



HEALTHY STARTS HERE

## Needs Assessment 2018

Arizona Department of Health Services  
Bureau of Nutrition and Physical Activity  
Research and Development

April 23, 2018



ADHS

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## EXECUTIVE SUMMARY

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AZ Health Zone, formerly known as the Arizona Nutrition Network, has provided SNAP-Ed services through an interagency agreement with the Department of Economic Security for nearly 20 years. It is the nutrition promotion and obesity-prevention component of the Supplemental Nutrition Assistance Program (SNAP). Statewide services are provided through eight local implementing agencies to encourage behavioral changes, including increased fruit and vegetable consumption, regular physical activity, and achieving caloric balance throughout the life cycle. In addition to direct education provided to SNAP and SNAP-eligible participants, the program has expanded to include a focus on policy, systems, and environmental changes (PSE) in areas of food systems, active living, school health, and early childhood. Taken together, education, marketing, and PSE changes are more effective than any of these strategies alone for preventing overweight and obesity.

The goal of AZ Health Zone is to help low-income families in Arizona to be healthy and active while staying within a budget. Working with local implementing agencies throughout the state, the program encourages those eligible for SNAP-Ed to:

- Make half your plate fruits and vegetables, at least half your grains whole grains, and switch to fat-free or low-fat milk and milk products.
- Increase physical activity and reduce time spent in sedentary behaviors as part of a healthy lifestyle.
- Maintain appropriate caloric balance during each stage of life – childhood, adolescence, adulthood, pregnancy and breastfeeding, and older age.
- Breastfeed infants through age one.

Each of these has been shown to aid in the maintenance of a healthy body weight, reduce the risk of many chronic diseases such as heart disease, type 2 diabetes and certain types of cancer, and promote overall health.

In order to more effectively direct resources and coordinate activities, a statewide needs assessment is conducted every three years in order to understand the population served and design interventions that are relevant to them. The needs assessment describes the target population in terms of its economic and demographic profile, health, access to health care and health habits, as well as the kind of social media and technology used and environmental factors that affect opportunities for healthy choices. All of this information is examined in the context of other programs to identify gaps and design strategies to address them.

This report also serves as a resource for local implementing agencies to inform their own community needs assessments. Information on many topics is provided on a county or community level and refers to other useful documents that provide more detailed information on select topics.



## METHODOLOGY DESCRIPTION AND JUSTIFICATION

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Needs assessment is an ongoing process, which is part of an overall strategy to align programmatic activity with goals and priorities, and to identify promising practices and barriers to progress. Needs are constantly assessed, using preexisting data whenever possible. Primary research is also conducted regularly to evaluate programmatic activities and assess their impact, and these data are shared with community partners. This needs assessment, paired with the University of Arizona Evaluation reports, provides an opportunity to formally assess performance and evaluate strategies, using data from all of these sources.

There are five systematic ways that are used to identify needs and resources. Any of the following could lead to an issue emerging for further examination and discussion with community partners:

- A trend in Arizona that is moving in a desirable or undesirable direction
- Arizona compares favorably or unfavorably to the nation on a measure
- Disparity among subgroups of the population (e.g., racial/ethnic groups, geographic location, age group)
- Arizona's performance against a defined standard or target
- Partner/stakeholder input

Quantitative analysis gives important information in terms of measuring progress, as well as objective data on what factors are associated with successes vs. failures. An understanding of these factors must be taken into account when setting goals for performance measures. For example, having an adequate income and health insurance are often associated with success on performance measures.

Consequently, it is important to take into account the likely impact of increasing unemployment and loss of health insurance in setting a goal for a measure. Given the context of an economic recession, long-term goals to maintain current levels of performance could be aggressive for some performance measures.

### **PREEXISTING DATA SOURCES**

The AZ Health Zone needs assessment makes use of several preexisting data sources. Each of the following data sources provides standardized data, which allow comparisons of Arizona data to national data as well as trends in Arizona over time.

### ***BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM (BRFSS)***

The Behavioral Risk Factor Surveillance System is comprised of survey data from all 50 states and the District of Columbia, with assistance from the Centers for Disease Control and Prevention (CDC). The system consists of telephone surveys based on random-digit-dialing methods, which are used to select a representative sample of residents age 18 years and older. The BRFSS questionnaire consists primarily of questions about personal behaviors that increase risk for one or more of the ten leading causes of death in the United States. In 2011, the CDC changed its sampling methodology, which renders estimates

produced through 2010 incomparable to those produced from 2011 forward. Arizona also asks three questions about food assistance each year to identify respondents who live in households receiving WIC, SNAP, or free and reduced lunches, which allows us to track how the behaviors in our target population change over time.

### ***UNITED STATES CENSUS – AMERICAN COMMUNITY SURVEY (ACS)***

Every ten years, the United States Census does a complete count of the population, including collection of certain demographic data. Additionally, each year, the United States Census American Community Survey collects additional demographic, housing, and socioeconomic statistics. Summaries of these data are available at [www.census.gov](http://www.census.gov) through a variety of tools, including Fact Finder and QuickFacts. These summaries are based on time periods of one, three, or five years, with the longer time intervals containing data on smaller geographic units.

The Public Use Microdata Sample (PUMS) contains a sample of actual responses from the ACS. Detailed information on nearly all of the questions from the ACS are included at both a single person and household level, as well as calculated variables such as poverty status, making it possible to study individuals within the context of their families and other household members. The individual-level responses allow for much more flexible queries than what is available through the United States Census American FactFinder. The smallest geographical unit in the PUMS is the Public Use Microdata Areas (PUMA), which are contiguous, non-overlapping areas containing no fewer than 100,000 people at the time of the year 2000 Census. Beginning with the 2012 ACS PUMS, the files rely on PUMA boundaries that were drawn by state governments after the 2010 Census.

### ***YOUTH RISK BEHAVIOR SURVEILLANCE SYSTEM (YRBSS)<sup>1</sup>***

The Youth Risk Behavior Surveillance System was established by the CDC to monitor the prevalence of youth behaviors that most influence health. The YRBSS focuses on priority health-risk behaviors among high school-aged youth that result in the most significant mortality, morbidity, disability, and social problems during both youth and adulthood. Although the YRBSS is the best available source of data on behaviors of high school students in Arizona, these data are not available by income strata. Since it is well established that lower-income populations, in general, are at increased risk than those at higher incomes, YRBSS data may present a more favorable picture of the health and risk behaviors than would be found specifically among low-income youth in the target population.

### ***SCHOOL HEALTH PROFILES<sup>2</sup>***

The School Health Profiles is a system of surveys established by the CDC to assess school health policies and practices. Profiles are based on biennial surveys of high school and middle school principals and lead health education teachers. They provide information related to school health education requirements and content, physical education and physical activity, practices related to bullying and sexual

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<sup>1</sup> Profiles for results prior to 2017 can be accessed at: <https://nccd.cdc.gov/youthonline/App/Results.aspx?LID=AZB>

<sup>2</sup> CDC Adolescent and School Health School Health Profiles, retrieved 03/23/2016. Retrieved from: [www.cdc.gov/healthyyouth/data/profiles/index.htm](http://www.cdc.gov/healthyyouth/data/profiles/index.htm)

harassment, school health policies related to tobacco-use prevention and nutrition, school-based health services, family engagement and community involvement, and school health coordination.

### ***EMPOWER IMPLEMENTATION REPORT: YEARS 1-4<sup>3</sup>***

The Arizona Department of Health Services (ADHS) Empower Program offers licensed child care facilities discounted licensing fees for agreeing to implement ten standards focusing on physical activity, sun safety, breastfeeding-friendly environments, Child and Adult Care Food Program, fruit juice, family-style meals, oral health, staff training, smokers' helpline, and smoke-free campuses.<sup>4</sup> The Empower Implementation Report includes four years of self-reported implementation levels, beginning with state fiscal year 2014 (Year one: July 2013 through June 30, 2014) through state fiscal year 2017 (Year four: July 2016 through June 30, 2017). The number of reports analyzed each year is as follows: year 1- 1,527; year 2- 1,109; year 3- 1,667; and year 4- 2,100.

## **PRIMARY DATA COLLECTION**

### ***TARGET POPULATION SURVEY, NOVEMBER 10, 2015***

ADHS commissioned WestGroup Research to conduct intercept interviews with 2,296 low-income women between the ages of 18 and 49 with children ages 2 to 11 between April 8 and May 31, 2015. Interviews were conducted at a wide variety of locations in Phoenix, Tucson, Flagstaff, and Yuma, as well as several outlying areas (e.g., Prescott, Prescott Valley, Cottonwood, Casa Grande, and Coolidge). Questions were asked about eating meals at home, fast food, and other restaurants, consumption of specific foods, grocery shopping preferences and behavior, participation in physical activity, participation in food assistance programs, and reasons for not participating in SNAP and/or WIC.

### ***SOCIAL MEDIA & TECHNOLOGY RESEARCH, OCTOBER 31, 2017***

ADHS commissioned WestGroup Research to obtain current information about social media and technology access and use among the SNAP-Ed target audience. Intercept interviews with 801 low-income women between the ages of 18 and 49 with children ages 2 to 11 were conducted in July and August of 2017 at a wide variety of locations in Phoenix, Tucson, Yuma, and Northern Arizona, specifically Flagstaff, Prescott, Prescott Valley, and Cottonwood.

### ***ARIZONA NUTRITION NETWORK RECIPE PROJECT REPORT, JULY 13, 2017***

ADHS commissioned Evaluation Strategies to conduct surveys to learn more about meal planning, recipe usage and selection, available ingredients, available kitchen tools, appliances, gadgets and cookware, and cooking methods. The target audience for the survey was low-income women residing in Arizona between the ages 18 and 49 years old with children ages 0-11 living in their homes. A total of 677

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<sup>3</sup> Empower Implementation Report, Years 1-4 can be accessed at <http://azdhs.gov/prevention/nutrition-physical-activity/index.php#reports>.

<sup>4</sup> To learn more about the program, please see the Empower Guidebook, Third Edition: Ten Ways to Empower Children to Live Healthy Lives, Standards for Empower Child Care Facilities in Arizona.

intercept surveys were completed at 32 sites, including grocery stores, elementary schools, WIC offices, Head Start and child care centers, health centers, and food banks. A sampling strategy was designed to ensure that the number of survey respondents from each area of the state was proportional to the number of eligible women in the area.

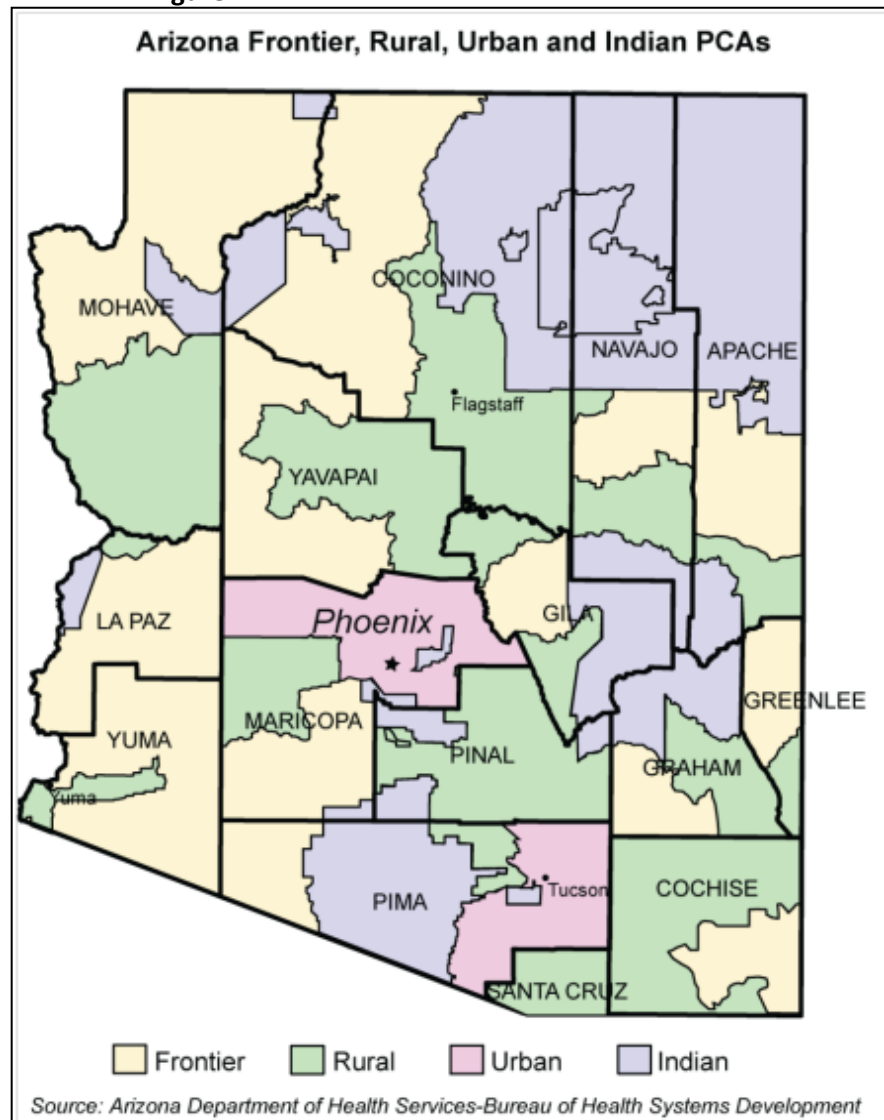
## OVERVIEW OF THE STATE

Arizona is the sixth largest state in the nation, with a total area of 114,000 square miles – about 400 by 310 miles. Arizona is also one of the youngest states. The end of the Mexican-American War in 1848 resulted in Mexico ceding 55 percent of its territory, including parts of present-day Arizona, to the United States. It was not until 1863 that a separate territory was carved out for Arizona. On February 14, 1912, President Taft signed the bill making Arizona the forty-eighth state.

Arizona had approximately 56 people per square mile at the time of the last census in 2010; however, much of the population lives in urban areas, where the population density is much higher. Maricopa County had a density of 414.9 people per square mile and Pima County had 106.7 people per square mile. The two least populous counties, Greenlee and LaPaz, had only 4.6 people per square mile in 2010. (See Appendix A: County Statistics, Table 1 for population estimates and density by county).<sup>5</sup>

Twenty-one federally-recognized American Indian tribes are located in Arizona, each representing a sovereign nation with its own language and culture. Tribal lands span the state and even beyond state borders, with the Navajo Reservation crossing into New Mexico and Utah, and the Tohono O’odham Reservation crossing international boundaries into Mexico. Figure 1 is an Arizona map showing frontier, rural, urban, and Indian areas of the state.

**Figure 1.**



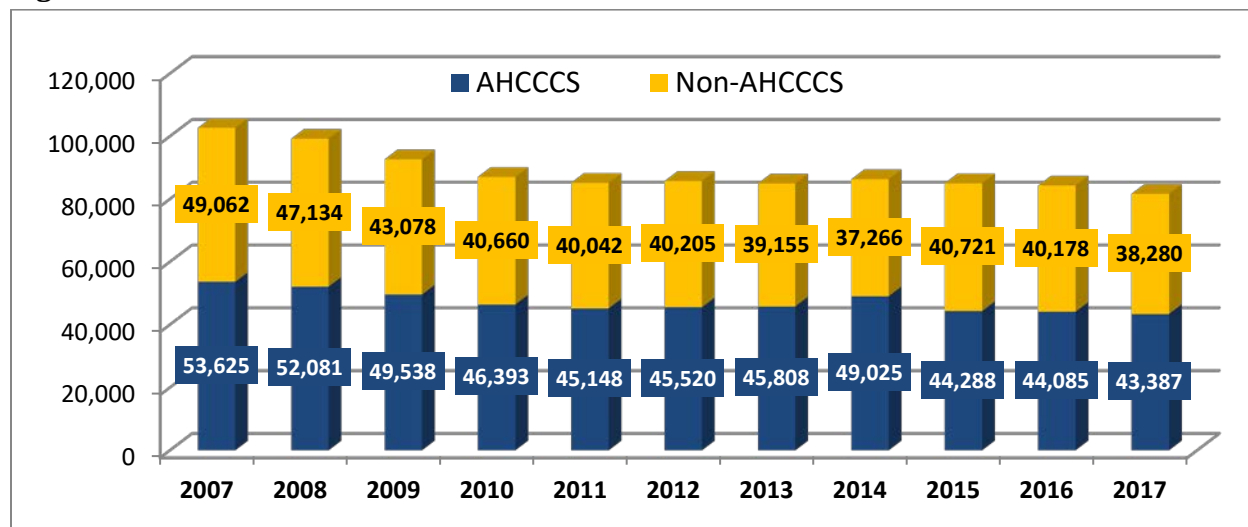
<sup>5</sup> Source: US Census Bureau QuickFacts, accessed on 2/19/2018 at <https://www.census.gov/quickfacts/fact/table>.

## POPULATION TRENDS

The population of Arizona grew from 5,130,607 in the year 2000 to 6,392,017 in 2010. This increase of 24.6 percent was well over twice the national growth rate of 9.7 percent in the same time period.<sup>6</sup> By July 2017, the population of Arizona was estimated to have grown to 7 million people (7,016,270).<sup>7</sup> Approximately one in four people in Arizona are under 18 years of age, with 6.3 percent under age 5, and 16.9 percent are age 65 or older.<sup>8</sup> For the time period 2012 to 2016, the average household size among Arizona residents was 2.69, and 81.7 percent lived in the same household at the time of the survey that they had lived in one year prior. Approximately 8.4 percent of residents had a disability. (For similar statistics on household size and mobility by county, see Appendix A: County Statistics, Table 1; for disability by county, see Appendix A: County Statistics, Table 3.)

After increasing steadily for many years, the number of births to Arizona residents peaked in 2007 and subsequently declined during the recession. After appearing to stabilize in the first half of this decade, preliminary birth records for 2017 indicate another drop in births. Arizona’s Medicaid program, known as AHCCCS, is the payer for over half of all births in Arizona each year (see Figure 2). See Table 2 in Appendix A: County Statistics for births in each county by AHCCCS vs. other payers.

**Figure 2. Births in Arizona 2000-2016**



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
All Payers	102,687	99,215	92,616	87,053	85,190	85,725	84,963	86,291	85,009	84,263	81,667
AHCCCS	53,625	52,081	49,538	46,393	45,148	45,520	45,808	49,025	44,288	44,085	43,388
AHCCCS as % of births	52.2%	52.5%	53.5%	53.3%	53.0%	53.1%	53.9%	56.8%	52.1%	52.3%	53.1%

<sup>6</sup> Hedding, Judy, Population of Arizona: The Population in Arizona Continues to Grow, About.com Phoenix. Retrieved 10/03/2011. Retrieved from <http://phoenix.about.com/od/statistics/qt/arizonapopulation.htm>.

<sup>7</sup> <https://www.census.gov/quickfacts/fact/table/AZ/PST045217>.

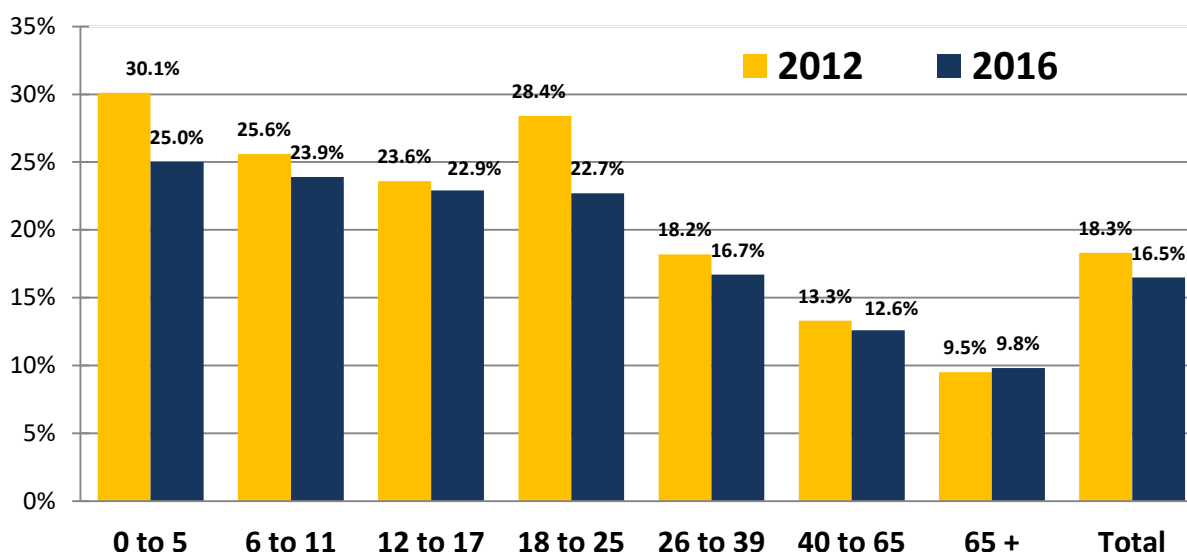
<sup>8</sup> U.S. Census Bureau QuickFacts, accessed at <https://www.census.gov/quickfacts/fact/table/> on 2/19/2018.

## ECONOMY

Per capita income in Arizona for the period from 2012 to 2016 was \$26,686, with a median household income (in 2016 dollars) of \$51,340. During that same time period, 16.4 percent of Arizona residents lived in poverty, and 11.9 percent had no health insurance.<sup>9</sup> Comparable statistics for each of these measures can be found for each county in Appendix A: County Statistics, Table 3.

Looking specifically at 2016, 16.5 percent of the Arizona population lived in poverty, with 7.9 percent living in extreme poverty (defined as incomes below 50 percent of the federal poverty level [FPL]). Another 19.6 percent lived in near poverty (between 100 percent and 200 percent of the federal poverty level). Figure 3 shows Arizona's poverty rate at the time of the 2013 needs assessment, and again for 2016 by age group.

**Figure 3. Poverty by Age Group**



After reaching an historic low of 3.6 percent from April through July of 2007, the seasonally adjusted unemployment rate in Arizona steadily climbed to a peak of 10.4 percent in November and December of 2010.<sup>10</sup> Unemployment subsequently declined as the economy recovered from the recession. By December 2017, the seasonally adjusted unemployment rate in Arizona was 4.5 percent, compared to a rate of 4.1 percent in the United States. Unemployment rates vary widely by county in Arizona, with Maricopa County having the lowest rate of 3.9 percent, and Yuma County having the highest rate of 15.7 percent. Table 1 shows the civilian labor force by employed or unemployed status, as well as the unemployment rate in each county for December 2017.

<sup>9</sup> U.S. Census Bureau QuickFacts, accessed at <https://www.census.gov/quickfacts/fact/table/> on 2/19/2018.

<sup>10</sup> Arizona Office of Economic Security, Monthly Employment Report, January 18, 2018, retrieved on 2/21/2018, from <https://laborstats.az.gov/sites/default/files/documents/files/emp-report.pdf>.

<b>Table 1. Employment and Unemployment in the Civilian Labor Force Arizona December 2017</b>				
<b>County</b>	<b>Civilian Labor Force</b>	<b>Employment</b>	<b>Unemployment</b>	<b>Unemployment Rate</b>
Apache	19,834	17,792	2,042	10.3%
Cochise	51,129	48,485	2,644	5.2%
Coconino	74,381	70,661	3,720	5.0%
Gila	20,832	19,649	1,183	5.7%
Graham	14,469	13,696	773	5.3%
Greenlee	3,763	3,575	188	5.0%
LaPaz	8,977	8,498	479	5.3%
Maricopa	2,155,607	2,071,820	83,787	3.9%
Mohave	81,829	77,205	4,624	5.7%
Navajo	42,637	39,611	3,026	7.1%
Pima	476,914	456,774	20,140	4.2%
Pinal	169,491	161,577	7,914	4.7%
Santa Cruz	19,381	17,545	1,836	9.5%
Yavapai	100,289	96,029	4,260	4.2%
Yuma	99,001	83,491	15,510	15.7%
<b>Statewide Total</b>	<b>3,338,534</b>	<b>3,186,408</b>	<b>150,086</b>	<b>4.5%</b>

## **CHARACTERISTICS OF THE SNAP-ELIGIBLE POPULATION**

This section will describe the population in Arizona that is eligible for SNAP in terms of numbers, geographic distribution, and demographic characteristics.

### ***SNAP PARTICIPANTS***

The recession resulted in a large increase in the proportion of Arizona households receiving SNAP benefits. According to the 2011 American Community Survey, one in five Arizona residents lived in households that received SNAP benefits.<sup>11</sup> The Arizona Department of Economic Security reported that 465,535 households, including 1,084,695 persons (548,412 adults and 536,283 children) received benefits through SNAP in November of 2013.<sup>12</sup> By January of 2018, there 865,751 persons (459,861 adults and 405,890 children) receiving SNAP benefits. Table 2 below shows the distribution of households and recipients throughout the state in January 2018, organized by county into four regions.

<sup>11</sup> United States Census, Public Use Microdata Sample (PUMS), Arizona, 2011.

<sup>12</sup> Arizona Department of Economic Security, Family Assistance Administration Statistical Bulletin January, 2018: Supplemental Nutrition Assistance Program: Arizona. Retrieved on 02/19/2018. Retrieved from: <http://www.azdes.gov/appreports.aspx>.



Table 2. Supplemental Nutrition Assistance Program, January 2018					
Region	County	Households	Persons	Adults	Children
<b>Maricopa</b>					
	Maricopa	202,919	454,962	224,675	230,287
<b>Northern</b>					
	Apache	9,986	24,016	13,711	10,305
	Coconino	8,130	18,245	10,131	8,114
	Mohave	18,869	35,261	22,975	12,286
	Navajo	12,088	29,230	16,383	12,847
<b>Central</b>					
	Gila	5,330	11,248	6,554	4,694
	La Paz	1,792	3,537	2,079	1,458
	Pinal	21,317	49,651	26,401	23,250
	Yavapai	10,502	19,620	12,327	7,293
	Yuma	16,498	39,622	21,781	17,841
<b>Southern</b>					
	Cochise	11,187	22,564	13,638	8,926
	Graham	2,833	6,132	3,488	2,644
	Greenlee	383	811	466	345
	Pima	68,009	139,057	78,860	60,197
	Santa Cruz	4,804	11,795	6,392	5,403
<b>State</b>		<b>394,647</b>	<b>865,751</b>	<b>459,861</b>	<b>405,890</b>

### **ELIGIBLE POPULATION**

People living in households with incomes below 185 percent of the FPL are eligible for SNAP-Ed. In 2016, one in three Arizona residents lived in one of these households, and 38.6 percent of them were receiving SNAP benefits.<sup>13</sup> This section will focus on the demographic characteristics of the entire SNAP-eligible population, regardless of whether they received SNAP benefits. Analysis in this section is based on the United States Census Public Use Microdata Area (PUMA) dataset for 2016, unless otherwise mentioned.

