insecure without experiencing hunger and 4.6% were food insecure and experienced hunger.

The Arizona Nutrition Network’s evaluation survey conducted in 2006 and 2007 at sites serving low-income people estimates that of the 339 surveyed, 40% were food insecure, of which 6.2% reported having experienced moderate to severe hunger.

According to the “Hunger in America 2006” report conducted for America’s Second Harvest Network, Arizona’s emergency food network served approximately 77,500 people served in any given week, with a total of 479,000 unduplicated people in 2005. Just over half (55%) of

<sup>17</sup> United States Department of Agriculture, Economic Research Service. Household Food Security in the United States, 2007. Economic Research Report Number 66, November 2008.

those people used pantries, 28% used kitchens, and 17% used shelters. Of the 1,400 people interviewed, almost three-quarters (71.4%) were classified as food insecure, with over one-third (37.6%) classified as food insecure with hunger. In households with children, almost three-quarters (73%) were food insecure, and one-third (34%) were food insecure with hunger. Just under one-quarter (22%) of clients interviewed received SNAP benefits, but it was estimated that many more were eligible. Over half (52%) of clients interviewed who had children age three and younger were also participating in the State Supplemental Nutrition Program for Women, Infants and Children (WIC).<sup>18</sup>

Table 13 shows selected food security indicators by county. As Table 13 demonstrates, while counties might have similar numbers of people receiving SNAP benefits, the number of pounds of food distributed within those counties varies widely. For example, Apache County had more people receiving SNAP benefits in 2008 than Cochise and Coconino Counties, yet the number of pounds of food that was distributed by food banks in those counties exceeded the amount distributed by food banks in Apache County by over 25 percent.<sup>19</sup>

	Number of People Receiving SNAP Benefits (Dec 2008)*	Number of People <130% FPL (2000)**	Number of Emergency Food Assistance Agencies (2007-2008)***	Number of Pounds of Food Distributed by Food Banks (2007-2008)***
Apache	20,281	33,657	14	881,265
Cochise	18,035	27,279	23	1,471,609
Coconino	18,045	28,375	25	3,619,420
Gila	9,367	12,684	10	387,266
Graham	4,784	9,665	4	368,511
Greenlee	488	1,226	2	200,496
La Paz	3,233	5,459	5	156,329
Maricopa	371,907	504,194	305	41,125,523
Mohave	28,757	31,874	19	1,641,587
Navajo	29,458	36,266	35	2,416,239
Pima	118,060	169,838	206	13,752,016
Pinal	38,982	37,935	38	3,509,248
Santa Cruz	8,978	13,257	10	1,638,509
Yavapai	18,274	30,079	25	1,387,332
Yuma	32,669	43,749	43	4,372,501
Arizona	721,318	985,537	770	2,322,891
*Arizona Department of Economic Security, Statistical Bulletin, Nov 2008				
**US Census, 2000				
***Association of Arizona Food Banks Hunger Profiles				

Nationwide, the research shows that children from food insecure homes have poorer overall health status: they are sick more often, much more likely to have ear infections, have higher rates of iron deficiency anemia, and are hospitalized more frequently. As a result, these

<sup>18</sup> O'Brien, D. Torres Aldeen, H. "Hunger in America 2006 America's Second Harvest The Nation's Food Bank Network Fourth National Hunger Study" Mathematica Policy Research, Inc. [www.hungerinamerica.org](http://www.hungerinamerica.org)

<sup>19</sup> The Association of Arizona Food Banks. "Hunger Profiles by County." [www.azfoodbanks.org](http://www.azfoodbanks.org)



children miss more days of school and are less prepared to learn when they are able to attend, making the relationship between hunger, health, and learning of far greater importance than previously realized.<sup>20,21,22</sup>

Table 14 summarizes the results of the social marketing formative research regarding knowledge, attitudes, and behaviors surrounding the SNAP and WIC programs.

<b>Table 14: Formative Research Findings: SNAP, WIC</b>	
<b>Topic:</b>	<b>Members of the Target Audience:</b>
SNAP <sup>1</sup>	<ul style="list-style-type: none"> <li>• Describe using SNAP benefits to buy the more expensive food items (like meat and vegetables) and using their own money for lower cost canned items.</li> <li>• List foods they could buy when they had SNAP benefits like more meat, more yogurt, and more nutritious foods.</li> <li>• Indicate they can buy a greater variety of fruits and vegetables when they have SNAP benefits.</li> </ul>
WIC <sup>1</sup>	<ul style="list-style-type: none"> <li>• Discuss using WIC checks for milk, eggs, and juices and their own money for lower cost items.</li> </ul>
I-Network Formative Research Reports 2001-2004	

<sup>20</sup> Cristofar, S. P. & Basiotis, P. P. (1992) Dietary intakes and selected characteristics of women ages 19–50 years and their children ages 1–5 years by reported perception of food sufficiency. *J. Nutr. Educ.* 24:53-58.

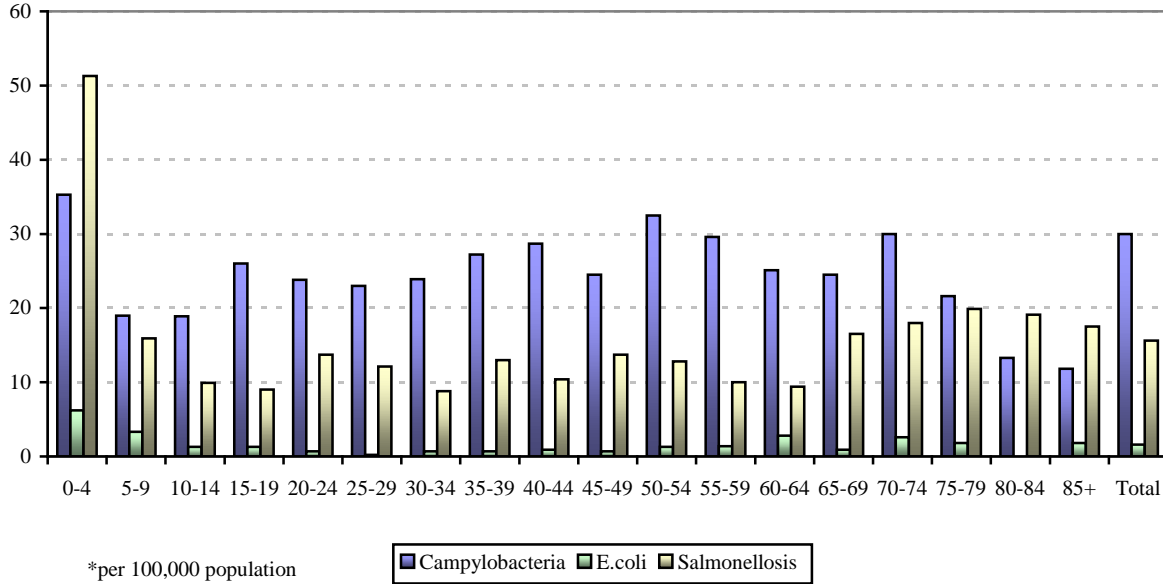
<sup>21</sup> Alaimo, K., Olson, C. M. & Frongillo, E. A. (2001) Food insufficiency and American school-aged children’s cognitive, academic, and psychosocial development. *Pediatrics* 108:44-53

