Arizona Behavioral Risk Factor Surveillance System Survey

2015

ARIZONA DEPARTMENT OF HEALTH SERVICES

Health and Wellness for all Arizonans

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ACKNOWLEDGMENTS

ICF International Inc.
BRFSS Contractor

Completed in cooperation with:
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Division of Population Health
National Center for Chronic Disease Prevention and Health Promotion
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Centers for disease Control Cooperative Agreement No. 1U58DAP006018-01

A **special thank you** to Arizona residents for participating in the survey and cooperating with the interviewers.

Notice

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Arizona BRFSS Website: http://azdhs.gov/preparedness/public-health-statistics/behavioral-risk-factor-surveillance/index.php

Front Cover Photograph

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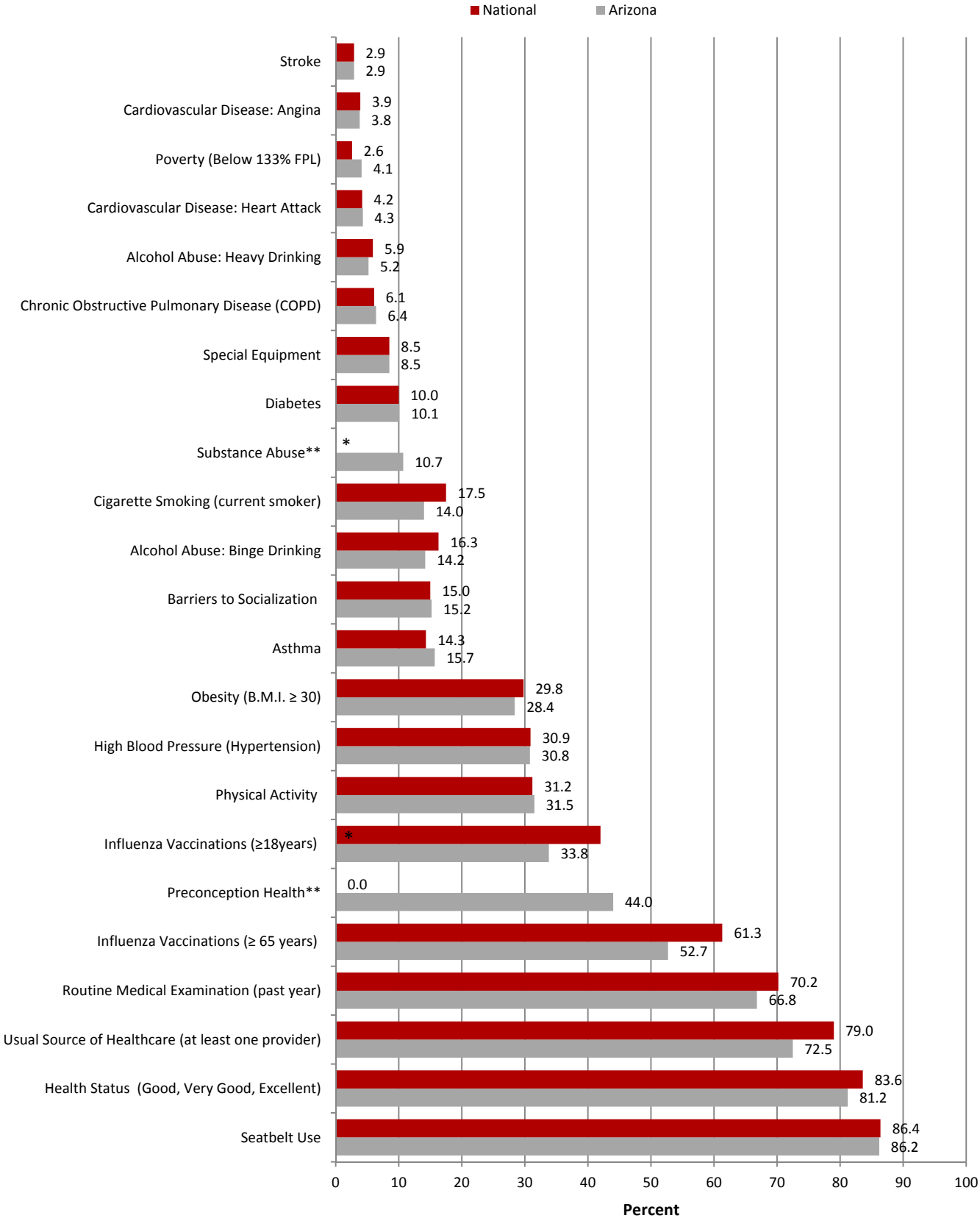
Executive Summary

The Arizona Behavioral Risk Factor Surveillance System (BRFSS) survey is an annual state-wide survey of adults aged 18 years and older. The Arizona survey is a collaborative effort between the Population Health Surveillance Branch (PHSB) of the Centers for Disease Control and Prevention (CDC) and Health Promotion; other CDC centers; and federal agencies, such as the Health Resources and Services Administration, Administration on Aging, Department of Veterans Affairs, and Substance Abuse and Mental Health Services Administration and the Arizona Department of Health Services (ADHS). The landline telephone sample design is a random digit dialed methodology with a disproportionate stratification based on phone bank density, and whether or not the phone numbers were directory listed. The sample of cell phone numbers was randomly selected from dedicated cellular telephone banks sorted on the basis of area code and exchange. This report summarizes data on health-related quality of life, preventive practices, barriers to healthcare, health risk behaviors, beneficial health practices, and health conditions and limitations as reported by Arizonans. Arizona response variables should be understood to be the weight-adjusted percentage of survey participants who are asked the questions and provided an informative response (excluding non-respondents, those who refused to respond, and those who indicated that they did not know how to respond). Because of this, results for the Arizona BRFSS survey in this report will differ slightly from the CDC-provided Arizona response tables in the appendix, which include some of these response categories. Additionally, the variable names used by Arizona could vary between CDC and Arizona data results. Any inference drawn from these results about the Arizona general population should be made in consideration of the confidence intervals provided within the report. In 2015, Arizona Sample design consisted of six regions with 7,946 combined cell phone and landline (complete and partial) interviews. The BRFSS survey provides a rich source of state-level public health data. This data has become integral to health promotion, disease prevention and intervention planning throughout Arizona. Highlights from the 2015 BRFSS are presented in **Table 1** below.

Risk Factors	Arizona	National*
Health Status (Good, Very Good, Excellent)	81.2	83.6
Routine Medical Examination (past year)	66.8	70.2
Influenza Vaccinations (65 years and older)	52.7	61.3
Influenza Vaccinations (18 years and older)	33.8	42.0
Preconception Health**	44.0	Not Asked
Poverty (<133% FPL)	4.1	2.6
Usual Source of Healthcare (at least one provider)	73.2	72.5
Seatbelt Use	86.2	86.4
High Blood Pressure (Hypertension)	30.8	30.9
Cigarette Smoking (current smoker)	14.0	17.5
Alcohol Abuse: Heavy Drinking	5.2	5.9
Alcohol Abuse: Binge Drinking	14.2	16.3
Obesity (B.M.I. ≥ 30)	28.4	29.8
Special Equipment	8.5	8.5
Chronic Obstructive Pulmonary Disease (COPD)	6.4	6.1
Asthma	15.7	14.3
Cardiovascular Disease: Angina	3.8	3.9
Cardiovascular Disease: Heart Attack	4.3	4.2
Diabetes	10.1	10.0
Stroke	2.9	2.9
Barriers to Socialization	15.2	15.0
Physical Activity	63.5	61.1
Substance Abuse**	10.7	Not Asked

Table 1: Arizona and National Behavioral Risk Factor Surveillance System (BRFSS) 2015 Survey Highlights. Weighted to population characteristics. *The BRFSS 2015 "National" estimates included in the "BRFSS Executive Summary" chart are median values. **Arizona's BRFSS specific modules and State-Added questions.

Arizona and National BRFSS 2015 Highlights
Risk Factors and Chronic Diseases



The BRFSS 2015 "National" estimates included in the "Risk Factor & Chronic Disease Highlights" Executive Summary chart are median values not means. CDC does not generate a "National" estimate by using the mean because the survey is a combination of separate state surveys. *Question Not Asked. **Denotes Arizona State-Added questions.

Introduction

Background

The Arizona BRFSS 2015 collected 7,500 combined landlines and cell phones. In 2013, the BRFSS survey was affected by the federal sequestration and faced a drastic budget shortfall. The Arizona's BRFSS data users group met on December 12, 2012. This meeting was also available by teleconference allowing the collaboration of state-wide stakeholders to participate in mitigating Arizona's BRFSS immediate budget crisis. The decision was made unanimously by those who participated in the December 12, 2012 meeting to collapse the counties (a.k.a. regions/strata) from 15 to 6 regions in order to reduce the cost to administer the survey. In addition, during this meeting there was a discussion on shifting the primary funding responsibility from CDC to ADHS programs and outside stakeholders by increasing the cost for each State-Added question from $3,100 in 2013 to $4,100 in the 2014 survey year, with an additional increase of $1,000 per question for each subsequent year. In 2015, the cost per questions was $5,100. In 2015, the Arizona length of BRFSS questionnaire survey was within 23 minutes. Certain activities or behaviors increase the risk of mortality and morbidity. Promotion of cessation programs, awareness, and policy changes will help reduce the impact of these behaviors. Many programs and policies have been enacted to reduce the burdens associated with participating in these risky behaviors. Continued monitoring of these behaviors will provide Arizona with a tool to assess the impact of these programs and policies.

The BRFSS is comprised of CDC's Core, Modules, and State-added questions.

Core component consists of three areas:

The fixed core is made up of standard questions that are asked by every state.
The rotating core is a set of biennial questions.
The emerging core questions are experimental questions (up to 5 a year) that are asked to determine their potential use.

Modules included in the 2015 survey:

Diabetes

Optional CDC modules are sets of questions that focus on specific topics such as:

Cognitive Decline

State added questions are generated by stakeholders and ADHS Programs:

Cognitive Decline
Adult Asthma History
Child Questions (part of RCS)
Hearing Healthcare
Preconception Health/ Family Planning
Food Assistance/Security
Sugar Drinks
Substance Abuse
E-Cigarettes
Nearest Intersection

State added questions must be validated and approved by CDC's and Arizona's Human Subjects Review Board.

Methodology

In 2011, CDC implemented a methodological change in how BRFSS data are weighted; specifically, the weighting method changed from post-stratification to iterative proportional fitting (refer to the 2011 Annual Arizona BRFSS Report for more details). The iterative proportional fitting (or "raking,") replacement was needed in order to include analysis for imperfections in the sample that might lead to bias. In addition, this method included the selection of units with unequal probabilities, non-coverage of the population, and non-response. The "raking" adjusts the data so that groups which are underrepresented in the sample can be more accurately represented in the final dataset. The raking incorporates additional demographic characteristics and it accurately matches sample distributions to known demographics. Furthermore, the use of raking reduces non-response bias and has been shown to reduce within-error estimates. BRFSS raking integrates a multitude of categories such as age by gender; marital status, education attainment, employment status, income, age groups, race and ethnicity, telephone source, and renter/owner status. Thus, BRFSS 2013 annual report included the respondents contacted by landline and cellular phones. In 2015, according to the Pew Research Center's Internet and American Life Project, found that "92% of American adults have cell phones. Cellphone-only households are especially prevalent among younger families and among certain racial/ethnic groups. Moreover, it was evident that people were using their cell phones."[1] One anticipated change to Arizona's BRFSS' sample design is to increase the number of cell phone participants by changing the screening process. BRFSS would be unable to fully capture disease and prevalence trends by continuing to rely solely upon landlines.

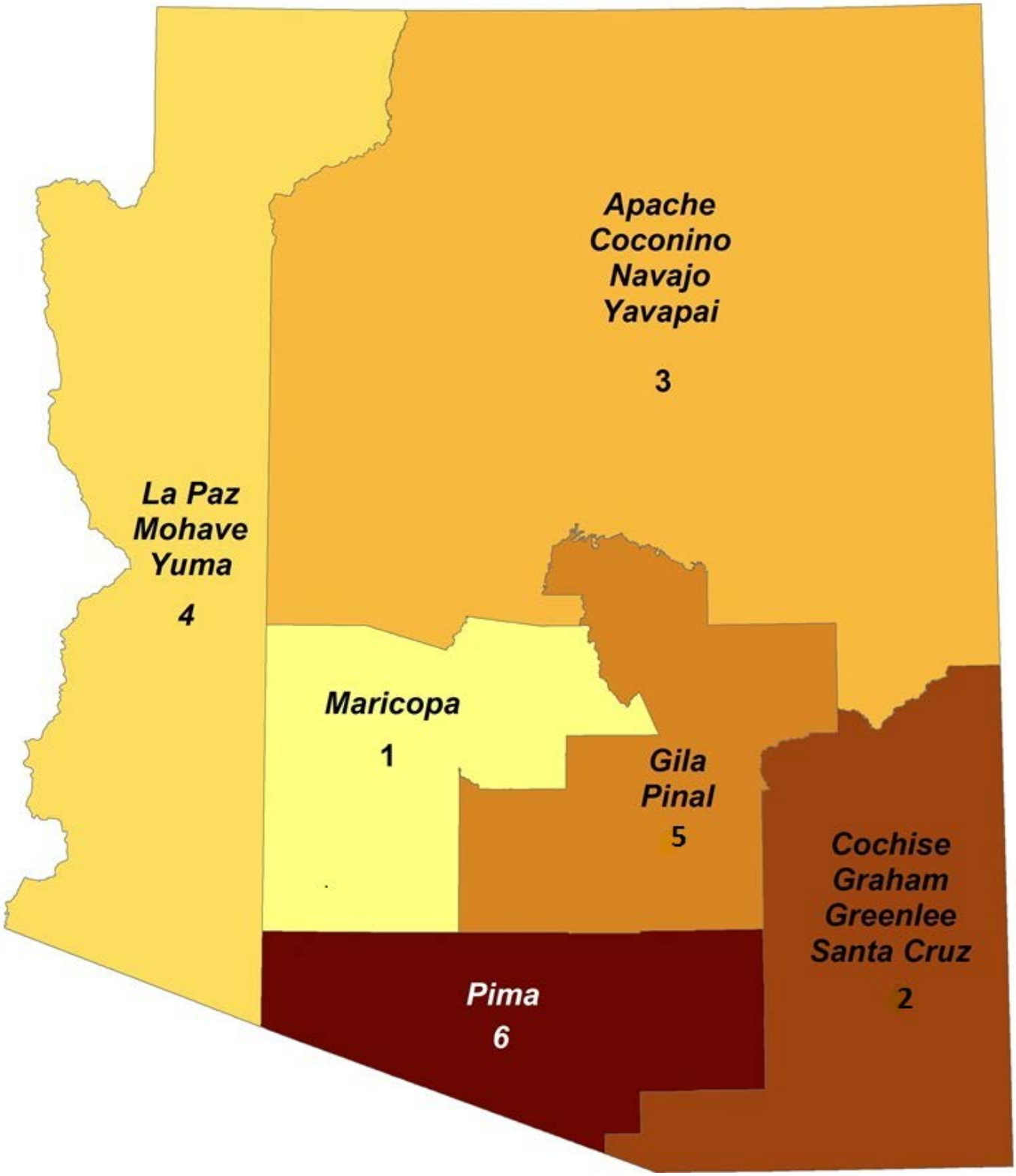
In another change from 2011, if a cell phone respondent received a call from a BRFSS interviewer, and they had a landline, they were excluded from the survey. This eliminated a large number of willing cell phone respondents. Therefore, beginning with the 2012 survey, the CDC applied a fully overlapping sample. Under this approach, some of the counties will **not** be able to achieve the minimum of 50 participants. This might affect the ability to analyze the data for those counties with the required minimum number of participants. In 2015, the analyses will have to be done within each of the six different strata. CDC contracts with Marketing System Group (MSG) who developed a methodology for constructing cellular sampling frames using rate centers. A rate center delineates the local call boundaries set by service providers for billing purposes. MSG can identify subsets of cellular blocks for all wireless service providers that correspond to the area of interest. Geographic stratification is available for the cell phone sample for 2015. To make the best use of this method, geo-strata should consist of contiguous counties. Weights will be produced for the combined landline and cell phone data. The Arizona BRFSS previously followed CDC's guidelines regarding the rule of not reporting or interpreting percentages based upon a denominator of fewer than 50 respondents, as well as regions with adult populations less than or equal to 500 residents. Confidence interval limits for Arizona measure as upper and lower brackets connected by a single line at the top of each table column. In 2015, Arizona's sample size consisted of 7,946 complete and partial interviews.

Changes to the 2015 AZ BRFSS Annual Report

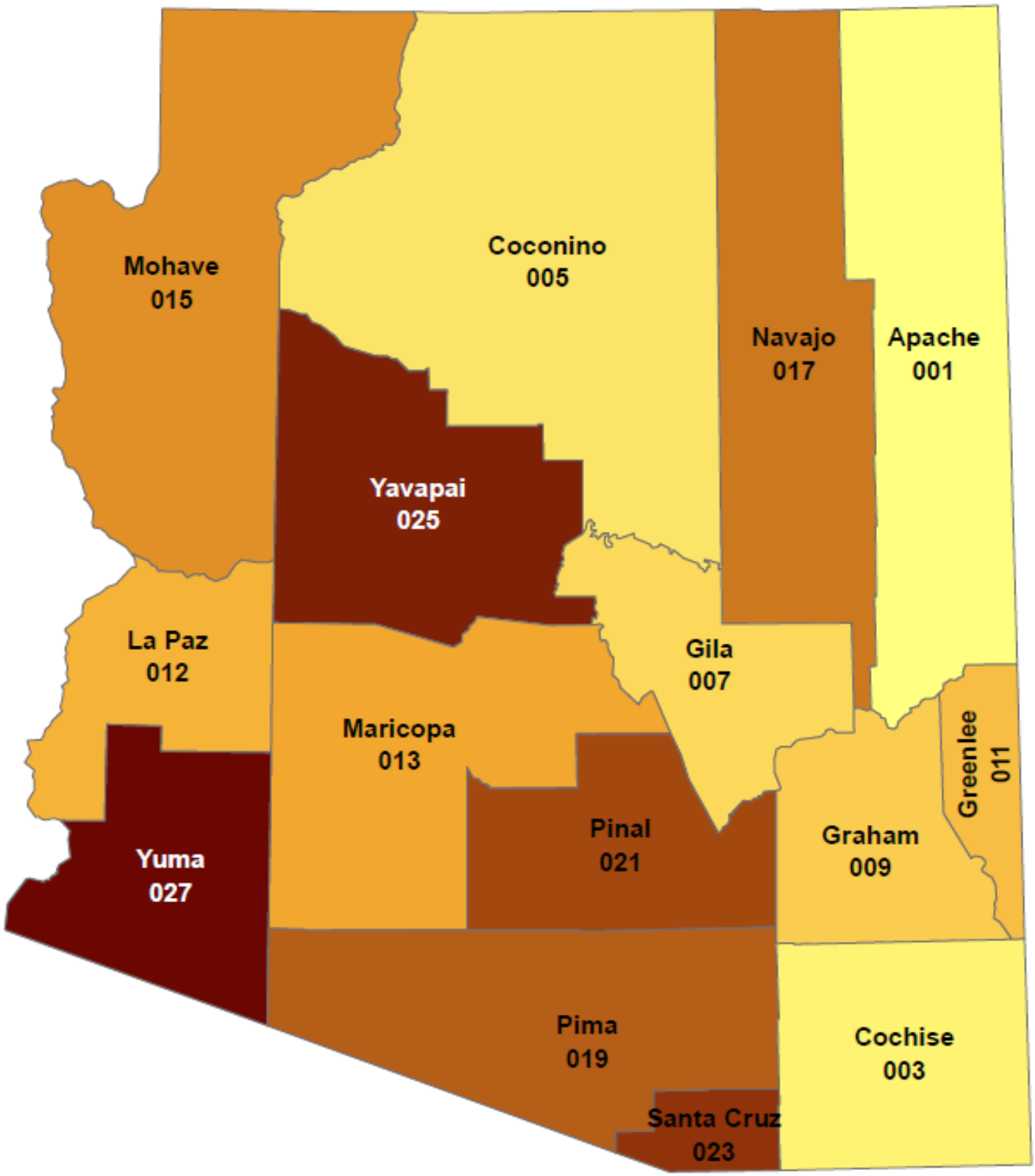
The 2015 BRFSS Annual Report has a layout that provides the reader information that corresponds to core and state-added questions covering a number of health risks and chronic diseases. At the beginning of each section a description of the data elements is presented, including variable names. Each subsection includes, in most instances, 5-year trend data, national, regional and county information data (presented as maps), and a table of respondent demographics comparing Arizona to National respondents. The demographics table contains the N, percent and associated confidence interval. The appendix contains additional information to provide the reader with information regarding death, birth, and number of patients discharged from the hospital. Tables and charts presented in the Healthcare Cost & Utilization Section (Appendix A) areproduced from data collected in the Hospital Discharge Data (HDD) database. The information is presented in the same order as information in the core BRFSS 2015 report. Information presented in Appendix A utilized the International Classification of Diseases (ICD-9 and ICD-10) which is the World Health Organization's 9th and 10th revision and represents data from January 1, 2015 - September 30, 2015 (ICD-9) and October 1, 2015 - December 31, 2015 (ICD-10) due to ICD-10 implementation on October 1, 2015. Due to the enhancements made to ICD-10 data are split because of their contents. Additionally, information for some questions may not contain national comparisons due to the questions being state-added.