### **GEOGRAPHIC DISTRIBUTION**

Different geographic areas within Arizona vary widely in the percentage of people living in a household with an income below 185 percent of the FPL, from a high of 65 percent to a low of under 10 percent. Table 3 shows the number of people in households below 185 percent of the FPL, total population, and the percentage of households with incomes below 185 percent of the FPL in each PUMA.

<sup>13</sup>United States Census, Public Use Microdata Sample (PUMS), Arizona, 2016, accessed on 10/26/2017.

**Table 3. Number and Percent of Eligible Population (below 185% FPL) By PUMA in 2016**

<b>PUMA Code</b>	<b>PUMA Name</b>	<b># Below 185% FPL</b>	<b>Total Pop</b>	<b>% Under 185% FPL</b>
900	Cochise & Santa Cruz Counties--Sierra Vista City	70,920	163,353	43.4%
400	Coconino County--Flagstaff City	47,006	127,535	36.9%
800	Gila, Graham, Greenlee & Pinal (East) Counties	47,637	109,281	43.6%
111	Maricopa County (Northeast)--Scottsdale City	19,979	118,108	16.9%
134	Maricopa County (West) & Gila River Indian	33,035	125,486	26.3%
133	Maricopa County--Avondale (Central) & Litchfield Park	35,670	115,269	30.9%
106	Maricopa County--Chandler City (Northeast)	29,505	120,109	24.6%
107	Maricopa County--Chandler City (South)	9,788	101,976	9.6%
130	Maricopa County--El Mirage City & Sun City	36,566	118,166	30.9%
100	Maricopa County--Gilbert (South) & Queen Creek	19,693	153,128	12.9%
105	Maricopa County--Gilbert Town (North)	23,475	132,817	17.7%
126	Maricopa County--Glendale City (North)	34,670	125,120	27.7%
124	Maricopa County--Glendale City (South)	51,330	112,811	45.5%
132	Maricopa County--Goodyear, Glendale (West) & Litchfield Park (Northwest) Cities	18,117	118,411	15.3%
101	Maricopa County--Mesa City (East)	37,084	161,888	22.9%
102	Maricopa County--Mesa City (North Central)	47,116	148,077	31.8%
104	Maricopa County--Mesa City (South Central)	39,776	105,088	37.9%
103	Maricopa County--Mesa City (West)	54,793	116,599	47.0%
127	Maricopa County--Peoria City (South & Central)	29,578	111,845	26.4%
112	Maricopa County--Scottsdale (North), Phoenix (Far Northeast) Cities & Cave Creek	13,540	116,626	11.6%
110	Maricopa County--Scottsdale City (Southwest) & Paradise Valley Town	27,131	134,116	20.2%
131	Maricopa County--Surprise City (Central)	24,728	119,186	20.7%
108	Maricopa County--Tempe (South) & Chandler	23,090	108,718	21.2%
109	Maricopa County--Tempe City (North)	44,822	105,448	42.5%
600	Mohave & La Paz Counties--Lake Havasu City	82,755	218,809	37.8%
300	Navajo & Apache Counties	92,658	179,366	51.7%
129	Phoenix (Far North) & Peoria (Northwest) Cities	19,469	115,168	16.9%
121	Phoenix (Southwest) & Tolleson Cities	57,571	139,255	41.3%
117	Phoenix City (East)	30,182	102,530	29.4%
128	Phoenix City (North)	17,411	109,094	16.0%
114	Phoenix City (Northeast Central)	37,473	108,383	34.6%
113	Phoenix City (Northeast)	18,630	101,790	18.3%
115	Phoenix City (Northwest Central)	42,040	112,221	37.5%
119	Phoenix City (South)	57,463	110,167	52.2%
116	Phoenix City (Uptown)	49,906	112,292	44.4%

**Table 3. Number and Percent of Eligible Population (below 185% FPL) By PUMA in 2016**

<b>PUMA Code</b>	<b>PUMA Name</b>	<b># Below 185% FPL</b>	<b>Total Pop</b>	<b>% Under 185% FPL</b>
<b>125</b>	Phoenix City (West)	55,319	115,476	47.9%
<b>120</b>	Phoenix City--Ahwatukee & South Mountain	24,576	112,258	21.9%
<b>118</b>	Phoenix City--Downtown & Sky Harbor International	59,832	115,920	51.6%
<b>122</b>	Phoenix City--Maryvale (East)	75,133	123,763	60.7%
<b>123</b>	Phoenix City--Maryvale (West)	87,779	140,807	62.3%
<b>203</b>	Pima County (North Central)--Oro Valley Town	25,089	113,944	22.0%
<b>204</b>	Pima County (Northeast)	19,043	105,024	18.1%
<b>205</b>	Pima County (Southeast)--Tucson City (Far Southeast) & Sahuarita Town	25,856	128,714	20.1%
<b>201</b>	Pima County (West)	46,912	106,589	44.0%
<b>805</b>	Pinal County (Central)--Florence Town, Eloy	25,881	107,029	24.2%
<b>803</b>	Pinal County (North)--Apache Junction City	30,936	131,038	23.6%
<b>807</b>	Pinal County (West)--Maricopa, Casa Grande & Eloy (Southeast) Cities	60,892	142,264	42.8%
<b>202</b>	Tucson (West) & Marana Cities	38,232	123,802	30.9%
<b>206</b>	Tucson City (Northeast)	45,426	98,277	46.2%
<b>207</b>	Tucson City (Northwest)	57,005	99,665	57.2%
<b>208</b>	Tucson City (South)	64,405	99,662	64.6%
<b>209</b>	Tucson City (Southeast)	39,012	111,316	35.0%
<b>500</b>	Yavapai County	62,950	218,547	28.8%
<b>700</b>	Yuma County--Yuma City	83,992	200,240	41.9%
	<b>Arizona</b>	<b>2,252,877</b>	<b>6,772,571</b>	<b>33.3%</b>

**RACE/ETHNICITY/LANGUAGE SPOKEN**

The racial composition of the eligible population in Arizona tends to represent higher proportions of racial minorities compared to White residents, although the largest single racial group, representing 66.1 percent of the potentially eligible in 2016, is White (see Table 4).

<b>Table 4. Racial Composition in 2016 Eligible Population vs. Not Eligible</b>		
	<b>Under 185% FPL</b>	<b>At or over 185% FPL</b>
White	66.1%	80.7%
Black or African American	5.2%	3.7%
American Indian and Alaska Native	7.8%	2.7%
Asian	2.6%	3.5%
Native Hawaiian and other Pacific Islander	0.3%	0.1%
Some other race alone	14.0%	5.8%
Multiple races	4.0%	3.3%
<b>Total</b>	<b>100%</b>	<b>100%</b>

Nearly half of the eligible population (44.5 percent) was Hispanic in 2016, compared to 24.0 percent of those with incomes over 185 percent of the FPL. More than one in three Arizona residents (35.6 percent) speak a language other than English at home, and 32.7 percent report speaking English “less than very well.” Half of the population living in eligible households spoke a language other than English; a total of 38.5 percent spoke Spanish. See Table 5 below. For statistics by county on race, Hispanic ethnicity, and language spoken in the home, see Appendix A: County Statistics, Table 4.

<b>Table 5. Household Language in 2016 Eligible Population vs. Not Eligible</b>		
	<b>Under 185% FPL</b>	<b>At or over 185% FPL</b>
English only	50.3%	71.3%
Spanish	38.5%	19.9%
Other Indo-European language	2.0%	3.3%
Asian and Pacific Island languages	2.6%	2.9%
Other	6.6%	2.5%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>

### ***AGE, GENDER, FAMILY COMPOSITION***

More than half (52.4 percent) of the eligible population is female, compared to 49.9 percent of those with incomes at or over 185 percent of the FPL. Table 6 below shows that a higher proportion of the eligible population (62.7 percent) live in households with children under the age of 18, compared to 45.3 percent of those with higher incomes (see Table 6). Appendix A: County Statistics, Table 5 shows the percentage under age 18, under age 5, and age 65 or older in each county.

Table 6. Population in Households with Children in 2016 Eligible Population vs. Not Eligible		
	Under 185% FPL	At or over 185% FPL
With children under 6 years only	10.3%	8.9%
With children 6 to 17 years only	29.1%	25.9%
With children under 6 years and 6 to 17 years	23.4%	10.5%
No children	37.3%	54.7%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>

SNAP-eligible families are less likely to live in married-couple families (49.9 percent) compared to those at higher incomes (78.8 percent), and are far less likely to live in married-couple families where both husband and wife are in the labor force (12.6 percent of eligible families compared to 42.1 percent of those at higher incomes). See Table 7 for a breakdown of family status by husbands' and wives' labor force participation.

Table 7. Family Composition and Labor Force Participation in 2016 Eligible Population vs. Not Eligible		
	Under 185% FPL	At or over 185% FPL
<b>Married-Couple Families</b>	<b>49.9%</b>	<b>78.8%</b>
Husband and wife in labor force	12.6%	42.1%
Husband in labor force, wife not	23.0%	17.8%
Wife in labor force, husband not	3.8%	5.2%
Neither husband nor wife in labor force	11.5	13.7%
<b>Other Families</b>	<b>49.1%</b>	<b>21.1%</b>
Male householder, no wife present, in labor force	9.3%	6.4%
Male householder, no wife present, not in labor force	3.2%	1.1%
Female householder, no husband present, in labor force	24.1%	10.4%
Female householder, no husband present, not in labor force	12.5%	3.2%
<b>Total</b>	<b>100%</b>	<b>100%</b>

Among the eligible population in 2016, 18.6 percent were in families where there were no workers in the last 12 months, 49.8 percent had one worker, 23.0 percent had two workers, and 8.6 percent had three or more workers in the family.

### **EDUCATIONAL ATTAINMENT**

Among the eligible population in Arizona, 74 percent of adults age 25 and older had at least a high school diploma or an equivalent (compared to 92 percent of those with higher incomes, or 87 percent of the total population). Table 8 shows a breakdown of the highest level of educational attainment among

adults age 25 and older in Arizona in 2016 for both the eligible population and those with higher incomes. See Appendix A: County Statistics, Table 6 for the percentage of population of adults age 25 and older in each county who have high school educations and who have college degrees.

<b>Table 8. Educational Attainment of Adults Age 25 and Older in Arizona 2016 Eligible Population vs. Not Eligible</b>				
	<b>Under 185% FPL</b>		<b>At or Over 185% FPL</b>	
<b>Highest Level of Education Completed</b>	<b>Percent</b>	<b>Cumulative Percent</b>	<b>Percent</b>	<b>Cumulative Percent</b>
Graduate or Professional Degree (Beyond Bachelor's Degree)	3.7%	3.7%	13.7%	13.7%
Bachelor's Degree	8.9%	12.6%	21.6%	35.3%
Some College or Associate Degree	31.2%	43.8%	35.3%	70.6%
High School Diploma or GED	30.2%	74.0%	21.4%	92.0%
Less Than High School Diploma	25.9%	100.0%	8.1%	100.0%
<b>Total</b>	<b>100%</b>		<b>100%</b>	

## FINDINGS 2: NUTRITION-RELATED BEHAVIORS AND LIFESTYLE CHARACTERISTICS

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AZ Health Zone promotes the 2010 Dietary Guidelines for Americans recommendations to follow eating and physical activity patterns that promote health and well-being.<sup>14</sup> These recommendations focus on a need to increase specific foods, such as fruits and vegetables, fat-free or low-fat milk, whole grains and healthy proteins, as well as physical activity. Each of these has been shown to aid in the maintenance of a healthy body weight, reduce the risk of many chronic diseases such as heart disease, type 2 diabetes, and certain types of cancer, and promote overall health. More specifically, fruits and vegetables are a rich source of many nutrients that are currently low in the typical American diet, including folate, magnesium, potassium, fiber, vitamin A, vitamin C and vitamin K. Milk and milk products are an excellent source of calcium and vitamin D, which are both important for the growth and maintenance of healthy bones. Whole grains provide nutrients such as iron, magnesium, selenium, B vitamins, and fiber.

In this section, findings will be presented from a variety of sources, including the BRFSS for adult behaviors, YRBSS for youth, and intercept survey data from program evaluations and social marketing assessments. Information from these will be presented to describe behaviors related to nutrition and lifestyle.

### HEALTH OF THE SNAP-ELIGIBLE POPULATION AND ACCESS TO HEALTH CARE AND NUTRITIOUS FOODS

#### GENERAL HEALTH

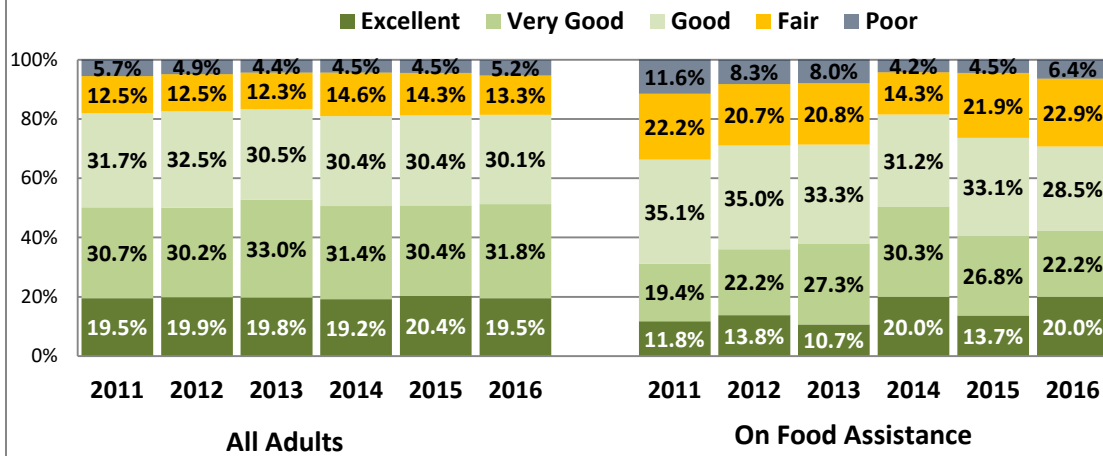
The population of Arizona adults in households that received food assistance in 2016 rated their overall health lower than the general population.<sup>15</sup> Of Arizona adults in households that received food assistance in 2016, 42.2 percent rated their health as either excellent (20.0 percent) or very good (22.2 percent), compared to 51.3 percent of all Arizona adults who rated their health as either excellent (19.5 percent) or very good (31.8 percent). Nearly 30 percent of Arizona adults in households that received food assistance in 2016 rated their health as either fair (22.9 percent) or poor (6.4 percent), compared to 18.5 percent of all Arizona adults who rated their health as either fair (13.3 percent) or poor (5.2 percent). Figure 4 shows the general health of all Arizona adults and Arizona adults in households that received food assistance from 2011 to 2016.

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<sup>14</sup> United States Department of Agriculture and United States Department of Health and Human Services. (2010, December). *Dietary Guidelines for Americans, 2010*. 7<sup>th</sup> Edition, Washington, DC: United States Government Printing Office.

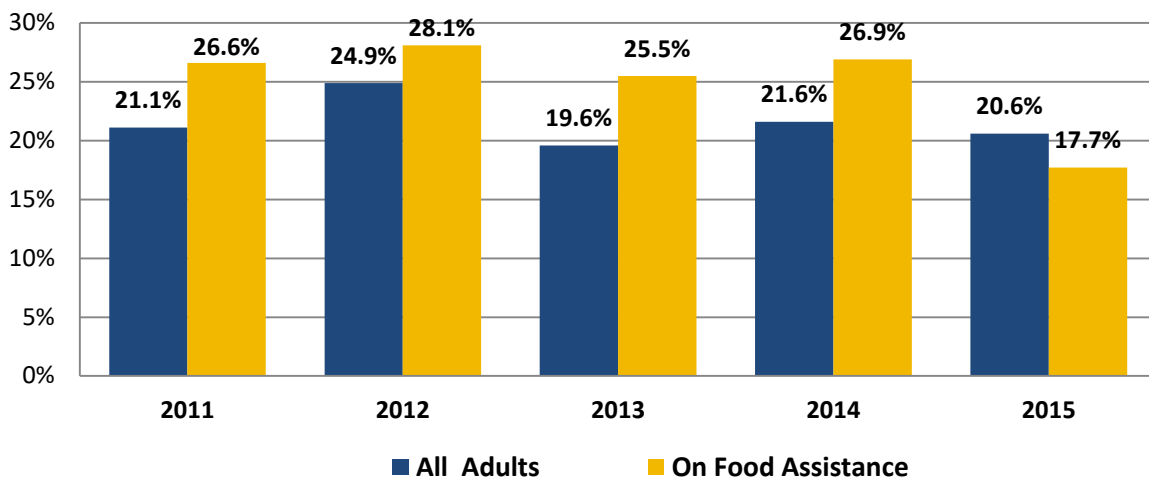
<sup>15</sup> Behavioral Risk Factor Surveillance System, Arizona (2016), Arizona Department of Health Services.

**Figure 4. General Health of All Arizona Adults and Adults in Households That Received Food Assistance**



In 2015, 17.7 percent of adults in households that received food assistance reported that they had health problems that limited their physical activities, compared to 20.6 percent of all Arizona adults. Figure 5 shows the percentage reporting limited activity due to a health problem from 2011 through 2015. This question was not asked in the 2016 BRFSS.

**Figure 5. Limited Physical Activity due to a Health Problem**





## **DIABETES**

According to the BRFSS in 2016, 10.8 percent of adults surveyed said that a doctor had ever told them they had diabetes. Another 0.7 percent were females who were told that they had diabetes only during their pregnancies, and another 2.0 percent were told that they had prediabetes or borderline diabetes; 86.5 percent said they had never been told they had diabetes. Among respondents living in households in which someone was on some type of food assistance, 9.1 percent said that a doctor had ever told them that they had diabetes, another 0.8 percent were females who had diabetes only when pregnant, another 2.9 percent had been told they had prediabetes or borderline diabetes, and 87.1 percent said that they had not been told they had diabetes.

## **HYPERTENSION**

There was no question about hypertension in the 2016 BRFSS; however, questions were included in the 2015 BRFSS. When asked whether they had ever been told that they had high blood pressure, 30.8 percent of Arizona adults said yes, another 0.6 percent were women who said they had high blood pressure only during pregnancy, 0.9 percent had been told they had borderline high blood pressure or had prehypertension, and 67.7 percent said they had never been told they had high blood pressure. Among those who had ever been told they had high blood pressure, 72.1 percent were taking blood pressure medication at the time of the survey.

Among adults in households on food assistance, 21.2 percent said they had been told they had high blood pressure, another 1.2 percent were women who were told they had high blood pressure only during pregnancy, 1.2 percent who were told they had borderline high blood pressure or had prehypertension, and 76.4 said they had never been told they had high blood pressure. Among those who had been told, 58.4 percent were on blood pressure medication.

## **ADULT OVERWEIGHT AND OBESITY**

Over the last decade, there was a steady increase in the percentage of obese adults in the United States, as measured by the national-level BRFSS.<sup>16</sup> Adults who reported having lower incomes and lower levels of education were more likely to report heights and weights that were classified as overweight<sup>17</sup> or obese<sup>18</sup> when compared to those who reported higher income and a higher level of education. In 2016, 63.2 percent of all adults in Arizona were either overweight or obese. Adults in households that receive food assistance are generally more likely to be either overweight or obese. Figure 6 shows the weight status of all Arizona adults and those in households that received food assistance from 2011 to 2016.<sup>19</sup>

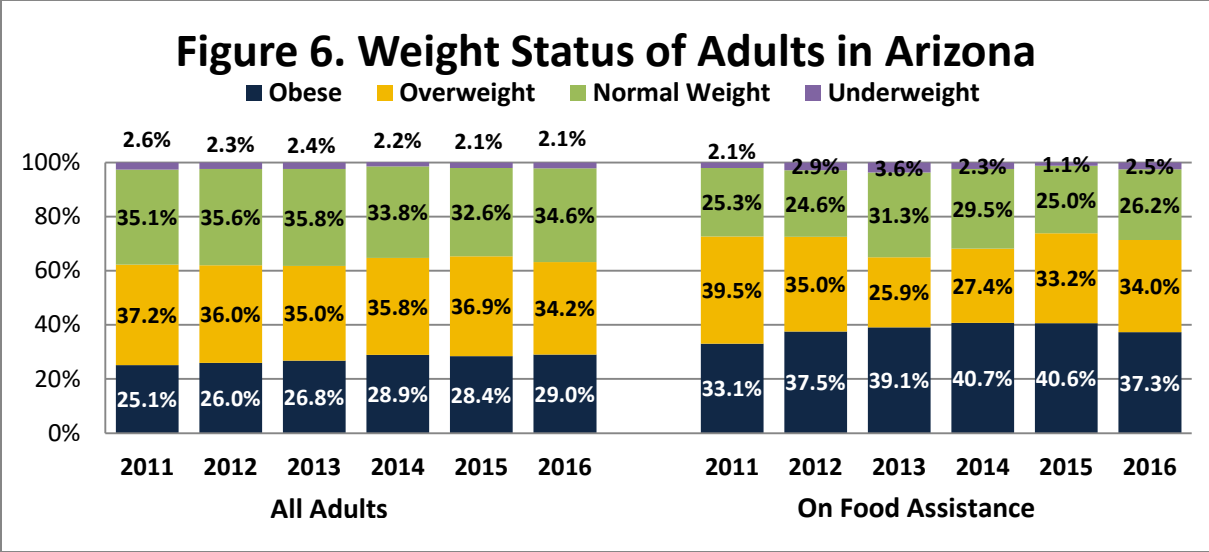
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<sup>16</sup> Centers for Disease Control and Prevention (CDC). *Behavioral Risk Factor Surveillance System Survey, 2013 National-level Data*. Atlanta, Georgia: U.S. Dept of Health and Human Services, Centers for Disease Control and Prevention.

<sup>17</sup> The term 'overweight' in adults is defined as: Respondents for whom BMI is greater than or equal to 25.

<sup>18</sup> The term 'obese' in adults is defined as: Respondents for whom BMI is greater than or equal to 30.

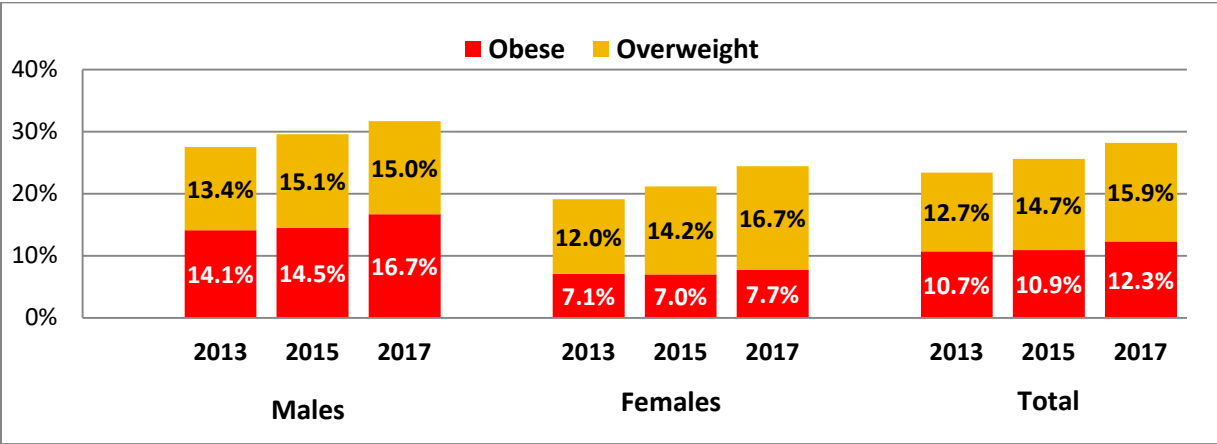
<sup>19</sup> Behavioral Risk Factor Surveillance System, Arizona, 2011-2016, Arizona Department of Health Services.



**ADOLESCENT OVERWEIGHT AND OBESITY**

Among high school students who responded to the 2017 YRBSS in Arizona, 12.3 percent reported weights and heights that calculated to be obese, and another 15.9 percent were overweight. Figure 7 shows the percentage of overweight and obese high school students by gender and state from 2013 to 2017.<sup>20</sup>

**Figure 7. Youth Overweight and Obesity in Arizona**



Even though boys were more likely to be overweight, girls were more likely to describe themselves as overweight: 39.6 percent of girls compared to 24.3 percent of boys in 2017. Girls were also more likely to try to lose weight, with well over half of them (60.6 percent), compared to 33.7 percent of boys, reporting that they were trying to lose weight. Table 9 shows the percentage of high school students who described themselves as overweight, were trying to lose weight, and some of the ill-advised strategies they used to lose weight from 2007 through 2017.

<sup>20</sup> Arizona Department of Education, Youth Risk Behavior Survey, 2017.