<sup>22</sup> Alaimo, K., Olson, C. M., Frongillo, E. A. & Briefel, R. R. (2001) Food insufficiency, family income, and health in US preschool and school-aged children. *Am. J. Public Health* 91:781-786

*Food Safety*

The number of reported food borne illnesses in Arizona during 2007 included 2,622 cases, including 997 salmonella cases (rate = 15.5 per 100,000), 962 campylobacteriosis cases (rate = 15.0 per 100,000), 106 E. coli 0157:H7 cases (rate = 1.6 per 100,000), and 12 listeriosis cases (rate = 0.2 per 100,000).<sup>19</sup> Figure 17 shows the number of food borne illness cases per 100,000 people by age group in Arizona for 2007.

**Figure 17. Rate of Food Borne Illness\* by Age Group, Arizona 2007**



One-fifth (20.7%) of the reported cases of salmonella in Arizona in 2007 occurred in children under the age of five, with the rate of 41.5 cases per 100,000. This compares to an overall case rate of 15.6 cases per 100,000 for the general population of Arizona. Elderly individuals experienced rates of salmonella at 19.9 cases per 100,000 for individuals aged 75 to 79 years, 19.1 cases per 100,000 for individuals aged 80 to 84 years, and 17.5 cases per 100,000 for individuals over 85 years of age.

Campylobacteriosis is not a nationally notifiable disease, and surveillance is limited. The Centers for Disease Control and Prevention indicate that the national incidence is approximately 20 cases per 100,000 population. In Arizona, the incidence rate for campylobacteriosis was 30.0 cases per 100,000 population in 2007. Children under the age of five had the highest incidence rate (35.3 per 100,000 population) of all age groups.

Table 15 shows the rate of reported cases of food borne illnesses by county. As Table 7 shows, Graham County had the highest rate of salmonellosis cases with 44.1 cases per 100,000 population, compared to the state average of 15.5 cases per 100,000 population. Apache, Coconino, and Navajo Counties had the highest rates of campylobacteriosis, with over 30 cases per 100,000 population, compared to the state average of 15.0 cases per 100,000 population. Mohave County had the highest rate of E. coli, with 3.5 cases per 100,000 compared to the state average of 1.6 per 100,000.

County	Salmonellosis	Campylobacteriosis	E.coli
Apache	22.5	31.7	2.6
Cochise	26.1	12.3	0.7
Coconino	19.2	31.8	0.7
Gila	26.9	12.6	1.8
Graham	44.1	13.8	0.0
Greenlee	24.2	24.2	0.0
La Paz	9.2	4.6	0.0
Maricopa	12.8	15.4	1.5
Mohave	11.4	5.5	3.5
Navajo	19.9	31.2	2.6
Pima	21.7	15.1	1.9
Pinal	16.7	7.8	2.0
Santa Cruz	17.2	19.3	2.1
Yavapai	10.4	8.2	2.3
Yuma	21.8	8.4	1.0
Arizona	15.5	15.0	1.6

Table 16 summarizes the results of the social marketing formative research regarding knowledge, attitudes, and behaviors surrounding food safety issues.

Topic:	Members of the Target Audience:
Food Safety <sup>1</sup>	<ul style="list-style-type: none"> <li>• State that they try to remember to wash hands regularly but are doubtful that they practice proper hand washing all of the time.</li> <li>• Believe that leftovers can be kept in the refrigerator for up to a week.</li> <li>• Want to learn how to keep fruits and vegetables clean and safe for their children to eat.</li> <li>• Indicate that keeping food clean and safe is important for children to be healthy.</li> <li>• Look for expiration dates on food items purchased.</li> </ul>
1-Network Formative Research Reports 2001-2004	

### *Food Purchasing Attitudes and Behaviors*

As of December 2008, 308,274 households were receiving SNAP benefits. The average per person SNAP benefit was \$112.19 per month, and \$270.38 per household.<sup>23</sup> The adequacy of these amounts, particularly on rural Indian Reservations, is a concern for Arizona Nutrition Network Partners providing nutrition education for SNAP eligible individuals.

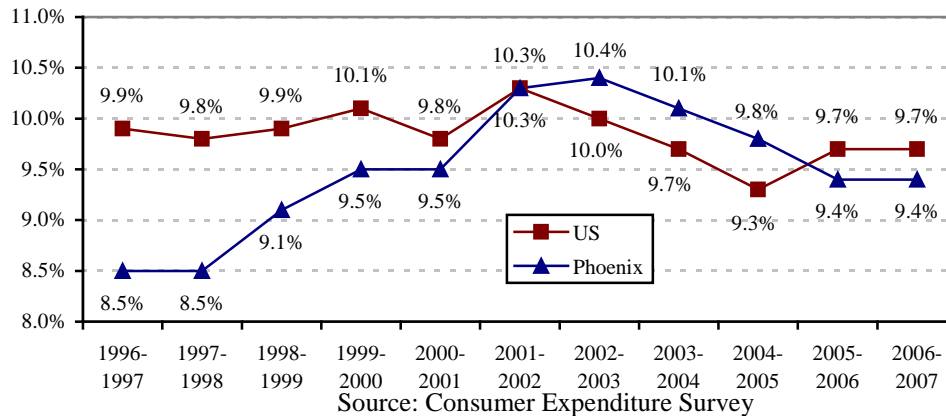
According to the United States Department of Labor’s Consumer Expenditure Survey, food accounted for 12.4% of total expenditures in the Phoenix area for 2006 to 2007.<sup>23</sup> Additionally, consumer units (families and single consumers) in Phoenix spent 43.5% of

<sup>23</sup> Arizona Department of Economic Security, Family Assistance Administration. Statistical Bulletin, December 2008. [www.azdes.gov/faa/statistics.asp](http://www.azdes.gov/faa/statistics.asp)

their total food budget on food prepared away from home, such as restaurant meals, carry-out, board at school, and catered affairs.