[1] (Rainie, Lee, Pew Research Center's Internet & American Life Project) Washington, D.C., 2002-2016, Web accessed: 3/9/2017 http://www.pewinternet.org/chart/mobile-phone-ownership/

Arizona Behavioral Risk Factor Surveillance 2015 Survey
Arizona Strata by Region



Arizona Behavioral Risk Factor Surveillance 2015 Survey
Arizona Strata by County Code



BRFSS Survey in Comparisons

The BRFSS is the largest telephone survey conducted in the United States and its' territories. As the BRFSS grows and improves its methodology, the number of requests for localized health analysis increases. In response to the growing demand, CDC analyzes BRFSS data for metropolitan and micropolitan statistical areas (MMSA). The analysis of Arizona MMSAs includes Nogales, Phoenix-Mesa-Scottsdale, Sierra Vista-Douglas, Tucson and Yuma. Any further analysis will require combining BRFSS data across multiple years, and/or harmonizing across surveys. There are many other surveys currently sponsored by the U.S. government and its agencies, many of which have questions that overlap with the BRFSS. The structure of the questions found within commonly merged datasets is displayed in **Table 2** (below).

Comparison of Surveys				
	Census	**BRFSS**	**NHANES**	**HINTS**
Participant Selection	All U.S. households are required to participate	Random telephone survey of non-institutionalized adults ages 18-99 residing in US, District of Columbia, the Commonwealth of Puerto Rico, and Guam.	Participants are selected based off Census information	Stratified sample of addresses were selected from the Marketing Systems Group.
Data Collection Techniques	Questionnaire sent in the mail and direct interviews from Census workers	Telephone survey, with Computer Assisted Telephone Interviewing (CATI) system, and dedicated cellular telephone banks.	Anthropometric measurements, blood and urine samples are gathered by health professionals. Interviews are done in person at the participant's home.	Random digit dials and address-based sampling
Data Gathered	• Number of people living in a housing unit • Housing unit type • Telephone number • Name • Gender • Date of birth • Race and ethnicity • Other residences	Demographic data asked annually: • Race and ethnicity • Gender • Income • Martial status • Educational achievement • Working status • Household size Only source of population-based estimates of the prevalence of various health behaviors, medical conditions, and preventive health practices. ***Other Health Indicator Questions are developed by the CDC. Each state has the ability to generate questions to assess its specific needs.***	• Anemia • Cardiovascular disease • Diabetes • Environmental exposures • Eye diseases • Hearing loss • Infectious diseases • Kidney disease • Nutrition • Obesity • Oral health • Osteoporosis • Physical fitness and physical functioning • Reproductive history and sexual behavior • Respiratory disease (asthma, chronic bronchitis, emphysema) • Sexually transmitted diseases • Vision • Anthropometrics	• Breast cancer • Cancer communication • Cancer perceptions and knowledge • Cervical cancer • Colon cancer • Demographics • Food and medical • Products information • Health communication • Health services • Health status • Internet use • Lung cancer • Medical research • Medical records • Numeracy • Nutrition and physical activity • Patient-provider communication • Prostate Cancer • Risk Perceptions • Skin Cancer • Skin Protection • Social Networks • Tobacco Use
Sample Size	Current U.S. housing Units = 132,312,404	2015 National Cell & Landline combined = 441,496 2015 Arizona = 7,946	2009-2010 Survey=9,338	2008 Survey=7,674 2011-2012 Survey =3,959 2012-2013 Survey =3,630 2013 Survey =3,185
Collection Interval	Every 10 years	Annual	Starting in 1999 NHANES began gathering data annually. However, data are only presented in 2- yr. intervals.	The HINTS includes five data collection cycles over the course of 3 years: from October 2011 through November of 2014.

Table 2. Survey Comparison

ADHS Mission

To promote, protect, and improve the health and wellness of individuals and communities in Arizona.

ARIZONA DEPARTMENT OF HEALTH SERVICES

STRATEGIC MAP: 2015–2020

Strengthen Arizona's Public Health System Through Alignment and Coordination

	A	B	C	D
	Align Agency Resources to Achieve Targeted Health Outcomes	Promote and Support Public Health and Safety	Make Focused Improvements in Public Health Infrastructure	Maximize Agency Effectiveness
1	Evaluate Agreements to Ensure Impact on Health Outcomes	Prepare for and Respond to Public Health Emergencies	Build Awareness of Public Health Value	Support State Hospital in Achieving Outcomes
2	Plan and Implement the Agency Role in the Health Information Exchange	Implement Strategies to Promote Non-Violent Behavior	Improve Coordination with Health Care Partners	Leverage Technology to Achieve Results
3	Improve Coordination and Consistency Among Public Health Programs	Address Quality of Care Issues and Public Health Risks	Enhance Workforce Development	Optimize Agency Systems and Infrastructure
4	Align Services with Needs of Vulnerable Populations	Promote Healthy and Safe Community Environments	Achieve and Maintain Public Health Accreditation	Implement Performance Measures
5	Implement Arizona Health Improvement Plan			
E	Implement Best, Promising and Evidence-Based Practices			
F	Practice Continuous Quality Improvement			
G	Improve the Customer Experience			
H	Foster Open Communication and Transparency			

Health-Related Quality of Life

Health-related quality of life (HRQoL) has a broad definition. HRQoL research potentially can incorporate physical activity, amount of time spent at work, physical health, mental health, emotional health and personality questions.[2] The CDC has created a manual on using the BRFSS data to assess HRQoL. The methodology utilizes self-reported health status, mental health, physical health and inhibited socialization due to poor health. The assessment of HRQoL using BRFSS data is as follows[3]:

- **Self-reported health status (variable – GENHLTH**) - Convert into a binary variable where good to excellent health is a positive outcome; poor and fair health is a negative outcome.

- **Frequent Mental Distress (variable – MENTHLTH**) - Generate a binary variable where reporting 14 or more days of poor mental health are a negative outcome.

- **Frequent Physical Distress (variable – PHYSHLTH**) - Generate a binary variable where reporting 14 or more days of poor physical health are a negative outcome.

- **Barriers to Socialization (variable – POORHLTH) -** Generate a binary variable where reporting 14 or more days of poor physical or mental health prevented daily activities are a negative outcome.

Number of Unhealthy Days

The majority of Arizonans report zero unhealthy days; however, the second largest category is reporting 30 unhealthy days (see **Figure 1**) Unhealthy days are an estimate of the overall number of days during the previous 30 days when the respondent felt that his or her physical or mental health was not good. To obtain an estimate of a person's overall *unhealthy days,* respondents are asked, "Now, thinking about your physical health, which includes physical illness and how many days during the past 30 days was your physical health not good? And, now thinking about your mental health, which includes stress, depression and emotions, for how many days during the past 30 days was your mental health not good?" These are added together with a logical maximum of 30 *unhealthy days*.

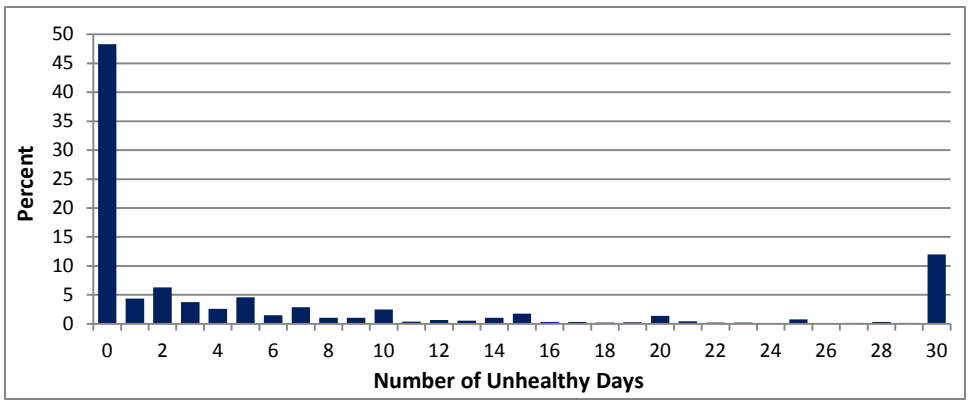


Figure 1: Arizonans who reported unhealthy days in the BRFSS 2015 survey.

How is the Summary Index of Unhealthy Days Calculated?

Unhealthy days are an estimate of the overall number of days during the previous 30 days when the respondent felt that his or her physical or mental health was not good. To obtain this estimate, responses to questions regarding Physical and Mental health are combined to calculate a summary index of overall unhealthy days, with a logical maximum of 30 unhealthy days. For example, a person who reports four physically unhealthy days and two mentally unhealthy days is assigned a value of six unhealthy days, and someone who reports 30 physically unhealthy days and 30 mentally unhealthy days is assigned the maximum of 30 unhealthy days. Healthy days are the positive complementary form of unhealthy days. A healthy day estimates the number of recent days when a person's physical and mental health was good (or better) and is calculated by subtracting the number of unhealthy days from 30 days.

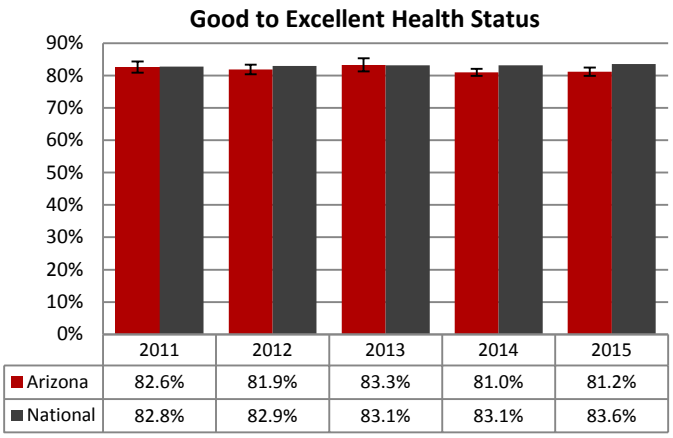
[2] Ware, J.E., & Sherbourne, C.D. (1992). "Medical Outcomes Study: 36-Item Short Form Survey Instrument." Conceptual Framework and Item Selection Medical Care, 30(6), 473-483. Retrieved Web.12 Sept. 2013. http://www.jstor.org/stable/3765916

[3] Centers for Disease Control and Prevention. Measuring Healthy Days. Atlanta, Georgia: CDC, November 2000. (http://www.cdc.gov/hrqol/methods.htm)

Health Related Quality of Life: Self-Reported Health Status

Survey Question: Would you say that in general your health is: Excellent, Very Good, Good, Fair, Poor, Don't Know/Not Sure?

Self-reported health status is one of the most frequently assessed health perceptions in epidemiological research.[4] As a health-related quality of life indicator, it is a multi-dimensional concept that is related to physical, mental, emotional and social health.[5] It has proven to be a more dominant predictor of mortality and morbidity than many objective measures of health.[6] Self-rated health status also has been shown to be a significant predictor for the onset of coronary heart disease, diabetes, stroke, lung disease, and arthritis.[7] Self-assessed health status has been validated as a useful indicator of health among different populations and allows for broad comparisons across a variety of health conditions.[8]



	2011	2012	2013	2014	2015
Arizona	82.6%	81.9%	83.3%	81.0%	81.2%
National	82.8%	82.9%	83.1%	83.1%	83.6%

Figure A: Arizona and National BRFSS 2011-2015 Survey respondents who reported that their health status was excellent, good or very good.

In the 2015, BRFSS surveys 81.2% of Arizonans reported that they had good, very good or excellent health close to the national figure of 83.6% (see Figure A).

When looking at the other states in the nation, Arizona falls in the second-highest category (79.3-82.4%) for the percent of respondents reporting good, very good or excellent health (see Figure B).

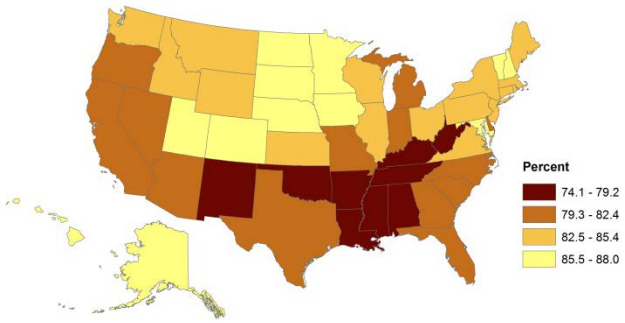
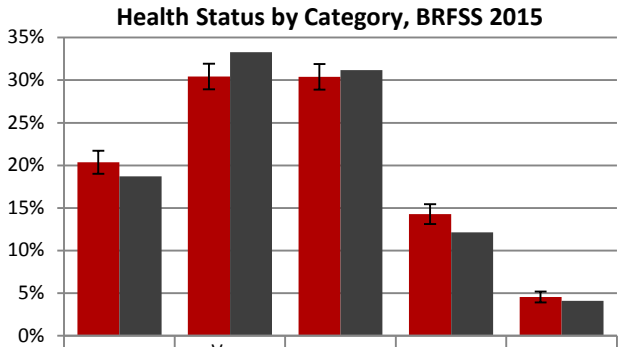


Figure B: BRFSS respondents' who reported: Good, Very Good, or Excellent Health Status by State 2015 (natural breaks).

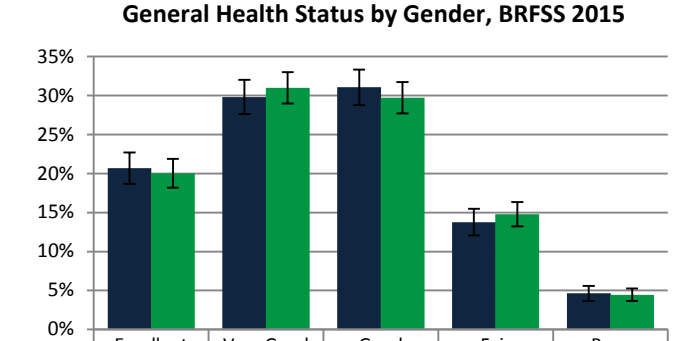
The distribution of surveyed Arizonans' self-reported health status was similar to the nation median across all categories (see Figure C).



	Excellent	Very Good	Good	Fair	Poor
Arizona	20.4%	30.4%	30.4%	14.3%	4.5%
National	18.7%	33.3%	31.2%	12.1%	4.1%

Figure C: Arizona and National BRFSS 2015 Survey Self-Reported Health Status.

Figure D displays that the percentage of men and women in Arizona was broadly similar in 2015 in all health status categories.



	Excellent	Very Good	Good	Fair	Poor
Male	20.7%	29.8%	31.1%	13.8%	4.6%
Female	20.0%	31.0%	29.7%	14.8%	4.5%

Figure D: Arizona BRFSS 2015 respondents who self-reported health status stratified by gender.

[4] Mossey JM, Shapiro E. Self-rated health: a predictor of mortality among the elderly. AM J Public Health. 1982 Aug;72(8): 800-8. PMID: 7091475

[5] Estwing C., Ferrans. 2-Definitions and conceptual models of quality of life. In: Gotay C., et al. Outcomes Assessment in Cancer. Cambridge University Press; 2009: 14-30.

[6] DeSalvo KB, Bloser N, Reynolds K, He J, Muntner P. Mortality Prediction with a Single General Self-Rated Health Question: A Meta-Analysis. *Journal of General Internal Medicine*. 2006;21(3):267-275. doi:10.1111/j.1525-1497.2005.00291.x.

[7] Latham K., Peek CW. Self-rated health and morbidity onset among late midlife U.S. adults. J. Gerontol B Psychol Sci Soc Sci. 2013 Jan;68(1): 107-16: PMID: 23197340

[8] Idler E, Benyamini Y. Self-rated Health and Mortality: a Review of Twenty-Seven Community Studies. J Health Soc Behav. 1997; 38(1): 21-37.

Arizonans Who Reported Good to Excellent Health				
			Confidence Interval	
Characteristic	Percent	N*	Lower Mean	Upper Mean
National	**83.6%**	**53**		
Arizona	**81.2%**	**6418**	**79.9%**	**82.4%**
Male	81.6%	2636	79.7%	83.5%
Female	80.8%	3782	79.1%	82.5%
18-24	90.2%	275	86.5%	94.0%
25-34	87.2%	508	83.9%	90.6%
35-44	84.3%	760	81.0%	87.5%
45-54	75.5%	909	72.1%	79.0%
55-64	76.0%	1231	73.4%	78.7%
65+	76.4%	2735	74.3%	78.4%
Married	82.6%	3480	80.9%	84.3%
Divorced	73.4%	865	69.7%	77.2%
Widowed	73.0%	903	68.7%	77.3%
Separated	59.4%	87	47.7%	71.2%
Never Married	84.8%	828	81.9%	87.6%
Unmarried Couple	86.5%	185	81.2%	91.8%
Less than high school	60.7%	313	55.5%	66.0%
High School/GED	78.9%	1397	76.4%	81.5%
Some College/Technical School	83.8%	1932	81.9%	85.6%
College/Technical School Grad	92.3%	2742	91.2%	93.4%
Employed for Wages	88.1%	2365	86.3%	89.8%
Self Employed	85.3%	489	80.6%	89.9%
Out of Work	75.9%	227	69.7%	82.0%
Homemaker	74.1%	485	69.0%	79.2%
Student	92.2%	168	88.1%	96.2%
Retired	79.5%	2454	77.4%	81.5%
Unable to Work	34.1%	166	28.4%	39.8%
Less than $10,000	59.1%	144	50.7%	67.4%
$10,000 to $14,999	65.7%	197	58.4%	73.1%
$15,000 to $19,999	74.9%	346	69.8%	80.1%
$20,000 to $24,999	69.3%	455	63.9%	74.6%
$25,000 to $34,999	80.3%	533	75.9%	84.7%
$35,000 to $49,999	83.2%	799	79.7%	86.8%
$50,000 to $74,999	90.2%	842	87.9%	92.5%
Above $75,000	93.9%	1736	92.4%	95.5%
White Non-Hispanic	84.4%	4937	83.1%	85.7%
Black/African American	79.4%	165	72.5%	86.2%
Hispanic	74.4%	887	71.3%	77.5%
Asian/Pacific Islander	95.0%	129	90.3%	99.7%
American Indian Non	67.7%	120	58.2%	77.2%
Other	82.0%	180	75.7%	88.4%

Use caution in interpreting cell sizes less than 50. N* is unweighted.
National N is 53 = all 50 states, DC and Territories.