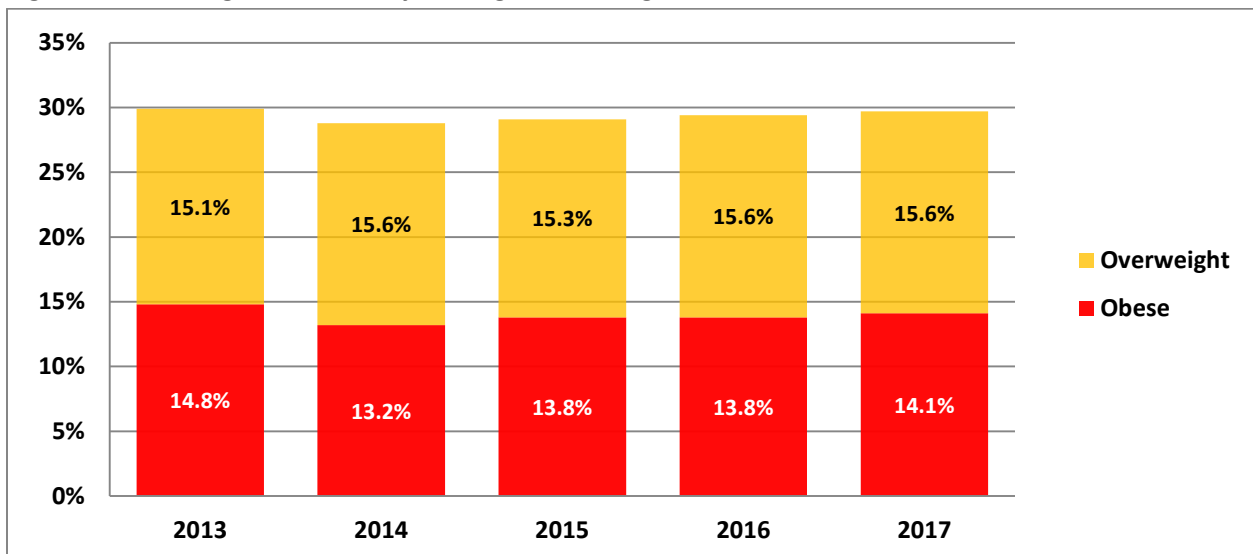
**Table 9. Perceptions of Weight and Attempts to Lose Weight Among High School Students**

	2007	2009	2011	2013	2015	2017
Described themselves as slightly or very overweight	35.2%	33.5%	32.9%	29.9%	35.1%	36.8%
Trying to lose weight	*	*	52.2%	50.8%	53.6%	55.2%
Went without eating for 24 hours or more during the past 30 days	14.1%	15.1%	14.1%	16.2%	17.3%	13.3%
Vomited or took laxatives to lose weight or to keep from gaining weight during the past 30 days	8.2%	6.3%	6.2%	10.1%	7.1%	10.0%
Took diet pills, powders, or liquids without a doctor's advice during the past 30 days	6.2%	7.7%	9.5%	9.3%	8.1%	8.3%

### **CHILDHOOD OVERWEIGHT AND OBESITY**

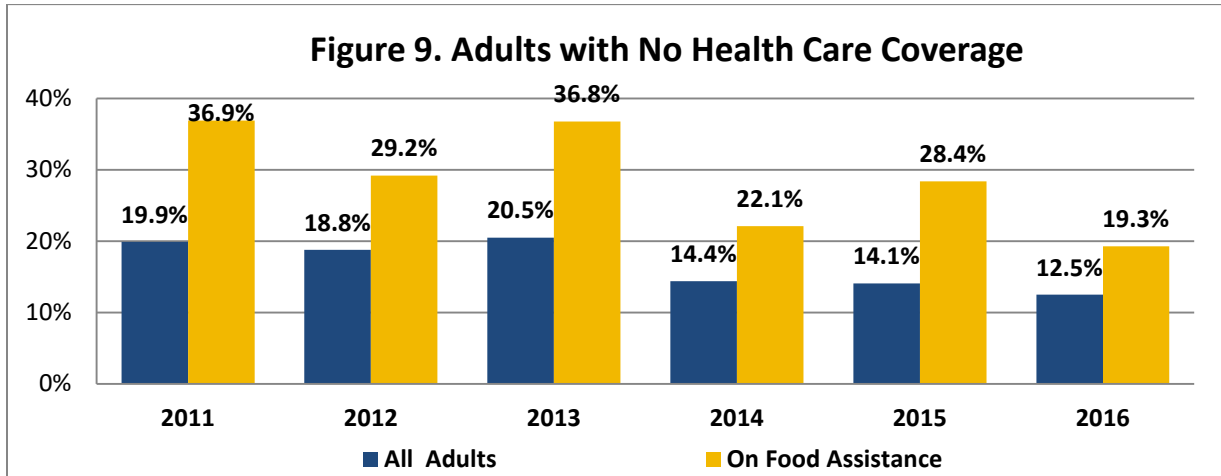
Childhood obesity can lead to high blood pressure and high cholesterol, which, in turn, can lead to heart disease. Obese children are more likely to develop breathing problems, asthma, type 2 diabetes, gallstones, and poor self-esteem. In 2017, 29.7 percent of children enrolled in Arizona WIC were either obese or overweight (see Figure 8). For WIC childhood overweight and obesity rates by county, see Appendix A. County Statistics, Table 7.

**Figure 8. Overweight and Obesity Among Children Ages Two to Five in WIC**

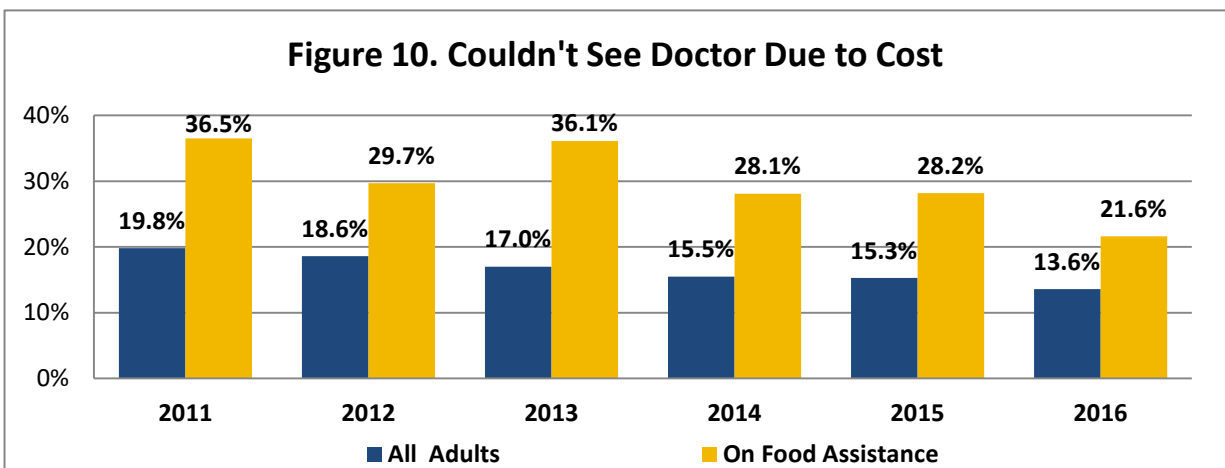


## ACCESS TO HEALTH CARE

Since the needs assessment in 2013, there has been a marked decrease in the percentage of Arizona adults with no health care coverage. In 2016, 19.3 percent of Arizona adults in households that received food assistance had no health insurance coverage, down from 36.8 percent in 2013. Among Arizona adults in general, 12.5 percent had no health care coverage in 2016, down from 20.5 percent in 2013 (see Figure 9).



In 2016, 21.6 percent of Arizona adults in households that received food assistance said that during the past year, they needed to see a doctor but could not afford to see one due to the cost, down considerably from 36.1 percent in 2013, at the time of the last needs assessment. For Arizona adults in general, 13.6 percent could not see a doctor because of the cost, compared to 17.0 percent in 2013.<sup>21</sup> (See Figure 10.)



<sup>21</sup> Behavioral Risk Factor Surveillance System, Arizona (2011-2016), Arizona Department of Health Services.

## ACCESS TO NUTRITIOUS FOOD – FOOD HARDSHIP

Food security is defined as access by all people at all times to enough nutritious food for an active, healthy life. In order for a population to be considered healthy and well-nourished, it must have adequate food security.<sup>22</sup> Along with the risk of poor nutritional status associated with food insecurity, studies have shown that there may be a link between a lack of food security and obesity.

Although a causal relationship has not been consistently shown in research, there are certain risk factors for obesity that are associated with poverty, such as limited resources for food, limited access to healthy food choices, fewer opportunities for physical activity, high stress, less access to health care, cycles of food deprivation and overeating, as well as increased exposure to marketing for unhealthy foods.<sup>23</sup> Food and nutrition assistance programs, such as SNAP and SNAP-Ed, help to increase food security in Arizona by increasing access to food for low-income individuals and promoting a healthful diet through public health approaches, such as education, social marketing, and policy, systems, and environmental change.

Food hardship is measured by asking, “Have there been times in the past 12 months when you did not have enough money to buy food that you or your family needed?”<sup>24</sup> The Food Research and Action Center reported that nationally, the proportion of households who responded “yes” to this question has decreased from nearly 19 percent in 2013 to 16 percent in 2015. They attribute the drop to the improved unemployment picture, an increase in the share of eligible families receiving SNAP, and to the impact on families of the Medicaid expansion and other health insurance affordability improvements under the Affordable Care Act. Arizona’s food hardship rate was 15.9 in 2015, ranking 18 in states’ food hardship rates.

A question on food hardship was also included in a survey targeting low-income mothers who were eligible for SNAP in 2015. Six in ten (62 percent) of them said that in the past 12 months, they often or sometimes worried about running out of food before they got money to buy more. Half (51 percent) of them said that in the past 12 months, the food they bought often or sometimes did not last and they did not have money to get more.<sup>25</sup> In this same survey, 40 percent said they did not participate in SNAP because they thought they were not eligible, and another 13 percent said they didn’t know if they were eligible. Among women who were eligible for WIC (i.e., they had incomes below 185 percent of the federal poverty level and had a child under the age of 5), 64 percent had received WIC benefits during the previous year. Among WIC-eligible women who did not use WIC, 12 percent said they didn’t think they were eligible, and another 12 percent said they didn’t know if they were eligible. More than half of the women said that someone in their household received free/reduced lunch/breakfast (54 percent), and 20 percent used a food cooperative in the past 12 months.

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<sup>22</sup> Coleman-Jensen, A., Nord, M., Andrews, M., and Carlson, S. (2011). “Household Food Security in the United States in 2010” United States *Department of Agriculture, Economic Research Report Number 125*.

<sup>23</sup> Hartline-Grafton, H. (2011). “Food Insecurity and Obesity: Understanding the Connection” *Food Research and Action Center*, Retrieved 06/05/2012. Retrieved from: [http://frac.org/pdf/frac\\_brief\\_understanding\\_the\\_connections.pdf](http://frac.org/pdf/frac_brief_understanding_the_connections.pdf).

<sup>24</sup> Food Research and Action Center, How Hungry is America? FRAC’s National, State and Local Index Food Hardship, June 2016. Retrieved 02/21/2018. Retrieved from: <http://frac.org/wp-content/uploads/food-hardship-2016-1.pdf>.

<sup>25</sup> WestGroup Research, Arizona Department of Health Services 2015 Target Population Research Report, Target Population Survey, 2015, Revised: November 10, 2015.

Finally, in recent years, Arizona’s birth certificate questionnaire began asking women whether they were enrolled in WIC. All of the women who gave birth with AHCCCS as the payer were eligible for WIC. However, in 2017, only 56.7 percent of the women whose birth hospitalization was paid for by AHCCCS said that they were receiving WIC benefits.

## **HABITS OF POOR ADULTS, CHILDREN, YOUTH**

In this section, data will be presented on behaviors that relate to achieving the following behavioral outcomes with SNAP-Ed eligible audiences:

- Make half your plate fruits and vegetables, at least half your grains whole grains, and switch to fat-free or low-fat milk and milk products.
- Increase physical activity and reduce time spent in sedentary behaviors as part of a healthy lifestyle.
- Maintain appropriate caloric balance during each stage of life – childhood, adolescence, adulthood, pregnancy and breastfeeding, and older age.
- Breastfeed infants through age one.

Breastfeeding and dietary trends on consumption of fruits and vegetables, milk, whole grains, and sugar-sweetened beverages will be followed by information about eating at home, food preparation, and grocery shopping habits, and finally, trends in physical activity and sedentary behaviors. For each topic, available data will be presented for both adults and youth whenever the data are available.

### ***BREASTFEEDING***

Breastfeeding provides advantages in the areas of health, cognitive, and psychological development to an infant, as well as health benefits to the mother. Breastfeeding supplies the newborn with protection against disease, which extends beyond infancy. Increasing the initiation and duration of breastfeeding is a low-cost, readily available strategy to help prevent childhood and adolescent illnesses, including obesity.

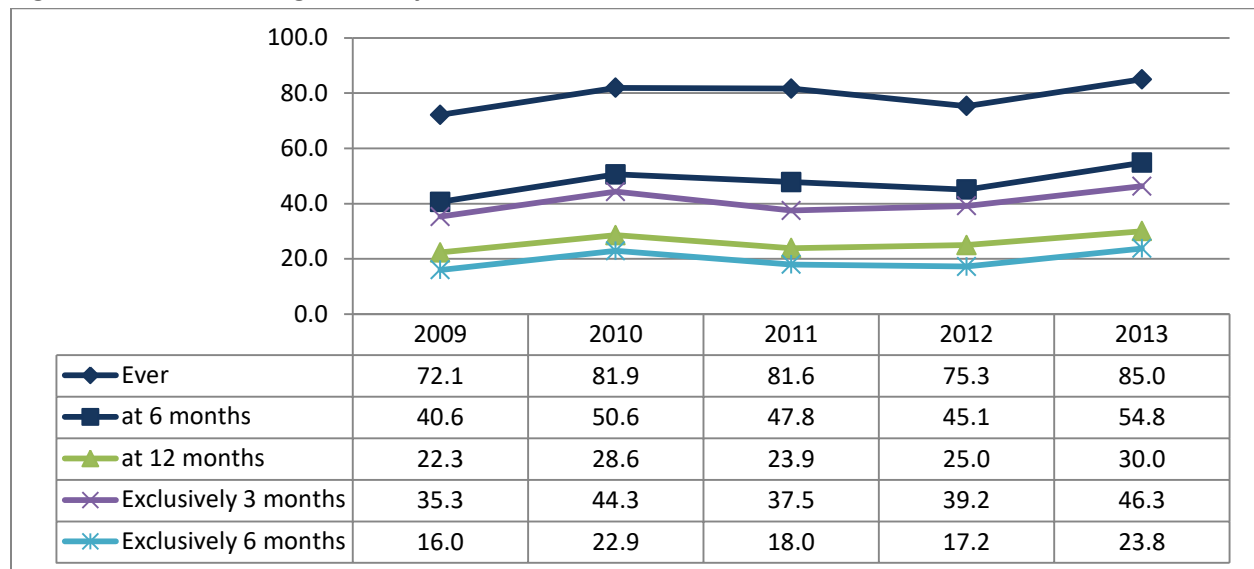
Healthy People 2020 established baselines and goals for several key breastfeeding indicators in the Maternal, Infant, and Child Health (MICH) area. From the 2007-2009 National Immunization Survey (NIS), baselines were established which relate to increasing the proportion of infants who are ever breastfed and who are exclusively breastfed at three and six months. Table 10 shows select Healthy People 2020 Goals and Objectives related to breastfeeding, as well as the baseline data which informed setting the targets.

**Table 10. Healthy People Goals and Objectives on Breastfeeding**

MICH Area	Healthy People Objective	2010 Goal	2020 Goal	Baseline Measure (Source)
MICH-21.1	Increase the proportion of infants who are breastfed . . . Ever	75%	81.9%	74% of infants born in 2006 were ever breastfed (2007-2009 NIS)
MICH-21.2	At six months	50%	60.6%	43.5% of infants born in 2006 were breastfed at six months (2007-2009 NIS)
MICH-21.3	At one year	25%	34.1%	22.7% of infants born in 2006 were breastfed at one year (2007-2009 NIS)
MICH-21.4	Exclusively through three months	40%	46.2%	33.6% of infants born in 2006 were breastfed exclusively through three months (2007-2009 NIS)
MICH-21.5	Exclusively through six months	17%	25.5%	14.1% of infants born in 2006 were breastfed exclusively through six months (2007-2009 NIS)

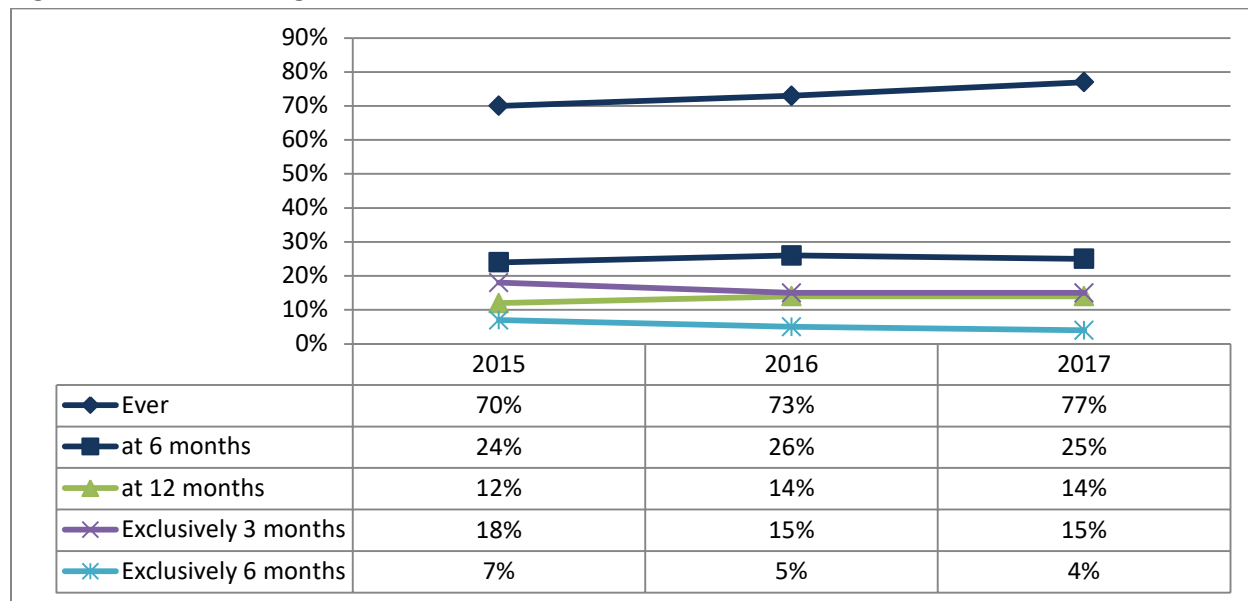
Arizona’s breastfeeding rates tend to be above national rates in terms of initiation and duration at 6 and 12 months. By 2007, Arizona met the Healthy People 2010 goal of 75 percent of mothers giving birth in Arizona initiating breastfeeding, although not all subpopulations had attained that level. Figure 11 shows the percentage of infants in Arizona who were ever breastfed, breastfed at 6 and 12 months, and exclusively breastfed at three and six months for births to all women in Arizona from 2009 through 2013, based on data collected in the years following the birth. For example, the 2013 data points are for infants born in 2013 with surveys conducted in 2014 and 2015.

**Figure 11. Breastfeeding Status by Year of Birth for Infants in Arizona**



In the Arizona WIC Program, the percentage of infants who were ever breastfed increased to 77 percent in 2017 from 70 percent in 2015. However, no real progress has been made in measures for duration and exclusivity over the same time period, as shown in Figure 11.

**Figure 12. Breastfeeding Status of Infants in Arizona WIC**



Working outside the home is related to a shorter duration of breastfeeding, and low-income women are more likely than their higher-income counterparts to return to work earlier and to be engaged in jobs that make it challenging for them to continue breastfeeding. Given the substantial presence of mothers in the labor force, there is a strong need to establish lactation support in the workplace. Barriers identified in the workplace include a lack of flexibility in the work schedule for milk expression, lack of accommodations to pump or store breastmilk, concerns about support from employers and colleagues, and real or perceived low milk supply.

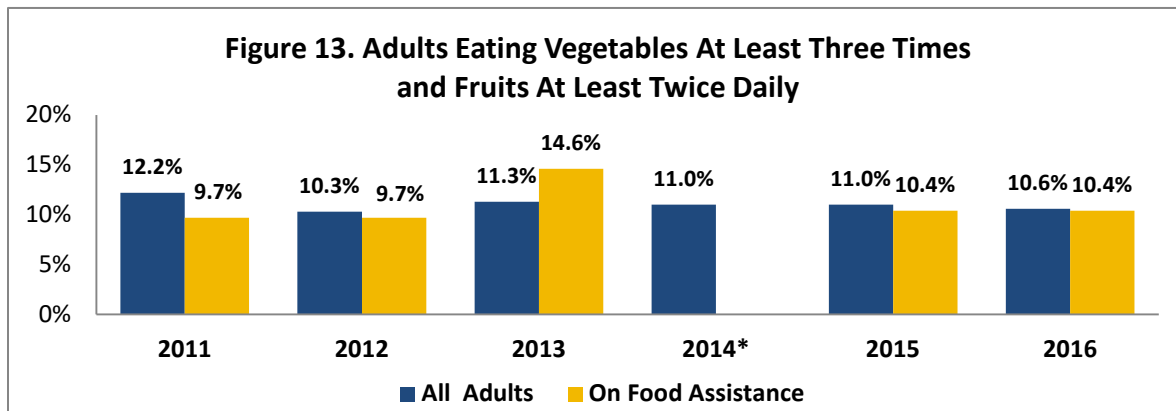
### **VEGETABLE AND FRUIT CONSUMPTION - ADULTS**

The Behavioral Risk Factor Surveillance System is useful to monitor outcomes related to vegetable and fruit consumption, which are part of the core CDC measures every other year. Arizona includes the vegetables and fruits module every year, even though they are optional during the years in which the CDC does not include it in the core set of questions. Findings are presented in this section for all adults in Arizona, and for adults living in households in which someone is on food assistance, which is a subset of those who are eligible for food assistance. The median vegetable consumption among Arizona adults was 1.7 times per day, and the median adult fruit intake was 1.0 time per day. These figures have remained relatively constant over the past several years, and there is no disparity between the general population and those on food assistance.

The percentage of adults who consumed vegetables at least three times per day as well as fruits at least twice per day has remained low over time both among Arizona adults generally, as well as among

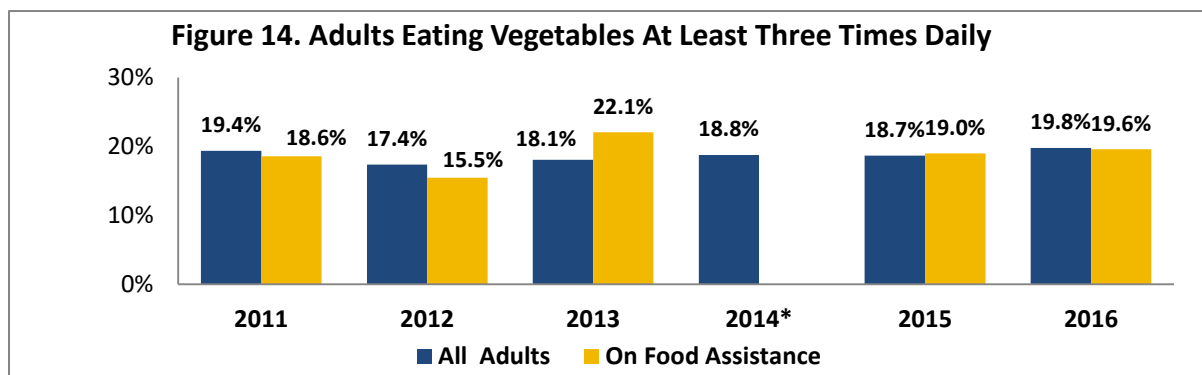


households receiving food assistance specifically. For both groups, approximately one in ten met recommended guidelines for adults (see Figure 13).

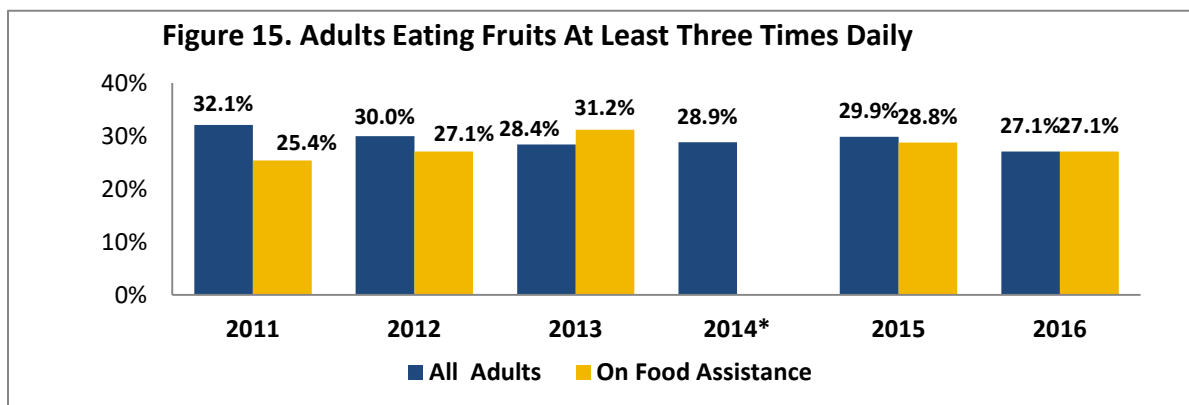


\*2014 data unavailable for Arizona adults in households that received food assistance

Looking at vegetable and fruit consumption separately, higher proportions report eating either vegetables at least three times per day or fruits at least twice per day across all years. Each has remained relatively constant, with no real disparities between the general population and those on food assistance (see Figures 14 and 15).