Figure 18 illustrates that while the proportion of the food budget that is spent on fruits and vegetables has remained relatively constant (between nine and 11%) for the nation, in Phoenix there has been a steady increase in fruit and vegetable purchases from 1996 through 2003. The last three years have shown a slight decrease in the portion of food budget that is spent on fruits and vegetables in Phoenix, which mirrored the United States proportion until 2005 to 2006, when the proportion in Phoenix dropped below the national average. Since then, the average in Phoenix has remained below the national average.<sup>24</sup>

**Figure 18.**  
**Percentage of Food Budget Expended on Fruits and Vegetables in Phoenix and the US, 1996-2007**



The Arizona Nutrition Network survey conducted in 2006 and 2007 assessed the resource management and shopping behaviors of low-income individuals. This survey showed that of 339 people surveyed, almost half (42%) planned their meals ahead of time always, almost always, or most of the time, over half (58%) compare prices before buying food and almost half (45%) do their shopping with the aid of a grocery list. Almost two-thirds (62%) of the respondents reported looking for specials when grocery shopping and almost all (97%) said they shopped for fruits and vegetables in supermarkets, including Wal-Mart.

The 2006 survey also asked people the reasons why they made the food choices that they did. Almost all (94.7%) reported food safety as somewhat to very important, 92.8% said taste, 91.2% said nutritional content, and 90.9% said how well food keeps. The price of food was considered to be somewhat to very important by 84.2% of respondents. These questions were not asked on the 2007 survey.

Table 17 summarizes the results of the social marketing formative research regarding knowledge, attitudes, and behaviors surrounding shopping, food demonstrations and seasonings.

<sup>24</sup> U.S. Department of Commerce, Bureau of Economic Analysis. Consumer Expenditure Survey, 2006-2007.

<b>Table 17. Formative Research Findings: Shopping, Food Demonstrations, Seasonings</b>	
<b>Topic:</b>	<b>Members of the Target Audience:</b>
Shopping <sup>1</sup>	<ul style="list-style-type: none"> <li>• Indicate that although the mother does the shopping, what is purchased is influenced by the preferences of her children and her husband.</li> <li>• Identify that the number of healthy foods purchased is often hindered by financial limits.</li> <li>• Look for coupons, grocery store sales, and inexpensive food items.</li> <li>• Limit purchase of new or unfamiliar foods, as they cannot afford to waste money on food that might not be eaten.</li> <li>• Purchase dairy products on nearly every trip to the grocery store.</li> <li>• Report shopping once a week for most food items and more often for some perishables such as fruits and vegetables, milk, and meat.</li> <li>• Identify supermarkets as the most common place for purchasing food, followed by discount stores.</li> <li>• More than one-third of women report drinking 1% milk.<sup>3</sup></li> <li>• Majority of mothers include milk on their grocery lists.<sup>3,4</sup></li> <li>• Over half of mothers say veggies are in the top three things most often on their grocery list.<sup>5</sup></li> </ul>
Food Demonstrations <sup>1</sup>	<ul style="list-style-type: none"> <li>• Agree that if they like a recipe from a food demonstration and know how to prepare the recipes, they will prepare it for their families.</li> <li>• Pay attention to recipes in the newspaper if they understand the directions and contain familiar ingredients.</li> <li>• Want food demonstrations in familiar settings such as food banks, WIC clinics or community centers.</li> <li>• Prefer someone they know and trust to provide food demonstrations such as a WIC counselor or a promotora.</li> <li>• Request food demonstrations to be given in words that they understand.</li> </ul>
Seasonings	<ul style="list-style-type: none"> <li>• Indicate they have the following seasonings in their homes: salt, pepper, garlic, cilantro, chili powder, cinnamon, oregano and allspice.<sup>2</sup></li> </ul>
<p>1-Network Formative Research Reports 2001-2004  2- Demographic surveys collected from Go Low Post-Test Intercept Interviews, January 2008  3-Go Low Post campaign report 2008  4-Grow a Healthy Child Post Campaign Report June 2008  5- Fruits and Veggies More Matters Post Campaign Report March 2009</p>	

Table 18 summarizes the results of the formative research on the social marketing efforts of the Arizona Nutrition Network.