Health Related Quality of Life: Self-Reported Health Status

The table to the left displays proportions of Arizonans who responded that their health status was good, very good or excellent. Results are shown by sex, age categories, marital status, educational attainment, employment status, income and race/ethnicity.

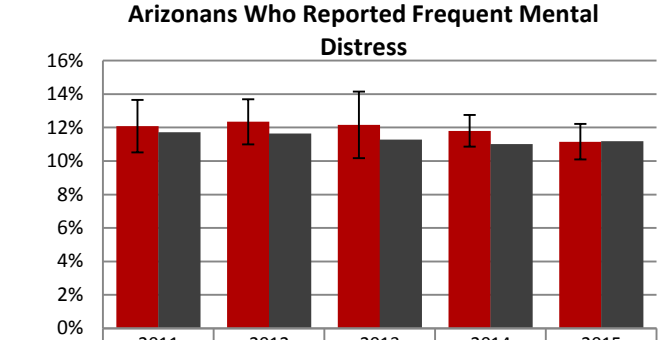
The “Nationwide” estimates are median values across all states, not means. The “National” level estimates reported here use medians because no national stratum was defined in the 2015 BRFSS survey. Survey results at the national level were not adjusted or weighted to produce a national mean result.

Health Related Quality of Life: Frequent Mental Distress

Survey Question: Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?

By 2020, depression is projected to be the second leading cause of the global disease burden. Research has shown that depression and other mental health conditions are associated with an increased prevalence of chronic diseases. The association is a complex self-propagating interrelationship between chronic disease and mental illness.[9] For example, an individual may initially suffer from a chronic disease and then develop a mental health condition (i.e., depression), which exacerbates the initial condition. Another individual could suffer from a mental illness which could precipitate a chronic disease, and fall into an exacerbated cycle of chronic and mental health diseases.

The BRFSS survey includes depression and anxiety questions within the core section. Researchers have developed and accepted an alternative method of evaluating mental illness called 'Frequent Mental Distress' (FMD). FMD is defined as 14 days or more of poor mental health within the past 30 days.[10] Since 2011, Arizonans surveyed report FMD at similar levels to the national median (see Figure A).



	2011	2012	2013	2014	2015
Arizona	12.1%	12.3%	12.2%	11.8%	11.2%
National	11.7%	11.6%	11.3%	11.0%	11.2%

Figure A: Arizona and National 2011-2015 BRFSS prevalence of reporting frequent mental distress (≥14 days in past 30-days).

In 2015, 11.2% of Arizonans surveyed reported that they suffered from FMD; the same as the national median. When looking at the other states in the nation, Arizona falls in the second-highest class for the percent of respondents reporting FMD (See Figure B).

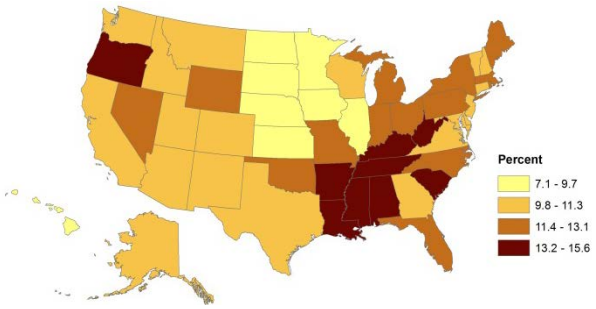
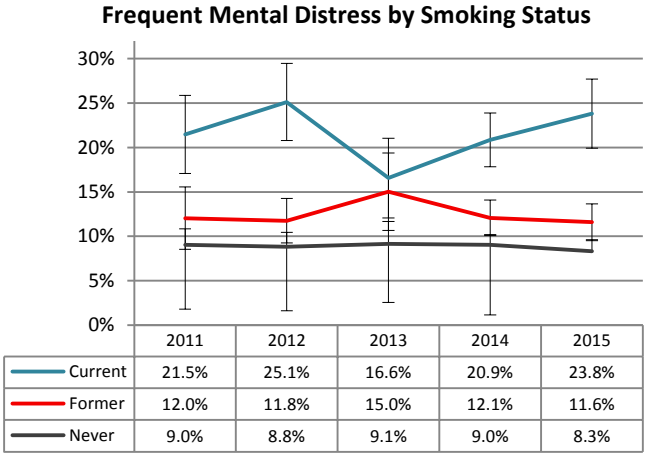


Figure B: Arizona and National 2015 BRFSS respondents reporting Frequent Mental Distress (≥14 days in past 30-days) by state (natural breaks).

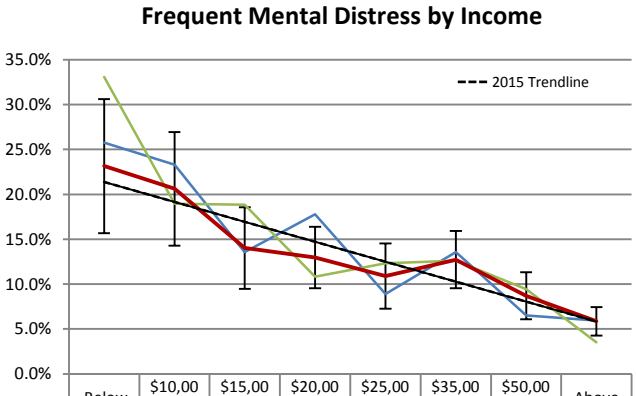
Among Arizonans surveyed, FMD is reported more frequently in current smokers than nonsmokers or former smokers (see Figure C).



	2011	2012	2013	2014	2015
Current	21.5%	25.1%	16.6%	20.9%	23.8%
Former	12.0%	11.8%	15.0%	12.1%	11.6%
Never	9.0%	8.8%	9.1%	9.0%	8.3%

Figure D. Arizona 2011-2015 BRFSS over five years of individuals reporting Frequent Mental Distress (≥14 days in past 30-days) by income.

Since 2011, FMD has been reported more frequently by Arizonans surveyed as household income declines (see Figure D).



	Below $10,000	$10,000 to $14,999	$15,000 to $19,999	$20,000 to $24,999	$25,000 to $34,999	$35,000 to $49,999	$50,000 to $74,999	Above $75,000
2011	25.7%	23.3%	13.6%	17.8%	8.9%	13.6%	6.5%	6.0%
2012	29.7%	25.9%	17.6%	14.5%	11.8%	9.7%	7.0%	5.7%
2013	33.1%	18.9%	18.8%	10.8%	12.3%	12.6%	9.4%	3.5%
2014	22.5%	18.7%	15.7%	16.0%	13.0%	10.4%	8.5%	6.0%
2015	23.1%	20.6%	14.0%	13.0%	10.9%	12.7%	8.7%	5.9%

Figure D. Arizona 2011-2015 BRFSS respondents reporting Frequent Mental Distress (≥14 days in past 30-days) stratified by income.

[9] Chapman DP, Perry GS, Strine TW. The vital link between chronic disease and depressive disorders. Prev Chronic Dis. 2005 Jan;2(1):A14. Epub 2004 Dec 15.

[10] Al-Nsour M, Zindah M, Belbeisi et al. Frequent Mental Distress, Chronic Conditions, and Adverse Health Behaviors in the Behavioral Risk Factor Surveillance Survey, Jordan, 2007. Prev Chronic Dis 2013; 10:130030.

Arizonans Who Reported ≥ 14 days of Frequent Mental Distress				
			Confidence Interval	
Characteristic	Percent	N*	Lower Mean	Upper Mean
National	**11.2%**	**53**		
Arizona	**11.2%**	**758**	**10.1%**	**12.2%**
Male	10.4%	276	8.8%	11.9%
Female	11.9%	482	10.5%	13.4%
18-24	11.9%	39	7.9%	15.9%
25-34	14.0%	82	10.6%	17.4%
35-44	11.8%	96	9.1%	14.5%
45-54	11.9%	133	9.5%	14.3%
55-64	10.7%	173	8.8%	12.6%
65+	7.6%	235	6.3%	9.0%
Married	8.6%	311	7.4%	9.9%
Divorced	13.4%	146	10.5%	16.4%
Widowed	8.9%	93	6.4%	11.4%
Separated	28.0%	34	17.0%	39.0%
Never Married	13.5%	128	10.6%	16.4%
Unmarried Couple	18.1%	41	11.7%	24.5%
Less than high school	14.3%	77	10.5%	18.0%
High School/GED	10.2%	192	8.2%	12.1%
Some College/Technical School	13.4%	276	11.4%	15.4%
College/Technical School Grad	7.0%	210	5.8%	8.3%
Employed for Wages	8.9%	198	7.4%	10.5%
Self Employed	11.9%	46	7.4%	16.3%
Out of Work	22.9%	69	16.1%	29.7%
Homemaker	7.4%	49	4.8%	10.0%
Student	10.2%	27	5.5%	14.9%
Retired	6.7%	189	5.4%	8.0%
Unable to Work	39.0%	174	32.9%	45.1%
Less than $10,000	23.1%	55	15.7%	30.6%
$10,000 to $14,999	20.6%	75	14.3%	26.9%
$15,000 to $19,999	14.0%	74	9.5%	18.6%
$20,000 to $24,999	13.0%	88	9.6%	16.4%
$25,000 to $34,999	10.9%	59	7.3%	14.5%
$35,000 to $49,999	12.7%	90	9.5%	15.9%
$50,000 to $74,999	8.7%	72	6.1%	11.3%
Above $75,000	5.9%	95	4.3%	7.5%
White Non-Hispanic	10.6%	536	9.4%	11.7%
Black/African American	11.5%	21	5.7%	17.2%
Hispanic	12.1%	135	9.6%	14.6%
Asian/Pacific Islander	4.6%	5	0.0%	10.7%
American Indian Non-Hispanic	15.4%	25	7.7%	23.1%
Other	19.0%	36	11.3%	26.6%

Use caution in interpreting cell sizes less than 50. N* is unweighted.
National N is 53 = all 50 states, DC and Territories.

Health Related Quality of Life: Frequent Mental Distress

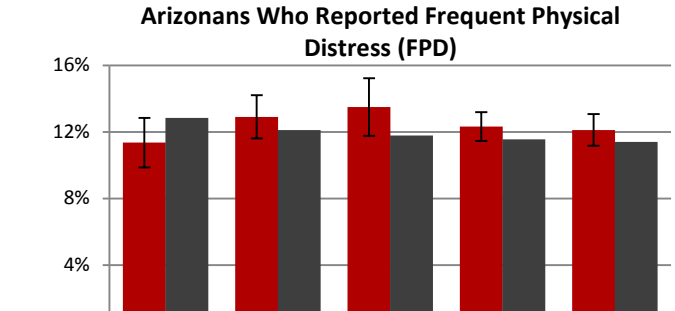
The table to the left displays the proportions of Arizonans surveyed in 2015 who responded that they suffered more than 14 days of poor mental health, in the 30 days prior. Results are also shown by sex, age categories, marital status, educational attainment, employment status, income and race/ethnicity.

The "Nationwide" estimates shown are median values across all states, not means. "National" level estimates reported here use medians because no national stratum was defined in the 2015 BRFSS survey. Survey results at the national level were not adjusted or weighted to produce a national mean result.

Health Related Quality of Life: Frequent Physical Distress

Survey Question: Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?

Frequent physical distress (FPD) is defined as suffering 14 or more physically unhealthy days in the past 30 days. FPD has been associated with both being underweight and with obesity. Obesity increases the risk of morbidity and mortality. Additionally, obesity increases the risk of having heart disease, hypertension, diabetes, arthritis, and some cancers.[11] Furthermore, FPD has been associated with increased risky behaviors, such as drinking and smoking in women of child-bearing age.[12] Arizonans surveyed in 2012, 2013, 2014 and 2015 reported FPD more frequently than the national median (see Figure A).



	2011	2012	2013	2014	2015
Arizona	11.4%	12.9%	13.5%	12.3%	12.1%
National	12.8%	12.1%	11.8%	11.6%	11.4%

Figure A: Arizona and national 2011-2015 BRFSS prevalence of Frequent Physical Distress (FPD) suffering ≥14 physically unhealthy days (in the 30 days prior).

Arizona falls in the second-highest class among all states for the percent of respondents reporting FPD (see Figure B).

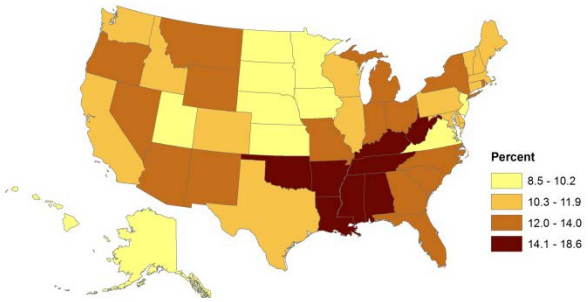


Figure B. BRFSS 2015 respondents reporting Frequent Physical Distress (FPD) by state (natural breaks).

Arizona 2015 BRFSS results generally concur with the current literature on FPD among women of child-bearing age (see Figure C). Arizona women surveyed who are current or former cigarette smokers report FPD more frequently than Arizona women surveyed who had never smoked.

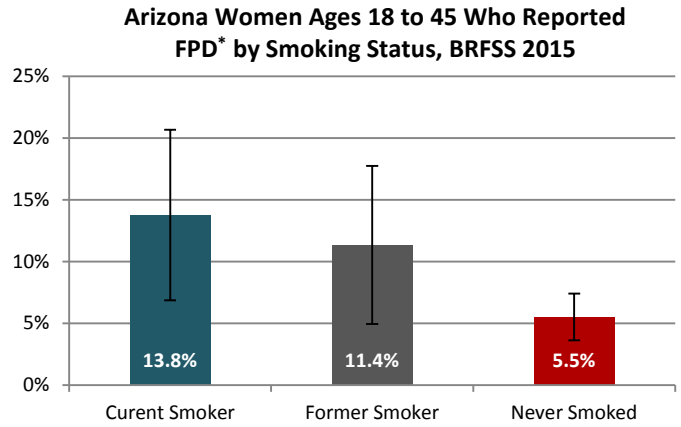


Figure C: Arizona 2015 BRFSS data assessing frequent physical distress and risky behaviors such as cigarette smoking in women 18 to 45 years of age. *FPD: Frequent Physical Distress (suffering ≥14 physically unhealthy days in the 30 days prior).

Among Arizonans surveyed who reported having certain chronic conditions like heart disease, diabetes, hypertension, and obesity were more likely to report FPD than those without chronic conditions, and the occurrence of each of these conditions increased the likelihood of reporting FPD above the Arizona average of 12.1% in 2015 (see Figure A).

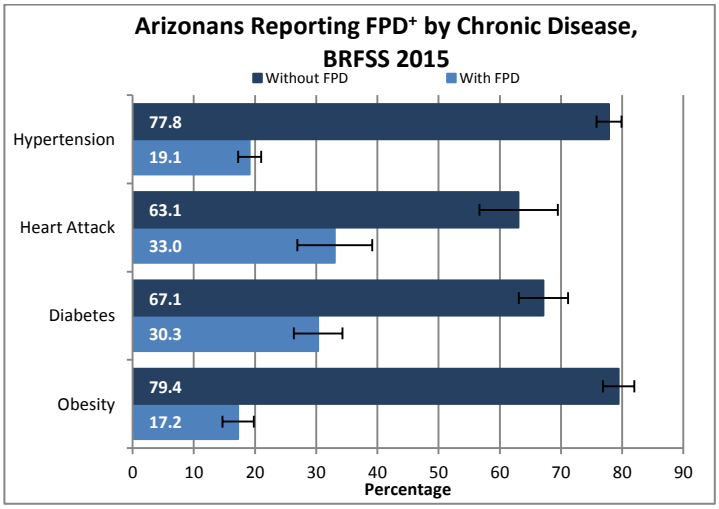


Figure D: Arizona 2015 BRFSS data assessing frequent physical distress, body mass index category, and conditions associated with being overweight/obese, diabetes, heart attack and hypertension. *FPD: Frequent Physical Distress (suffering ≥14 physically unhealthy days in the 30 days prior).

[11] Ford ES, Moriarty DG, Zack MM, Mokdad AH, Chapman DP. Self-reported body mass index and health-related quality of life: findings from the Behavioral Risk Factor Surveillance System. Obes Res. 2001 Jan;9(1):21-31.
[12] Ahluwalia IB, Mack KA, Mokdad A. Mental and physical distress and high-risk behaviors among reproductive-age women. Obstet Gynecol. 2004 Sep;104(3):477-83.

Arizonans Who Reported ≥ 14 days of Frequent Physical Distress				
			Confidence Interval	
Characteristic	Percent	N*	Lower Mean	Upper Mean
National	**11.4%**	**53**		
Arizona	**12.1%**	**1083**	**11.2%**	**13.1%**
Male	11.0%	410	9.6%	12.3%
Female	13.2%	673	11.9%	14.6%
18-24	3.1%	14	1.3%	4.9%
25-34	7.2%	48	4.9%	9.5%
35-44	8.4%	76	6.2%	10.6%
45-54	16.8%	168	13.9%	19.7%
55-64	18.6%	270	16.1%	21.2%
65+	16.3%	507	14.6%	18.1%
Married	11.7%	496	10.4%	13.0%
Divorced	18.0%	209	14.9%	21.2%
Widowed	17.1%	175	13.6%	20.6%
Separated	31.0%	41	20.1%	41.8%
Never Married	7.8%	126	6.0%	9.7%
Unmarried Couple	8.4%	28	4.6%	12.2%
Less than high school	17.9%	126	14.1%	21.6%
High School/GED	13.2%	296	11.3%	15.2%
Some College/Technical School	12.3%	370	10.7%	13.9%
College/Technical School Grad	7.2%	285	6.1%	8.3%
Employed for Wages	6.7%	181	5.4%	7.9%
Self Employed	8.4%	47	5.2%	11.5%
Out of Work	14.7%	60	9.9%	19.4%
Homemaker	12.1%	87	8.9%	15.3%
Student	3.5%	13	1.2%	5.8%
Retired	14.1%	410	12.5%	15.8%
Unable to Work	58.2%	273	51.7%	64.7%
Less than $10,000	23.9%	80	17.6%	30.2%
$10,000 to $14,999	23.9%	98	17.6%	30.2%
$15,000 to $19,999	15.6%	93	11.4%	19.8%
$20,000 to $24,999	12.9%	108	9.8%	16.0%
$25,000 to $34,999	11.8%	96	8.6%	15.1%
$35,000 to $49,999	10.7%	109	8.0%	13.4%
$50,000 to $74,999	9.5%	109	7.3%	11.8%
Above $75,000	5.9%	134	4.5%	7.3%
White Non-Hispanic	12.9%	794	11.7%	14.1%
Black/African American	10.7%	27	6.3%	15.2%
Hispanic	11.6%	192	9.6%	13.7%
Asian/Pacific Islander	2.7%	5	0.1%	5.4%
American Indian Non-Hispanic	9.5%	21	4.0%	15.0%
Other	16.8%	44	10.6%	23.0%

Use caution in interpreting cell sizes less than 50. N* is unweighted.
National N is 53 = all 50 states, DC and Territories.