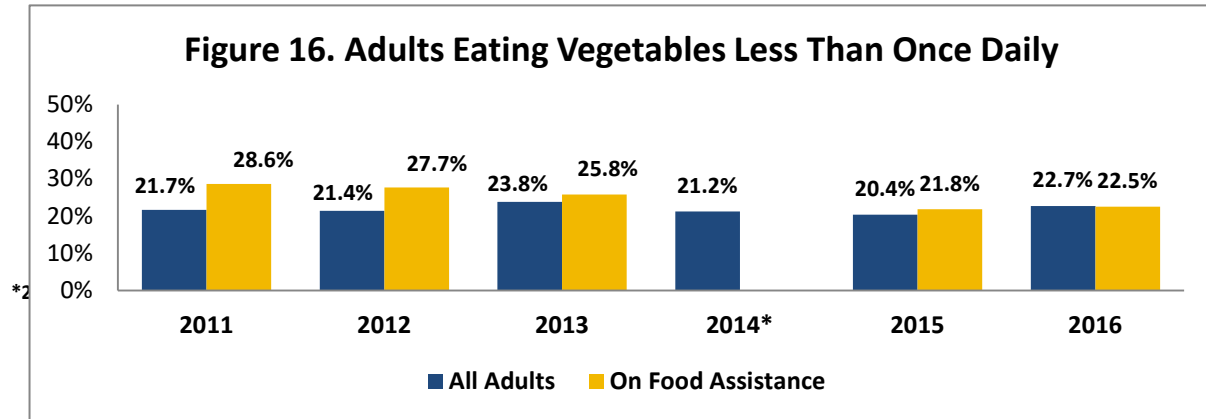


\*2014 data unavailable for Arizona adults in households that received food assistance

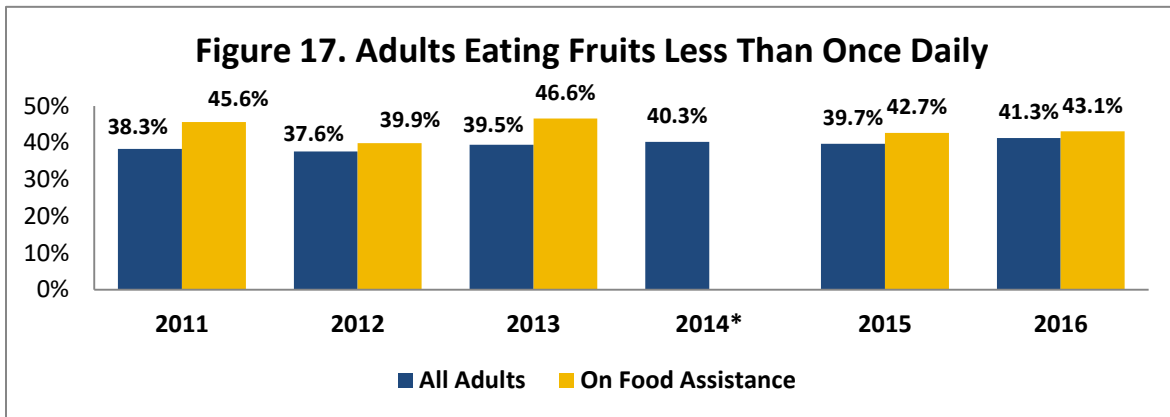


\*2014 data unavailable for Arizona adults in households that received food assistance

Perhaps the most noteworthy trends have to do with the relatively large proportion of the population that does not consume vegetables and fruits even once per day. Approximately one in five adults reported that they ate fruit less than once per day, and approximately four in ten reported eating vegetables less than once per day (see Figures 16 and 17).



\*2014 data unavailable for Arizona adults in households that received food assistance



\*2014 data unavailable for Arizona adults in households that received food assistance

### **VEGETABLE AND FRUIT CONSUMPTION - YOUTH**

Students were asked on the YRBSS about the number of times in the past seven days that they consumed 100 percent fruit juice, such as orange, apple, or grape juice, as well as the number of times they ate fruit. Responses were combined to determine the percentage of youth who consumed no fruit juice or fruit during that period, and those who consumed them at least once per day, twice per day, or three times per day (see Table 11 – statistically significant changes between 2015 and 2017 are marked with an asterisk). Eight percent of students in 2017 consumed no fruit or fruit juices, and only one in four had fruit or fruit juices at least twice per day.

<b>Table 11. High School Students' Consumption of 100% Fruit Juice and/or Fruit (YRBSS 2015 and 2017)</b>				
	<b>None</b>	<b>≥ 1 per day</b>	<b>≥ 2 per day</b>	<b>≥ 3 per day</b>
<b>2015</b>	6.7%	60.5%	30.1%	18.5%
<b>2017</b>	8.3%	55.0%*	24.5%*	14.4%*

Students were also asked about their consumption of vegetables, including green salads, carrots, potatoes (excluding french fries, fried potatoes, or potato chips), and other vegetables. There were no statistically significant changes between 2015 and 2017 in the percentage of students who consumed no vegetables, those who consumed at least one vegetable per day, two per day, or three per day (see Table 12).

<b>Table 12. High School Students' Consumption of Vegetables (YRBSS 2015 and 2017)</b>				
	<b>None</b>	<b>≥ 1 per day</b>	<b>≥ 2 per day</b>	<b>≥ 3 per day</b>
<b>2015</b>	7.1%	59.1%	26.4%	14.7%
<b>2017</b>	6.9%	56.4%	22.4%	12.3%

### ***MILK/CALCIUM CONSUMPTION - ADULTS***

Building strong bones during adolescence and early adulthood is a key defense against the development of osteoporosis later in life. In a survey of women who were eligible to participate in SNAP in 2015, nine out of ten women (90 percent) reported consuming some form of dairy in the past week, with respondents reporting that they consumed a median of one glass of milk per day. Among women who drink milk, 31 percent drank non-fat or 1% milk.<sup>26</sup>

### ***MILK/CALCIUM CONSUMPTION - YOUTH***

In 2017, one in four Arizona high school students reported drinking no milk in the seven days before they took the YRBSS. Approximately 27.4 percent of students reported drinking at least one glass of milk per day, 16.2 percent drank two or more glasses per day, and 7.0 percent drank three or more glasses per day.

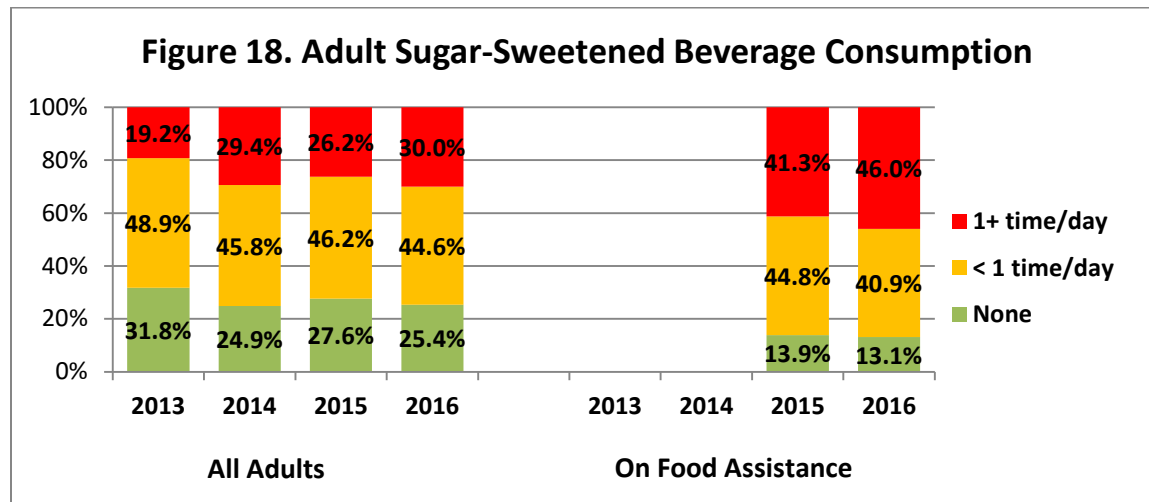
### ***WHOLE GRAINS - ADULTS***

In the 2015 Target Population Research Report, questions were asked about consumption of grains. Sixty-two percent of women surveyed said that they eat half of their total grains as whole grains.

<sup>26</sup> WestGroup Research, Arizona Department of Health Services 2015 Target Population Research Report, Target Population Survey, 2015, Revised: November 10, 2015.

### SUGAR-SWEETENED BEVERAGES - ADULTS

Sugar-sweetened beverages are significant sources of added sugars among adults in the United States.<sup>27</sup> Since 2013, a sugar-sweetened beverage module has been included in the BRFSS related to regular soda and other types of sugar-sweetened beverages (fruit drinks, sweet tea, and sports or energy drinks).<sup>28</sup> These questions were part of the core set of questions in 2013. Arizona began including the sugar-sweetened beverage module in 2013 for all adults, and data are available for 2015 and 2016 for the food assistance population. One in four of all Arizona adults reported drinking no sugar-sweetened beverages, and 30.0 percent drank one or more per day in 2016. Among the population on food assistance, only 13.1 percent said they drank no sugar-sweetened beverages, while 46 percent drank them one or more times per day (see Figure 18).



### SUGAR-SWEETENED BEVERAGES - YOUTH

Among Arizona high school students who responded to the 2017 YRBSS, 17.3 percent reported drinking a can, bottle, or glass of soda or pop one or more times per day (not counting diet soda or diet pop) during the seven days before the survey, while 29 percent said they had not had any soda or pop. Table 13 below shows the percentage of all Arizona high school students over the past ten years who reported drinking a can, bottle, or glass of soda or pop at various frequency levels. In general, there has been an increase in the percentage of students who do not drink soda or pop as well as a decrease in those who drink it multiple times per day.

<sup>27</sup> Park S, Xu F, Town M, Blanck H. Prevalence of Sugar-Sweetened Beverage Intake Among Adults—23 States and the District of Columbia, 2013. *MMWR Morb Mortal Wkly Rep* 2016;65(7):169-174

<sup>28</sup> *Ibid.*

<b>Table 13. High School Students Drinking Soda or Pop During the Seven Days Before the Survey</b>				
	<b>None</b>	<b>≥ 1 per day</b>	<b>≥ 2 per day</b>	<b>≥ 3 per day</b>
<b>2007</b>	20.5%	29.5%	20.1%	10.1%
<b>2009</b>	20.4%	28.1%	19.8%	10.9%
<b>2011</b>	24.2%	24.1%	15.9%	8.3%
<b>2013</b>	27.8%	19.7%	12.6%	5.9%
<b>2015</b>	27.8%	19.5%	10.8%	5.4%
<b>2017</b>	29.0%	17.3%	9.7%	4.0%

### ***EATING AT HOME, FOOD PREPARATION, AND GROCERY SHOPPING***

In the 2015 Target Population study, 55 percent of the women surveyed said they either always or often used a shopping list when they shopped for groceries, down from 64 percent in 2012, and 22 percent said they used coupons either always or often, down from 47 percent in 2012. The women interviewed reported eating a meal at home 13.6 times a week, averaging almost two meals a day at home, which is an increase over the 2012 figure of 8.3 times per week. The average number of times per week that families eat together was reported as 9.5 times per week in 2015. When asked about health-related shopping behaviors, 54 percent of women said they chose foods with less added sugar, and four in ten women said they always or often read labels for nutrition facts (41 percent) or ingredient lists (40 percent).

A study was conducted in 2017 to learn more about meal planning, recipe usage and selection, available ingredients, available kitchen tools, appliances, gadgets and cookware, and cooking methods among the SNAP-eligible population. The report can be used to guide the selection and development of information provided during direct education and other interactions, where partners might reference the kinds of ingredients and tools that the target population is likely to have on hand, and possibly show different ways to use them. It can also be used by AZ Health Zone and its partners to evaluate potential recipes in terms of factors that matter to women when selecting recipes. Details are provided on what ingredients and supplies are typically available in the households of the target audience, and cooking methods that are found to be acceptable.

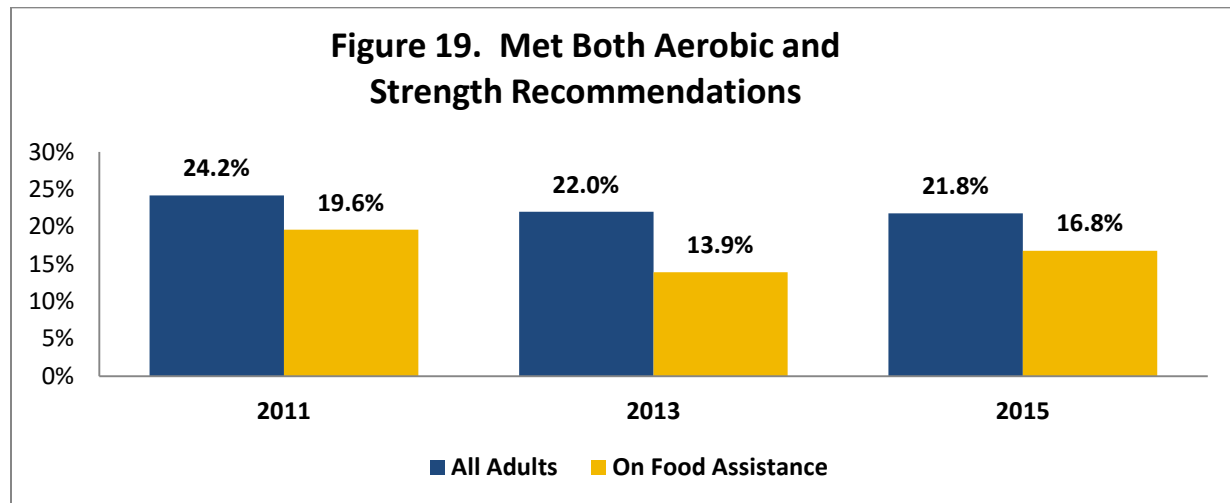
Fifty-nine percent of survey participants reported that they used recipes when cooking for their families, and 91 percent said they looked for new recipes. The most common source for finding new recipes was websites (61 percent), followed by social media (52 percent). When choosing new recipes, participants identified taste (69 percent), availability of ingredients (64 percent), and healthy ingredients (53 percent) as factors of highest importance. A variety of flavors, textures, and ingredients (48 percent), having the necessary utensils (48 percent), and the amount of time recipes required (47 percent) were

also very important for almost half of the participants. Many participants commonly used all assessed cooking methods (i.e., baking/roasting, grilling, steaming, sautéing).

### **PHYSICAL ACTIVITY - ADULTS**

Every other year, the national BRFSS contains questions about physical activity. The physical activity questions are designed to measure the proportion of adults meeting aerobic and strength physical activity recommendations. The recommendation for aerobic physical activity for adults is at least 150 minutes of moderate activity or 75 minutes of vigorous activity per week, and the muscle-strengthening recommendation is to participate in muscle strengthening activities at least twice per week.

Figure 19 shows the percentage of Arizona adults who met both aerobic and strength recommendations for the state as a whole from 2011 through 2015, and for those that lived in households where someone received food assistance.



Adults in households receiving food assistance tend to be less likely than the general population to meet recommendations for physical activity. Adults in households receiving food assistance are consistently less likely to meet recommendations for *either* aerobic *or* strength recommendations, with higher proportions meeting aerobic than strength recommendations among all adults as well as those in households on food assistance (see Figures 20 and 21).

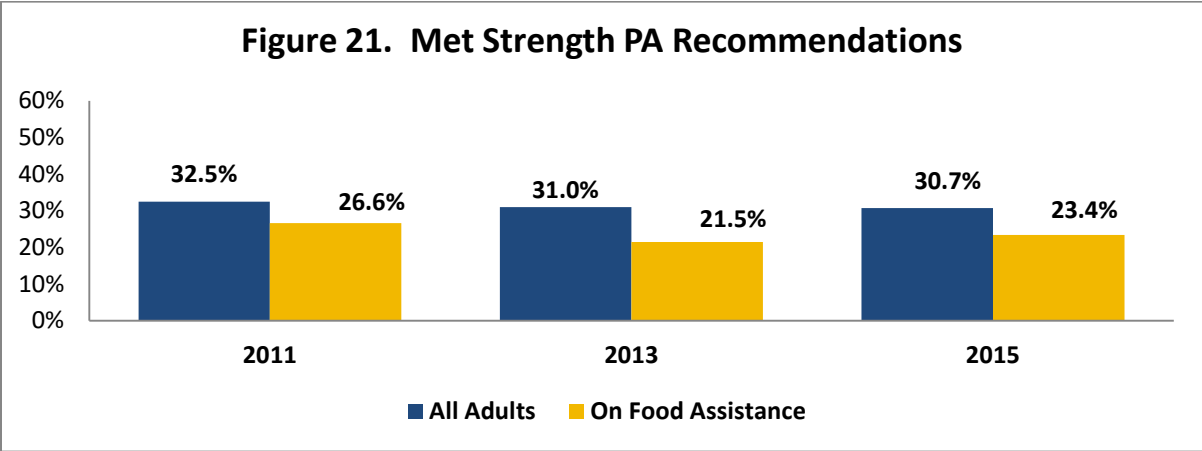
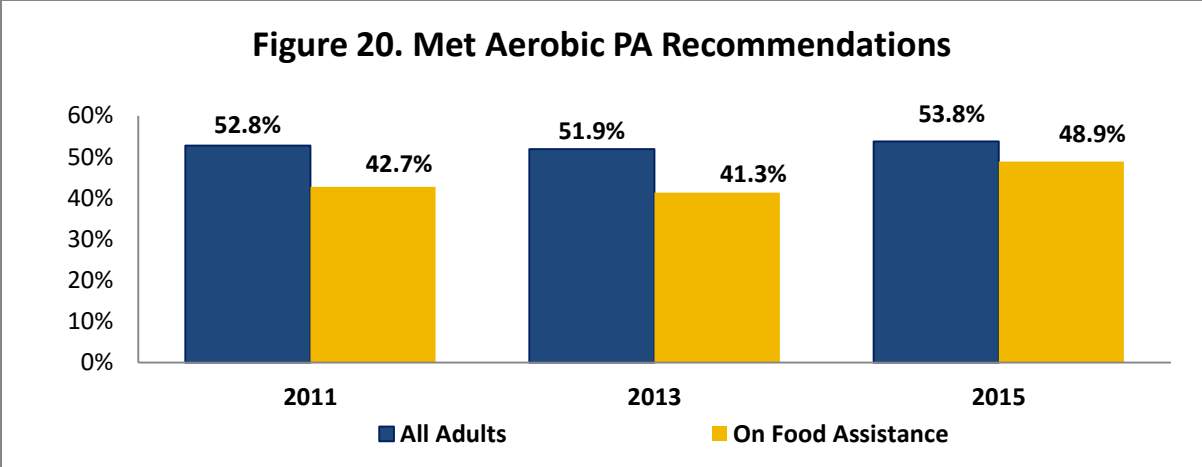
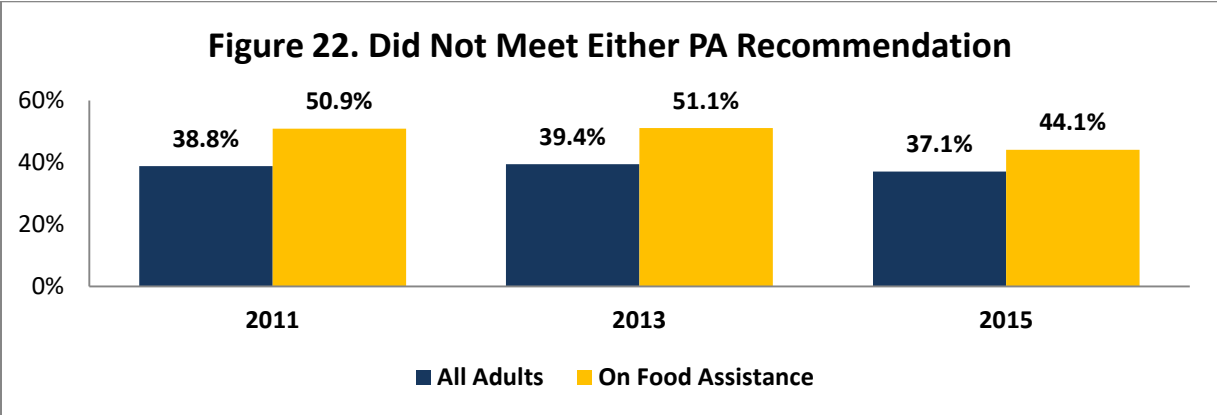
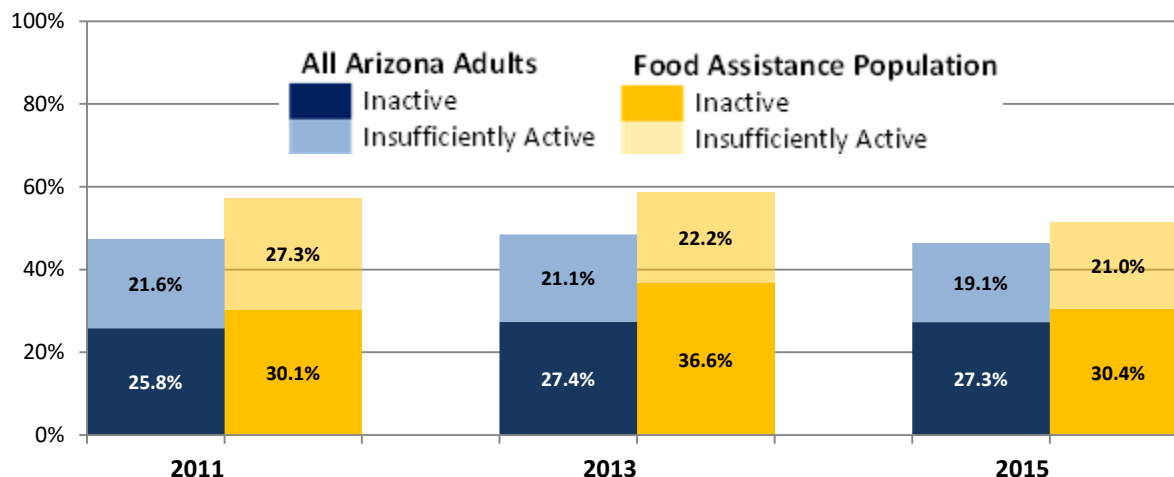


Figure 22 shows the proportion of Arizona adults who did not meet either physical activity recommendation among Arizona adults in general and among those in households on food assistance.



Looking specifically at those who reported being either inactive or are insufficiently active, more than half of Arizona adults in households that received food assistance consistently reported activity levels that were either inactive or insufficiently active. Previous to 2016, the food assistance population tended to have higher rates of inactivity and insufficient activity; however, this disparity disappeared in 2016 (see Figure 23).

**FIGURE 23: ADULTS IN ARIZONA INSUFFICIENTLY ACTIVE AND INACTIVE**



The YRBSS asked high school students about physical activity that increased their heart rate and made them breathe hard during the seven days before the survey. Table 14 shows the percentage of students from 2011 through 2017 who were not active during the past seven days, who were active for five or more days, and who were active for all seven days, for all students, girls and boys. While changes in the trends from year to year are not statistically significant, it should be noted that boys tend to have higher activity levels than girls.

Year	NOT Active			Active five or more days			Active all seven days		
	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls
2011	15.4%	*	*	47.4%	*	*	25.0%	*	*
2013	17.3%	*	*	41.9%	50.4%	33.2%	21.7%	27.8%	15.5%
2015	15.9%	14.5%	17.3%	46.4%	52.8%	40.0%	26.0%	32.1%	19.3%
2017	16.7%	13.9%	19.4%	46.3%	54.1%	38.1%	24.5%	31.7%	17.1%



Approximately half of high school students reported playing on one or more sports teams during the past 12 months in 2017, which is similar to the percentages reported in 2011 through 2015. Table 15 shows the percentage of high school students who played on one or more sports teams during the past 12 months, by gender.

<b>Table 15. Students Who Played on One or More Sports Teams in Past 12 Months</b>			
<b>Year</b>	<b>Total</b>	<b>Boys</b>	<b>Girls</b>
2011	50.4%	54.8%	46.2%
2013	50.5%	53.7%	47.3%
2015	49.2%	52.4%	45.8%
2017	51.6%	54.7%	48.8%

In 2017, fewer than half (46.4 percent) of high school students reported that they attended physical education classes on one or more days in an average week when they were in school (53.9 percent of boys and 38.8 percent of girls), and only 36.5 percent attended daily physical education classes (40.7 percent of boys and 31.9 percent of girls). Table 16 shows the percentage of high school students who attended physical education classes on one or more days in an average week when they were in school and the percentage of students who attended physical education classes daily in an average week when they were in school, by gender from 2011 through 2017. The changes are not statistically significant.

<b>Table 16. Students Reporting Attending Physical Education Classes Weekly or Daily</b>						
	<b>Attended one or more days in an average week when they were in school</b>			<b>Attended daily in an average week when they were in school</b>		
<b>Year</b>	<b>Total</b>	<b>Boys</b>	<b>Girls</b>	<b>Total</b>	<b>Boys</b>	<b>Girls</b>
2011	41.7%	49.0%	34.4%	29.6%	36.3%	23.2%
2013	39.9%	48.1%	31.3%	23.0%	27.7%	18.5%
2015	40.9%	47.3%	34.0%	26.3%	30.6%	21.5%
2017	46.4%	53.9%	38.8%	36.5%	40.7%	31.9%

The YRBSS asks two questions designed to measure levels of sedentary behavior. One question asks about the amount of time they spend watching TV on average school days. In 2017, 19.4 percent of students said they watched TV for three or more hours per day, which represents a statistically significant decrease from 2007, when 28.2 percent reported watching that much TV on an average school day. Students were also asked about time they spent playing video or computer games or used a computer (counting time spent on things such as Xbox, PlayStation, an iPad or other tablet, a

smartphone, texting, YouTube, Instagram, Facebook, or other social media, for something that was not school work, on an average school day). In 2017, 38.9 percent of Arizona high school students reported this type of activity for more than three hours per day, which is a statistically significant increase from 2007. Table 17 shows the percentage of high school students engaged in these sedentary behaviors from 2007 through 2017.

<b>Table 17. Sedentary Behaviors Among High School Students</b>						
	<b>2007</b>	<b>2009</b>	<b>2011</b>	<b>2013</b>	<b>2015</b>	<b>2017</b>
Watched TV 3 or more hours per day on an average school day	28.2%	33.3%	28.6%	27.1%	24.7%	19.4%
Played video or computer games or used computer 3 or more hours per day	21.4%	22.1%	27.7%	36.9%	40.5%	38.9%

### **SOCIAL MEDIA AND TECHNOLOGY**

Three questions were added to the ACS in 2013 about computer and internet use as a requirement of the Broadband Data Improvement Act of 2008.<sup>29</sup> The first question asked whether the respondent or any member of the household owned or used a desktop or laptop computer, smartphone, or tablet or other portable wireless computer. In the target population, 67.8 percent lived in a household where someone owned or used a desktop or laptop computer, 79.0 percent had a smartphone, and 52.3 percent had a tablet or other portable wireless computer in their household. Table 18 shows the percentage who responded yes for those in the target population, those not in the target population, and the percentage for all.