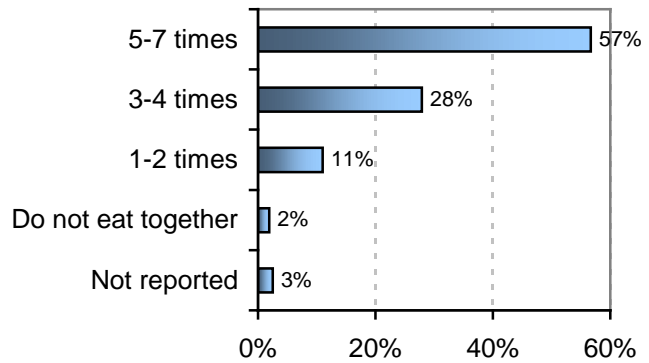
<b>Table 18. Research on Social Marketing Efforts</b>	
<b>Topic:</b>	<b>Members of the Target Audience:</b>
Social Marketing	<ul style="list-style-type: none"> <li>• Remember campaign components from television advertisements.<sup>1-3</sup></li> <li>• Recall government offices as the second most cited source for seeing campaign components.<sup>1-3</sup></li> <li>• Cited drinking 1% or low fat milk is better for you and that low fat milk has all the vitamins and minerals without the fat as the dominant messages of the Go Low campaign.<sup>1</sup></li> <li>• Found the Go Low advertising easy to understand.<sup>1</sup></li> <li>• Had an overwhelming positive response to the Go Low advertising, with 87% of mothers giving it a 4 or 5 on a 5 point scale.<sup>1</sup></li> <li>• Recalled liking the Go Low advertisements because it has a good message/is educational.<sup>1</sup></li> <li>• Cited eat as a family, spend time together and/or bond as a family as the dominant messages of the Grow a Healthy Child campaign.<sup>2</sup></li> <li>• Found the Grow a Healthy Child advertising very easy to understand (89%).<sup>2</sup></li> <li>• Had an overwhelming positive response to the Grow a Healthy Child advertising, with 98% of mothers giving it a 4 or 5 on a 5 point scale.<sup>2</sup></li> <li>• The top two reasons mothers liked the advertising were because of the image of a family eating together and seeing the family getting older and growing up healthy.<sup>2</sup></li> <li>• Cited healthy eating and eating fruits and veggies as the two dominant messages of the Fruit and Vegetable campaign.<sup>3</sup></li> <li>• Mothers liked Fruits and Vegetable campaign advertising because it was colorful.<sup>3</sup></li> <li>• Found the Fruit and Vegetable advertising easy to understand (94%).<sup>3</sup></li> <li>• Had an overwhelming positive response to the Fruit and Vegetable advertising, with 92% rating it a 4 or a 5 on a 5 point scale.<sup>3</sup></li> <li>• Two thirds of those who are currently eating or thinking about eating more fruits and vegetables in the near future state that the Fruits and Vegetables campaign influenced their behavior or thought process a great deal.<sup>3</sup></li> </ul>
<p>1-Go Low Post-Campaign Report September 2008                  2-Grow a Healthy Child Post Campaign Report June 2008                  3-FVMM Post-Campaign Report March 2009</p>	

*Where and How SNAP Eligibles Eat*

As described in the previous section, according to the 2006-2007 Consumer Expenditure Survey, consumer units (families and single consumers) in Phoenix spent just under half (43.5%) of their total food budget on food prepared away from home, such as restaurant meals, carry-outs, board at school, and catered affairs.

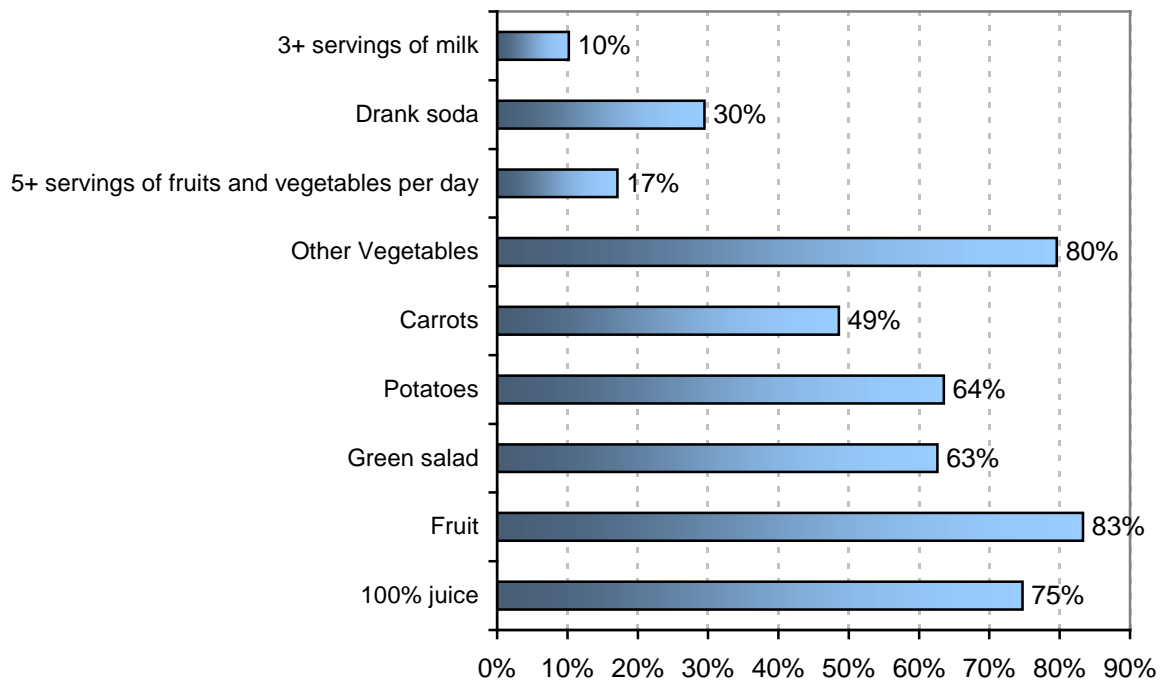
Demographic surveys conducted with focus groups and intercept interviews for the Fiscal Year 2008 social marketing campaigns showed that of the 1,421 people surveyed, over half (56.7%) reported eating a meal as a family at least five days per week (Figure 19). Additionally, almost two-thirds (62.7%) of respondents reported eating at a fast food restaurant at least once in the past 30 days.

**Figure 19.**  
**Family Meals per Week,**  
**Demographic Surveys FY 2008 (n=1,421)**



As discussed in previous sections, no data is available for analysis of high school students in low-income families. The graph below shows the consumption behaviors of Arizona high school students as reported in the 2007 YRBS. As indicated in the Free and Reduced School Lunch portion of this document, it is estimated that approximately half of high schools in Arizona have at least 50% of their student body qualifying for the free or reduced school lunch program. As Figure 20 demonstrates, only 10% of students reported consuming three or more servings of milk per day in the past week, and only 17% of students reported consuming the recommended five or more servings of fruits and vegetables per day for the past week.

**Figure 20.**  
**Consumption Behaviors of High School Students in**  
**The Past Week, Arizona YRBS 2007**



The Arizona Department of Education conducts School Health Profile surveys with a representative sample of school principals across the state to assess and monitor the characteristics and trends in nutrition practices, school health education, physical education, asthma management activities, school health policies related to HIV/AIDS prevention, and violence prevention in schools. The profiles are based on a biennial, random systematic sample of middle, junior and senior high school principals. The Network conducted an analysis of the data to compare SNAP-Ed eligible schools to schools that were not eligible for the SNAP-Ed.