Health Related Quality of Life: Frequent Physical Distress

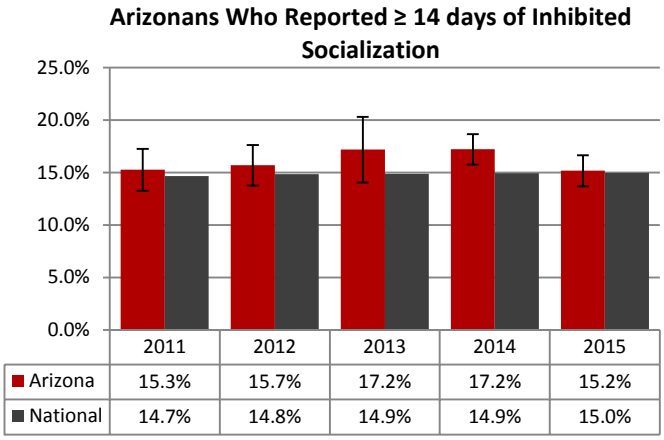
The table to the left displays the proportions of the prevalence of Arizona adults who responded that they suffered 14 or more days of poor physical health, in the 30 days prior. The data are reported by sex, age categories, marital status, educational attainment, employment status, income and race/ethnicity.

The "Nationwide" estimates shown are median values across all states, not means. "National" level estimates reported here use medians because no national stratum was defined in the 2015 BRFSS survey. Survey results at the national level were not adjusted or weighted to produce a national mean result.

Health Related Quality of Life: Barriers to Socialization

Survey Question: During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?

Socialization plays a significant role in public health. Research has shown that individuals who have the fewest social ties have an increased risk of mortality. Furthermore, the number of social relationships is inversely related to all-cause mortality.[13] The BRFSS survey asked if a person's activities were inhibited due to poor physical or mental health. To assess socialization, respondents were classified as inhibited socially if they reported 14 or more days of limited activities due to health, within the 30 days prior. Arizonans surveyed reported a similar frequency of inhibited socialization when compared to the national median (see Figure A).



	2011	2012	2013	2014	2015
Arizona	15.3%	15.7%	17.2%	17.2%	15.2%
National	14.7%	14.8%	14.9%	14.9%	15.0%

Figure A: Arizona and National 2011-2015 BRFSS prevalence of reporting inhibited socialization ≥ 14 days within the past 30-days.

When looking at all the states in the nation, in 2015, Arizona falls in the second-lowest class for the percent of respondents reporting inhibited socialization (see Figure B).

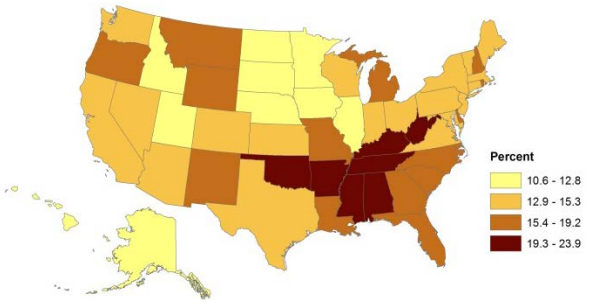


Figure B. BRFSS 2015 respondents reporting inhibited socialization (≥14 days in past 30-days) by state (natural breaks).

Arizona 2015 BRFSS results generally concur with the current literature on FPD among women of child-bearing age (see Figure C). Arizona women surveyed who are current or former cigarette smokers report FPD more frequently than Arizona women surveyed who had never smoked There were some differences in frequent inhibited socialization reported by Arizona survey respondents who also engaged in various other types of social activities such as smoking, binge drinking, heavy drinking and marital status (see Figure C).

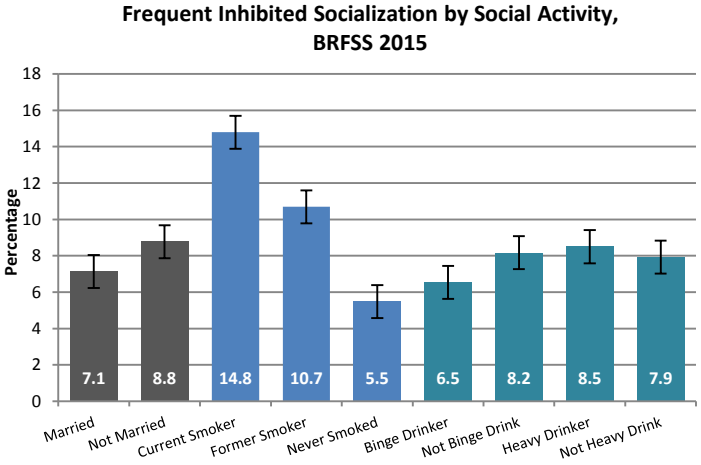


Figure C: Arizona 2015 BRFSS data assessing frequent inhibited socialization by social activity.

There are differences in Arizonans surveyed who reported frequent inhibited socialization who also reported certain medical conditions (see Figure D). While the occurrence of chronic conditions is higher among those that reported frequently inhibited socialization, not all respondents with these chronic diseases reported that they are socially inhibited.

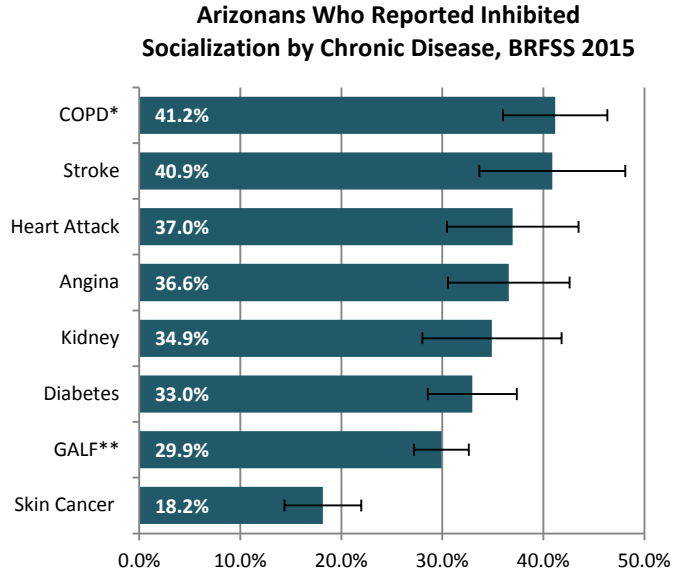


Figure D: Arizona 2015 BRFSS respondents reporting frequent inhibited socialization (≥ 14 days within the past 30-days) by chronic disease. *COPD - Chronic Obstructive Pulmonary Disease;GALF - Gout, Arthritis, Lupus, and Fibromyalgia.**

[13] Umberson D, Montez JK. Social Relationships and Health: A Flashpoint for Health Policy. Journal of health and social behavior. 2010;51(Suppl):S54-S66. doi:10.1177/0022146510383501.

Arizonans Reporting Frequent Inability to Socialize (≥ 14 days) Due to Poor Health				
			Confidence Interval	
Characteristic	Percent	N*	Lower Mean	Upper Mean
National	**15.0%**	**53**		
Arizona	**15.2%**	**695**	**13.7%**	**16.7%**
Male	14.4%	266	12.2%	16.6%
Female	15.9%	429	13.9%	17.8%
18-24	5.3%	10	1.7%	8.9%
25-34	7.7%	30	4.7%	10.8%
35-44	12.4%	56	8.7%	16.1%
45-54	21.9%	125	17.6%	26.2%
55-64	23.0%	188	19.4%	26.6%
65+	19.8%	286	17.0%	22.6%
Married	15.0%	302	12.9%	17.0%
Divorced	20.7%	148	16.6%	24.9%
Widowed	20.2%	102	15.2%	25.2%
Separated	34.5%	31	23.3%	45.7%
Never Married	10.4%	88	7.4%	13.4%
Unmarried Couple	10.7%	21	4.7%	16.8%
Less than high school	20.6%	85	15.5%	25.8%
High School/GED	13.4%	167	10.8%	15.9%
Some College/Technical School	16.5%	258	14.0%	19.0%
College/Technical School Grad	10.6%	182	8.6%	12.7%
Employed for Wages	7.1%	89	5.2%	9.0%
Self Employed	11.7%	31	6.6%	16.8%
Out of Work	25.8%	57	17.8%	33.9%
Homemaker	11.3%	39	7.1%	15.5%
Student	2.7%	6	0.0%	5.3%
Retired	19.2%	244	16.4%	22.1%
Unable to Work	51.8%	225	45.3%	58.3%
Less than $10,000	26.1%	62	18.3%	33.8%
$10,000 to $14,999	28.2%	66	19.6%	36.8%
$15,000 to $19,999	16.0%	74	11.0%	21.1%
$20,000 to $24,999	15.7%	71	11.4%	20.1%
$25,000 to $34,999	15.5%	62	10.7%	20.3%
$35,000 to $49,999	12.8%	71	8.7%	16.8%
$50,000 to $74,999	11.4%	66	7.9%	14.9%
Above $75,000	7.9%	75	5.5%	10.3%
White Non-Hispanic	15.8%	519	14.0%	17.5%
Black/African American	14.0%	18	7.3%	20.6%
Hispanic	13.8%	106	10.8%	16.9%
Asian/Pacific Islander	17.2%	7	0.0%	35.6%
American Indian Non-Hispanic	14.3%	16	5.4%	23.2%
Other	17.6%	29	9.7%	25.4%

Use caution in interpreting cell sizes less than 50. N* is unweighted.
National N is 53 = all 50 states, DC and Territories.

Health Related Quality of Life: Barriers to Socialization

The table to the left proportion of Arizonans surveyed who indicated that they suffered 14 or more days of poor physical or mental health inhibiting daily function in the 30 days prior. The data are also reported by sex, age categories, marital status, educational attainment, employment status, income and race/ethnicity.

The “Nationwide” estimates shown are median values across all states, not means. “National” level estimates reported here use medians because no national stratum was defined in the 2015 BRFSS survey. Survey results at the national level were not adjusted or weighted to produce a national mean result.

Preventive Health Practices

Prevention is grouped into three levels: primary, secondary and tertiary. Primary prevention consists of practices aimed at preventing diseases from ever occurring. Vaccination is an example of primary prevention. Secondary prevention is used after the person develops a disease but before they exhibit symptoms. Cancer screening is considered secondary prevention. Lastly, tertiary prevention is targeted at individuals who already have symptoms of a disease. Administration of antibiotics is an example of tertiary prevention. This section of the 2015 BRFSS Annual Report focuses on primary and secondary prevention, including an analysis of the following:

- **Routine Medical Examination (variable CHECKUP1)** — A medical examinations within a year is considered a positive outcome and medical examination over is considered a negative outcome. [A routine checkup is a general physical exam, not an exam for a specific injury, illness, or condition.]

- **Annual Influenza Vaccine (variable _FLSHOT6 & FLUSHOT6)**—Individuals 65 and older where influenza vaccinations within the last 12 months is considered a positive outcome. Individuals exceeding 12 months are considered a negative outcome.

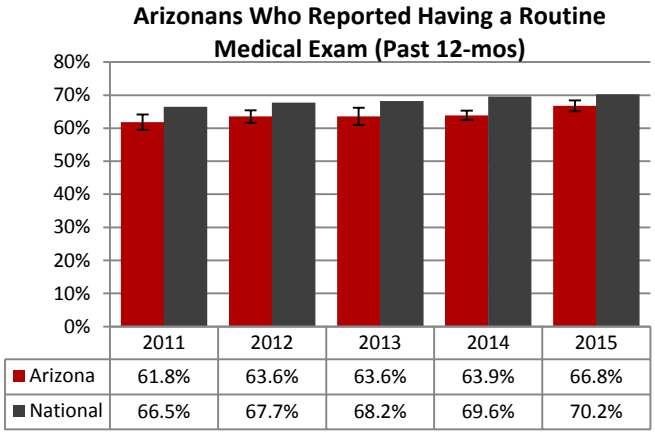
- **Pre-conception Health –** Women's reproductive ages should receive preconception care to better manage their condition.

    - **Pre-conception Health-(variable AZ5_1 through AZ5_7)** Women (childbearing age) who talk to a health care professional about ways to prepare for a healthy baby is considered to be a positive outcome.

Preventive Health Practices: Routine Medical Examinations

Survey Question: About how long has it been since you last visited a doctor for a routine checkup?

Regular medical exams are a valuable tool in preventive care. Routine examinations can find problems early, when treatment is more effective.[14] However, there is a growing discussion on what tests to include and how often an examination is necessary. Depending on age and gender, the recommended frequency ranges from 1-5 years for healthy individuals.[15] If a person suffers from a serious medical condition, it is advised that he/she see a medical professional regularly.[16] To assess the utilization of health services, the shortest interval recommended for a routine medical examination (1 year) was used. Arizonans surveyed from 2011 through 2015 reported having a routine medical exam in the past year was lower than the U.S. median (see Figure A).



	2011	2012	2013	2014	2015
Arizona	61.8%	63.6%	63.6%	63.9%	66.8%
National	66.5%	67.7%	68.2%	69.6%	70.2%

Figure A: Arizona and national BRFSS 2015 respondents who have had a routine medical exam within a 12-month period.

In 2015, 66.8% of Arizonans surveyed reported they had a routine medical examination in the past year. The national prevalence is 70.2%. When looking at all the states in the nation, Arizona falls in the second lowest class (see Figure B).

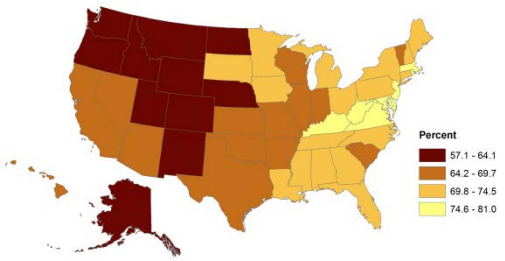
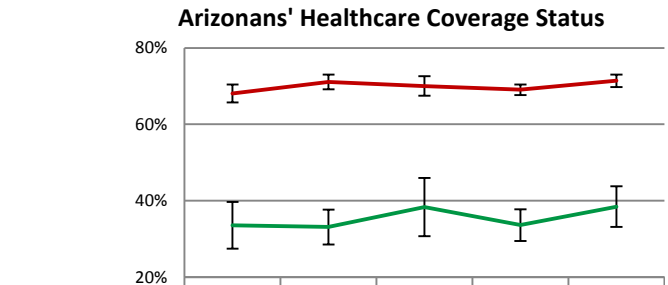


Figure B: BRFSS 2015 survey respondents who reported having had a routine medical exam in the past year by state, (natural breaks).

The lack of health insurance acts as a barrier to accessing health care. Uninsured people are more likely to report that they were unable to receive medical care, and are more likely to have poor health status.[17] Arizonans surveyed who reported having no health insurance were significantly less likely to have had a check-up in the past year when compared to those respondents with health insurance (see Figure C).



	2011	2012	2013	2014	2015
Insurance	68.1%	71.1%	70.0%	69.0%	71.4%
No Insurance	33.6%	33.1%	38.4%	33.6%	38.5%

Figure C: Arizona BRFSS 2015 respondents who have had a routine medical exam within 12-months stratified by insurance status- BRFSS 2015.

Arizonans who reported having a checkup within the prior year ranges from 77.9% to 86.9%, depending on the Chronic Condition (CC). These are all higher than the percentage among all Arizonans surveyed, at 66.8% (see Figure D). Routine medical examinations prevent the exacerbation of CCs and reduce future costs of care. The yellow dashed line is the overall percent of Arizonans who have had a routine medical exam in the last 12-months, BRFSS 2015 (see Figure D).

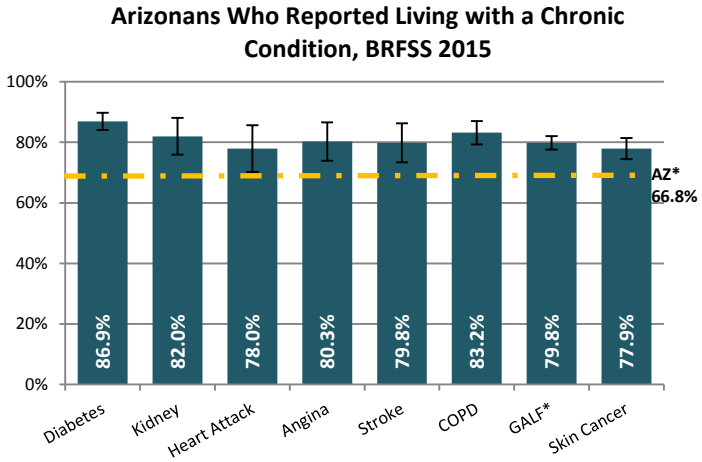


Figure D: Arizona BRFSS 2015 respondents living with chronic conditions. Percent of Arizonans who've seen a medical professional in the past year (yellow dashed line). *GALF: Gout, Arthritis, Lupus, and Fibromyalgia.

[14] "Regular Checks- Are Important." Centers for Disease Control and Prevention. Centers for Disease Control and Prevention, n.d. Web. 08 Oct. 2013. http://www.cdc.gov/family/checkup/.
[15] Physical Exam Frequency: MedlinePlus Medical Encyclopedia." U.S National Library of Medicine. U.S. National Library of Medicine, n.d. Web. 08 Oct. 2013. http://www.nlm.nih.gov/medlineplus/ency/article/002125.htm.
[16] Bodenheimer T. Willard-Grace R. Teamlets in Primary Care: Enhancing the Patient and Clinical Experience. J Am Board of Fam Med. 2006 Jan-Feb: 29(1): 135-138. doi: 10.3122/ jabfm . 2016.01.150176
[17] Bodenheimer T. Willard-Grace R. Teamlets in Primary Care: Enhancing the Patient and Clinical Experience. J Am Board of Fam Med. 2006 Jan-Feb: 29(1): 135-138. doi: 10.3122/ jabfm . 2016.01.150176

Arizonans Who Reported Having A Routine Medical Examinations (within past 12-months)				
			Confidence Interval	
Characteristic	Percent	N*	Lower Mean	Upper Mean
National	**70.2%**	**53**		
Arizona	**66.8%**	**5874**	**65.2%**	**68.4%**
Male	62.2%	2278	59.7%	64.7%
Female	71.3%	3596	69.2%	73.3%
18-24	58.3%	176	51.9%	64.8%
25-34	51.1%	303	46.2%	56.0%
35-44	61.8%	548	57.7%	65.9%
45-54	65.3%	754	61.8%	68.9%
55-64	72.9%	1139	70.1%	75.7%
65+	85.3%	2954	83.6%	87.0%
Married	68.8%	3088	66.7%	70.9%
Divorced	70.0%	875	66.0%	74.1%
Widowed	82.5%	987	78.8%	86.2%
Separated	62.4%	100	50.1%	74.8%
Never Married	58.5%	624	54.2%	62.7%
Unmarried Couple	55.5%	142	46.2%	64.9%
Less than high school	61.3%	391	55.6%	67.1%
High School/GED	69.4%	1376	66.3%	72.5%
Some College/Technical School	64.4%	1739	61.5%	67.2%
College/Technical School Grad	70.8%	2339	68.5%	73.1%
Employed for Wages	61.8%	1780	59.1%	64.4%
Self Employed	57.5%	348	51.4%	63.5%
Out of Work	58.1%	188	50.4%	65.7%
Homemaker	67.1%	438	61.8%	72.3%
Student	55.8%	110	47.1%	64.6%
Retired	83.7%	2568	81.8%	85.6%
Unable to Work	79.8%	388	75.1%	84.5%
Less than $10,000	69.4%	181	61.8%	76.9%
$10,000 to $14,999	62.7%	246	54.0%	71.4%
$15,000 to $19,999	62.0%	336	55.3%	68.6%
$20,000 to $24,999	66.8%	477	61.0%	72.6%
$25,000 to $34,999	62.7%	483	56.9%	68.5%
$35,000 to $49,999	66.4%	730	61.6%	71.2%
$50,000 to $74,999	65.2%	717	60.7%	69.8%
Above $75,000	69.8%	1400	66.8%	72.9%
White Non-Hispanic	68.1%	4481	66.2%	69.9%
Black/African American	69.6%	154	60.4%	78.7%
Hispanic	63.1%	860	59.3%	67.0%
Asian/Pacific Islander	62.2%	91	51.1%	73.3%
American Indian Non-Hispanic	70.2%	121	61.1%	79.3%
Other	69.4%	167	60.8%	77.9%

Use caution in interpreting cell sizes less than 50. N* is unweighted.
National N is 53 = all 50 states, DC and Territories.