<b>Table 18. Own or Use a Computer, Smartphone, or Tablet: 2016</b>			
	<b>Under 185% FPL</b>	<b>At or Over 185% FPL</b>	<b>All</b>
Desktop or laptop computer	67.8%	89.0%	82.0%
Smartphone	79.0%	86.0%	83.7%
Tablet or other portable wireless computer	52.3%	70.8%	64.7%
Other	3.0%	4.0%	3.7%

The next question asked about whether anyone in the household had access to the internet, and, if so, whether it was by paying a cell phone company or internet service provider. Over 80 percent of the target population lived in households in which there was internet access either by paying a provider (77.8 percent) or without paying a provider (3.3 percent). Table 19 shows the percentage who

<sup>29</sup> U.S. Census, <https://www.census.gov/acs/www/about/why-we-ask-each-question/computer/>, accessed 3/8/2018.

responded yes for those in the target population, those not in the target population, and the percentage for all.

<b>Table 19. Access to the Internet, and Whether Paid Provider: 2016</b>			
	<b>Under 185% FPL</b>	<b>At or Over 185% FPL</b>	<b>All</b>
Yes, by paying a cell phone company or internet service provider	77.8%	91.2%	86.8%
Yes, without paying a cell phone company or internet service provider	3.3%	1.8%	2.3%
No access to the internet	18.9%	7.0%	10.9%

Finally, the ACS asked about the ways in which the respondent or other household members accessed the internet. Eighty-three percent of the target population said they had a cellular data plan for a smartphone or other mobile device, and 71.6 percent said they had broadband (high-speed) internet services, such as cable, fiber optic, or DSL service installed in the household. Table 20 shows the percentage who responded yes for those in the target population, those not in the target population, and the percentage for all.

<b>Table 20. Ways Internet is Accessed: 2016</b>			
	<b>Under 185% FPL</b>	<b>At or Over 185% FPL</b>	<b>All</b>
Cellular data plan for a smartphone or other mobile device	83.0%	85.5%	84.8%
Broadband (high-speed) internet service such as cable, fiber optic, or DSL service installed in the household	71.6%	85.8%	81.6%
Satellite internet service installed in the household	9.7%	10.5%	10.3%
Dial-up internet service installed in the household	2.2%	2.3%	2.3%
Some other service	1.5%	1.2%	1.3%

A study was conducted in 2017 to obtain information about social media and technology access and use among the SNAP-Ed target population to inform communication strategies for both social marketing and program implementation.<sup>30</sup> According to the study, the vast majority of moms (92 percent) in the target population owned a smartphone, an estimate that is higher than the 79 percent from the ACS reported on Table 18 above; however, the ACS estimate included all adults in households with incomes below 185 percent of the FPL, whereas the target population survey included only mothers between certain ages with children. In the target population survey, only one in ten had a landline, four in ten moms had a

<sup>30</sup> WestGroup Research, Arizona Department of Health Services/Arizona Nutrition Network Social Media & Technology Research, October 31, 2017.

Samsung cell phone, and one-quarter owned an iPhone. Moms were most likely to access the internet using their cell phones, and once online, they were most likely to go to social media sites (83 percent). This was followed by emailing family and friends (63 percent) and getting recipes (54 percent).

Facebook was the most frequently visited website, with two-thirds of study participants naming this site. Google followed, with just over half naming this search engine. Facebook was also the most frequently downloaded app, with over eight in ten smartphone owners saying they have this app on their phone.

When asked about social media sites a second time, Facebook surfaced as the most popular, with two-thirds using this site on a daily basis. When asked about their favorite site for recipes, Google was named most often (17 percent). Food Network, the most frequently mentioned recipe website, was named by just 5 percent of moms. One in five moms indicated they have visited the Eat Well Be Well website.

Television led as the source of news and information, with nearly six in ten preferring this source. The Internet followed at 52 percent. Four in ten got their news and information from social media, with just one in ten saying they got their news and information from a newspaper. Communications preferences were mixed. Text and email were each mentioned by one-third of all respondents, with one-quarter naming telephone.

## **ENVIRONMENT – OPPORTUNITIES FOR HEALTHY CHOICES**

Healthy choices relating to nutrition and diet may be facilitated or limited by the environment at workplaces, schools, early child care settings, and in the larger community. In order to choose healthy foods, they must be available and affordable. Likewise, an active lifestyle can be facilitated by access to resources such as parks and safe walking paths. This section focuses primarily on statewide data; however, a plethora of more detailed information relevant to community needs assessment is available in the AZ Health Zone FFY17 Annual Evaluation Report. Although that document is not focused primarily on needs assessment, it describes baseline data on a community level directed towards food systems and active living for those areas of the state in which local agencies have focused initiatives.<sup>31</sup>

### ***ACTIVE LIVING OPPORTUNITIES IN COMMUNITY***

Researchers at the University of Arizona Norton School of Family and Consumer Sciences compiled secondary data from a variety of sources for AZ Health Zone. Their analysis found that only 23 percent of the population in lower-income rural towns lived within walking distance (one-half mile or less) to a park (ranged from 0 to 72 percent). In Maricopa and Pima counties, where the two biggest cities are located, 59 percent of the population lived within a ten-minute walk from a park.<sup>32</sup>

Although no data were readily available to assess work environments in Arizona in terms of their physical activity policies and opportunities, the ACS asks about transportation to work. In 2016, the vast majority of people drove a car, truck, or van to work (88.9 percent of those with higher incomes and

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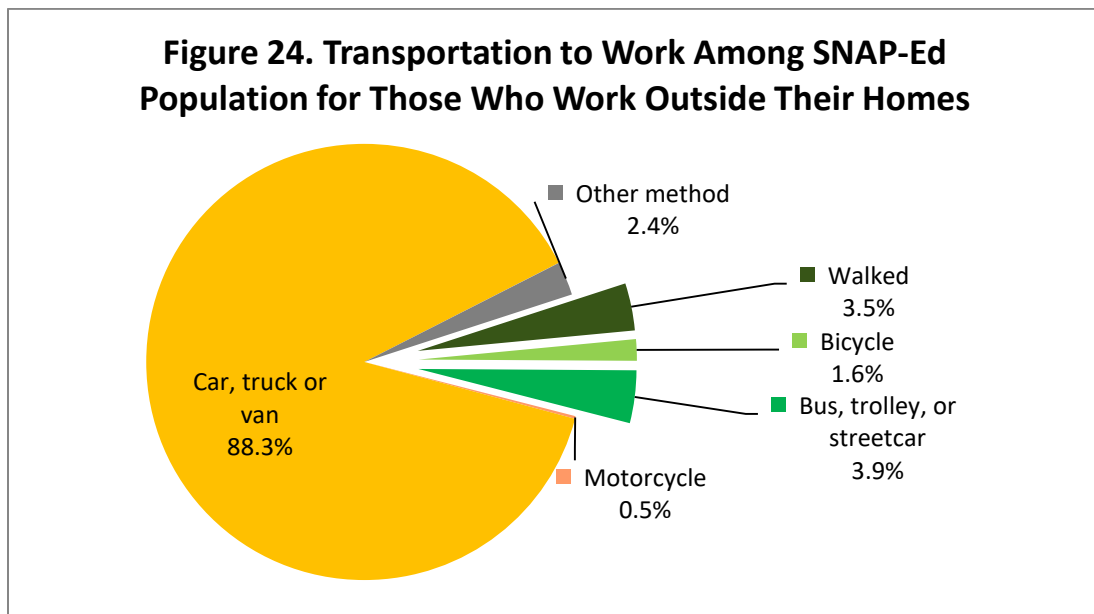
<sup>31</sup> AZ Health Zone FFY17 Annual Evaluation Report, January 2018.

<sup>32</sup> AZ Health Zone, Rural Community Profiles, 2017., received by request, Phoenix, AZ, Accessed 11/30/2017.

84.0 percent of those in SNAP-eligible households). Table 21 shows the percentage of people who traveled to work by various means or worked at home among the SNAP-eligible population, higher income population, and all Arizona adults age 16 or over who were a worker.

<b>Table 21. Transportation to Work (2016)</b>			
	<b>Higher-Income Population (%)</b>	<b>SNAP-Eligible Population (%)</b>	<b>All Arizona (%)</b>
Car, truck, or van	88.9%	84.0%	87.9%
Bus, trolley, or streetcar	1.1%	3.7%	1.7%
Motorcycle	0.4%	0.2%	0.4%
Bicycle	0.7%	1.5%	0.9%
Walked	1.2%	3.3%	1.7%
Worked at home	6.6%	4.8%	6.2%
Other method	1.1%	2.4%	1.4%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Walking, riding a bicycle, or riding a bus, trolley, or streetcar may be considered more active than other forms of transportation. Looking only at those who worked outside of their homes, a measure was calculated combining those who used one of these active forms to get to work as a percent of all who worked outside their homes. Among the SNAP-Ed population, 9 percent took an active form of transportation, compared to 3.2 percent of workers in households with higher incomes (see Figure 24). Table 8 in Appendix A: County Statistics provides information on active transportation to work by PUMA.



## **ACCESS TO GROCERY STORES AND SUPERMARKETS**

Households in lower-income neighborhoods often have less access to places that sell healthy foods at lower prices, such as large grocery stores and supermarkets. The majority of studies that have examined the relationship between store access and dietary intake find that better access to a supermarket or large grocery store is associated with healthier food intakes.<sup>33</sup>

There are various ways to measure low food access. Measures take into account things such as: accessibility to sources of healthy food, as measured by distance to a store or by the number of stores in an area; individual-level resources that may affect accessibility, such as family income or vehicle availability; and neighborhood-level indicators of resources, such as the average income of the neighborhood and the availability of public transportation. One measure looks at low-income census tracts where a significant number (at least 500 people) or proportion (at least 33 percent) lives more than one mile from the nearest supermarket, supercenter, or large grocery store for an urban area or more than ten miles for a rural area. Low income is defined as tracts where the poverty rate is at least 20 percent or where the median family income is at or below 80 percent of the metropolitan area or the state median income. Using this definition, 17.0 percent of census tracts in Arizona qualified as low-income low-access tracts in 2015, compared to 12.7 percent of tracts in the US. Approximately 9.2 percent of Arizona residents live in low-income low access tracts, compared to approximately 6.5 percent in the US.<sup>34</sup> See Appendix A, Table 8: Census Tracts Identified as Low-Income Low Access Food Deserts.

AZ Health Zone maintains a map of farmers' markets at [www.azhealthzone.org/farmersmarkets](http://www.azhealthzone.org/farmersmarkets), which also includes information on acceptance of electronic benefits transfer (EBT) for SNAP as well as FMNP and SNAP matching. For each \$10 spent on eligible foods, SNAP matching provides an additional \$10 for Arizona-grown fruits and vegetables.

## **HEALTHY FOODS AND PHYSICAL ACTIVITY AT SCHOOL**

The School Health Profiles is a system of surveys assessing school health policies and practices in states, large urban school districts, and territories.<sup>35</sup> School Health Profiles provide information on healthy foods, physical education, and physical activity. One question on the survey asks principals whether the school has one or more groups that offer guidance on the development of policies or coordinate activities on health topics. Figure 25 shows the percentage of schools with such a group, as well as the upper and lower bounds of a 95 percent confidence limit.

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<sup>33</sup> Larson, N.I., M.T. Story, and M.C. Nelson (2009). "Neighborhood Environments: Disparities in Access to Healthy Foods in the U.S.," *American Journal of Preventive Medicine*, 36(1): 74-81.e10.

<sup>34</sup> United States Department of Agriculture, Economics Research Services, Data Products, Food Access Research Atlas, retrieved from <https://www.ers.usda.gov/data-products/food-access-research-atlas/download-the-data/> accessed on 2/27/2018.

<sup>35</sup> DC Adolescent and School health School Health Profiles, accessed on 03/23/2016. Retrieved from: [www.cdc.gov/healthyyouth/data/profiles/index.htm](http://www.cdc.gov/healthyyouth/data/profiles/index.htm).

**Figure 25. Schools With Group That Offers Guidance on Development of Policies or Coordinates Activities on Health Topics**

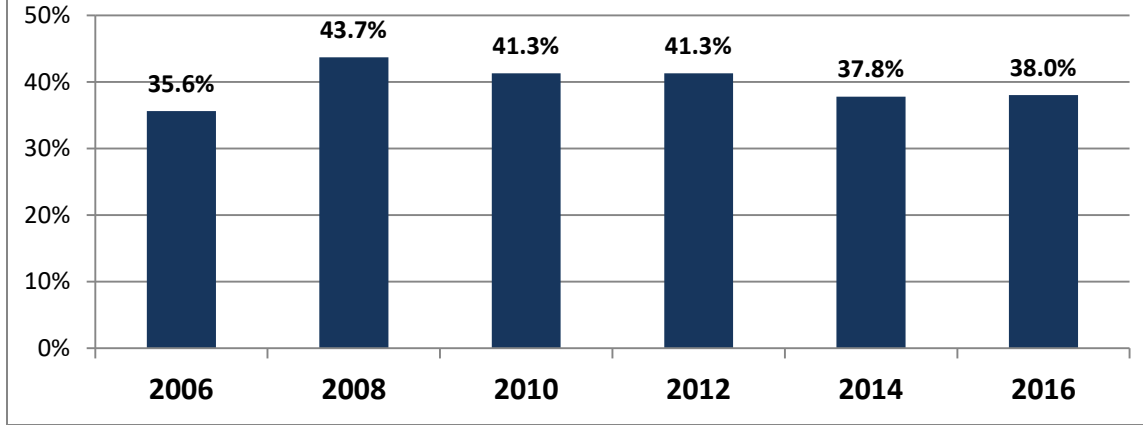


Table 22 shows highlights of the school environment presented in Arizona’s School Health Profiles from 2010 to 2016 related to nutrition.

<b>Table 22. School Environment: Nutrition</b>				
	<b>2010</b>	<b>2012</b>	<b>2014</b>	<b>2016</b>
Did not sell less nutritious food and beverages (salty snacks, candy, soda (pop), fruit drinks, and sports drinks) from vending machines or at school store, canteen, or snack bar.	56.2%	57.3%	56.3%	65.8%
Percentage that offered fruits or non-fried vegetables in vending machines, school stores, canteens or snack bars, and during celebrations when food and beverages are offered. *	10.1%	6.9%	31.3%*	41.4%
Percentage that prohibited all forms of advertising and promotion of candy, fast food restaurants, or soft drinks in all locations.	63.0%	55.7%	57.6%	59.2%
Percentage that used the School Health Index or a similar self-assessment tool to assess their policies, activities, and programs <b>in nutrition.</b>	24.9%	31.9%	36.1%	36.8%

\*Only includes fruits or non-fried vegetables at school celebrations.

+Includes tobacco-use prevention.

° Includes HIV, STD, and teen pregnancy prevention.

Table 23 shows the percentage of schools requiring health education courses, and Table 24 shows the percentage of schools teaching required health education courses by grade from 2008 to 2016.

**Table 23. School Health Profiles: Health Education Requirements**

	2008	2010	2012	2014	2016
Percentage of schools in which students are required to take two or more health education courses.	16.5%	18.5%	16.8%	15.3%	13.8%
Percentage of schools in which students take only one required health education course.	32.3%	35.9%	24.2%	29.7%	29.5%

**Table 24. School Health Profiles: Percentage Teaching Required Health Education Course by Grade**

	2008	2010	2012	2014	2016
Grade 6	22.3%	26.8%	19.6%	13.4%	21.6%
Grade 7	28.5%	31.3%	21.7%	19.7%	22.6%
Grade 8	27.4%	30.8%	21.7%	19.0%	22.3%
Grade 9	23.2%	23.4%	16.9%	14.5%	23.4%
Grade 10	19.7%	17.0%	11.5%	10.5%	15.7%
Grade 11	12.9%	7.4%	6.9%	9.4%	14.1%
Grade 12	12.4%	7.9%	8.0%	8.8%	14.0%

Table 25 shows the percentage of schools that address various topics in their health education curricula.

**Table 25. School Health Profiles: Topics Covered in Health Education Curriculum**

	2008	2010	2012	2014	2016
Comprehending concepts related to health promotion and disease prevention to enhance health.	66.4%	68.6%	54.3%	58.7%	52.4%
Analyzing the influence of family, peers, culture, media, technology, and other factors on health behaviors.	64.2%	64.1%	52.4%	55.9%	52.3%
Accessing valid information and products and services to enhance health.	56.1%	59.3%	48.5%	53.2%	43.7%
Using interpersonal communication skills to enhance health and avoid or reduce health risks.	64.3%	62.3%	52.2%	57.5%	51.8%
Using decision-making skills to enhance health.	70.5%	68.4%	56.8%	60.4%	56.3%
Using goal-setting skills to enhance health.	65.4%	64.1%	55.5%	58.6%	53.0%
Practicing health-enhancing behaviors to avoid or reduce risks.	70.6%	67.9%	57.1%	59.6%	56.1%
Advocating for personal, family, and community health.	59.1%	58.9%	53.2%	55.3%	48.8%



Table 26 shows some key indicators of the policies and practices of schools focused on opportunities offered to students, professional development, and self-assessment related to physical activity. There appears to be some improvement in 2016 over previous years for all three measures presented.

<b>Table 26. School Policies and Practices on Physical Activity</b>					
<b>Percentage of schools that . . .</b>	<b>2008</b>	<b>2010</b>	<b>2012</b>	<b>2014</b>	<b>2016</b>
Offered opportunities for all students to participate in intramural activities or physical activity clubs.	71.2%	72.1%	64.1%	65.8%	71.1%
Physical education teachers or specialists received professional development on physical education or physical activity during the past year.	*	*	*	58.4%	66.9%
Used the School Health Index or a similar self-assessment tool to assess their policies, activities, and programs in <b>physical activity</b> .	24.6%	25.8%	31.1%	32.4%	35.5%

\*Data not available

There has been a general downward trend in Arizona schools requiring that students take physical education classes. Table 27 shows the percentage of schools with physical education requirements by grade level from 2008 to 2016.

<b>Table 27. Schools Requiring Physical Education by Grade Level</b>					
	<b>2008</b>	<b>2010</b>	<b>2012</b>	<b>2014</b>	<b>2016</b>
Grade 6	98.2%	96.5%	97.6%	81.5%	84.8%
Grade 7	94.7%	93.0%	91.7%	75.0%	80.4%
Grade 8	90.1%	89.1%	91.0%	73.8%	78.2%
Grade 9	89.7%	90.6%	88.5%	71.5%	64.0%
Grade 10	48.7%	57.0%	45.2%	27.4%	37.4%
Grade 11	42.3%	52.5%	41.0%	19.8%	34.9%
Grade 12	40.2%	51.3%	42.8%	20.3%	35.2%

Table 28 shows schools providing various resources to those who teach physical education.

<b>Table 28. School Health Profiles: Percentage of Schools in Which Those Who Teach Physical Education Are Provided With Materials</b>					
	<b>2008</b>	<b>2010</b>	<b>2012</b>	<b>2014</b>	<b>2016</b>
Goals, objectives, and expected outcomes for physical education.	80.9%	87.3%	77.5%	81.8%	86.3%
A chart describing the annual scope and sequence of instruction for physical education.	59.4%	64.5%	62.8%	64.2%	71.2%
Plans for how to assess student performance in physical education.	66.4%	69.5%	66.6%	70.3%	75.5%
A written physical education curriculum.	63.0%	69.2%	66.5%	68.1%	68.6%
Resources for fitness testing.	*	*	*	72.5%	78.5%
Physical activity monitoring devices, such as pedometers or heart rate monitors, for physical education.	*	*	*	45.9%	47.6%
Students participating in physical activity breaks in classrooms during the school day outside of physical education.	*	*	53.8%	59.1%	57.3%
Opportunities for all students to participate in intramural sports programs or physical activity clubs.	71.2%	72.1%	64.1%	65.8%	71.1%
Interscholastic sports available to students.	*	*	74.8%	77.5%	78.4%
Opportunities for students to participate in physical activity before the school day through organized physical activities or access to facilities or equipment for physical activity.	*	*	*	51.8%	50.3%
A joint use agreement for shared use of school or community physical activity facilities.	*	*	60.6%	56.1%	54.6%
Established, implemented, or evaluated comprehensive school physical activity program (CSPAP).	*	*	*	3.5%	2.3%

### **HEALTHY FOODS, BREASTFEEDING SUPPORT, AND PHYSICAL ACTIVITY IN EARLY CARE AND EDUCATION**

The Arizona Department of Health Services developed the Empower Program to promote healthy environments and behaviors for children in Arizona’s licensed child care facilities.<sup>36</sup> The centers are given discounted annual licensing fees for agreeing to implement ten standards focusing on physical activity, sun safety, breastfeeding-friendly environments, Child and Adult Care Food Program, fruit juice, family-style meals, oral health, staff training, smokers’ helpline, and smoke-free campuses. Five of the standards relate directly to nutrition and physical activity:

<sup>36</sup> To learn more about the program, please see the Empower Guidebook, Third Edition: Ten Ways to Empower Children to Live Healthy Lives, Standards for Empower Child Care Facilities in Arizona.

1. Provide at least 60 minutes of daily physical activity (teacher-led and free play) and do not allow more than 60 minutes of sedentary activity at a time, or more than three hours of screen time per week.
2. Provide a breastfeeding-friendly environment.
3. Determine whether site is eligible for the United States Department of Agriculture (USDA) Child and Adult Care Food Program (CACFP), and participate if eligible.
4. Limit serving fruit juice to no more than two times per week.
5. Serve meals family style and do not use food as a reward.

The Empower Program is still in a capacity-building phase. Each standard has specific components, and a standardized tool is used to ask facilities to rate their level of implementation of each of the components of each standard. A standard is rated as fully implemented when a facility reports that they have fully implemented each of the components of the standard. The standard is rated as partially implemented when a facility reports implementing some of the components at least partially. ADHS Bureau of Child Care Licensing staff collects surveys from child care facilities when they go out to do their licensing reviews, and also takes comments from and educates child care staff on the Empower standards.

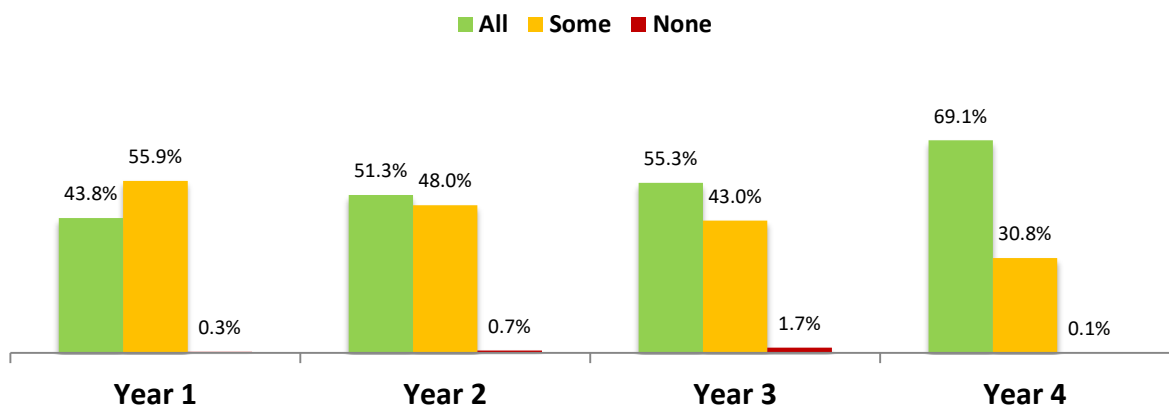
### **Physical Activity**

The physical activity standard requires planned daily physical activity in curricula for children one year and older with the following ten components:

1. Include at least 60 minutes per day for children one year and older.
2. Include teacher-led activities.
3. Include free play opportunities.
4. Include opportunity to participate in outdoor and indoor physical activity.
5. Include moderate levels of physical activity.
6. Include vigorous levels of physical activity.
7. Limit sedentary time to less than 60 minutes at a time, except when sleeping.
8. Limit screen time to three hours or less per week.
9. Prohibit using or withholding physical activity as punishment.
10. Make information on screen time available (in English and Spanish) to families at least once per year.

The percentage of facilities reporting full implementation of all ten physical activity components grew from 44 percent in year one to 69 percent in year 4, as shown in Figure 26. By the fourth year of evaluation, approximately nine in ten facilities reported fully implementing nine of the ten components. Component 6, which focuses on vigorous activity, increased significantly in year four, which may have been due, in part, to a wording change on the questionnaire to include examples of vigorous activity. The component focused on providing information on screen time to families also increased significantly, although it remained the component with the lowest levels of implementation among the physical activity components. Changes made to the survey tool addressing feedback from previous years may have accounted for some of the increases observed in implementation levels. Some words, such as moderate, vigorous, sedentary, and prohibits, were changed to language that is more familiar to providers, and screen time was clarified.