Results of the analysis showed that that over half (57%) middle and high schools had snack foods or beverages available for purchase on school grounds from vending machines, a school store, canteen or snack bar. SNAP-Ed eligible schools were less likely than non-eligible schools to have food and beverages available for purchase on school grounds (48% compared to 66%). Table 19 shows the percentage of schools that have snack foods and beverages available for purchase on school grounds. As Table 17 shows, almost half (45%) of schools had sports drinks available for purchase on school grounds, with SNAP-Ed eligible schools being less likely to have sports drinks available for purchase than non-eligible schools (38% compared to 52%). Just one-fifth to one-quarter of schools had fruits or vegetables available for purchase on school grounds (20% had vegetables available for purchase, 26% had fruit available for purchase). No statistically significant differences were found between SNAP-Ed eligible and non-eligible schools. SNAP-Ed eligible schools were also less likely to offer ice cream/frozen yogurt (8% compared to 14%), 2% or whole milk (19% compared to 37%), and food or beverages containing caffeine than non-eligible schools (13% compared to 20%).

Fewer than half (40%) of schools made fruit or non-fried vegetables available at school celebrations when food or beverages are served, and there were no differences between SNAP-Ed eligible and non-eligible schools. Less than half (41%) of schools limited the serving size of individual foods and beverages sold on school property, with SNAP-Ed eligible schools being less likely than non-eligible schools to limit serving sizes (31% compared to 51%). Almost half (44%) of schools provided information to students and parents on the nutrition and caloric content of the foods available. SNAP-Ed eligible schools were less likely to provide information to students and parents on the nutrition and caloric content of the foods available than non-eligible schools (36% compared to 48%). Less than half (42%) of schools collect suggestions from students, families and staff on nutritious food preferences and strategies to promote healthy eating, with no statistically significant differences between SNAP-Ed eligible and non-eligible schools.

One-fifth (20%) of schools conducted taste tests to determine food preferences for nutritious items, with SNAP-Ed eligible schools being less likely to conduct taste tests than non-eligible schools (15% compared to 26%). Almost one-quarter (22%) of schools provided opportunities for students to learn about food safety, food preparation and other nutrition related topics. There was no statistically significant difference between SNAP-Ed eligible and non-eligible schools.



Less than ten percent (9%) of schools priced nutritious foods at a lower cost while increasing the price of less nutritious foods and beverages, and just one percent of schools allowed promotion of candy, fast food restaurants or soft drinks to students through distribution of promotional items. The majority of schools prohibit the advertisement of candy, fast food restaurants and soft drinks on school grounds. There were no statistically significant differences between SNAP-Ed eligible and non-eligible schools. Table 19 also shows the percentage of schools that prohibit this type of advertisement by location. SNAP-Ed eligible schools were more likely to prohibit this type of advertisement on school grounds than non-eligible schools (76% compared to 67%).<sup>25</sup>

In 2006 the Arizona Department of Education implemented the School Nutrition Guidelines, which were developed using the latest research in nutrition for school age children. These guidelines include standards on foods sold on school grounds. The full report can be accessed on the Arizona Department of Education's website.<sup>26</sup>

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<sup>25</sup> Arizona Department of Education. 2008 School Health Profile Principals Survey. <http://www.azed.gov/sa/health/tools/SHEPSurvey.asp>

<sup>26</sup> Arizona Department of Education. The Arizona Nutrition Standards. <http://www.azed.gov/health-safety/cnp/HB2544/ArizonaNutritionStandards.pdf>. Revised September 2007.

<b>Table 19. Availability of Snacks and Beverages Arizona School Health Profile Principals Survey, 2008</b>			
	Percentage of schools ( & 95% Confidence Intervals)		
	SNAP-Ed Eligible	Not SNAP-Ed Eligible	All Schools
Frequency of which fruit or non-fried vegetables are offered at school celebrations when food or beverages are served:			
No food or beverages offered	5% (3-6%)	5% (3-7%)	5% (3-8%)
Never	1% (0-1%)	4% (2-6%)	2% (1-5%)
Rarely	14% (11-17%)	9% (7-12%)	11% (8-15%)
Sometimes	40% (36-45%)	42% (38-46%)	41% (36-46%)
Always	41% (36-45%)	40% (36-44%)	40% (36-45%)
Snack foods or beverages are available for purchase on school grounds	48% (43-52%)	66% (62-70%)	57% (52-61%)
Available for purchase on school grounds:			
Chocolate candy	16% (13-19%)	19% (16-22%)	18% (15-21%)
Other candy	19% (16-22%)	22% (19-26%)	21% (17-24%)
Salty snacks not low in fat	24% (20-27%)	27% (23-31%)	25% (22-29%)
Baked goods not low in fat	21% (18-25%)	28% (24-32%)	25% (21-29%)
Ice cream/frozen yogurt not low in fat	8% (6-10%)	14% (11-17%)	11% (9-14%)
2% or whole milk (plain or flavored)	19% (16-23%)	37% (33-41%)	28% (24-33%)
Water ice/slushes that do not contain juice	9% (6-11%)	9% (7-12%)	9% (7-12%)
Soda/fruit drinks that are not 100% juice	17% (14-20%)	21% (17-24%)	19% (16-22%)
Sports drinks	38% (34-42%)	52% (47-56%)	45% (41-50%)
Foods or beverages containing caffeine	13% (10-16%)	20% (17-23%)	17% (14-20%)
Fruits (not fruit juice)	23% (20-27%)	29% (25-33%)	26% (22-31%)
Vegetables (not vegetable juice)	18% (15-21%)	22% (18-25%)	20% (17-24%)
Advertisement/Promotion of candy, fast food or soft drinks			
Promotion of candy, meals from fast food restaurants, and soft drinks through distribution of products such as t-shirts, hats and book covers to students is prohibited	99% (97-100%)	97% (96-99%)	99% (98-100%)
Locations where advertisements for candy, fast food restaurants or soft drinks are prohibited:			
In the school building	77% (74-81%)	75% (72-79%)	77% (72-81%)
On school grounds	76% (72-79%)	67% (63-71%)	72% (67-77%)
On school buses or other transportation vehicles	79% (76-83%)	77% (74-81%)	79% (74-83%)
In school publications	73% (69-76%)	65% (61-69%)	70% (65-74%)
Limit the package or serving size of any individual food and beverage item sold on school property	31% (27-35%)	51% (47-55%)	41% (37-46%)
Provide information to students or families on the nutrition and caloric content of foods available	36% (32-40%)	48% (44-53%)	44% (37-48%)
Collect suggestions from students, families, and school staff on nutritious food preferences and strategies to promote healthy eating	40% (36-45%)	47% (43-52%)	42% (39-49%)
Conducted taste tests to determine food preferences for nutritious items	15% (12-18%)	26% (22-30%)	20% (17-25%)
Provided opportunities for students to visit the cafeteria to learn about food safety, food preparation or other nutrition related topics	21% (17-24%)	22% (19-26%)	22% (18-26%)
Priced nutritious foods and beverages at a lower cost while increasing the price of less nutritious foods and beverages	7% (5-9%)	11% (8-13%)	9% (6-12%)
*SNAP-Ed eligible—at least 50% of students eligible for the free and reduced lunch program according to the 2008 NSLP report (March or October), if NSLP data unavailable, school is considered eligible if at least 50% of the population living in the census tract has incomes at or below 185% of the federal poverty level according to the 2000 US Census. Highlighted areas are statistically significant difference from SNAP-Ed to Non-SNAP-Ed Schools.			