Preventive Health Practices: Routine Medical Examinations

The table to the left displays the proportions of Arizona Adults who have had a routine medical examination in the past 12-months by: sex, age categories, marital status, educational attainment, employment status, income and race/ethnicity.

The "Nationwide" estimates shown are median values across all states, not means. "National" level estimates reported here use medians because no national stratum was defined in the 2015 BRFSS survey. Survey results at the national level were not adjusted or weighted to produce a national mean result.

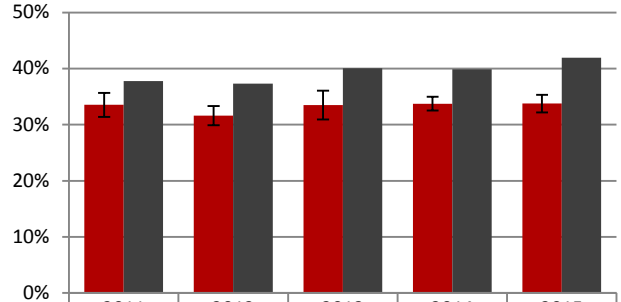
Preventive Health Practices: Influenza Vaccination

Survey Question: During the past 12 months, have you had either a flu shot or a flu vaccine that was sprayed in your nose?

Since 1918, there have been four influenza (flu) pandemics; the most recent was the 2009-2010 H1N1 pandemic. The CDC estimated that between 43 million to 89 million people contracted H1N1 during the 2009/2010 pandemic.[18] An analysis comparing the cost effectiveness of vaccination versus antiviral treatment of the flu found that antiviral treatment was the most consistently cost-effective treatment for working adults. However, the analysis did not take into consideration flu pandemics, herd immunity or the possibility of drug resistant strains of the flu.[19] When H1N1 was discovered, it was resistant to two of the four available antivirals; at the end of the pandemic, "evolved strains were found that were resistant to three antivirals."[20] For this reason, the CDC recommends annual flu vaccinations.

The 2015-2016 flu season started a little later than the previous three flu seasons. H3N2 viruses predominated early in the season, while H1N1 viruses were the most common later in the season and predominated for the entire season. While there were reports of severe flu illnesses and deaths, the season overall was milder than the three prior seasons.[21] In 2015, 33.8% of Arizonans surveyed reported having a flu vaccine in the last year, which was lower than the national median (42.0%) (see Figure A).

Arizonans Who Received A Flu Shot (past 12-mos)

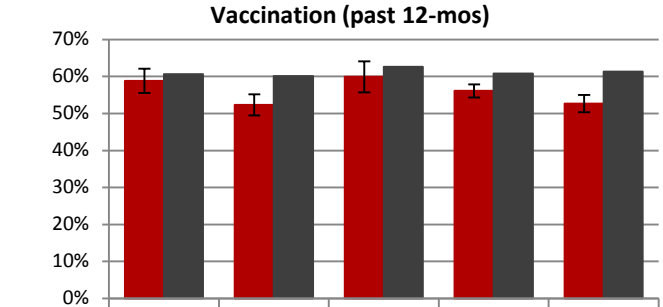


	2011	2012	2013	2014	2015
Arizona	33.6%	31.6%	33.5%	33.8%	33.8%
National	37.8%	37.4%	40.1%	39.9%	42.0%

Figure A: Arizona and national BRFSS 2015 data results from respondents who reported having a flu vaccine in the past 12-months.

Due to the potential co-occurrence of the flu and pneumonia, infection in high-risk populations is of greater concern. Monitoring vaccination prevalence of individuals who are over the age of 6-months and those who are 65 and older is recommended. In 2015, more than one-half (52.7%) of Arizonans over the age of 65 years surveyed in 2015 BRFSS reported having a flu vaccine within the past year, levels similar to the national median (see Figure B).

Arizonans 65 years and Older Having a Flu Vaccination (past 12-mos)



	2011	2012	2013	2014	2015
Arizona	58.8%	52.3%	59.9%	56.1%	52.7%
National	60.7%	60.1%	62.6%	60.8%	61.3%

Figure B: Percentage of Arizona and National BRFSS 2011-2015 Respondents who received a flu vaccine within past 12-months.

When compared to the other states in the nation, Arizona fell into the lowest category (51.4-55.7%) for the percent of individuals 65 years of age and older reporting a flu shot in the last 12 months (see Figure C).

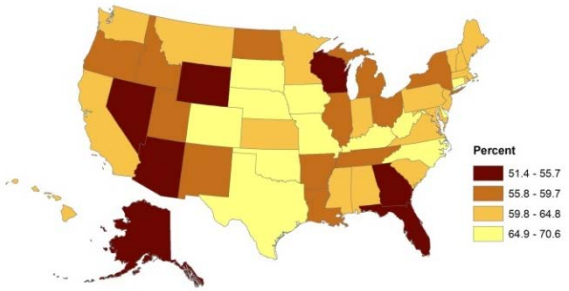


Figure C: Arizona and National 2015 BRFSS respondents (≥65 years) who had an influenza vaccination in the past 12-months by state (natural breaks).

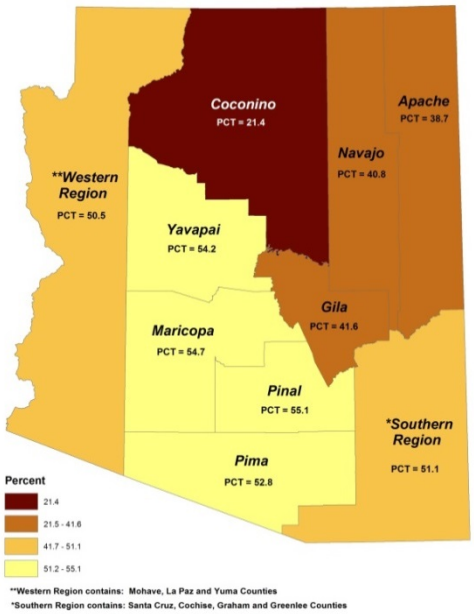


Figure D: Arizona 2015 BRFSS respondents 65 years and older who had an influenza vaccination in the past 12-months by county.

[18] Centers for Disease Control and Prevention. "Key Facts About Seasonal Flu Vaccine." CDC, 07 Nov. 2013. Web. 12 Feb. 2014. <http://www.cdc.gov/flu/protect/keyfacts.htm>.
[19] Rothberg, MB and Rose, DN. Am J Med. 2005 Jan; 118(1):68-77. Accessed 15 March 2017 <https://www.ncbi.nlm.nih.gov/pubmed/15639212>.
[20] Nichol, K. The efficacy, effectiveness and cost-effectiveness of inactivated influenza virus vaccines. Vaccine 21 (2003) 1769–1775
[21] Centers for Disease Control and Prevention. "Summary of the 2015-2016 Influenza Season." CDC, 27 Sept. 2016. Web. 27 Mar. 2017. <https://www.cdc.gov/flu/about/season/flu-season-2015-2016.htm>.

Arizonans 65 Years and Older Who Had a Flu Shot in the Past 12-Months				
			Confidence Interval	
Characteristic	Percent	N*	Lower Mean	Upper Mean
National	**61.3%**	**53**		
Arizona	**52.7%**	**1682**	**50.3%**	**55.0%**
Male	53.6%	674	49.9%	57.3%
Female	51.9%	1008	49.0%	54.9%
65+	52.7%	1682	50.3%	55.0%
Married	56.6%	855	53.6%	59.6%
Divorced	41.1%	207	34.4%	47.7%
Widowed	52.7%	521	48.1%	57.3%
Separated	26.1%	13	11.6%	40.6%
Never Married	47.1%	63	34.3%	59.9%
Unmarried Couple	47.9%	17	22.1%	73.6%
Less than high school	51.1%	113	42.6%	59.7%
High School/GED	49.2%	355	44.7%	53.6%
Some College/Technical School	50.4%	488	46.5%	54.3%
College/Technical School Grad	59.7%	718	56.4%	63.0%
Employed for Wages	48.7%	125	41.0%	56.3%
Self Employed	42.5%	44	30.2%	54.7%
Out of Work	37.4%	10	14.4%	60.4%
Homemaker	60.9%	111	52.4%	69.3%
Student	88.6%	2		
Retired	54.0%	1334	51.4%	56.7%
Unable to Work	42.7%	52	29.2%	56.3%
Less than $10,000	41.0%	26	19.1%	62.9%
$10,000 to $14,999	45.9%	65	33.2%	58.6%
$15,000 to $19,999	46.9%	92	37.4%	56.3%
$20,000 to $24,999	47.8%	137	40.3%	55.2%
$25,000 to $34,999	47.5%	152	40.0%	55.1%
$35,000 to $49,999	52.4%	241	46.3%	58.5%
$50,000 to $74,999	54.0%	221	48.1%	59.9%
Above $75,000	66.1%	326	61.1%	71.0%
White Non-Hispanic	53.6%	1467	51.2%	56.0%
Black/African American	47.6%	27	30.6%	64.6%
Hispanic	44.2%	119	36.1%	52.3%
Asian/Pacific Islander	50.8%	9	12.1%	89.4%
American Indian Non-Hispanic	70.1%	20	45.7%	94.5%
Other	52.9%	40	39.0%	66.8%

Use caution in interpreting cell sizes less than 50. N* is unweighted.
National N is 53 = all 50 states, DC and Territories.

Preventive Health Practices: Influenza Vaccination

The table to the left displays the proportion of the 2015 Arizona BRFSS respondents of 65 years and older who reported that they had a flu vaccination in the past 12-months. Responses are also represented by sex, age categories, marital status, educational attainment, employment status, income and race/ ethnicity.

The "Nationwide" estimates shown are median values across all states, not means. "National" level estimates reported here use medians because no national stratum was defined in the 2015 BRFSS survey. Survey results at the national level were not adjusted or weighted to produce a national mean result.

Arizonans (≥18 years) Who Received a Flu Shot in the Last 12-Months				
			Confidence Interval	
Characteristic	Percent	N*	Lower Mean	Upper Mean
National	**42.0%**	**53**		
Arizona	**33.8%**	**3035**	**32.2%**	**35.3%**
Male	31.2%	1181	28.9%	33.5%
Female	36.2%	1854	34.1%	38.3%
18-24	18.3%	51	13.1%	23.5%
25-34	26.4%	137	21.9%	30.8%
35-44	29.4%	240	25.4%	33.3%
45-54	28.0%	322	24.6%	31.3%
55-64	39.7%	579	36.5%	42.8%
65+	52.6%	1706	50.3%	54.9%
Married	38.1%	1660	36.0%	40.1%
Divorced	33.4%	411	29.4%	37.3%
Widowed	49.0%	576	44.3%	53.6%
Separated	28.1%	47	17.9%	38.4%
Never Married	22.2%	249	18.5%	26.0%
Unmarried Couple	25.1%	74	17.9%	32.3%
Less than high school	28.9%	192	23.8%	34.0%
High School/GED	29.6%	597	26.7%	32.6%
Some College/Technical School	33.1%	877	30.4%	35.7%
College/Technical School Grad	41.6%	1353	39.2%	44.1%
Employed for Wages	30.5%	865	28.1%	33.0%
Self Employed	21.2%	131	16.5%	25.8%
Out of Work	21.7%	74	15.3%	28.2%
Homemaker	30.5%	206	25.2%	35.7%
Student	24.6%	48	17.1%	32.2%
Retired	52.2%	1513	49.7%	54.7%
Unable to Work	38.5%	183	32.0%	45.0%
Less than $10,000	33.7%	79	24.8%	42.6%
$10,000 to $14,999	26.8%	114	20.0%	33.5%
$15,000 to $19,999	29.8%	162	23.5%	36.0%
$20,000 to $24,999	29.0%	232	23.7%	34.4%
$25,000 to $34,999	29.9%	226	24.6%	35.3%
$35,000 to $49,999	30.4%	372	26.3%	34.5%
$50,000 to $74,999	35.7%	396	31.3%	40.0%
Above $75,000	41.0%	823	37.8%	44.2%
White Non-Hispanic	36.9%	2426	35.1%	38.7%
Black/African American	27.3%	59	18.8%	35.8%
Hispanic	25.6%	356	22.4%	28.8%
Asian/Pacific Islander	30.9%	43	20.7%	41.0%
American Indian Non-Hispanic	45.8%	71	34.4%	57.3%
Other	32.2%	80	23.8%	40.7%

Use caution in interpreting cell sizes less than 50. N* is unweighted.
National N is 53 = all 50 states, DC and Territories.

Preventive Health Practices: Influenza Vaccination

The table to the left displays the proportion of the 2015 Arizona BRFSS respondents of all ages who reported that they had a flu vaccination in the past 12-months. The data are reported by sex, age categories, marital status, educational attainment, employment status, in- come and race/ethnicity.

The "Nationwide" estimates shown are median values across all states, not means. "National" level estimates reported here use medians because no national stratum was defined in the 2015 BRFSS survey. Survey results at the national level were not adjusted or weighted to produce a national mean result.

Preventive Health Practices: Preconception Health

Survey Question: Has a doctor, nurse, or other health care worker ever talked with you about ways to prepare for a healthy pregnancy and baby?

Preconception health refers to the health of women and men before and between pregnancies and focuses on improving one's health before becoming pregnant in the hopes of improving future pregnancy and birth outcomes in the future, resulting in healthier infants and children.[22]

Since preconception health is about getting and staying healthy overall throughout the lifespan, all women and men can benefit from improving their preconception health, regardless of whether they plan to have a baby. Preconception health encompasses multiple areas of health, including reproductive health, nutrition and physical activity, tobacco use, substance abuse and learning to manage chronic conditions.[23] Preconception health not only improves the lives of individuals, but it also leads to healthier communities as a whole.

In addition, while no one expects an unplanned pregnancy, the reality is that it happens frequently. About half of all pregnancies in the United States are unintended,[24] making preconception health even more important to ensure optimal health before pregnancy and safeguarding babies' future health. In 2013, the BRFSS survey asked respondents if a doctor, nurse or other health care worker had ever talked with them about ways to prepare for a healthy pregnancy and baby. The percentage of Arizonans surveyed indicating they had been asked was 44.0% in 2015, with numbers trending back up since the drop in 2014 (see Figure A).

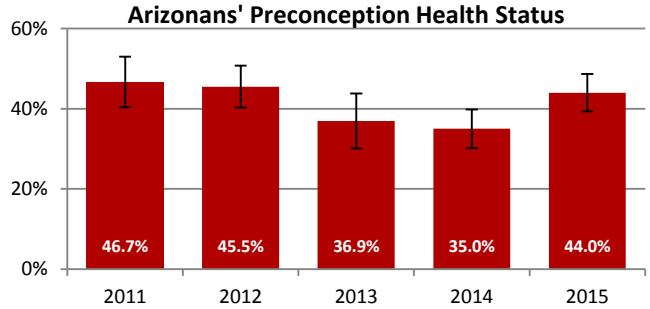
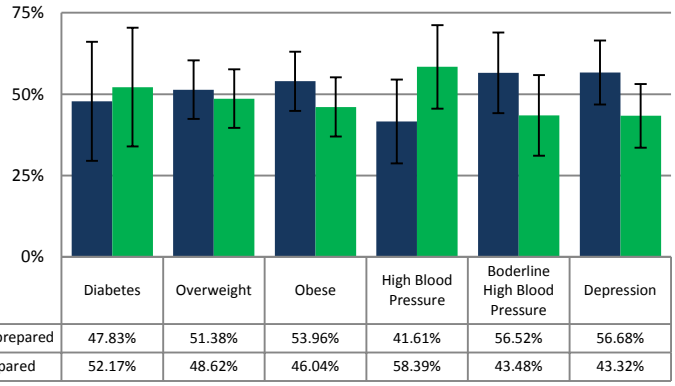


Figure A: Arizona BRFSS 2011-2015 female respondents ages 18 to 45 who reported a doctor, nurse, or other health care worker ever having talked with them about ways to prepare for a healthy pregnancy and baby.

Recognizing the importance of preconception health, since 2006, the Centers for Disease Control and Prevention have recommended that preconception health and care be incorporated into routine primary care visits.[25] While all women and men of reproductive age should receive preconception care, it is particularly important for women with chronic diseases.[26] Chronic diseases before and during pregnancy, such as diabetes, hypertension, high cholesterol and mental health conditions, have been associated with increased risk of adverse birth outcomes, such as pre-term birth, low birth weight, birth defects and even infant mortality.[27] During preconception health counseling, women can discuss with their health professionals ways to better manage their conditions, increase compliance with treatment and alter treatment plans if necessary (see Figure B).

Pregnancy Preparedness by Chronic Condition, BRFSS 2015



	Diabetes	Overweight	Obese	High Blood Pressure	Boderline High Blood Pressure	Depression
Unprepared	47.83%	51.38%	53.96%	41.61%	56.52%	56.68%
Prepared	52.17%	48.62%	46.04%	58.39%	43.48%	43.32%

Figure B: Arizona women who reported a health care professional ever having talked with them about ways to prepare for a healthy pregnancy and baby by chronic conditions, BRFSS 2015.

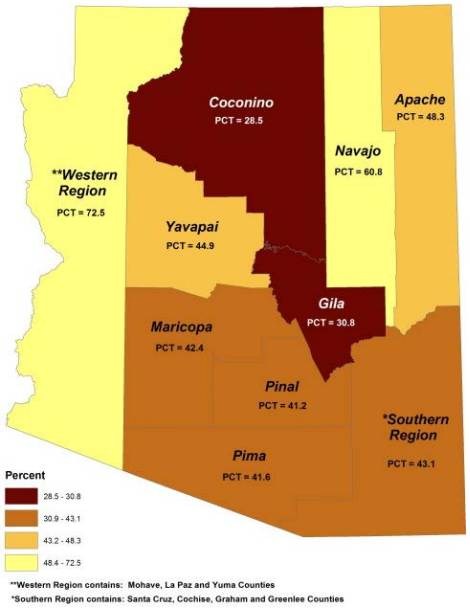


Figure C: Arizona women who reported a health care professional talked with them about ways to prepare for a healthy pregnancy and baby by County, BRFSS 2015.

[22] Web: 14 January 2014 (http://www.azdhs.gov/prevention/womens-childrenshealth/womens-health/index.php#preconception-home)
[23] Mumford SL, Michels KA, Salaria N, Valanzasca P, Belizán JM. Preconception care: it's never too early. Reproductive Health. 2014;11:73. doi:10.1186/1742-4755-11-73.
[24] (Kathryn M. Curtis & Curtis, PhD, 2013) Division of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion Center for Chronic Disease Prevention and Health Promotion;Finer LB, Zolna MR. Unintended pregnancy in the United States: incidence and disparities, 2006. Contraception 2011;84:478–85.
[25] Bello JK et al. Trends in Contraceptive and Preconception Care in United States Ambulatory Practices. Fam Med. 2015;47(4):264-271.
[26] Steel A, Lucke J, Adams J. The prevalence and nature of the use of preconception services by women with chronic health conditions: an integrative review. BMC Women's Health. 2015;15:14. doi:10.1186/s12905-015-0165-6.
[27] Steel A, Lucke J, Adams J. The prevalence and nature of the use of preconception services by women with chronic health conditions: an integrative review. BMC Women's Health. 2015;15:14. doi:10.1186/s12905-015-0165-6.