**Figure 26. Percentage of Facilities Implementing All, Some, or None of the Components of the Physical Activity Standard**



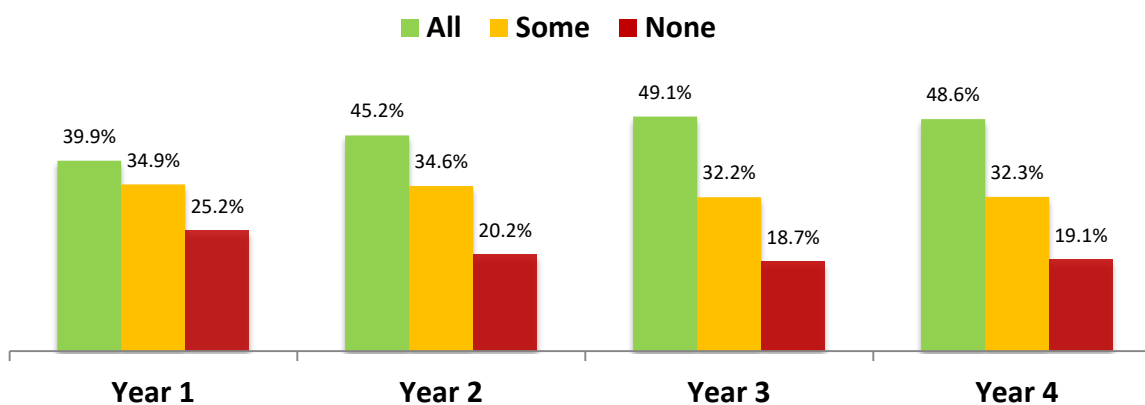
### Breastfeeding

The breastfeeding standard requires provision of ongoing support to breastfeeding mothers with the following four components:

1. Breastfeeding mothers, including employees, shall be provided a private and sanitary place to breastfeed their babies or express milk. A bathroom is not acceptable.
2. Provide a designated space in a refrigerator or freezer for breastmilk storage.
3. Reassure nursing mothers that they are welcome by displaying breastfeeding promotion information.
4. Provide information on breastfeeding (in English and Spanish) to families at least once per year.

The percentage of facilities that reported full implementation of all four breastfeeding components grew from 40 percent in year one to 49 percent in year four (see Figure 27). However, a substantial proportion of facilities say that they have not implemented any of the components. The component that was most often reported as fully implemented was to provide a place to breastfeed or express milk, followed by providing a place in the refrigerator to store milk. Displaying information promoting breastfeeding and providing information to families were less likely to be fully implemented. Comments given by child care center workers to licensing staff revealed the perception that many thought that if infants were not enrolled in their facility, then this standard did not apply to them. This is a common misunderstanding of the standard, and education has subsequently focused on explaining how the standard applies to all facilities and to staff, who may themselves be breastfeeding mothers, as well as mothers of breastfeeding infants whose older siblings may be enrolled at the facility.

**Figure 27. Percentage of Facilities Implementing All, Some, or None of the Components of the Breastfeeding Standard**



### CACFP

In earlier years, the CACFP standard was evaluated solely by whether or not a facility had a written policy on determining eligibility status for CACFP. This standard was changed in the fourth year, when respondents began to be asked to report their level of implementation of determining eligibility status for CACFP. In the fourth annual evaluation, 61.7 percent reported full implementation of this standard, with another 2.4 percent reporting partial implementation. Classroom directors and staff are usually the ones filling out Empower questionnaires, and they may not be aware of CACFP policies, since determining eligibility is typically done by program administrators.

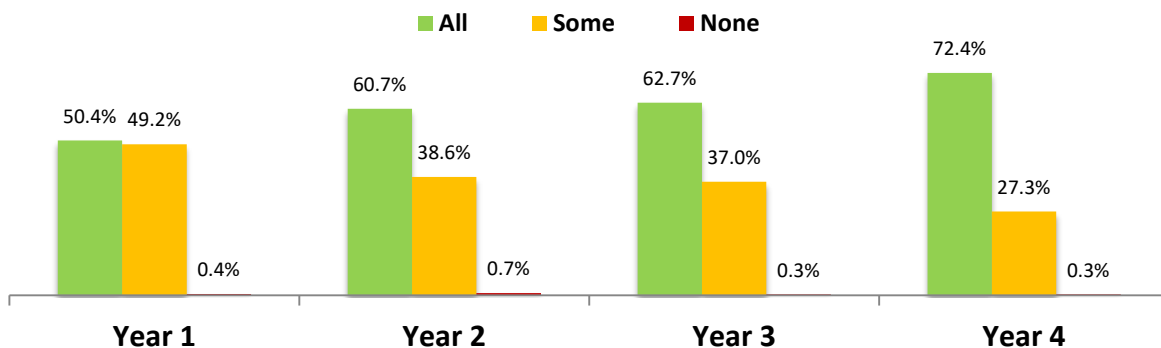
## Fruit Juice

The fruit juice standard requires a commitment to supporting children in establishing lifelong healthy eating and drinking habits with the following seven components:

1. Offer water throughout the day.
2. Offer water as the first choice for thirst.
3. Prohibit serving fruit juice more than two times per week to children one year or older.
4. Prohibit serving more than a half cup (or four ounces) of fruit juice at one time for children less than six years of age.
5. Serve 100 percent fruit juice with no added sugar or never serve juice.
6. Serve fruit juice only during meal or snack time.
7. Provide information on fruit juice (in English and Spanish) to families at least once per year.

Approximately 50 percent of facilities reported full implementation of all seven fruit juice components in year one. By year four, that percent had grown to 72 percent (see Figure 28).

**Figure 28. Percentage of Facilities Implementing All, Some, or None of the Components of the Fruit Juice Standard**



Nearly all facilities reported full implementation of the first two components of the standard, offering water throughout the day and offering water as the first choice for thirst. Most facilities reported fully implementing the component related to serving 100 percent fruit juice or never serving fruit juice. The majority of comments from child care facility staff were that the facility does not serve juice at all, and many mentioned not serving juice because it was not allowed. Several noted that parents sometimes give the child juice for lunch or snack. A few respondents only provide milk or water at their facility.

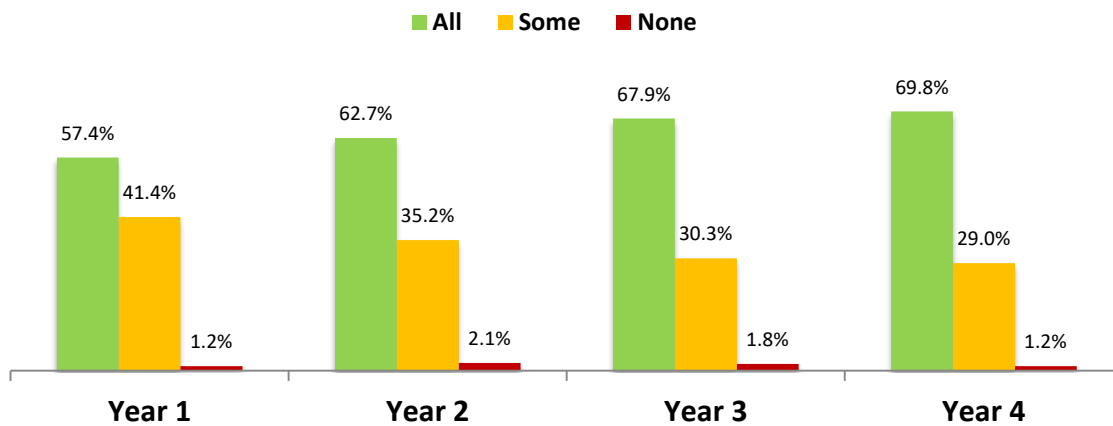
### Family-Style Meals

The family-style meal standard requires a commitment to supporting children in establishing lifelong healthy eating and drinking habits with the following six components:

1. Serve meals family style whenever possible.
2. Utilize child-friendly serving utensils and containers.
3. Participate, sit, and interact with children at mealtime.
4. Allow children to serve themselves so they may choose what to put on their plates and how much to eat.
5. Prohibit using food as a reward or punishment.
6. Provide information on healthy eating (in English and Spanish) to families at least once per year.

Approximately 57 percent of facilities reported full implementation of all six family-style meals components in year one. By year four, 70 percent were reporting full implementation, as shown in Figure 29. The component with the highest level of full implementation is the component to prohibit using food as a punishment or reward, while the component with the lowest level of full implementation relates to serving meals family style.

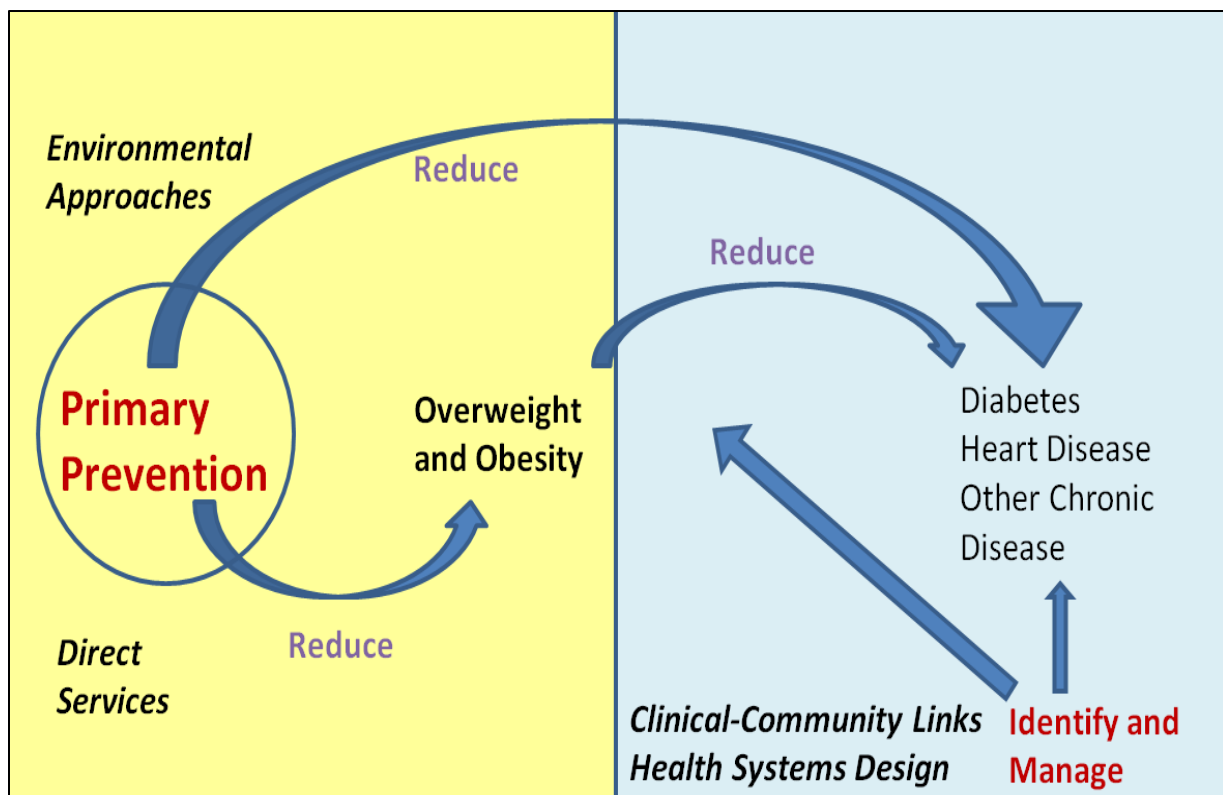
**Figure 29. Percentage of Facilities Implementing All, Some, or None of the Components of the Family-Style Meals Standard**



### FINDINGS 3: OTHER NUTRITION-RELATED PROGRAMS AND SERVICES

Arizona has many collaborative opportunities with nutrition and physical activity-related programs and services. The AZ Health Zone resides within the Bureau of Nutrition and Physical Activity (BNPA), which is situated in the Division of Public Health Prevention Services within the Arizona Department of Health Services. There are two other bureaus within Prevention Services that collaborate to promote healthy lifestyles and reduce chronic disease using a variety of strategies, including direct services, social marketing, and other public health approaches. Figure 30 below shows the context from which BNPA operates within the agency.

**Figure 30. BNPA Within the Context of Public Health Prevention Services**



BNPA has the following broad goals:

1. Increase the initiation, duration, and exclusivity of breastfeeding
2. Improve nutrition and decrease hunger
3. Increase physical activity and reduce sedentary behaviors
4. Reduce obesity and overweight



An array of programs and services are administered and coordinated through BNPA, including direct services, such as provision of supplemental foods, nutrition education, and peer support, as well as an increasing emphasis on policy, systems, and environmental change. Two large United States Department of Agriculture (USDA) programs – the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) and SNAP-Ed- drive many of the Bureau’s strategies, but there are also other activities that are pursued through grant activities and coordination with other prevention service programs and community partners. A synergy between all programs is sought in order to leverage resources towards collective impact. The Bureau has adopted strategies that intervene on individual, community, and institutional levels, targeting different segments of the population. In this section, programmatic activity that complements and coordinates with the activities of the AZ Health Zone is described.

### BREASTFEEDING STRATEGIES

The Bureau implements strategies in four major areas: training, technical assistance, policies and procedures, and direct support services. Table 29 shows how the AZ Health Zone works with other programs to collectively impact breastfeeding in Arizona.

Table 29. Breastfeeding Strategies by Program/Funding Source					
	WIC and WIC Peer Counseling	AZ Health Zone	CDC	Empower	Maternal/Child Health
A. Training	●	●	●	●	●
B. Technical Assistance	●	●	●	●	
C. Policy and Procedure Development and Implementation	●		●		
D. Direct Support	●		●		●

WIC requires new WIC staff to take the two-day WIC Basic Training course within eight weeks of hire, which introduces topics of breastfeeding education during pregnancy, supporting breastfeeding in the healthy full-term infant, and understanding common occurrences in breastfeeding so that staff can identify uncommon circumstances and refer clients for help. WIC staff must also complete a five-day 30-hour comprehensive breastfeeding course called WIC Breastfeeding Boot Camp within 18 months of hire and every five years for existing staff. Peer counselors working in the WIC Breastfeeding Peer Counseling Program are trained in a curriculum called Loving Support through Peer Counseling: A Journey Together in a train-the-trainer format once a year or upon request as new peer counseling managers are hired. In addition, the BNPA Breastfeeding Team also assists WIC staff and other partners in becoming International Board Certified Lactation Consultants (IBCLCs).

The Arizona WIC Program offers hospital-grade breast pumps to its breastfeeding clients. These pumps are used to build a breastmilk supply for mothers of medically fragile babies and mothers with

fluctuations in supply. In addition, they are also used to maintain the supply of mothers who have returned to work and/or school.

LATCH-AZ is a statewide breastfeeding education and networking opportunity offered once or twice a year and made possible with the use of multiple funding sources. WIC staff, hospital staff, including doctors, nurses, and lactation consultants, Strong Families AZ home visitors, private lactation consultants, La Leche League leaders, and other community partners come together for a day of education and discussion on breastfeeding topics/challenges facing Arizona families. The University of Arizona Medical Center in Tucson donates the time of a film crew so the event can be viewed via webinar throughout the state. Biannual lactation webinars allow the LATCH-AZ community to receive lactation continuing education points (CERPS).

BNPA has leveraged AZ Health Zone funding to develop a series of online courses that are both evidence-based and meet the course requirements for the Baby-Friendly Hospital Initiative (BFHI) through UNICEF and the World Health Organization (WHO). WIC funding is being utilized for outreach and technical assistance to hospitals throughout Arizona.

In order to educate employers on how to accommodate workplace lactation, the CDC 1305 grant allowed for the creation of a comprehensive toolkit. In FFY17, over 234 toolkits were distributed to interested businesses. In FFY18, the BNPA Breastfeeding Team will continue to promote, update, and enhance the ADHS workplace accommodation toolkit, train and/or provide technical assistance to community partners who are working directly with employers, as well as answer questions from the employers using the toolkit. BNPA staff also provides training to child care providers who are participating in the Empower Program to ensure they have the tools needed to support breastfeeding, as well as a resource to help them solve individual families' challenges and requests.

Since the year 2000, ADHS has had a policy that allows employees to bring their baby to work for the first six months of their lives. In addition to the policy, the BNPA Breastfeeding Team is available to provide breastfeeding education and support to employees. This is done by appointment or as needed by the mother. In January 2017, the governor announced in his State of the State address that the program would be expanded to many of the State agencies in Arizona.

The Empower Program promotes breastfeeding-friendly environments in early care and education through training on breastfeeding standards and professional development of child care providers. Through the CDC 1305 grant, the Empower Program launched an advisory group to support best practices for breastfeeding as well as collaborate on action steps that key partners and stakeholders can agree on to move best practices forward.

As the result of collaboration between the USDA WIC Program and the Maternal and Child Health Title V block grant, the Breastfeeding Hotline provides 24-hour support to all mothers statewide. The majority of the calls come from mothers with infants 7 to 14 days old and focus on topics such as breastfeeding

techniques, sore nipples, pumping and hand expression, milk supply issues, medical situations, and medications. The Maternal, Infant, and Early Childhood Home Visiting Program, also known as Strong Families AZ, funds breastfeeding training for home visitors and community partners.

## NUTRITION STRATEGIES

The Bureau has adopted strategies that intervene on many levels, ranging from distributing healthy foods to at-risk populations to changing the food environment to make healthy foods more accessible, and promoting policy change. These strategies are expected to lead to greater accessibility of healthy foods and the knowledge to choose them. Table 30 shows how various Bureau strategies work together with the AZ Health Zone to collectively impact nutrition in Arizona.

Table 30. Nutrition Strategies by Program/Funding Source				
	WIC/FMNP	AZ Health Zone	CDC	Empower
A. Distribute Food	●			
B. Nutrition Education	●	●		
C. Food Environment (e.g., farmers' markets, healthy retail)	●	●	●	
D. Workforce Development/ Training	●	●		●
E. Early Care and Education and School Policy		●	●	●

Each year since 2011, WIC recipients in Arizona have redeemed checks for more than \$120 million of healthy foods. Since 2009, the WIC Program has been issuing Cash Value Vouchers (CVVs), which can be redeemed for fruits and vegetables. From 2010 through 2016, well over \$10 million per year was issued to WIC clients for CVVs. The Farmers' Market Nutrition Program (FMNP) was established by Congress in July 1992 to provide fresh, nutritious, unprepared, locally grown fruits and vegetables to WIC participants and seniors, and to expand the awareness of farmers' markets.

Farmers' markets play an important role in the food environment by increasing the availability of fresh fruits and vegetables to individuals in underserved areas. Arizona set an objective for 2017 to increase the number of growers and farmers' markets approved in underserved areas. Monthly Farmers' Market Nutrition Program (FMNP) trainings were held to get more growers and markets trained and authorized throughout the year. A newsletter was also developed to provide information on the program and its rules and regulations. CDC 1305 grant activities support the promotion of SNAP electronic benefits transfer (EBT) in farmers' markets by working with pilot markets to increase the number of SNAP transactions and sales redemptions. A marketing outreach plan is implemented with each pilot market that includes SNAP messaging and materials. Training is provided to market managers quarterly and in conjunction with AZ Health Zone partners. An additional objective is to expand distribution

opportunities for local food producers by providing technical assistance in developing and implementing the Good Handling Practices and Good Agricultural Practices (GHP/GAP) certification.

Pinnacle Prevention, a non-profit and close collaborator of BNPA, was awarded the Food Insecurity Nutrition Incentive (FINI) grant, also known as Double Up Food Bucks AZ (DFBA) in 2016. Through this grant, SNAP families receive a \$1:\$1 match, up to \$10, for every SNAP dollar they spend at a DFBA site. This allows SNAP customers to bring home up to \$20 of fruits and vegetables for \$10. DFBA currently operates at farmers' markets, farm stands, mobile markets, and Community Supported Agriculture (CSA) sites and is continually expanding.

Through the CDC 1305 grant, ADHS is also working with nine targeted Local Education Agencies (LEAs) to implement policies and practices that create a supportive nutrition environment, including establishing standards for all competitive foods, prohibiting advertising of unhealthy foods and promoting healthy foods in schools, including those sold and served within school meal programs and other venues. In 2017, ADHS provided a Smarter Lunchroom training to this audience in addition to other public health partners working in the school health environment.

The Empower Program promotes healthy eating in early care and education through training and professional development of child care providers on nutrition-related standards. Through the CDC 1305 grant, the Empower Program launched an advisory group to support best practices for nutrition in ECE, including family-style meals, sodium reduction, limiting fruit juice, nutrition education, Child and Adult Care Food Program (CACFP), and breastfeeding as well as collaborating on action steps that key partners and stakeholders can agree on to move forward the best practices in ECE nutrition. The program used the Empower website to market and promote resources to help sustain changes to the nutrition environment and increase provider capacity. In 2016, Empower was adopted by the Department of Economic Security and expanded to cover certified child care group homes (CCGH).

## **PHYSICAL ACTIVITY STRATEGIES**

The Bureau has adopted strategies that intervene on many levels and target different segments of the population to promote physical activity. Table 31 shows how various Bureau strategies work together with the AZ Health Zone to collectively impact this goal.

Table 31. Physical Activity Strategies by Program/Funding Source				
	WIC	AZ Health Zone	CDC	Empower
A. Workforce Development	●	●	●	●
B. Early Care and Education Policy		●	●	●
C. School Policy		●	●	
D. Worksite Policy			●	
E. Direct Education		●		
F. Built Environment or Places for Physical Activity in the Community		●	●	

Arizona WIC incorporates physical activity lessons into the Nutrition Boot Camp for WIC staff. Using a participant-centered approach, WIC staff assesses clients and offers physical activity messaging during counseling sessions.

The CDC 1305 grant and the AZ Health Zone work together on local wellness policies in schools and are working with LEAs on development, implementation, and evaluation of comprehensive school physical activity programs (CSPAP). In 2017, the AZ Health Zone evaluated local wellness policy implementation, which will be used as a baseline against which future progress will be measured. The CDC 1305 grant also promotes the adoption of physical activity in worksites by identifying and assessing sites that will work on comprehensive worksite wellness policies. Two-day health impact assessment (HIA) trainings were completed through CDC 1305 and 1407 grants with more than 60 participants. The objectives of the training included understanding the six-step HIA process, identifying suitable projects, identifying key stakeholders to involve, and talking to decision makers about HIA recommendations.

The Arizona Department of Health Services also collaborates with the Arizona Alliance for Livable Communities (AALC), which holds meetings once a month. Current HIA awardees attend these meetings to provide updates on their HIA projects. AALC monthly meeting topics focus on strategies for encouraging the use of HIAs and strengthening the monitoring and evaluation of all HIAs conducted in the state. The AALC supports HIA training, technical assistance, and advocacy for Health in All Policies (HiAP).

The Empower Program promotes physical activity in early care and education policy and implementation, focusing on adult-led and free play experiences, active play inside and outside, at least 60 minutes throughout the day for children over age one, tummy time for infants, and screen time guidelines. Empower builds the capacity of child care providers to encourage physical activity throughout the day through training and professional development on physical activity standards.

Although Nemours funding has been discontinued, the program uses the Empower website to market and promote resources to help sustain and increase provider capacity, such as the LMS courses and electronic newsletters described above in the Nutrition Strategies section. Through the CDC 1305 grant, the Empower Program launched an advisory group to support best practices for physical activity in ECE as well as collaborate on action steps that key partners and stakeholders can agree on to move forward the best practices in ECE physical activity.

## FINDINGS 4: UNDERSERVED AREAS AND NEEDIEST AUDIENCE

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On August 22, 1996, President Clinton signed into law "The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (P.L. 104-193)," which requires work in exchange for time-limited assistance.<sup>37</sup> To be eligible for SNAP, work requirements include registering for work, not voluntarily quitting a job or reducing hours, taking a job if offered, and participating in employment and training programs, if assigned by the State. Able-bodied adults without dependents are required to work or participate in a work program for at least 20 hours per week for more than three months in a 36-month period, although some special groups may not be subject to these requirements, including children, seniors, pregnant women, and people who are exempt for physical or mental health reasons.<sup>38</sup> States are able to apply for waivers from these work requirements in areas with high unemployment rates.

An estimated 1,517,872 people in 2016 lived in households with incomes below 130 percent of the federal poverty level. In 2016, three counties in Arizona – Maricopa, Pima, and Yavapai – lost waivers that had been in place due to high unemployment rates. Consequently, 4,902 adults between the ages of 18 and 50 who were unemployed, worked less than 20 hours per week, or had no children living in their homes were removed from the estimate, leaving 1,512,970 who were eligible for SNAP. Less than half of them (44.8 percent, n=677,872) actually received benefits, leaving 55.2 percent unserved, including 404,167 males, 430,931 females, and 129,172 disabled. Data were not available to determine whether some of the people excluded from this analysis could have been pregnant or otherwise exempt from the work requirement.

### EXTREME POVERTY

Thirty-five percent of the SNAP-eligible population lived in extreme poverty in 2016, characterized by household incomes below 50 percent of the federal poverty level. Only half (50.4 percent) of them received SNAP benefits, leaving 263,030 people, or 49.6 percent, who did not. People in extreme poverty represent 31.5 percent of all who are eligible for SNAP but do not receive benefits. Table 32 shows this population by PUMA, showing those in extreme poverty and whether or not they were served by SNAP in 2016.

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<sup>37</sup> <https://aspe.hhs.gov/report/personal-responsibility-and-work-opportunity-reconciliation-act-1996>, accessed on 4/4/2018.

<sup>38</sup> <https://www.fns.usda.gov/snap/eligibility#Who is in a SNAP household?>, accessed on 4/4/2018.