### SNAP Redemption

No data is currently available for detailed state-level analysis. However, the United States Department of Agriculture Food and Nutrition Service conducted an analysis of national SNAP benefit redemption patterns published in 2006. Results of this analysis showed that in 2003, 13 million households used SNAP benefits using the Electronic Benefit Transfer (EBT) system.<sup>27</sup> The analysis found that regardless of state or region of residence, SNAP recipients used the EBT system frequently, and left very little unspent at the end of the month. Most households conducted an average of eight transactions per month, generally less than \$25 per transaction, with most transactions occurring in supermarkets. The analysis also found that there was very little variation in these patterns across states. There was more variation across types of household, but was related to the size of the household benefit more than the characteristics of the household. Table 18 shows EBT transactions by community characteristics from the referenced report.

**Table 18. National SNAP Redemption Patterns, EBT Transactions by Community Characteristics: 2003**

	Average number of stores per household	Average number of monthly transactions	Average purchase amount	Percentage redeemed in supermarkets	Percentage never shop supermarkets	Percentage redeemed within 2 weeks	Average ending balance	% with consecutive inactive months
All households	3.3	7.6	\$27.90	82.1%	5.4%	80.5%	\$13.16	0.7%
Population density								
Metropolitan areas	3.5	7.8	\$27.83	82.0%	5.2%	80.2%	\$13.24	0.7%
Suburban areas	3.0	7.3	\$28.12	85.4%	4.4%	81.0%	\$13.15	0.6%
Rural areas	2.7	7.0	\$27.93	80.4%	7.7%	81.8%	\$12.03	0.7%
Persistent poverty								
Yes	3.5	8.2	\$26.84	81.5%	6.2%	83.1%	\$11.48	0.3%
No	3.3	7.6	\$28.02	82.3%	5.2%	80.2%	\$13.29	0.8%
Family Type								
With children	4.0	9.7	\$31.53	83.1%	2.4%	80.9%	\$15.64	0.1%
With elderly	2.2	4.6	\$19.16	78.7%	8.8%	74.2%	\$13.04	2.1%
Race of head of household								
White	2.9	6.9	\$27.70	85.6%	4.9%	78.0%	\$15.43	0.9%
African American	3.8	8.1	\$28.55	80.2%	5.9%	84.6%	\$9.28	0.4%
Hispanic	3.5	8.2	\$27.91	81.5%	4.8%	78.6%	\$13.37	0.8%

Over the past five years, the SNAP EBT transactions at Arizona farmers markets have increased significantly, from just over \$500 in 2003-2004 to over \$9,000 for fiscal year 2007-2008.<sup>28</sup> This information is based on a convenience sample of ten farmers' markets in the state. There are currently 64 farmers' markets in Arizona.

<sup>27</sup> United States Department of Agriculture, Food and Nutrition Service, Office of Analysis, Nutrition and evaluation. An Analysis of Food Stamp Benefit Redemption Patterns. June, 2006.