Arizona Females Ages ≥18 and ≤45 Who Reported a Healthcare Professional Ever Talked to Them About Ways to Prepare for a Healthy Pregnancy and Baby				
			Confidence Interval	
Characteristic	Percent	N*	Lower Mean	Upper Mean
Female	44.0%	362	39.3%	48.7%
18-24	18.9%	17	9.8%	28.0%
25-34	48.7%	115	40.8%	56.6%
35-44	57.0%	230	51.1%	62.8%
Married	57.3%	223	51.1%	63.5%
Divorced	40.1%	32	24.6%	55.7%
Widowed	83.8%	4	0.0%	100.0%
Separated	39.8%	12	10.9%	68.6%
Never Married	24.3%	56	16.3%	32.3%
Unmarried Couple	49.2%	32	33.6%	64.7%
Less than high school	55.2%	36	41.0%	69.5%
High School/GED	40.2%	79	31.1%	49.3%
Some College/Technical School	40.1%	119	32.7%	47.5%
College/Technical School Grad	46.3%	126	39.2%	53.4%
Employed for Wages	42.8%	192	36.5%	49.1%
Self Employed	42.9%	21	20.4%	65.4%
Out of Work	45.4%	20	25.1%	65.7%
Homemaker	59.7%	94	50.2%	69.2%
Student	20.7%	17	9.0%	32.4%
Unable to Work	37.1%	14	11.4%	62.8%
Less than $10,000	33.3%	17	13.4%	53.1%
$10,000 to $14,999	27.9%	18	12.0%	43.8%
$15,000 to $19,999	55.2%	34	39.4%	71.1%
$20,000 to $24,999	47.5%	33	30.6%	64.4%
$25,000 to $34,999	39.8%	27	25.3%	54.3%
$35,000 to $49,999	51.7%	49	39.1%	64.3%
$50,000 to $74,999	55.2%	44	41.5%	68.8%
Above $75,000	43.6%	93	34.7%	52.6%
White Non-Hispanic	36.0%	164	29.9%	42.0%
Black/African American	29.2%	11	11.2%	47.2%
Hispanic	54.5%	137	46.6%	62.5%
Asian/Pacific Islander	43.7%	11	17.0%	70.4%
American Indian Non-Hispanic	50.8%	22	26.2%	75.3%
Other	38.2%	17	18.6%	57.9%

Use caution in interpreting cell sizes less than 50. N* is unweighted.

Preventive Health Practices: Preconception Health

The table to the left displays the characteristics of Arizona women of childbearing age (between the ages of 18 and 45) who reported a health care professional ever having talked to them about ways to prepare for a healthy pregnancy and baby. The data are reported by age categories, marital status, educational attainment, employment status, income, and race/ethnicity.

Barriers to Health Care

As of the writing of this report in early 2014, the United States had entered a new healthcare model with the implementation of Patient Protection and Affordable Care Act (ACA). Under the ACA, Medicaid coverage was expanded to include individuals/households with incomes less than the 133% of the federal poverty level. Furthermore, refundable tax credits will be available to all Americans with incomes between 100% and 400% of the federal poverty line. Continued monitoring of barriers to healthcare will provide the feedback needed to assess Arizona's efforts to provide services and care to its population. On March 23, 2010, President Obama signed the Affordable Care Act and set into place an effort that will help ensure Americans have secure, stable, affordable health insurance. As part of the law the Centers for Consumer Information & Insurance Oversight (CCIO) within the division of the Centers for Medicare & Medicaid Services (CMS) and part of the Department of Health & Human Services (DHHS) provides national leadership in setting and enforcing standards for health insurance that promote fair and reasonable practices to ensure that affordable, quality health coverage is available to all Americans. People with low and middle incomes are eligible for tax subsidies that will help them buy coverage from state health insurance exchanges. The Affordable Care Act also broadens Medicaid eligibility in many states including Arizona to generally include individuals with income below 133% of the Federal poverty line ($14,400 for an individual and $29,300 for a family of four), including single adults without children who were previously not generally eligible for Medicaid. Persons living with human immunodeficiency virus (HIV) who meet this income threshold no longer have to wait for an AIDS diagnosis in order to become eligible for Medicaid. The ACA also helps people with public or private coverage have access to the information they need to get the best quality care.[28] This section of the 2015 BRFSS Annual Report will include analysis of the following:

- **Poverty (variable calculated from INCOME2, NUMMEN, NUMWOMEN, and CHILDREN) -** binary variable where household size and income are used to calculate 133% of the federal poverty line.

- **Healthcare Insurance status (variable calculated from HLTHPLN1) -** binary variable where having insurance is considered a positive outcome and not having insurance is considered a negative outcome.

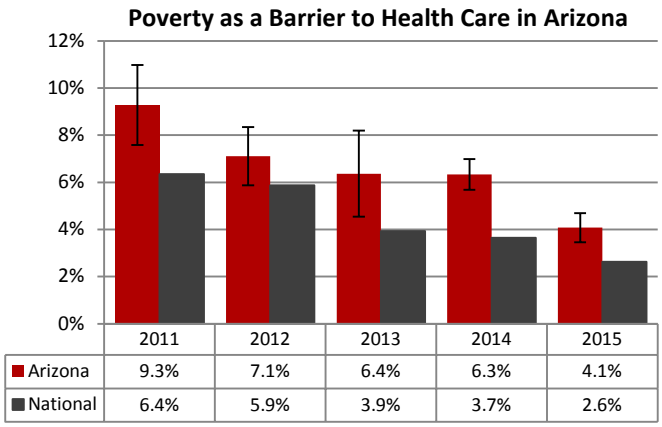
- **Cannot Afford Needed Healthcare (variable MEDCOST) -** binary variable where being able to afford needed healthcare is a positive outcome and being able to not afford needed health care is considered a negative outcome.

    - **Usual Source of Healthcare (variable calculated from PERSDOC2) –** binary variable in which having a usual health care provider is considered a positive outcome and not having a usual health care provider is considered a negative outcome.Certain activities or behaviors increase the risk of mortality and morbidity. Promotion of cessation programs, awareness, and policy changes will help reduce the impact of these behaviors. Many programs and policies have been enacted to reduce the burdens associated with participating in these risky behaviors. Continued monitoring of these behaviors will provide Arizona with a tool to assess the impact of these programs and policies.

[28] Web. 14 January 2014 http://www.cdc.gov/hiv/pdf/policies_Affordable_Care_Act_English.pdf

Barriers to Healthcare: Poverty

Globally, there are approximately 1.2 billion people living in extreme poverty (less than a dollar a day).[29] It is very rare to find extreme poverty in the U.S.; however, poverty does exist. Poverty in the U.S. is based on income and the size of the household. Research has shown that individuals who live in poverty have worse health outcomes. The U.S. Census Bureau sets the federal poverty limit (FPL) using annual household income data and household size.[30] According to the 2015 BRFSS, 4.1% of Arizonans surveyed reported they lived with household incomes below 133% of FPL, 1.5% above the national 2015 BRFSS median. The charts that follow report respondents indicating they were at or below 133% of the FPL in each year ("In Poverty"). Survey respondents indicating they are in poverty have gradually declined since 2011 (see Figure A).



	2011	2012	2013	2014	2015
Arizona	9.3%	7.1%	6.4%	6.3%	4.1%
National	6.4%	5.9%	3.9%	3.7%	2.6%

Figure A: Arizona and National BRFSS 2011-2015 survey respondents who reported living in poverty.

When looking across all states in the nation, Arizona is in the second-highest category for percent of impoverished respondents (see Figure B).

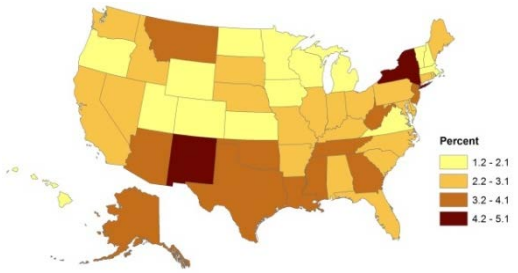


Figure B: U.S. Map of BRFSS 2015 respondents who reported living in poverty by state (natural breaks).

All categories of poverty are exhibited across Arizona. The Western and Southern Regions and Gila County being in the highest category (5.3-9.2%) (See Figure C).

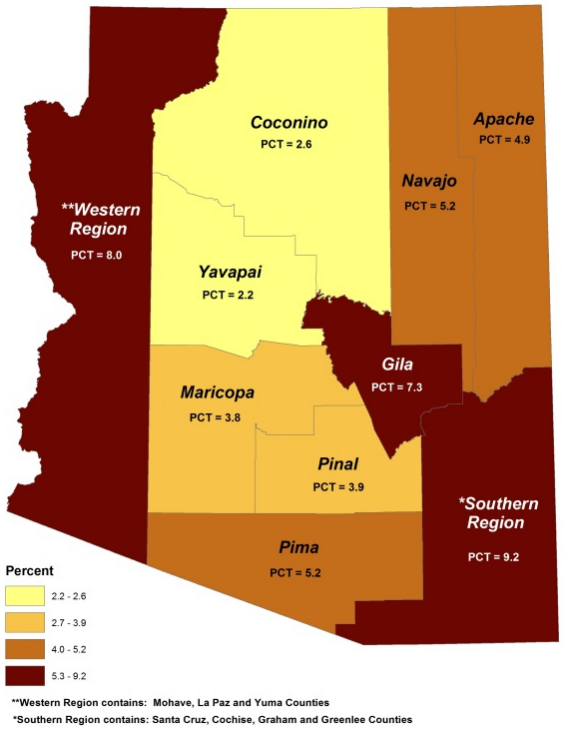


Figure C: Arizona BRFSS 2015 respondents who reported living in poverty by county.

The prevalence of poverty is broadly similar among Arizonans surveyed in 2015 when different chronic conditions are taken into consideration. Those reporting diabetes, stroke, COPD or GALF diagnoses also reported being in poverty slightly more frequently than those with other conditions (see Figure D).

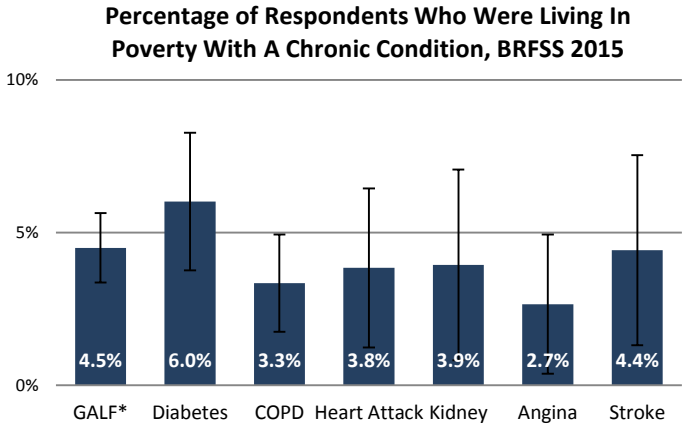


Figure D. Arizona BRFSS 2015 respondents who reported poverty status and a chronic condition. *GALF: Gout, Arthritis, Lupus, and Fibromyalgia.

In 2015, Arizona BRFSS respondents reported living below 133% of FPL and were uninsured at 8.1%, see Figure D (yellow). Respondents whose earned income was above 133% of FPL and having no insurance at 91.9% see Figure D (red).

[29] Wagstaff, Adam. (2002). Poverty and health sector inequalities. *Bulletin of the World Health Organization*, *80*(2), 97-105. Retrieved March 29, 2016, from http://www.scielosp.org/scielo.php?script=sci_arttext&pid=S0042-96862002000200004&lng=en&tlng=en.

[30] Federal Register, Vol. 78, No. 16, January 24, 2013, pp. 5182-5183. Web. Dec. 2013. "The poverty guidelines updated periodically in the Federal Register by the U.S. Department of Health and Human Services under the authority of 42 U.S.C. 9902(2)" http://aspe.hhs.gov/2013-poverty-guidelines.html

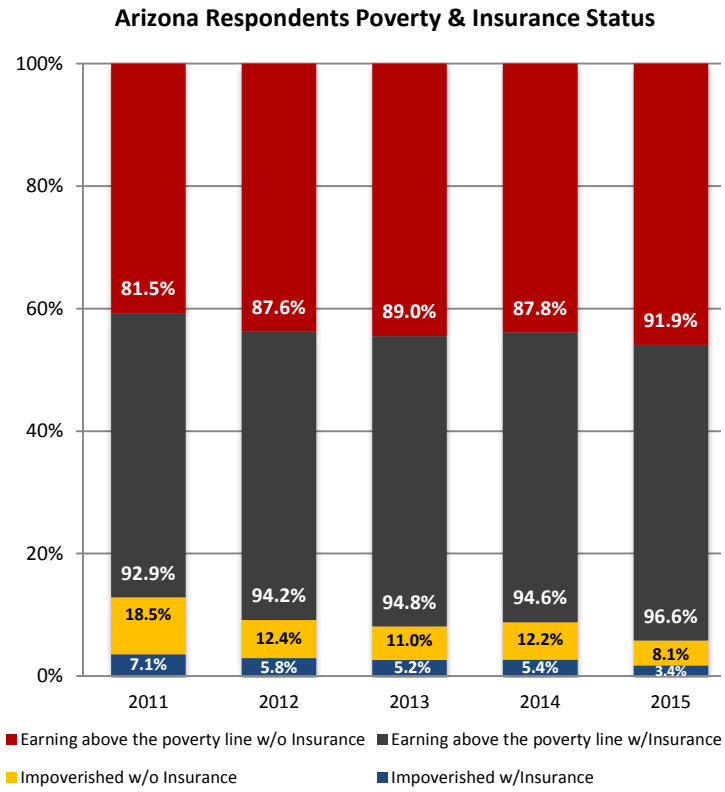


Figure D: Arizonans who reported poverty status with or without insurance, BRFSS 2011-2015.

Arizonans Who Reported Living in Poverty (<133% FPL)				
			Confidence Interval	
Characteristic	Percent	N*	Lower Mean	Upper Mean
National	**2.6%**	**53**		
Arizona	**4.1%**	**255**	**3.5%**	**4.7%**
Male	3.5%	82	2.6%	4.4%
Female	4.7%	173	3.8%	5.5%
18-24	1.5%	7	0.3%	2.6%
25-34	5.6%	43	3.7%	7.5%
35-44	7.4%	79	5.4%	9.3%
45-54	5.1%	63	3.7%	6.6%
55-64	3.6%	39	2.2%	4.9%
65+	1.4%	24	0.8%	2.1%
Married	4.2%	123	3.3%	5.1%
Divorced	5.2%	43	3.3%	7.0%
Widowed	3.8%	17	1.3%	6.3%
Separated	8.1%	16	3.9%	12.4%
Never Married	3.4%	47	2.1%	4.8%
Unmarried Couple	2.6%	8	0.7%	4.6%
Less than high school	9.2%	63	6.6%	11.8%
High School/GED	4.9%	88	3.7%	6.1%
Some College/Technical School	3.6%	83	2.7%	4.6%
College/Technical School Grad	0.7%	21	0.3%	1.1%
Employed for Wages	3.3%	99	2.5%	4.1%
Self Employed	5.6%	18	2.6%	8.7%
Out of Work	4.6%	18	2.4%	6.9%
Homemaker	9.8%	49	6.5%	13.1%
Student	3.2%	11	0.6%	5.8%
Retired	1.5%	24	0.8%	2.1%
Unable to Work	8.0%	32	4.6%	11.5%
Less than $10,000	11.2%	37	7.2%	15.2%
$10,000 to $14,999	10.7%	38	6.6%	14.8%
$15,000 to $19,999	14.3%	65	10.4%	18.3%
$20,000 to $24,999	8.7%	52	5.9%	11.5%
$25,000 to $34,999	11.2%	52	7.7%	14.6%
$35,000 to $49,999	1.9%	11	0.7%	3.2%
White Non-Hispanic	2.2%	86	1.6%	2.8%
Black/African American	4.7%	15	1.9%	7.5%
Hispanic	8.5%	131	6.8%	10.3%
Asian/Pacific Islander	3.9%	6	0.4%	7.4%
American Indian Non-Hispanic	4.0%	12	1.5%	6.4%
Other	2.0%	5	0.0%	4.0%

Use caution in interpreting cell sizes less than 50. N* is unweighted.
National N is 53 = all 50 states, DC and Territories.

Barriers to Healthcare: Poverty

The table to the left displays the proportions of Arizona adults living in poverty (defined as earning less than 133% of the federal poverty line (FPL)) by sex, age categories, marital status, educational attainment, employment status, income and race/ ethnicity.

The "Nationwide" estimates shown are median values across all states, not means. "National" level estimates reported here use medians because no national stratum was defined in the 2015 BRFSS survey. Survey results at the national level were not adjusted or weighted to produce a national mean result.

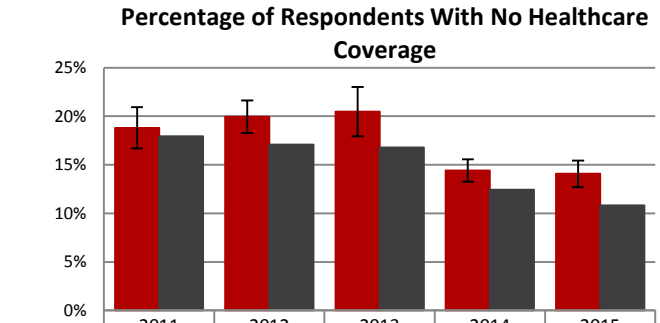
Barriers to Healthcare: No Health Insurance

Survey Question: Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare, or Indian Health Service?

On May 23, 2010, the Patient Protection and Affordable Care Act (ACA) was passed by Congress and signed into law by the President. A number of lawsuits followed, each challenging the constitutionality of parts of the ACA. The U.S. Supreme Court combined several of these cases into one. On June 28, 2012, the Supreme Court (i) upheld the part of the ACA that requires all citizens to obtain health insurance or pay a penalty on taxable income, and (ii) struck down as unconstitutional the part that "penalized" states with loss of federal funding for Medicaid programs for not participating in the ACA, but approved the federal government providing states a choice to accept a federal grant and comply with accompanying conditions, or not participate.[31]

One of the key functions of the law is to expand the scope of Medicaid and the number of individuals the state must cover. In the past, Medicaid was designed to provide assistance in obtaining medical care to pregnant women, children, needy families, the blind, the elderly and the disabled. Under the ACA, Medicaid will provide coverage to adults with an income up to 133% of the FPL.[32]

Approximately one in seven (14.1%) Arizonans surveyed in 2015 reported not having health insurance, higher then national median, 10.8%. After the implementation of the ACA, data collected from 2014 through 2015 showed Arizona and National BRFSS respondents with no insurance on a gradual decline (see Figure A).



	2011	2012	2013	2014	2015
Arizona	18.8%	19.9%	20.5%	14.4%	14.1%
National	17.9%	17.1%	16.8%	12.4%	10.8%

Figure A: Arizona and National 2011-2015 BRFSS respondents who reported having health insurance.

When compared to other states across the nation, Arizona is in the second-highest category (11.2-15.4%) for respondents who reported that they do not have health insurance (see Figure B).

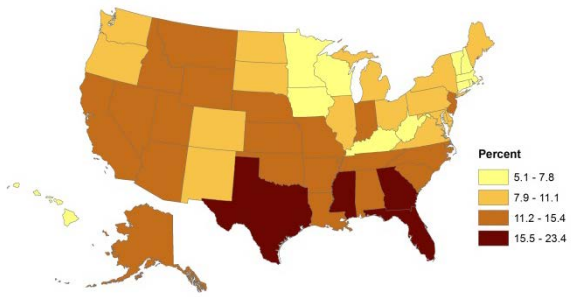
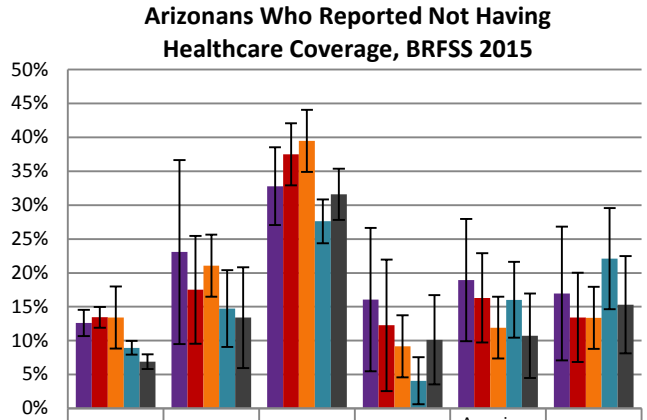


Figure B: U.S. Map of 2015 BRFSS respondents who reported not having health insurance (natural breaks).