**Table 32. Population in Extreme Poverty Unserved by SNAP**

		<b>Total</b>	<b>Not on SNAP</b>	<b>Percent Unserved</b>
<b>00100</b>	Maricopa County--Gilbert (South) & Queen Creek Towns	3,478	2,666	76.7%
<b>00101</b>	Maricopa County--Mesa City (East)	8,560	6,545	76.5%
<b>00102</b>	Maricopa County--Mesa City (North Central)	9,362	5,502	58.8%
<b>00103</b>	Maricopa County--Mesa City (West)	13,317	8,743	65.7%
<b>00104</b>	Maricopa County--Mesa City (South Central)	11,451	5,823	50.9%
<b>00105</b>	Maricopa County--Gilbert Town (North)	5,753	5,160	89.7%
<b>00106</b>	Maricopa County--Chandler City (Northeast)	4,799	1,556	32.4%
<b>00107</b>	Maricopa County--Chandler City (South)	2,217	2,217	100.0%
<b>00108</b>	Maricopa County--Tempe (South) & Chandler (Northwest) Cities	6,646	2,707	40.7%
<b>00109</b>	Maricopa County--Tempe City (North)	21,982	19,089	86.8%
<b>00110</b>	Maricopa County--Scottsdale City (Southwest) & Paradise Valley Town	6,561	5,635	85.9%
<b>00111</b>	Maricopa County (Northeast)--Scottsdale City (Southeast) & Fountain Hills Town	4,526	3,957	87.4%
<b>00112</b>	Maricopa County--Scottsdale (North), Phoenix (Far Northeast) Cities & Cave Creek	3,843	3,843	100.0%
<b>00113</b>	Phoenix City (Northeast)	4,253	1,907	44.8%
<b>00114</b>	Phoenix City (Northeast Central)	8,376	3,411	40.7%
<b>00115</b>	Phoenix City (Northwest Central)	10,605	4,804	45.3%
<b>00116</b>	Phoenix City (Uptown)	15,633	8,093	51.8%
<b>00117</b>	Phoenix City (East)	7,009	3,738	53.3%
<b>00118</b>	Phoenix City--Downtown & Sky Harbor International Airport	16,722	5,625	33.6%
<b>00119</b>	Phoenix City (South)	19,530	5,862	30.0%
<b>00120</b>	Phoenix City--Ahwatukee & South Mountain	4,836	1,868	38.6%
<b>00121</b>	Phoenix (Southwest) & Tolleson Cities	8,233	4,193	50.9%
<b>00122</b>	Phoenix City--Maryvale (East)	15,507	4,024	25.9%
<b>00123</b>	Phoenix City--Maryvale (West)	14,584	4,916	33.7%
<b>00124</b>	Maricopa County--Glendale City (South)	15,637	7,038	45.0%
<b>00125</b>	Phoenix City (West)	9,388	3,103	33.1%
<b>00126</b>	Maricopa County--Glendale City (North)	10,963	4,185	38.2%
<b>00127</b>	Maricopa County--Peoria City (South & Central)	5,831	3,314	56.8%
<b>00128</b>	Phoenix City (North)	4,419	3,441	77.9%
<b>00129</b>	Phoenix (Far North) & Peoria (Northwest) Cities	3,762	2,804	74.5%
<b>00130</b>	Maricopa County--El Mirage City & Sun City	6,130	4,376	71.4%
<b>00131</b>	Maricopa County--Surprise City (Central)	8,080	5,802	71.8%
<b>00132</b>	Maricopa County--Goodyear, Glendale (West) & Litchfield Park (Northwest) Cities	2,368	2,116	89.4%



**Table 32. Population in Extreme Poverty Unserved by SNAP**

		<b>Total</b>	<b>Not on SNAP</b>	<b>Percent Unserved</b>
<b>00133</b>	Maricopa County--Avondale (Central) & Litchfield Park (Central) Cities	6,975	3,019	43.3%
<b>00134</b>	Maricopa County (West) & Gila River Indian Community (Northwest)	8,250	5,699	69.1%
<b>00201</b>	Pima County (West)	8,406	2,864	34.1%
<b>00202</b>	Tucson (West) & Marana Cities	7,969	4,225	53.0%
<b>00203</b>	Pima County (North Central)--Oro Valley Town	3,593	2,474	68.9%
<b>00204</b>	Pima County (Northeast)	5,083	4,716	92.8%
<b>00205</b>	Pima County (Southeast)--Tucson City (Far Southeast) & Sahuarita Town	4,344	3,582	82.5%
<b>00206</b>	Tucson City (Northeast)	11,051	4,578	41.4%
<b>00207</b>	Tucson City (Northwest)	13,047	8,587	65.8%
<b>00208</b>	Tucson City (South)	11,629	3,998	34.4%
<b>00209</b>	Tucson City (Southeast)	11,275	4,232	37.5%
<b>00300</b>	Navajo & Apache Counties	32,042	8,259	25.8%
<b>00400</b>	Coconino County--Flagstaff City	13,036	8,208	63.0%
<b>00500</b>	Yavapai County	14,187	9,107	64.2%
<b>00600</b>	Mohave & La Paz Counties--Lake Havasu City	14,542	6,547	45.0%
<b>00700</b>	Yuma County--Yuma City	11,524	4,187	36.3%
<b>00800</b>	Gila, Graham, Greenlee & Pinal (East) Counties	11,335	5,101	45.0%
<b>00803</b>	Pinal County (North)--Apache Junction City	6,380	4,002	62.7%
<b>00805</b>	Pinal County (Central)--Florence Town, Eloy (Northeast) & Coolidge Cities	7,913	3,210	40.6%
<b>00807</b>	Pinal County (West)--Maricopa, Casa Grande & Eloy (Southeast) Cities	16,611	4,996	30.1%
<b>00900</b>	Cochise & Santa Cruz Counties--Sierra Vista City	16,911	3,376	20.0%
	<b>Arizona</b>	<b>530,464</b>	<b>263,030</b>	<b>49.6%</b>

### **CHARACTERISTICS OF THE UNDERSERVED BY SNAP**

The remainder of this section focuses on the entire population of people who are eligible for SNAP and the characteristics of those who do not receive SNAP benefits by age, race, Hispanic ethnicity, English language ability, education, and geographic area. For each topic, both underserved rates and the distribution of the underserved are presented. Rates show the percent of each subgroup that does not receive SNAP benefits, which helps in understanding the relative risk that is borne by each subgroup. However, because some subgroups are bigger than others, a higher rate of risk does not necessarily translate into a larger population of underserved people. The distribution of the underserved by subgroup puts into perspective the overall numbers of people that are represented by each subgroup among the underserved.

## AGE GROUP

Children below the age of 18 are more likely than adults to receive SNAP benefits for which they are eligible, while adults, especially young adults between the ages of 18 and 26 and older adults are most likely to be among the underserved by SNAP (see Figure 31).

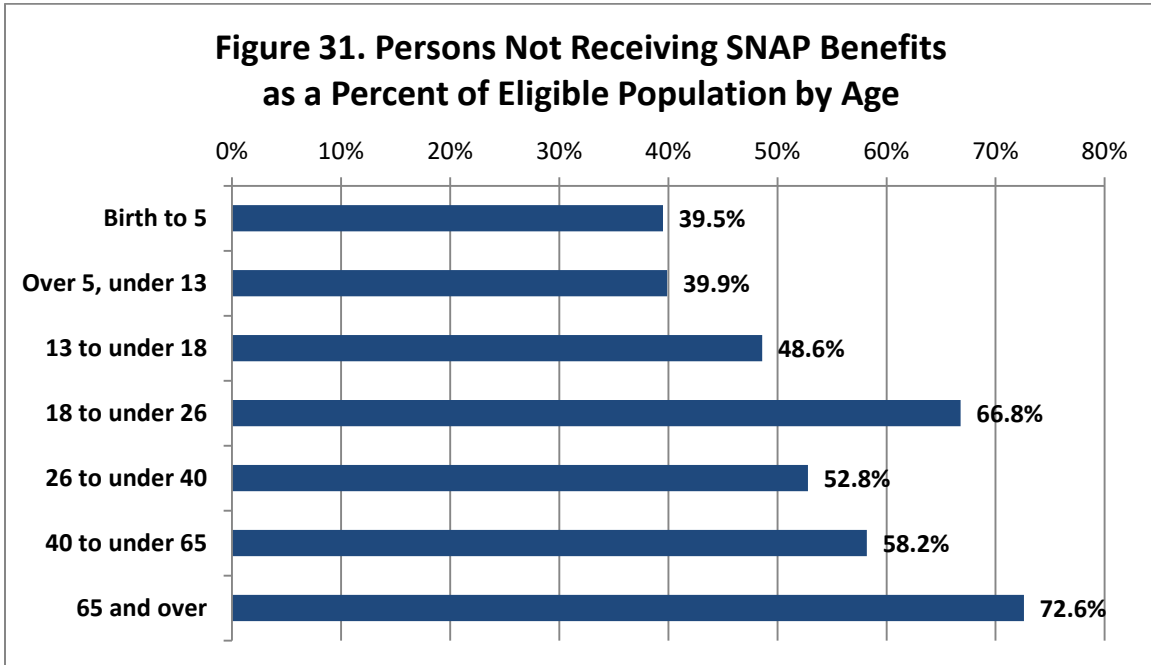
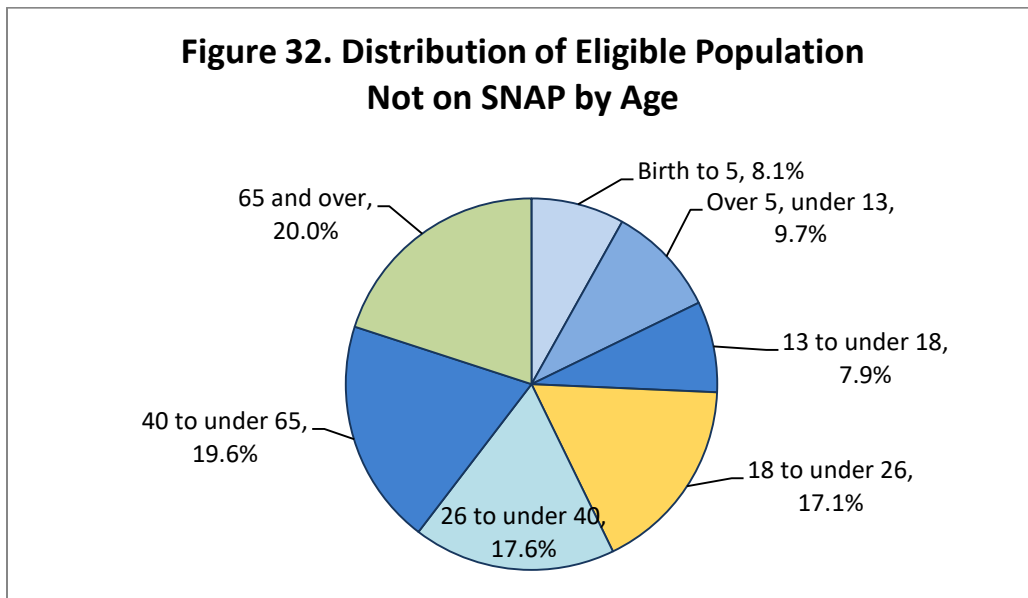


Figure 32 shows the distribution of all people who are eligible but do not receive SNAP benefits by age.



### RACE AND HISPANIC ETHNICITY

Within racial groups, Asians, Native Hawaiian and other Pacific Islanders, and Whites are less likely to be receiving SNAP benefits for which they are eligible than other racial groups (see Figure 33).

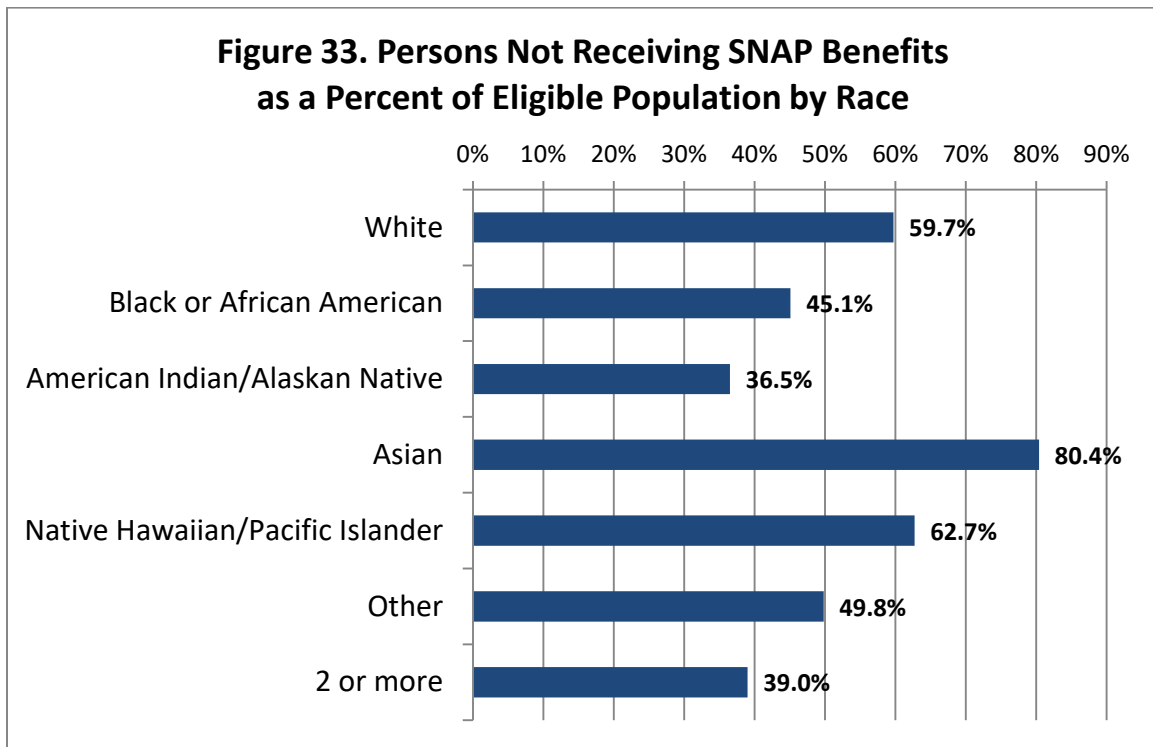
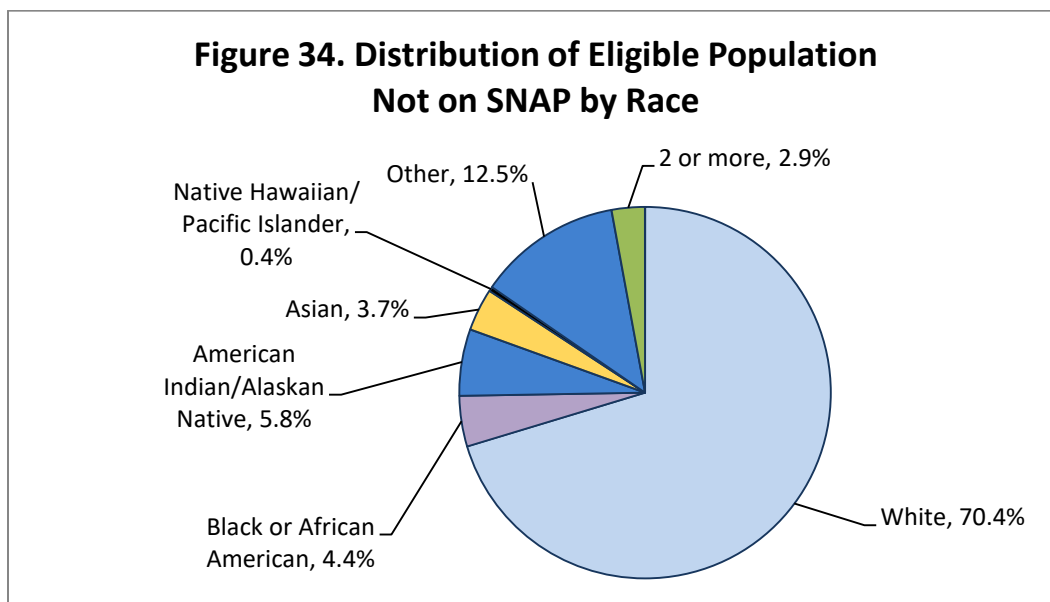


Figure 34 shows the distribution by race of the population who is eligible but does not receive SNAP benefits.



Eligible Hispanics were more likely to be on SNAP (50.1 percent), compared to 40.5 percent of non-Hispanics. Of all those who were eligible but not on SNAP, 40.6 percent were Hispanic and 59.4 percent were not.

**ENGLISH ABILITY**

It is not clear how English-speaking ability may affect receiving SNAP benefits. Approximately half of the eligible population who reported being able to speak English very well and 52.6 percent of those who reported speaking English not at all did not receive SNAP benefits for which they were eligible, while those who reported speaking English either well or not well were underserved (see Figure 35).

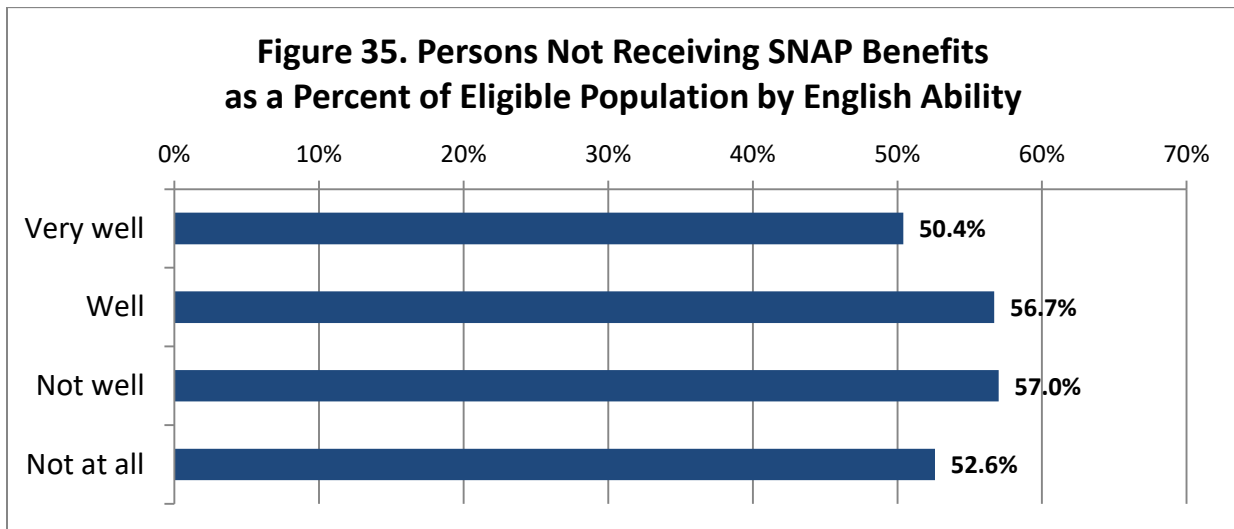
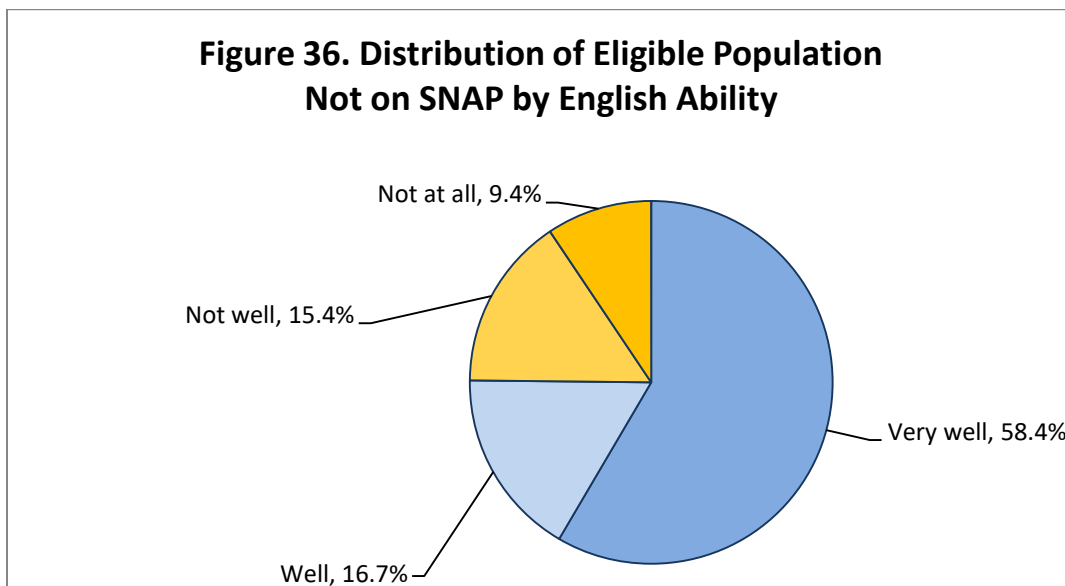


Figure 36 shows that among those who are eligible for SNAP but do not receive benefits, most speak English either very well or well, with one in four saying they speak English either not well or not at all.



### EDUCATIONAL ATTAINMENT

There was an inverse relationship between educational attainment and receipt of SNAP benefits among the SNAP-eligible population. The likelihood of receiving benefits decreased with each higher level of educational attainment (see Figure 37).

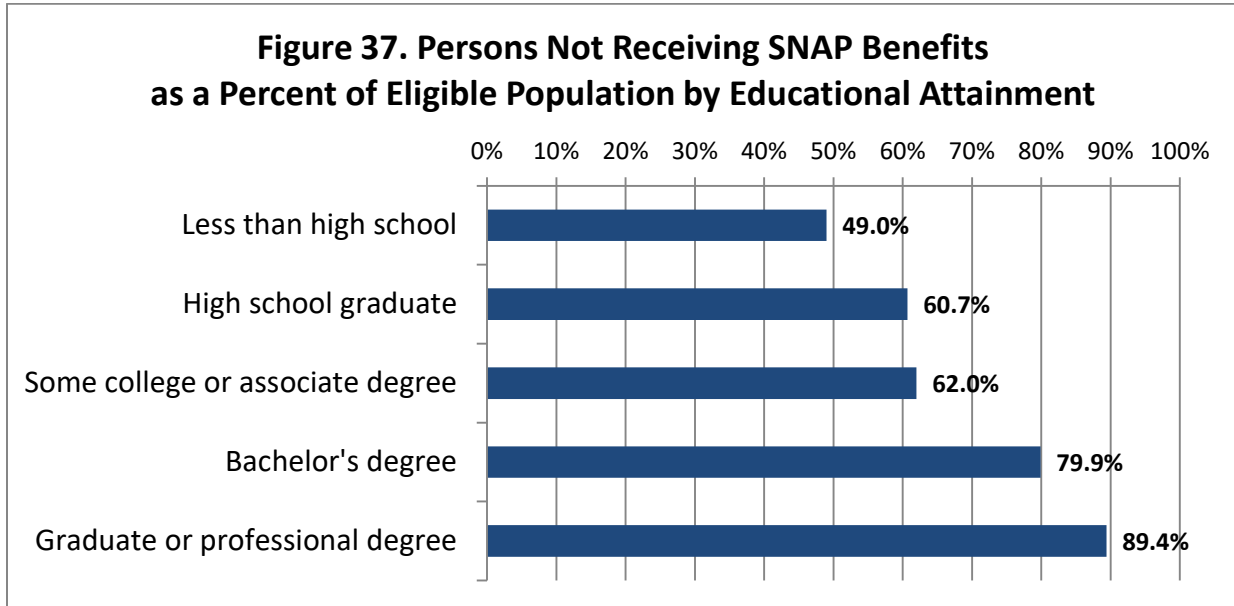
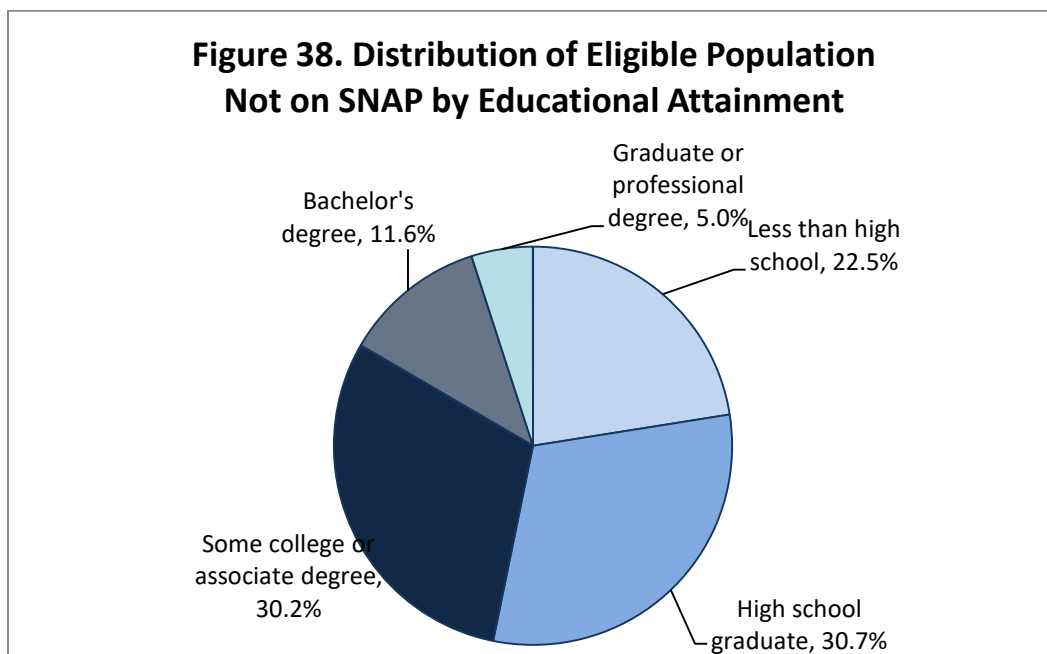


Figure 38 shows that most of those who are eligible for SNAP benefits but do not receive them are high school graduates and many have some college. Only 22.5 percent have less than a high school diploma.



## GEOGRAPHICAL AREA

In some areas of the state, people who are eligible for SNAP benefits are less likely to receive them, leaving pockets of unserved in various geographical areas. Table 33 shows the number of people who are eligible for SNAP within each PUMA, the number of them who are not on SNAP, and the percentage of the eligible population who does not receive benefits for which they are eligible.