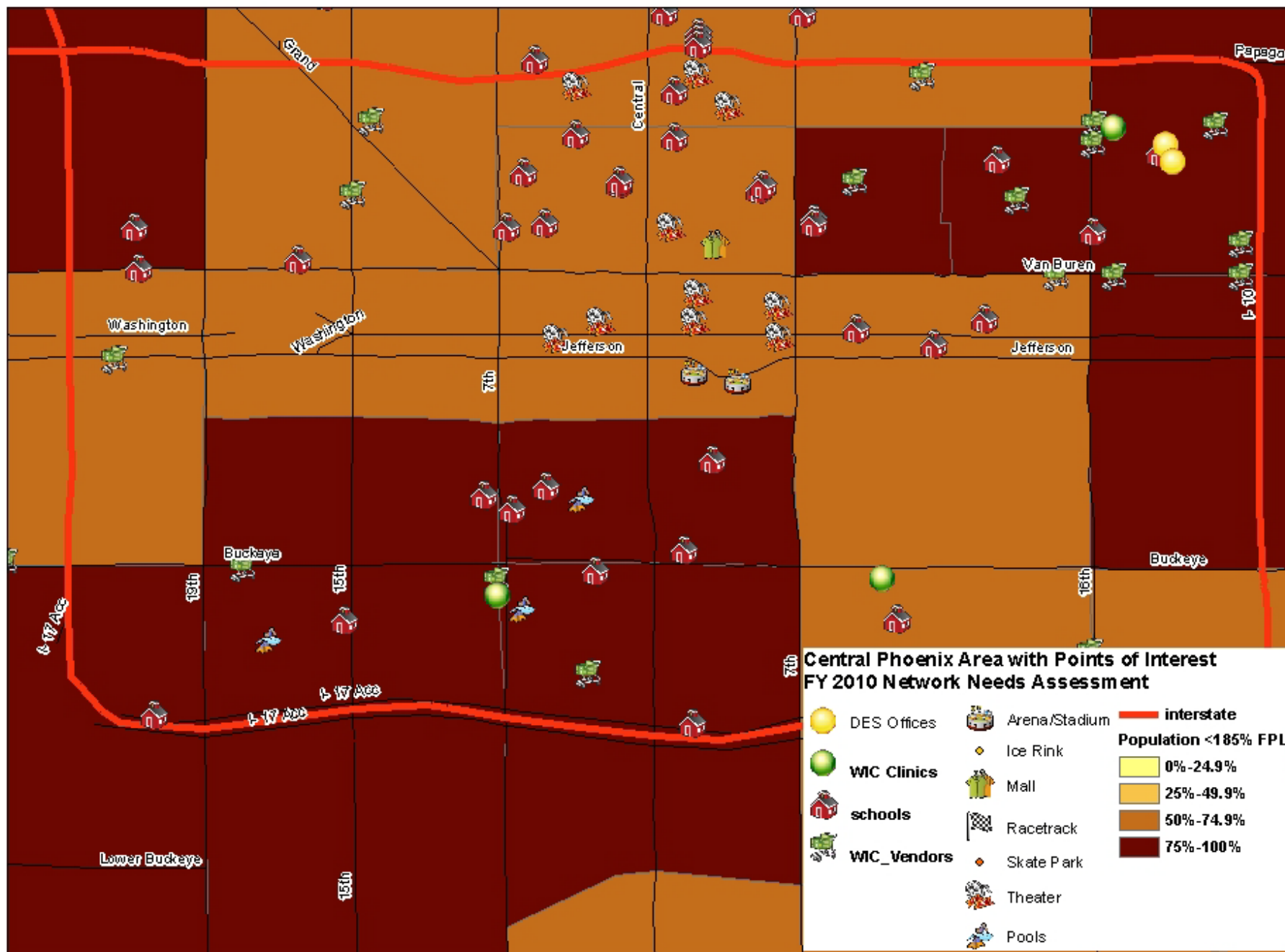
<http://www.fns.usda.gov/oane/MENU/Published/FSP/FILES/ProgramOperations/EBTRedemption.pdf>

<sup>28</sup> Community Food Connections, October 2007-September 2008 Transaction Report.

*Geographic Locations: Where They Live, Learn, Work and Play*

Figure 21 on the following page shows the percentage of the population living below 185% of the federal poverty level, and points of interest such as Department of Economic Security(DES) offices, WIC clinics, WIC approved vendors, schools, entertainment venues (such as malls, theaters and skate parks), pools, and parks. As Figure 21 demonstrates, at least half of the population in the majority of census tracts in central Phoenix are living below 185% of the federal poverty level. This map has been created for the entire state, but has been zoomed in to the Phoenix Metro-area for the purposes of this document.

Figure 21.



### **c. Other Nutrition-Related Programs Serving Low-Income Persons In Arizona**

The state of Arizona recognized the importance of dietary habits and physical activity when publishing a statewide plan, Healthy Arizona 2010: Collaborating for a Healthier Future. Nutrition and physical activity were selected as two of 12 focus areas in the plan. Eight objectives in Healthy Arizona 2010 address critical areas that represent the most significant nutrition-related concerns in Arizona.

These objectives include: healthy weight, fruit and vegetable intake, calcium, folate, breastfeeding, iron deficiency anemia, food security, and food safety. These objectives have been used to direct Arizona Nutrition Network activities. The Nutrition Education Plan for FY 2010 reflects process objectives and outcomes that support the Healthy Arizona 2010 plan.

The Arizona Department of Health Services provides comprehensive services statewide through the Bureau USDA Nutrition Programs. Table 19 lists each chronic disease and nutrition program within the bureau and identifies the Healthy Arizona 2010 objectives addressed.

The Arizona WIC Program, in collaboration with the Arizona Nutrition Network, continues to promote common messages within all USDA nutrition programs. The Bureau of USDA Nutrition Programs has undertaken a significant initiative to develop new nutrition education materials for use in WIC to reflect the changes incorporated into clinic practice through Value Enhanced Nutrition Assessment (VENA). Staff from all programs are involved in this effort to ensure materials will be used across all programs when appropriate. USDA resources such as the Loving Your Family, Feeding Their Future are being used across programs as well. The Bureau of USDA Nutrition Programs provides comprehensive public health nutrition services through multiple agencies in cooperation with others such as the Arizona Department of Education, Arizona Health Care Cost Containment System, and Arizona Department of Economic Security.

Throughout the Local Incentive Award application process and ongoing program monitoring, it is emphasized that Supplemental Nutrition Assistance Program nutrition education services must supplement, not supplant, services provided through programs such as Head Start, Area Agencies on Aging, and EFNEP. It is anticipated that expansion of the Strategic Nutrition Action Plan for Arizona to include the University of Arizona Cooperative Extension will facilitate coordination of nutrition education activities in communities to avoid duplication of services. The Arizona Nutrition Network also works with food bank programs to improve dietary quality and increase food security.

Table 19 shows the Healthy Arizona 2010 nutrition related objectives and the programs within the Bureau of USDA Nutrition Programs that address those objectives.

<b>Table 19: Healthy Arizona 2010 Nutrition Objectives</b>						
Healthy Arizona 2010 Focus Areas/Objectives	Current Activities/Initiatives					
	Arizona Breastfeeding Coalition	Arizona Farmers' Market Nutrition Program	Arizona Nutrition Network	Commodity Supplemental Food Program	Folate Education Program	Arizona WIC Program
<b>Nutrition</b>						
Anemia				X		X
Fruits and Vegetables		X	X	X	X	X
Food Security		X	X	X		X
Healthy Weight		X	X	X		X
Calcium			X	X		X
<b>Maternal and Child Health</b>						
Breastfeeding	X		X			X
Folate			X		X	X
<b>Environmental Health</b>						
Food Safety			X			X
<b>Physical Activity</b>						
Youth			X			X
Adults			X			X
<b>Tobacco</b>						
Youth						
Adults						X
<b>Oral Health</b>						
Pediatric Tooth Decay						X

Table 20 shows areas in Arizona where SNAP eligibles are underserved or have not had access to SNAP-Ed. Selected demographic, economic, nutritional and physical activity related indicators are detailed by county.