When assessing insurance status, it is necessary to exclude the elderly from the analysis as individuals 65 and older qualify for Medicare. Hispanics were 31.0% of Arizona's total population (2014),[33] however they comprised 59% of the Arizonans surveyed (2015) who reported not having health insurance; thus Hispanic BRFSS respondents are disproportionately represented among all surveyed without health insurance (see Figure D).



	White Non-Hispanic	Black/African American	Hispanic	Asian/Pacific Islander	American Indian Non-Hispanic	Other
2011	12.6%	23.1%	32.8%	16.1%	18.9%	17.0%
2012	13.4%	17.5%	37.5%	12.3%	16.3%	13.4%
2013	13.4%	21.1%	39.5%	9.1%	11.9%	13.4%
2014	8.9%	14.7%	27.6%	4.1%	16.0%	22.1%
2015	6.9%	13.4%	31.6%	10.1%	10.7%	15.3%

Figure C. Arizona 2011-2014 BRFSS fiver year rolling averages of individuals reporting no insurance by race/ethnicity.

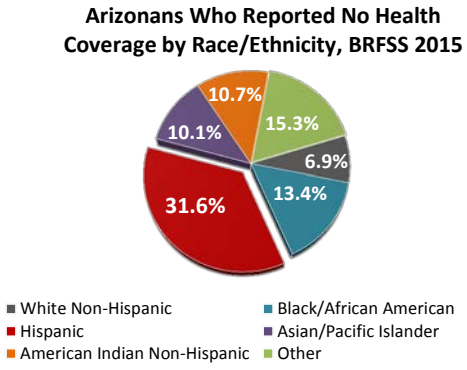


Figure D: Distribution of uninsured Arizonans reported from BRFSS 2015 by race/ ethnicity (weighted percent).

[31]

[32] Nat'l Fed'n of Indep. Bus. v. Sebelius, 567 U.S. 132 , S. Ct. 2566, 2608 (2012).

[33] http://www.pewresearch.org/2011/03/15/how-many-hispanics-in-the-us/

Arizonans Who Reported Being Uninsured				
			Confidence Interval	
Characteristic	Percent	N*	Lower Mean	Upper Mean
National	**10.8%**	**53**		
Arizona	**14.1%**	**586**	**12.7%**	**15.4%**
Male	16.1%	288	14.0%	18.3%
Female	12.0%	298	10.3%	13.8%
18-24	18.8%	50	13.2%	24.4%
25-34	23.2%	108	18.8%	27.6%
35-44	20.4%	131	16.6%	24.1%
45-54	15.3%	126	12.2%	18.3%
55-64	9.1%	117	7.1%	11.1%
65+	1.6%	54	1.1%	2.2%
Married	10.1%	232	8.6%	11.7%
Divorced	13.5%	87	10.3%	16.8%
Widowed	6.5%	41	3.3%	9.6%
Separated	31.7%	26	18.9%	44.5%
Never Married	20.8%	153	17.0%	24.5%
Unmarried Couple	29.2%	42	20.0%	38.3%
Less than high school	32.4%	125	27.0%	37.8%
High School/GED	17.1%	187	14.4%	19.9%
Some College/Technical School	10.3%	163	8.4%	12.3%
College/Technical School Grad	4.9%	105	3.7%	6.2%
Employed for Wages	15.5%	247	13.3%	17.8%
Self Employed	25.5%	81	19.7%	31.2%
Out of Work	26.8%	68	19.6%	34.1%
Homemaker	20.6%	76	15.6%	25.7%
Student	14.1%	23	8.0%	20.2%
Retired	1.9%	53	1.2%	2.6%
Unable to Work	7.0%	29	3.9%	10.1%
Less than $10,000	22.5%	47	15.4%	29.6%
$10,000 to $14,999	24.4%	45	16.0%	32.9%
$15,000 to $19,999	23.2%	68	17.3%	29.0%
$20,000 to $24,999	26.3%	79	20.1%	32.5%
$25,000 to $34,999	17.1%	73	12.4%	21.8%
$35,000 to $49,999	15.2%	68	10.9%	19.5%
$50,000 to $74,999	8.0%	39	5.0%	11.1%
Above $75,000	2.7%	36	1.6%	3.8%
White Non-Hispanic	6.9%	247	5.8%	8.0%
Black/African American	13.4%	21	6.0%	20.8%
Hispanic	31.6%	268	27.8%	35.4%
Asian/Pacific Islander	10.1%	10	3.6%	16.7%
American Indian Non-Hispanic	10.7%	17	4.5%	17.0%
Other	15.3%	23	8.1%	22.5%

Use caution in interpreting cell sizes less than 50. N* is unweighted.
National N is 53 = all 50 states, DC and Territories.

Barriers to Healthcare: No Health Insurance

The table to the left displays the proportion of the 2015 Arizona BRFSS respondents reported having no health insurance represented by sex, age categories, marital status, educational attainment, employment status, income and race/ ethnicity.

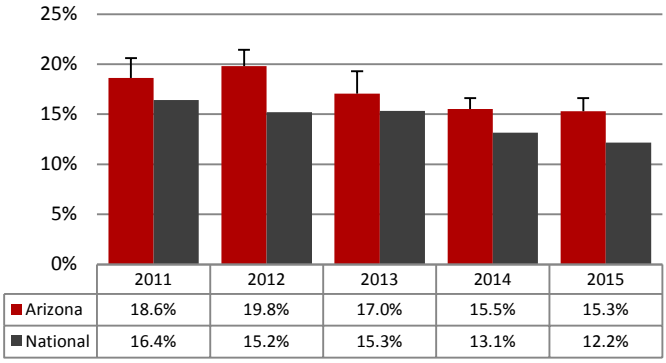
The "Nationwide" estimates shown are median values across all states, not means. "National" level estimates reported here use medians because no national stratum was defined in the 2015 BRFSS survey. Survey results at the national level were not adjusted or weighted to produce a national mean result.

Barriers to Health Care: Cost of Care

Survey Question: Was there a time in the past 12 mos. when you needed to see a doctor but could not because of cost?

When people lack health insurance or sufficient coverage, or their financial situation deteriorates, they may often forgo needed medical tests and therapies. Electing to decline needed medical care has many ethical and clinical implications. Often, symptoms of one disease overlap and tests are necessary to determine if a treatment is appropriate. Barriers to care associated with cost imposes ethical dilemmas on healthcare professionals: do they treat the patient's symptoms, treat at minimal or substandard care levels, or deny them care outright due to the inability to afford costs? Patients will often request that their providers treat at minimal or substandard care because it is more affordable. By treating patients in this way, underlying disease(s) may remain untreated; resulting in a more serious condition later.[34] The inability to seek or receive appropriate medical care creates a strain on the medical system for both patients and providers. More than one in six (15.3%) of Arizonans surveyed reported they could not afford needed medical care (see Figure A).

Arizonans Who Reported They Could Not Afford Needed Health Care



	2011	2012	2013	2014	2015
Arizona	18.6%	19.8%	17.0%	15.5%	15.3%
National	16.4%	15.2%	15.3%	13.1%	12.2%

Figure A: Arizona and National 2011-2015 BRFSS respondents who reported that they could not afford needed medical care.

When compared to the other states, Arizona is in the highest category (14.4-18.7%) of respondents reporting that they could not afford needed medical care (see Figure B).

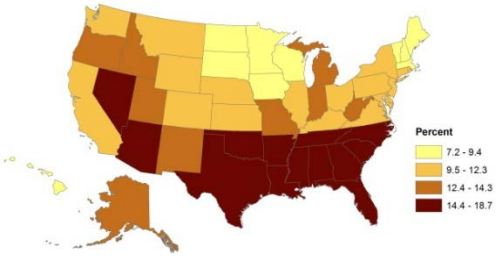


Figure B: BRFSS 2015 Survey respondents who reported they could not afford needed health care by state (natural breaks).

Research has shown that families are more likely to be unable to pay their medical bills. Families are defined as a group of two or more related individuals living in the same housing unit. Analysis of family units is important due to the shared impact of taking on financial risks.[35] Nationally, in general, as household size increases, the inability to afford needed health care also increases. Data comparing Arizona family size to national medians since 2011 are shown in (Figure C).

Median Respondents Who Could Not Afford Needed Health Care by Household Size, BRFSS 2015

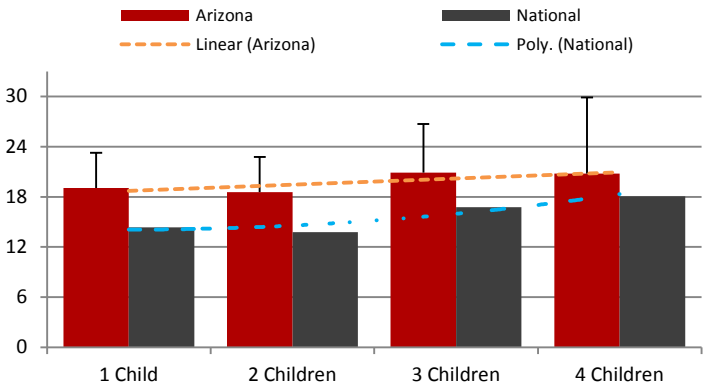
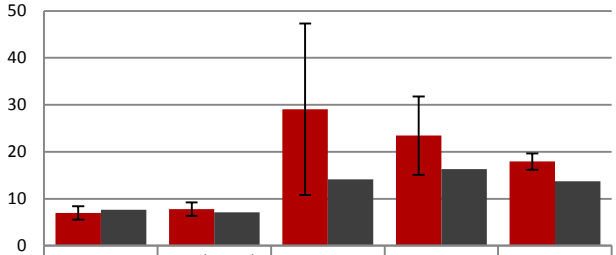


Figure C: Arizona and National 2015 BRFSS respondents who reported that they were unable to afford needed medical care by the number of children in the household.

Household composition can also play a significant role in one's ability to afford needed medical care. BRFSS data only provides information on the gender of the guardian; therefore it is not possible to differentiate familial relationships. However, information on family composition can still offer insight on potential disparities. Nationally, single individuals and traditional families were the least likely to report being unable to afford medical care. Families with a single female guardian and non-traditional structures (families units that are made up of combinations male or female adults (≥18 years) with or without children) were more likely to report being unable to afford medical care (Figure D).

Median Respondents Who Could Not Afford Health Care by Family Type, BRFSS 2015



	Single	Traditional Family	Single Male	Single Female	Other
Arizona	7.0	7.8	29.1	23.4	17.9
National	7.7	7.1	14.1	16.3	13.7

Figure D: BRFSS 2015 Arizona respondents who reported that they were unable to afford needed medical care by household composition.

[34] Weiner, S. (2001), "I Can't Afford That!". Journal of General Internal Medicine, 16: 412–418. doi: 10.1046/j.1525-1497.2001.016006412.x

[35] Cohen, R., and Kirzinger, W. (2014, Jan.). *Financial Burden of Medical Care: A Family Perspective. NCHS Data Brief No. 142*. Washington: U.S. Department of Health and Human Services.

Arizona Respondents Who Could Not Afford Care				
			Confidence Interval	
Characteristic	Percent	N*	Lower Mean	Upper Mean
National	**12.2%**	**53**		
Arizona	**15.3%**	**820**	**14.0%**	**16.6%**
Male	15.3%	314	13.3%	17.3%
Female	15.3%	506	13.6%	17.0%
18-24	17.9%	52	13.0%	22.9%
25-34	22.4%	125	18.2%	26.5%
35-44	18.9%	137	15.4%	22.4%
45-54	15.7%	163	12.9%	18.5%
55-64	13.7%	197	11.5%	15.9%
65+	5.9%	146	4.5%	7.2%
Married	11.8%	336	10.3%	13.3%
Divorced	17.3%	159	14.0%	20.6%
Widowed	9.2%	65	6.0%	12.4%
Separated	38.1%	40	25.8%	50.4%
Never Married	19.7%	168	16.3%	23.2%
Unmarried Couple	26.6%	44	17.7%	35.5%
Less than high school	25.6%	120	20.6%	30.7%
High School/GED	14.7%	211	12.2%	17.1%
Some College/Technical School	16.4%	295	14.2%	18.6%
College/Technical School Grad	8.0%	190	6.6%	9.5%
Employed for Wages	16.0%	306	13.8%	18.1%
Self Employed	21.2%	82	15.8%	26.6%
Out of Work	26.4%	87	20.0%	32.8%
Homemaker	17.5%	72	12.9%	22.0%
Student	12.9%	30	7.5%	18.3%
Retired	4.9%	111	3.7%	6.1%
Unable to Work	25.9%	122	20.3%	31.4%
Less than $10,000	28.8%	66	20.9%	36.8%
$10,000 to $14,999	19.9%	65	13.6%	26.3%
$15,000 to $19,999	26.3%	102	20.5%	32.1%
$20,000 to $24,999	24.2%	116	18.6%	29.8%
$25,000 to $34,999	16.6%	79	12.1%	21.1%
$35,000 to $49,999	19.3%	105	15.1%	23.6%
$50,000 to $74,999	8.8%	52	5.9%	11.7%
Above $75,000	5.3%	73	3.8%	6.8%
White Non-Hispanic	11.3%	492	10.1%	12.6%
Black/African American	21.9%	33	13.2%	30.5%
Hispanic	24.7%	236	21.3%	28.2%
Asian/Pacific Islander	7.4%	13	3.0%	11.7%
American Indian Non-Hispanic	13.4%	20	6.4%	20.4%
Other	16.1%	26	9.3%	23.0%

Use caution in interpreting cell sizes less than 50. N* is unweighted.
National N is 53 = all 50 states, DC and Territories.

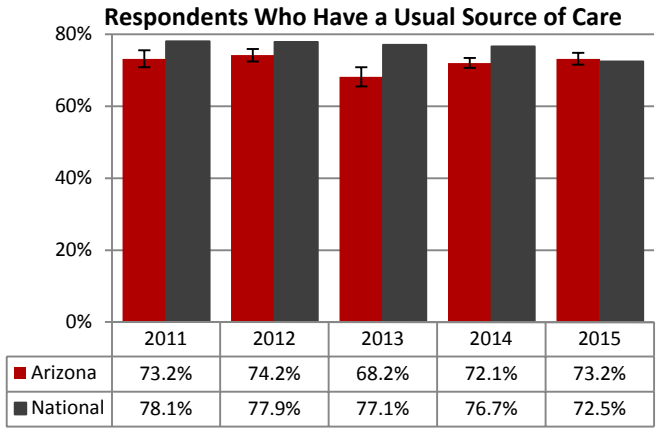
Barriers to Health Care: Cost of Care

The table to the left displays proportions of Arizona adults who reported that they could not afford needed medical care by sex, age categories, marital status, educational attainment, employment status, income and race/ethnicity.

The "Nationwide" estimates are median values across all states, not means. The "National" level estimates reported here use medians because no national stratum was defined in the 2015 BRFSS survey. Survey results at the national level were not adjusted or weighted to produce a national mean result.

Barriers to Health Care: Usual Source of Health Care

The Committee on Quality of Health Care in America and the Institute of Medicine recommended that health care organizations offer customization of care based on patient needs and become better able to anticipate the needs of the patient rather than reacting to medical events.[36] To do this, health care professionals and patients must build a long term and trusting relationship, ideally with a primary care provider (PCP). A PCP is an individual's main health care practitioner that offers non-emergency care. PCPs can be doctors, physician assistants, or nurse practitioners. PCPs provide preventive care, teach and promote healthy lifestyle choices, and identify and treat common medical conditions.[37] Since 2011, Arizonans surveyed were less likely to report having a usual source of health care than the national median. In 2015, just 73.2% of Arizonans surveyed reported having a usual source of healthcare, higher than the national median of 72.5% (see Figure A).



	2011	2012	2013	2014	2015
Arizona	73.2%	74.2%	68.2%	72.1%	73.2%
National	78.1%	77.9%	77.1%	76.7%	72.5%

Figure A: Arizona and National 2011-2015 BRFSS respondents who reported that they had a source of health care.

When compared to other states, Arizona is in the lowest category for percent of respondents who reported they have a usual source of health care (see Figure B).

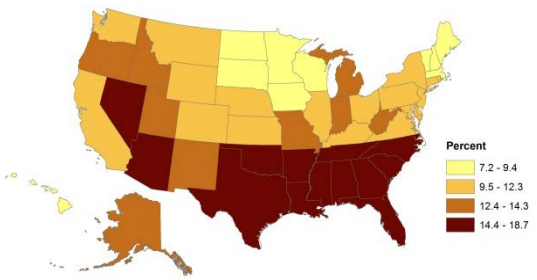
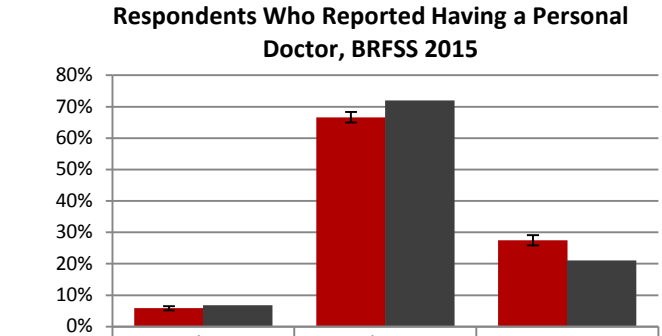


Figure B: BRFSS 2015 respondents who reported having a usual source of health care (natural breaks).

The services physicians provide are not identical. There are many different specialties in medicine and an individual may need to see more than one physician. More than 66.6% of Arizonans surveyed said they had at least one provider, below the national median of 72.0% (see Figure C).



	More than One	Only One	None
Arizona	5.9%	66.6%	27.5%
National	6.8%	72.0%	21.0%

Figure C: Distribution of the number of providers respondents see as a usual source of health care in the Arizona and National BRFSS 2015.

Arizona respondents reporting no usual source of health care were found *more* frequently among respondents who were Hispanic, uninsured or insured and *less* frequently among White non-Hispanics, the insured, and those not in poverty (see Figure D).

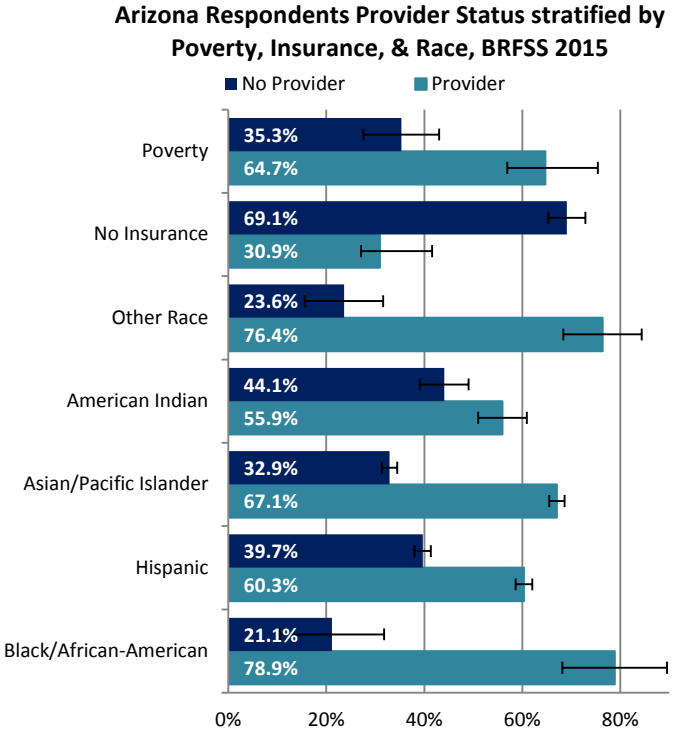


Figure D: Arizona and National 2015 BRFSS respondents having a usual source of health care.