**Table 33. Percent of SNAP-Eligible Population Receiving SNAP Benefits by PUMA**

PUMA	PUMA NAME	SNAP-Eligible	Not on SNAP	Percent Unserved
00100	Maricopa County--Gilbert (South) & Queen Creek Towns	7,568	6,324	83.6%
00101	Maricopa County--Mesa City (East)	24,076	17,755	73.7%
00102	Maricopa County--Mesa City (North Central)	27,251	18,013	66.1%
00103	Maricopa County--Mesa City (West)	36,445	23,876	65.5%
00104	Maricopa County--Mesa City (South Central)	27,366	15,258	55.8%
00105	Maricopa County--Gilbert Town (North)	16,947	15,433	91.1%
00106	Maricopa County--Chandler City (Northeast)	20,636	13,185	63.9%
00107	Maricopa County--Chandler City (South)	7,158	6,949	97.1%
00108	Maricopa County--Tempe (South) & Chandler (Northwest) Cities	12,901	6,284	48.7%
00109	Maricopa County--Tempe City (North)	36,225	31,206	86.1%
00110	Maricopa County--Scottsdale City (Southwest) & Paradise Valley Town	17,644	13,578	77.0%
00111	Maricopa County (Northeast)--Scottsdale City (Southeast) & Fountain Hills Town	13,842	10,566	76.3%
00112	Maricopa County--Scottsdale (North), Phoenix (Far Northeast) Cities & Cave Creek	7,069	7,004	99.1%
00113	Phoenix City (Northeast)	12,476	6,663	53.4%
00114	Phoenix City (Northeast Central)	30,354	15,615	51.4%
00115	Phoenix City (Northwest Central)	28,249	14,093	49.9%
00116	Phoenix City (Uptown)	36,990	17,041	46.1%
00117	Phoenix City (East)	20,034	11,807	58.9%
00118	Phoenix City--Downtown & Sky Harbor International Airport	44,950	19,876	44.2%
00119	Phoenix City (South)	43,698	21,242	48.6%
00120	Phoenix City--Ahwatukee & South Mountain	11,978	7,518	62.8%
00121	Phoenix (Southwest) & Tolleson Cities	34,929	19,461	55.7%
00122	Phoenix City--Maryvale (East)	53,225	17,965	33.8%
00123	Phoenix City--Maryvale (West)	56,155	28,723	51.1%
00124	Maricopa County--Glendale City (South)	35,652	18,096	50.8%
00125	Phoenix City (West)	38,786	15,017	38.7%
00126	Maricopa County--Glendale City (North)	20,781	11,524	55.5%

**Table 33. Percent of SNAP-Eligible Population Receiving SNAP Benefits by PUMA**

<b>PUMA</b>	<b>PUMA NAME</b>	<b>SNAP-Eligible</b>	<b>Not on SNAP</b>	<b>Percent Unserved</b>
00127	Maricopa County--Peoria City (South & Central)	16,967	11,157	65.8%
00128	Phoenix City (North)	12,779	8,401	65.7%
00129	Phoenix (Far North) & Peoria (Northwest) Cities	8,533	7,070	82.9%
00130	Maricopa County--El Mirage City & Sun City	22,225	16,008	72.0%
00131	Maricopa County--Surprise City (Central)	16,748	13,446	80.3%
00132	Maricopa County--Goodyear, Glendale (West) & Litchfield Park (Northwest) Cities	10,243	8,971	87.6%
00133	Maricopa County--Avondale (Central) & Litchfield Park (Central) Cities	22,546	11,838	52.5%
00134	Maricopa County (West) & Gila River Indian Community (Northwest)	21,809	14,187	65.1%
00201	Pima County (West)	31,945	14,676	45.9%
00202	Tucson (West) & Marana Cities	26,218	17,627	67.2%
00203	Pima County (North Central)--Oro Valley Town	14,649	10,493	71.6%
00204	Pima County (Northeast)	12,286	11,207	91.2%
00205	Pima County (Southeast)--Tucson City (Far Southeast) & Sahuarita Town	12,943	9,849	76.1%
00206	Tucson City (Northeast)	27,975	13,553	48.4%
00207	Tucson City (Northwest)	40,560	21,143	52.1%
00208	Tucson City (South)	47,258	20,157	42.7%
00209	Tucson City (Southeast)	23,720	11,586	48.8%
00300	Navajo & Apache Counties	69,621	26,280	37.7%
00400	Coconino County--Flagstaff City	33,463	19,844	59.3%
00500	Yavapai County	43,881	31,273	71.3%
00600	Mohave & La Paz Counties--Lake Havasu City	54,204	22,790	42.0%
00700	Yuma County--Yuma City	52,803	23,916	45.3%
00800	Gila, Graham, Greenlee & Pinal (East) Counties	31,265	18,302	58.5%
00803	Pinal County (North)--Apache Junction City	21,331	15,865	74.4%
00805	Pinal County (Central)--Florence Town, Eloy (Northeast) & Coolidge Cities	19,407	9,931	51.2%
00807	Pinal County (West)--Maricopa, Casa Grande & Eloy (Southeast) Cities	42,879	20,145	47.0%
00900	Cochise & Santa Cruz Counties--Sierra Vista City	51,327	15,311	29.8%
	<b>Arizona</b>	<b>1,512,970</b>	<b>835,098</b>	<b>55.2%</b>

## **TRIBAL AREAS UNDERSERVED BY SNAP-Ed**

The FFY2016-2018 multiyear plan attempted to address the underserved tribal communities throughout the state by allocating special dollars to serve this audience. Many Local Implementing Agencies include plans to work with various tribal communities in their work plans, and some mention working with Native Americans without mentioning specific tribes or reservations. In an attempt to assess gaps in coverage for reservations across the state, the AZ Health Zone put together a worksheet in December of 2015 to identify gaps in coverage for specific reservations. Out of Arizona's 21 reservations, 6 were not mentioned in any Local Implementing Agencies' work plans:

- Fort McDowell Yavapai Nation
- Fort Yuma Indian Reservation
- Havasupai Indian Reservation
- Tonto Apache Reservation
- Yavapai-Prescott Reservation
- Zuni Heaven Reservation



## FINDINGS 5: IMPLICATIONS

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The AZ Health Zone is midway through its current grant cycle. Since the last formal needs assessment in 2015, the AZ Health Zone began to shift its focus more towards policy, systems, and environmental (PSE) change. Local Implementing Agencies (LIAs) have begun to integrate more of these strategies into their planning processes. The program now has two years of evaluation data since the new scope of work redirected efforts towards more targeted community strategies. Population-level changes to behavioral outcomes cannot be expected at this point, but evaluation data is showing promising areas of progress. The State Implementation Team will focus efforts over the next two years on the following areas:

- Training – Capacity Building
- Collective Impact
- Preparation for FFY2021-2025 State Plan

While the AZ Health Zone has allocated significant resources to training in recent years, there continues to be a need for capacity building for Local Implementing Agency staff and community partners. Local Implementing Agency staff has grasped the concept of policy, systems, and environmental (PSE) changes; however, it appears that collaborative partners may not fully understand this concept and the high turnover among many partnering organizations exacerbates this issue. Opportunities to enhance the development of soft skills, such as community engagement, have been identified within LIAs and community partners.

The AZ Health Zone officially launched the State Nutrition Action Committee (SNAC) in June 2017. The SNAC has elected to use the *collective impact* model so as to engage multisector partners in reducing obesity and chronic disease in Arizona. The steering committee finalized a mission and vision as well as key goal areas. Workgroups began to form in FFY2018 to identify measurable goals and establish action plans.

**Vision:** Coordination efforts for a healthy, active Arizona!

**Mission:** Strategically align nutrition and physical activity efforts across programs to ensure that all Arizonans have equal access to knowledge, as well as the ability to make choices to live a healthy lifestyle.

**Goal Areas:**

1. Physical Activity Behaviors
2. Healthy Eating Behaviors
3. Breastfeeding
4. Maximize Reach and Utilization of Resources by Eligible Persons
5. Consistency of Messaging Across Partners

Goal Area 4 should address the eligible subpopulations that are currently underserved by SNAP. Partnership development and expansion will continue to be a focus in the coming years – particularly in unrepresented sectors. Changes in targeted behaviors at the population level are expected to improve as alignment across sectors improves.

In the LIA scope of work for FFY2016-2020, the AZ Health Zone allocated \$1 million for work targeting Native Americans. Unfortunately, the AZ Health Zone was unable to directly award funds to a tribe. Consequently, together with the ADHS Native American Liaison, the AZ Health Zone will be completing multiple tribal consultations to understand what steps must be taken to directly award funds to tribes for these efforts by FFY2021.

Also in preparation for FFY2021, the AZ Health Zone will begin exploring evidence-based strategies to add to the Local Implementing Agency scope of work. Potential strategies include addressing sugar-sweetened beverages and food standards at community sites. While there are activities under existing strategies that can be used to address these topics, the program will benefit from delineating more specific strategies and enhanced evaluation. The AZ Health Zone is planning to engage the community and analyze best practices throughout the country, similar to the process used in FFY2015.

## Appendix A: County Statistics

Table 1: Population, Density, Persons per Household, Mobility by County

Table 2: Total Births, AHCCCS Births, and AHCCCS Births as a Percent of All Births by County

Table 3: Income and Poverty, Disability, and No Health Insurance by County

Table 4: Race and Hispanic Origin by County

Table 5: Age and Sex by County

Table 6: Education by County

Table 7: Overweight and Obesity among Children Age 2-4 in WIC by County

Table 8: Active Transportation to Work by Public Use Microdata Area

Table 9: Census Tracts Identified as Low-Income Low Access Food Deserts

<b>Table 1. Population, Density, Persons per Household, Mobility</b>					
<b>County</b>	<b>Total Population (July 2016)</b>	<b>Change Since April 2010</b>	<b>Per Square Mile in 2010</b>	<b>Persons per household (2012-2016)</b>	<b>Living in Same House 1 Year Ago (2012-2016)</b>
Apache	73,112	2.2%	6.4	3.67	93.5%
Cochise	125,770	-4.3%	21.3	2.38	81.3%
Coconino	140,908	4.8%	7.2	2.67	77.9%
Gila	53,556	-0.1%	11.3	2.44	83.9%
Graham	37,599	1.0%	8.1	3.04	82.0%
Greenlee	9,613	13.9%	4.6	2.77	83.0%
LaPaz	20,317	-0.8%	4.6	2.18	91.7%
Maricopa	4,242,997	11.2%	414.9	2.75	82.1%
Mohave	205,249	2.5%	15.0	2.4	78.8%
Navajo	110,026	2.4%	10.8	3.10	85.8%
Pima	1,016,206	3.7%	106.7	2.47	79.4%
Pinal	418,540	11.4%	70.0	2.86	80.8%
Santa Cruz	45,985	-3.0%	38.3	2.97	87.0%
Yavapai	225,562	6.9%	26.0	2.29	81.9%
Yuma	205,631	5.0%	35.5	2.78	81.9%
Arizona	<b>7,016,270 (2017)</b>	<b>9.8%</b>	<b>56.3</b>	<b>2.69</b>	<b>81.7%</b>

Source: U. S. Census Bureau QuickFacts, accessed at <https://www.census.gov/quickfacts/fact/table>, on 2/19/2018.

<b>Table 2. Total Births, AHCCCS Births, and AHCCCS Births as a Percent of All Births by County: 2017</b>			
	<b>Births</b>	<b>AHCCCS</b>	<b>% AHCCCS Births</b>
<b>Apache</b>	935	707	75.6%
<b>Cochise</b>	1,330	687	51.7%
<b>Coconino</b>	1,503	865	57.6%
<b>Gila</b>	540	320	59.3%
<b>Graham</b>	530	255	48.1%
<b>Greenlee</b>	156	56	35.9%
<b>LaPaz</b>	194	139	71.6%
<b>Maricopa</b>	52,499	27,096	51.6%
<b>Mohave</b>	1,736	1,182	68.1%
<b>Navajo</b>	1,505	1,089	72.4%
<b>Pima</b>	10,961	5,425	49.5%
<b>Pinal</b>	4,382	2,155	49.2%
<b>Santa Cruz</b>	633	467	73.8%
<b>Yavapai</b>	1,797	1,091	60.7%
<b>Yuma</b>	2,958	1,848	62.5%
<b>Arizona</b>	81,667	43,387	53.1%

Source: Preliminary Arizona birth certificates data for 2017.

<b>Table 3. Income and Poverty, Disability, and No Health Insurance</b>					
<b>County</b>	<b>Median Household Income (in 2016 dollars), 2012-2016</b>	<b>Per Capita Income in Past 12 Months (in 2016 dollars), 2012-2016</b>	<b>Persons in Poverty, Percent (2016)</b>	<b>With a Disability Under Age 65 2016</b>	<b>No Health Insurance 2012-2016</b>
<b>Apache</b>	32,460	13,428	33.2%	9.8%	17.5%
<b>Cochise</b>	45,383	23,757	21.1%	11.3%	10.7%
<b>Coconino</b>	51,106	24,711	17.8%	8.5%	14.6%
<b>Gila</b>	40,593	21,470	20.3%	15.3%	13.6%
<b>Graham</b>	47,422	17,710	22.9%	8.3%	11.6%
<b>Greenlee</b>	51,813	23,778	12.0%	8.3%	7.3%
<b>LaPaz</b>	36,321	21,447	24.8%	13.8%	21.1%
<b>Maricopa</b>	55,676	28,791	15.0%	7.2%	12.5%
<b>Mohave</b>	39,856	22,026	18.3%	15.2%	14.0%
<b>Navajo</b>	36,868	16,564	28.2%	12.7%	15.6%
<b>Pima</b>	46,764	26,204	18.2%	10.2%	12.2%
<b>Pinal</b>	51,190	21,982	15.4%	10.0%	12.6%
<b>Santa Cruz</b>	38,941	18,860	20.9%	7.3%	15.0%
<b>Yavapai</b>	46,638	26,584	13.3%	12.7%	13.2%
<b>Yuma</b>	41,467	19,483	19.3%	6.6%	17.4%
<b>Arizona</b>	<b>51,340</b>	<b>26,686</b>	<b>16.4%</b>	<b>8.4%</b>	<b>11.9%</b>

Source: U. S. Census Bureau QuickFacts, accessed at <https://www.census.gov/quickfacts/fact/table>, on 2/19/2018.

**Table 4. Race and Hispanic Origin: 2016**

County	White alone	Black or African American alone	American Indian and Alaska Native alone	Asian alone	Native Hawaiian and Other Pacific Islander alone	Two or More Races	Hispanic or Latino**	White alone, not Hispanic or Latino	Language other than English Spoken in Home***
Apache	22.0%	0.6%	75.4%	0.4%	*	1.6%	5.9%	18.0%	54.4%
Cochise	87.9%	4.6%	1.8%	2.2%	0.4%	3.1%	35.0%	55.7%	29.0%
Coconino	66.1%	1.4%	27.5%	1.9%	0.2%	2.8%	13.8%	54.7%	23.8%
Gila	79.3%	0.8%	17.2%	0.9%	0.1%	1.7%	18.6%	62.8%	15.9%
Graham	81.2%	2.0%	14.0%	0.7%	0.2%	1.9%	32.6%	51.0%	21.0%
Greenlee	90.7%	2.0%	3.7%	0.9%	0.1%	2.7%	46.1%	47.4%	23.2%
LaPaz	76.2%	1.2%	18.5%	0.9%	0.1%	3.1%	26.9%	57.5%	19.6%
Maricopa	83.7%	6.0%	2.8%	4.3%	0.3%	2.9%	30.7%	56.1%	26.4%
Mohave	92.1%	1.2%	3.0%	1.2%	0.2%	2.4%	16.2%	77.7%	11.3%
Navajo	49.9%	0.9%	46.2%	0.7%	0.1%	2.1%	11.2%	41.2%	37.3%
Pima	85.3%	4.1%	4.3%	3.2%	0.2%	2.9%	36.8%	52.5%	28.6%
Pinal	83.2%	5.0%	6.6%	1.9%	0.4%	2.8%	29.4%	57.8%	20.7%
Santa Cruz	96.1%	0.9%	1.45%	0.7%	0.1%	0.8%	83.3%	15.1%	77.5%
Yavapai	93.6%	0.9%	2.1%	1.1%	0.1%	2.2%	14.4%	80.8%	10.3%
Yuma	91.3%	2.7%	2.3%	1.5%	0.3%	2.0%	62.8%	31.9%	52.3%
<b>Arizona</b>	<b>83.3%</b>	<b>4.9%</b>	<b>5.4%</b>	<b>3.4%</b>	<b>0.3%</b>	<b>2.8%</b>	<b>30.9%</b>	<b>55.5%</b>	<b>26.9%</b>

Source: U. S. Census Bureau QuickFacts, accessed at <https://www.census.gov/quickfacts/fact/table>, on 2/19/2018.

\*More than 0, but less than .05 percent

\*\*Hispanics may be of any race, so also are included in applicable race categories.

\*\*\*2012-2016 for persons age 5 years and over

<b>Table 5. Age and Sex: July 2016</b>				
<b>County</b>	<b>Under 5 Years</b>	<b>Under 18 Years</b>	<b>Persons 65 and Older</b>	<b>Female Persons</b>
<b>Apache</b>	6.9%	28.8%	14.2%	50.8%
<b>Cochise</b>	6.1%	22.0%	21.3%	49.0%
<b>Coconino</b>	5.8%	21.2%	11.9%	50.7%
<b>Gila</b>	5.9%	20.4%	27.9%	50.4%
<b>Graham</b>	7.5%	27.9%	13.0%	46.4%
<b>Greenlee</b>	7.7%	28.3%	11.9%	48.3%
<b>LaPaz</b>	4.9%	17.2%	37.8%	49.0%
<b>Maricopa</b>	6.6%	24.5%	14.6%	50.6%
<b>Mohave</b>	4.5%	17.9%	28.6%	49.6%
<b>Navajo</b>	7.2%	27.3%	16.9%	49.8%
<b>Pima</b>	5.8%	21.4%	19.1%	50.8%
<b>Pinal</b>	5.9%	23.5%	20.0%	48.1%
<b>Santa Cruz</b>	6.9%	27.6%	17.3%	52.2%
<b>Yavapai</b>	4.3%	16.7%	30.1%	51.2%
<b>Yuma</b>	7.3%	25.4%	18.5%	48.5%
<b>Arizona</b>	<b>6.3%</b>	<b>23.5%</b>	<b>16.9%</b>	<b>50.3%</b>

Source: U. S. Census Bureau QuickFacts, accessed at [https://www.census.gov/quickfacts/fact/table\\_](https://www.census.gov/quickfacts/fact/table_) on 2/19/2018.



<b>Table 6. Education (2012-2016)</b>		
<b>County</b>	<b>High School or More</b>	<b>Bachelor's Degree or More</b>
<b>Apache</b>	78.2	11.1
<b>Cochise</b>	86.6	23.2
<b>Coconino</b>	88.9	34.2
<b>Gila</b>	84.3	17.7
<b>Graham</b>	85.4	13.3
<b>Greenlee</b>	87.9	12.2
<b>LaPaz</b>	75.2	10.4
<b>Maricopa</b>	86.9	31.0
<b>Mohave</b>	83.9	11.9
<b>Navajo</b>	81.5	14.5
<b>Pima</b>	87.7	30.8
<b>Pinal</b>	84.9	18.5
<b>Santa Cruz</b>	74.8	22.5
<b>Yavapai</b>	90.2	25.5
<b>Yuma</b>	71.7	14.4
<b>Arizona</b>	<b>86.2</b>	<b>28.0</b>

Source: U. S. Census Bureau QuickFacts, accessed at <https://www.census.gov/quickfacts/fact/table>, on 2/19/2018.

<b>Table 7. Overweight and Obesity among Children Age 2-4 in WIC by County</b>			
	<b>Obese</b>	<b>Overweight</b>	<b>Total Children</b>
<b>Apache</b>	5.1%	15.2%	79
<b>Cochise</b>	11.5%	14.6%	680
<b>Coconino</b>	9.9%	14.1%	375
<b>Gila</b>	11.8%	15.8%	203
<b>Graham</b>	15.3%	20.1%	209
<b>Greenlee</b>	23.8%	11.1%	63
<b>Maricopa</b>	11.8%	16.2%	19,122
<b>Mohave</b>	11.1%	16.6%	751
<b>Navajo</b>	19.0%	10.9%	294
<b>Pima</b>	12.3%	16.5%	4,095
<b>Pinal</b>	13.4%	15.9%	2,023
<b>Santa Cruz</b>	12.9%	13.7%	498
<b>Yavapai</b>	10.9%	15.7%	705
<b>Yuma</b>	13.9%	13.6%	1,716
<b>La Paz</b>	*	*	*
<b>Arizona</b>	12.2%	15.9%	344,231

\* Too few cases to report

Source: Arizona WIC Program Data

**Table 8. Active Transportation to Work by PUMA: 2016**

PUMA	PUMANAME	Active (Walk, Bus, or Bicycle)	Work Outside Home	Percent Active
00100	Maricopa County--Gilbert (South) & Queen Creek Towns	11	6,051	0.2%
00101	Maricopa County--Mesa City (East)	512	9,234	5.5%
00102	Maricopa County--Mesa City (North Central)	1,080	14,676	7.4%
00103	Maricopa County--Mesa City (West)	1,889	19,268	9.8%
00104	Maricopa County--Mesa City (South Central)	918	12,348	7.4%
00105	Maricopa County--Gilbert Town (North)	62	6,087	1.0%
00106	Maricopa County--Chandler City (Northeast)	282	9,240	3.1%
00107	Maricopa County--Chandler City (South)	10	2,553	0.4%
00108	Maricopa County--Tempe (South) & Chandler (Northwest) Cities	989	8,069	12.3%
00109	Maricopa County--Tempe City (North)	4,233	17,411	24.3%
00110	Maricopa County--Scottsdale City (Southwest) & Paradise Valley Town	1,238	8,634	14.3%
00111	Maricopa County (Northeast)--Scottsdale City (Southeast) & Fountain Hills Town	201	3,872	5.2%
00112	Maricopa County--Scottsdale (North), Phoenix (Far Northeast) Cities & Cave Creek	331	2,792	11.9%
00113	Phoenix City (Northeast)	137	4,950	2.8%
00114	Phoenix City (Northeast Central)	1,431	12,103	11.8%
00115	Phoenix City (Northwest Central)	1,117	12,604	8.9%
00116	Phoenix City (Uptown)	2,275	14,767	15.4%
00117	Phoenix City (East)	1,229	10,706	11.5%
00118	Phoenix City--Downtown & Sky Harbor International Airport	3,006	19,244	15.6%
00119	Phoenix City (South)	989	12,460	7.9%
00120	Phoenix City--Ahwatukee & South Mountain	365	7,146	5.1%
00121	Phoenix (Southwest) & Tolleson Cities	1,449	18,450	7.9%
00122	Phoenix City--Maryvale (East)	2,736	23,278	11.8%
00123	Phoenix City--Maryvale (West)	1,634	28,129	5.8%
00124	Maricopa County--Glendale City (South)	1,328	13,593	9.8%
00125	Phoenix City (West)	891	18,320	4.9%
00126	Maricopa County--Glendale City (North)	631	8,144	7.7%
00127	Maricopa County--Peoria City (South & Central)	239	6,920	3.5%
00128	Phoenix City (North)	39	5,178	0.8%
00129	Phoenix (Far North) & Peoria (Northwest) Cities	254	6,228	4.1%

**Table 8. Active Transportation to Work by PUMA: 2016**

PUMA	PUMANAME	Active (Walk, Bus, or Bicycle)	Work Outside Home	Percent Active
00130	Maricopa County--El Mirage City & Sun City	0	6,735	0.0%
00131	Maricopa County--Surprise City (Central)	139	5,403	2.6%
00132	Maricopa County--Goodyear, Glendale (West) & Litchfield Park (Northwest) Cities	116	4,163	2.8%
00133	Maricopa County--Avondale (Central) & Litchfield Park (Central) Cities	213	10,142	2.1%
00134	Maricopa County (West) & Gila River Indian Community (Northwest)	323	6,770	4.8%
00201	Pima County (West)	250	11,650	2.1%
00202	Tucson (West) & Marana Cities	944	9,578	9.9%
00203	Pima County (North Central)--Oro Valley Town	554	7,289	7.6%
00204	Pima County (Northeast)	150	3,503	4.3%
00205	Pima County (Southeast)--Tucson City (Far Southeast) & Sahuarita Town	107	6,535	1.6%
00206	Tucson City (Northeast)	2,276	14,820	15.4%
00207	Tucson City (Northwest)	4,490	20,559	21.8%
00208	Tucson City (South)	1,529	18,576	8.2%
00209	Tucson City (Southeast)	1,286	12,456	10.3%
00300	Navajo & Apache Counties	2,505	14,285	17.5%
00400	Coconino County--Flagstaff City	2,308	14,635	15.8%
00500	Yavapai County	768	15,774	4.9%
00600	Mohave & La Paz Counties--Lake Havasu City	794	17,338	4.6%
00700	Yuma County--Yuma City	2,728	23,165	11.8%
00800	Gila, Graham, Greenlee & Pinal (East) Counties	839	10,613	7.9%
00803	Pinal County (North)--Apache Junction City	145	7,422	2.0%
00805	Pinal County (Central)--Florence Town, Eloy (Northeast) & Coolidge Cities	697	5,542	12.6%
00807	Pinal County (West)--Maricopa, Casa Grande & Eloy (Southeast) Cities	544	13,895	3.9%
00900	Cochise & Santa Cruz Counties--Sierra Vista City	492	15,900	3.1%
	<b>Arizona</b>	<b>55,703</b>	<b>619,203</b>	<b>9.0%</b>

Source: Source: U. S. Census Bureau American Community Survey PUMS data for 2016.

<b>Table 9. Census Tracts Identified as Low-Income Low Access Food Deserts</b>				
<b>County</b>	<b>Low-Income Low Access Census Tracts</b>	<b>Total Number of Census Tracts</b>	<b>Percent of Tracts identified as Low Income Low Access</b>	<b>Percent of Population Living in Food Deserts</b>
<b>Apache</b>	12	16	75.0%	41.7%
<b>Cochise</b>	12	32	37.5%	15.4%
<b>Coconino</b>	10	28	35.7%	14.0%
<b>Gila</b>	8	16	50.0%	17.8%
<b>Graham</b>	1	9	11.1%	22.8%
<b>Greenlee</b>	1	3	33.3%	28.8%
<b>La Paz</b>	2	8	25.0%	18.0%
<b>Maricopa</b>	98	913	10.7%	5.7%
<b>Mohave</b>	20	43	46.5%	20.1%
<b>Navajo</b>	17	31	54.8%	26.4%
<b>Pima</b>	28	241	11.6%	9.0%
<b>Pinal</b>	18	75	24.0%	16.1%
<b>Santa Cruz</b>	4	10	40.0%	20.4%
<b>Yavapai</b>	13	42	31.0%	13.5%
<b>Yuma</b>	14	53	26.4%	10.4%
<b>Arizona</b>	258	1520	17.0%	9.2%

Source: United States Department of Agriculture, Economics Research Services, Data Products, Food Access Research Atlas, accessed at <https://www.ers.usda.gov/data-products/food-access-research-atlas/download-the-data/> on 2/27/2018.