**d. Areas In Arizona Where Supplemental Nutrition Assistance Program Eligibles Are Underserved Or Have Not Had Access To SNAP-Ed**

<b>Table 20. Under - and Un-served SNAP Populations</b>										
<b>County</b>	<b>Demographic and Economic Indicators</b>							<b>Nutrition and Physical Activity Indicators<sup>7</sup></b>		
	<b>Population<sup>1</sup></b>	<b>% Population Below 130% Poverty<sup>2</sup></b>	<b>Persons on SNAP<sup>3</sup></b>	<b>% Family Female HH w/ child &lt; 5 in Poverty<sup>4</sup></b>	<b>% Elderly below 130% Poverty<sup>4</sup></b>	<b>% Unemployed<sup>5</sup></b>	<b>Per Capita Personal Income<sup>6</sup></b>	<b>% &lt; 5 serving FV/Day</b>	<b>% Overweight or Obese</b>	<b>% not meeting Physical Activity Rec.</b>
<b>Apache</b>	76,156	48.9%	19,845	65.5%	51.6%	12.8%	\$20,689	78.3%	63.4%	53.5%
<b>Cochise</b>	139,156	24.4%	16,687	61.4%	17.9%	6.4%	\$29,890	74.7%	61.8%	50.7%
<b>Coconino</b>	135,316	24.9%	17,288	55.7%	22.4%	6.0%	\$31,855	78.3%	63.4%	53.5%
<b>Gila</b>	57,361	25.4%	8,591	58.9%	15.4%	7.8%	\$27,623	78.7%	60.2%	57.4%
<b>Graham</b>	38,633	32.1%	4,724	62.1%	23.5%	9.4%	\$22,049	79.3%	66.2%	56.0%
<b>Greenlee</b>	8,950	14.5%	245	52.6%	16.3%	9.4%	\$31,227	79.3%	66.2%	56.0%
<b>La Paz</b>	21,544	28.6%	3,018	53.0%	22.2%	8.0%	\$23,610	78.7%	60.2%	57.4%
<b>Maricopa</b>	3,987,942	16.7%	335,787	37.5%	11.5%	6.2%	\$36,135	76.7%	56.6%	56.5%
<b>Mohave</b>	205,862	20.8%	26,396	45.8%	13.7%	8.4%	\$23,908	78.7%	60.2%	57.4%
<b>Navajo</b>	114,780	38.1%	28,350	65.7%	29.4%	11.3%	\$20,369	78.3%	63.4%	53.5%
<b>Pima</b>	1,014,023	20.6%	109,693	46.9%	12.9%	6.5%	\$31,755	78.3%	57.9%	56.5%
<b>Pinal</b>	350,558	23.2%	35,129	50.8%	14.3%	9.2%	\$22,975	79.3%	66.2%	56.0%
<b>Santa Cruz</b>	47,471	35.2%	7,632	55.7%	31.9%	12.7%	\$23,744	73.0%	60.6%	56.4%
<b>Yavapai</b>	227,348	18.2%	15,746	44.8%	11.8%	7.3%	\$27,620	78.7%	60.2%	57.4%
<b>Yuma</b>	203,779	28.4%	29,917	52.6%	15.3%	19.7%	\$22,768	71.6%	67.1%	55.8%
<b>State Total</b>	6,629,455	19.7%	659,295	43.7%	13.4%	6.9%	\$32,833	76.5%	61.1%	56.4%
<b>National</b>	304,059,724	16.8%	25,926,000	46.4%	16.3%	7.2%	\$38,615	75.6%	63.0%	50.5%

1. Department of Economic Security, (DES) Population Estimate, July 1, 2008. 2. US Census, 2000. 3. DES, July 2008. \*Number in millions. Source: USDA Report on Characteristics of Food Stamp Households, 2006. 4. Age 65 and older, US Census 2000. 5. DES, *Arizona Workforce Employment Report*, December 2008. 6. Bureau of Economic Analysis, Regional Economic Accounts, Per Capita Personal Income, data for 2007. 7. 2008 BRFSS (estimates by region).

Notes: HH=Householder, No Husband Present, F/V = Fruits and Vegetables. Per capita income is the income that is received by persons from all sources, divided by the total resident population of the area.



### 3. NEEDS ASSESSMENT APPLICATION

The Arizona Nutrition Network Partners have chosen to continue three key nutrition messages for the social marketing and community education activities in the FY 2010 Nutrition Education Plan. These messages include:

- Eating more fruits and vegetables each day.
- Drinking 1% or less fat milk.
- Healthy Eating / Family Meals.

The message of being physically active, at least 60 minutes for children and 30 minutes or more for adults on most days of the week will be incorporated as a supporting message throughout the year. These messages were selected because of Arizona Nutrition Network partners' strong support for long-term efforts to promote behavior change that will improve the dietary and physical activity patterns among food stamp eligible individuals in Arizona. Incorporating the 2005 Dietary Guidelines and My Pyramid resources in the Healthy Eating/Portion Control messages will allow Network partners to broaden and strengthen education efforts on additional dietary factors such as whole grains, portions sizes, and eating habits.

The intended audience selected by Arizona Nutrition Network partners for FY 2010 social marketing and community nutrition education activities is low-income, SNAP eligible women ages 18 to 44 and their children (ages 2 to 11).

Additional audiences are targeted for selected activities: third grade students in low-income schools, fifth and sixth grade students in low income schools, low income breastfeeding WIC clients, and low-income senior citizens. All focus group research, including formative and evaluative, is conducted among the target audience at or below 130% of the federal poverty level.

Network activities are provided in all 15 Arizona counties. Additional activities will be conducted in Arizona counties whose populations demonstrate the greatest need and are at the greatest risk: Apache, Cochise, Graham, La Paz, Navajo, Santa Cruz, and Yuma. These areas were selected as needs assessment data indicated that more than 60% of women who are the heads of households with children less than five years of age have incomes of less than the federal poverty level in these counties.