[36] IOM (Institute of Medicine) Washington, D.C: National Academy Press; 2001. Crossing the Quality Chasm: A New Health System for the 21st Century.
[37] "Choosing a Primary Care Provider" Medline Plus. U.S. National Library of Medicine, 12 Aug. 2011. Web. 26 Feb. 2014. http://www.nlm.nih.gov/medlineplus/ency/article/001939.htm>

Arizona Respondents Who Reported Having a Usual Source of Care				
			Confidence Interval	
Characteristic	Percent	N*	Lower Mean	Upper Mean
National	**79.0%**	**53**		
Arizona	**72.5%**	**6628**	**70.9%**	**74.1%**
Male	67.1%	2540	64.6%	69.6%
Female	77.7%	4088	75.6%	79.8%
18-24	56.2%	173	49.7%	62.7%
25-34	52.0%	335	47.2%	56.8%
35-44	67.5%	629	63.4%	71.5%
45-54	76.1%	896	72.8%	79.4%
55-64	83.6%	1355	81.1%	86.1%
65+	92.1%	3240	90.8%	93.4%
Married	77.9%	3536	75.9%	79.9%
Divorced	75.8%	963	71.9%	79.7%
Widowed	88.5%	1109	85.0%	92.0%
Separated	63.6%	114	50.9%	76.3%
Never Married	56.9%	676	52.6%	61.2%
Unmarried Couple	59.0%	158	49.7%	68.4%
Less than high school	58.1%	399	52.4%	63.7%
High School/GED	67.9%	1475	64.6%	71.2%
Some College/Technical School	75.2%	2007	72.6%	77.8%
College/Technical School Grad	82.1%	2715	80.0%	84.2%
Employed for Wages	66.2%	2020	63.6%	68.9%
Self Employed	66.6%	411	60.8%	72.5%
Out of Work	58.5%	218	50.9%	66.2%
Homemaker	68.7%	496	63.0%	74.4%
Student	64.4%	131	55.4%	73.3%
Retired	91.9%	2836	90.5%	93.3%
Unable to Work	89.7%	456	85.5%	93.9%
Less than $10,000	65.5%	195	57.0%	73.9%
$10,000 to $14,999	66.9%	275	58.1%	75.7%
$15,000 to $19,999	59.8%	359	53.0%	66.5%
$20,000 to $24,999	63.7%	513	57.5%	69.8%
$25,000 to $34,999	66.5%	526	60.8%	72.2%
$35,000 to $49,999	72.0%	815	67.3%	76.7%
$50,000 to $74,999	78.4%	836	74.2%	82.5%
Above $75,000	82.2%	1625	79.5%	84.8%
White Non-Hispanic	78.6%	5183	76.8%	80.3%
Black/African American	78.9%	173	70.9%	86.9%
Hispanic	60.3%	882	56.5%	64.1%
Asian/Pacific Islander	67.1%	101	56.4%	77.7%
American Indian Non-Hispanic	55.9%	106	45.2%	66.7%
Other	76.4%	183	68.7%	84.1%

Use caution in interpreting cell sizes less than 50. N* is unweighted.
National N is 53 = all 50 states, DC and Territories.

Barriers to Health Care: Usual Source of Care

The table to the left displays the proportions of Arizona adults who reported that they had a usual source of health care by sex, age categories, marital status, educational attainment, employment status, income and race/ethnicity.

The “Nationwide” estimates are median values across all states, not means. The “National” level estimates reported here use medians because no national stratum was defined in the 2015 BRFSS survey. Survey results at the national level were not adjusted or weighted to produce a national mean result.

Health Risks & Behaviors

Certain activities or behaviors increase the risk of mortality and morbidity. Promotion of cessation programs, awareness, and policy changes will help reduce the impact of these risky behaviors. Many programs and policies have been enacted to reduce the burdens associated with participating in these risky behaviors. Continued monitoring of these behaviors will provide Arizona with a tool to assess the impact of these enacted programs and policies. The Health Risks and Behaviors Section of this annual report include an analysis of the following:

- **Seat Belt Use (variable SEATBELT) -** Always wearing a seat belt is considered a positive outcome and less frequent use is considered a negative outcome.

- **Cigarette Smoking (variable _SMOKER3) -** Formerly or never smoking are considered a positive outcome and currently smoking is considered a negative outcome.

- **Alcohol Abuse: Heavy Drinking (variable _RFDRHV4) -** Adult men who have more than two drinks a day, and women who have more than one drink per day are considered a negative outcome and less frequent drinking including no drinking is considered a positive outcome.

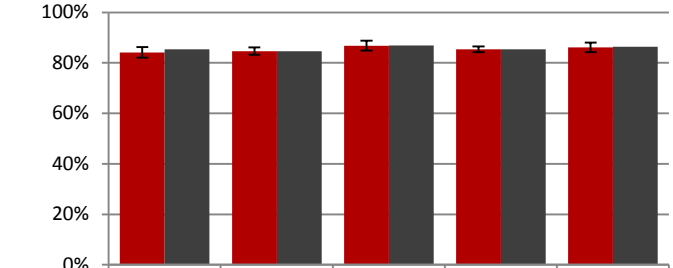
- **Alcohol Abuse: Binge Drinking (variable _RFBING5) -** A person that has more than five drinks on at least one occasion in the past 30 days is considered a negative outcome and not engaging in this behavior is considered a positive outcome.

Health Risks & Behaviors: Seat Belt Use

Survey Question: How often do you use seat belts when you drive or ride in a car? Would you say—?

Motor vehicle crashes are the leading cause of death for people between the ages of 5 and 34. It is estimated that seat belt use can reduce the number of deaths and serious injuries by 50%.[38] Biennially since 2006, the BRFSS survey contained a seat belt use question. In 2015, the majority (86.2%) of Arizonans reported that they always wear their seat belts when they drive or ride in a car, up from 2014 (85.4%). Arizona is slightly below the national median for 2015, 86.4% (see Figure A).

Respondents Who Reported They Always Wear A Seat Belt



	2011	2012	2013	2014	2015
Arizona	84.2%	84.6%	86.8%	85.4%	86.2%
National	85.4%	84.6%	86.8%	85.4%	86.4%

Figure A: Arizona and National 2011-2015 BRFSS respondents who reported that they always wore a seat belt when they drove or rode in a car.

Seat belt use may be impacted by a state's laws. States with primary seat belts laws allow police officers to stop vehicles solely for seat belt violations. In states with secondary seat belt laws, such as Arizona, an officer must have another reason to stop the vehicle (see Figure B).[39]

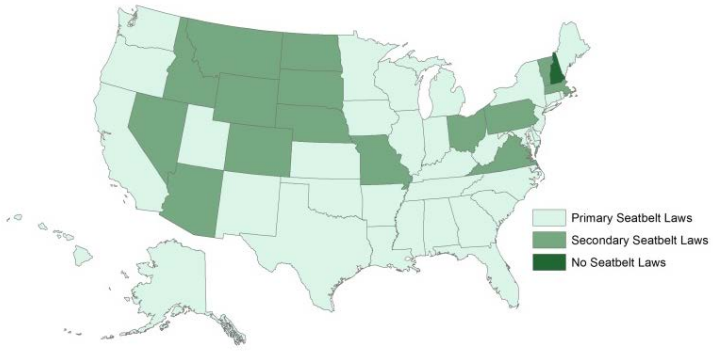


Figure B: U.S. Map highlighting Seatbelt Laws by State, 2015.

Although Arizonans' reported always wearing a seat belt at a rate of 86.2%, when surveyed (similar to the national rate of 86.4%); Arizona fell into the second highest category for percent of respondents reporting that they always wear a seat belt when compared to all the states (see Figure C).

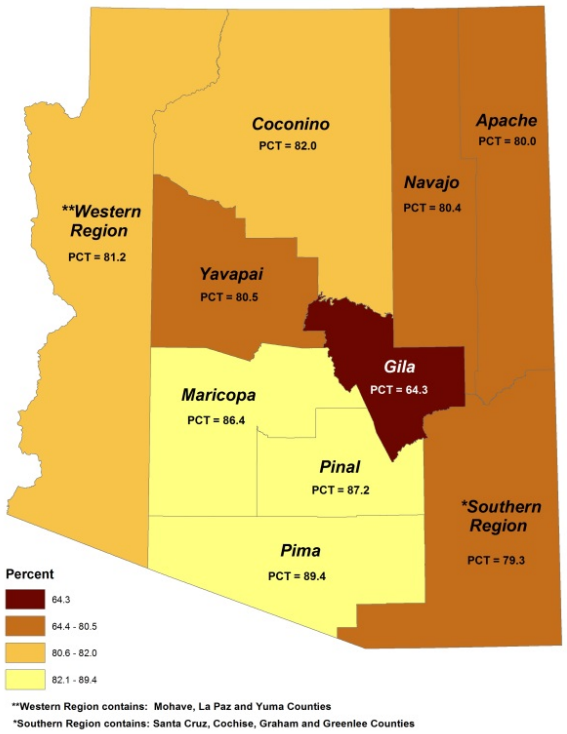


Figure C: Arizona BRFSS 2015 Respondents who reported that they always wore a seat belt when they drove or rode in a car by county.

[38] Centers for Disease Control. "Adult Seat Belt Use." CDC Vital Signs.CDC, 04 Jan. 2011. Web. 26 Feb. 2014. <http://www.cdc.gov/vitalsigns/SeatBeltUse/>.

[39] "Governors Highway Safety Association. Seat Belt Laws. <http://www.ghsa.org/html/stateinfo/laws/seatbeltlaws.html> Pub 2015. Accessed December 10, 2015.

Arizonans Who Reported They Always Wore a Seatbelt				
			Confidence Interval	
Characteristic	Percent	N*	Lower Mean	Upper Mean
National	**86.4%**	**53**		
Arizona	**86.2%**	**6314**	**84.8%**	**87.5%**
Male	82.6%	2461	80.5%	84.8%
Female	89.5%	3853	88.0%	91.1%
18-24	79.2%	213	73.7%	84.8%
25-34	78.5%	403	74.2%	82.9%
35-44	85.5%	667	82.1%	89.0%
45-54	90.8%	910	88.6%	93.0%
55-64	90.8%	1286	88.9%	92.7%
65+	90.1%	2835	88.7%	91.6%
Married	89.1%	3365	87.6%	90.7%
Divorced	88.3%	926	85.3%	91.3%
Widowed	85.8%	945	82.3%	89.3%
Separated	89.0%	114	82.1%	95.9%
Never Married	78.1%	739	74.1%	82.0%
Unmarried Couple	86.9%	177	81.1%	92.6%
Less than high school	82.3%	415	77.3%	87.3%
High School/GED	83.2%	1378	80.5%	85.9%
Some College/Technical School	85.4%	1884	83.1%	87.6%
College/Technical School Grad	92.4%	2606	90.9%	93.8%
Employed for Wages	86.1%	2087	84.0%	88.1%
Self Employed	83.1%	404	78.1%	88.0%
Out of Work	74.2%	223	66.3%	82.0%
Homemaker	91.7%	514	88.3%	95.1%
Student	79.6%	146	71.4%	87.9%
Retired	90.9%	2511	89.4%	92.4%
Unable to Work	83.6%	376	78.1%	89.0%
Less than $10,000	87.4%	203	81.0%	93.9%
$10,000 to $14,999	85.7%	258	80.2%	91.2%
$15,000 to $19,999	79.1%	353	72.5%	85.6%
$20,000 to $24,999	84.9%	500	80.4%	89.4%
$25,000 to $34,999	83.0%	525	78.4%	87.7%
$35,000 to $49,999	85.4%	783	81.6%	89.2%
$50,000 to $74,999	84.4%	793	80.2%	88.7%
Above $75,000	90.2%	1596	87.7%	92.6%
White Non-Hispanic	87.1%	4839	85.5%	88.6%
Black/African American	85.0%	158	78.4%	91.6%
Hispanic	84.5%	910	81.6%	87.5%
Asian/Pacific Islander	85.2%	109	75.8%	94.6%
American Indian Non-Hispanic	83.5%	118	74.2%	92.8%
Other	87.0%	180	80.4%	93.6%

Use caution in interpreting cell sizes less than 50. N* is unweighted.
National N is 53 = all 50 states, DC and Territories.

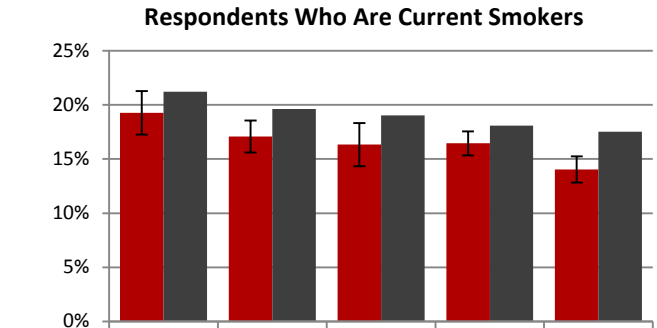
Health Risks & Behaviors: Seat Belt Use

The table to the left displays the proportion of Arizonans who reported that they "always" wear a seat belt when driving or riding in a car. Data are also presented by sex, age categories, marital status, educational attainment, employment status, income and race/ethnicity.

The "Nationwide" estimates are median values across all states, not means. The "National" level estimates reported medians because no national stratum was defined in the 2015 BRFSS survey. Survey results at the national level were not adjusted or weighted to produce a national mean result.

Health Risks & Behaviors: Cigarette Use

In 1964, the United States Surgeon General released the *Smoking and Health: Report of the Advisory Committee of the Surgeon General of the Public Health Service.* The report was based on the available biomedical articles that related smoking and diseases. At that time there was more than 7,000 articles on the topic. The Advisory Committee's findings were that cigarette smoking is associated with a 70% higher all-cause mortality rate in men. It was a cause of lung cancer and laryngeal cancer in men and it was a probable cause of lung cancer in women. In response to the report, the U.S. Congress passed the *Federal Cigarette Labeling and Advertising Act of 1965* and the *Public Health Cigarette Smoking Act of 1969,* which required health warnings on the packaging and banned broadcast advertising.[40] Since the 1964 report, the Surgeon General's reports have established a long list of health consequences and diseases caused by tobacco use and exposure, and many programs have been implemented to prevent use and encourage cessation. Continued monitoring of tobacco use is a core component of the BRFSS. In 2015, 14.0% of Arizonans surveyed reported that they currently smoke, lower than the national median (17.5%) (see Figure A).



	2011	2012	2013	2014	2015
Arizona	19.3%	17.1%	16.3%	16.5%	14.0%
National	21.2%	19.6%	19.0%	18.1%	17.5%

Figure A: Arizona and National 2011-2015 BRFSS respondents who reported that they were current smokers.

In 2015, the proportion of Arizonans who are never smokers was 60.9%. Current smokers and former smokers for Arizona were slightly above that of the national median (see Figure B).

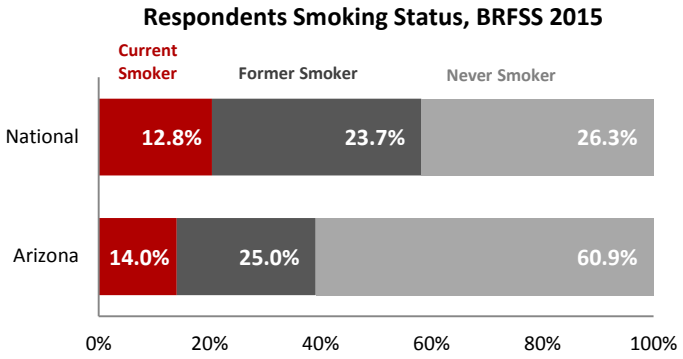


Figure B: National and Arizona 2015 BRFSS respondents who reported smoking by current, former, and never smoked.

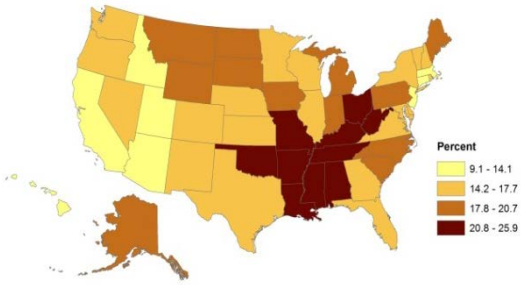


Figure C: BRFSS 2015 United States map of Current Smokers (natural breaks)

Quitting smoking can be a difficult process, and an individual may quit smoking successfully for a short time and then relapse at some future point in time. Therefore, it is important to document the distribution of smoking status. The proportion of Arizonans who reported being former smokers in 2015 was higher than the national median. Arizona is in the lowest category among U.S. states for current (9.1-14.1%) smoking percentages (see Figure C).

Current research has established many more causal linkages between smoking and diseases/chronic conditions. In the 2014 Surgeon General's Advisory Committee's report on the Health Consequences of Smoking, the current research assessed by the committee established additional diseases causally linked to smoking, including: age-related macular degeneration, congenital defects-maternal smoking: orofacial clefts, Diabetes, Ectopic pregnancy, erectile dysfunction, rheumatoid arthritis, immune function, colorectal cancer, and liver cancer.[41]

Figure D: Diseases and Health Problems Linked to Smoking. 1 out of 3 cancer deaths could be prevented.

[40] U.S. Department of Health and Human Services. The Health Consequences of Smoking—50 Years of Progress. A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014. Corrections on January 2014.

[41] <https://www.cdc.gov/features/2014smokingreport/graphic.html>

Arizonans Who Reported Currently Smoking Cigarettes				
			Confidence Interval	
Characteristic	Percent	N*	Lower Mean	Upper Mean
National	**17.5%**	**53**		
Arizona	**14.0%**	**889**	**12.8%**	**15.3%**
Male	16.2%	400	14.2%	18.1%
Female	12.0%	489	10.5%	13.4%
18-24	10.8%	33	6.7%	14.9%
25-34	17.9%	98	14.1%	21.7%
35-44	15.4%	112	12.1%	18.7%
45-54	14.9%	158	12.2%	17.6%
55-64	17.2%	233	14.7%	19.8%
65+	8.8%	255	7.3%	10.3%
Married	9.5%	311	8.2%	10.7%
Divorced	24.6%	221	20.8%	28.3%
Widowed	13.8%	116	9.8%	17.8%
Separated	24.7%	31	14.6%	34.8%
Never Married	16.4%	158	13.2%	19.7%
Unmarried Couple	22.8%	50	15.0%	30.7%
Less than high school	19.3%	94	14.5%	24.0%
High School/GED	16.6%	287	14.3%	18.8%
Some College/Technical School	15.3%	328	13.3%	17.3%
College/Technical School Grad	6.5%	177	5.0%	8.0%
Employed for Wages	14.3%	308	12.3%	16.3%
Self Employed	13.4%	63	9.2%	17.7%
Out of Work	21.9%	65	15.8%	28.1%
Homemaker	10.0%	51	6.7%	13.3%
Student	8.9%	19	3.4%	14.4%
Retired	10.1%	237	8.4%	11.8%
Unable to Work	31.5%	141	25.8%	37.2%
Less than $10,000	18.8%	53	12.9%	24.8%
$10,000 to $14,999	21.8%	70	15.3%	28.2%
$15,000 to $19,999	19.5%	87	14.0%	25.1%
$20,000 to $24,999	18.8%	109	13.7%	23.8%
$25,000 to $34,999	22.7%	106	17.6%	27.9%
$35,000 to $49,999	14.1%	108	10.7%	17.4%
$50,000 to $74,999	11.1%	85	8.0%	14.2%
Above $75,000	6.9%	109	5.2%	8.6%
White Non-Hispanic	14.7%	664	13.3%	16.1%
Black/African American	14.8%	29	8.8%	20.7%
Hispanic	12.8%	133	10.0%	15.5%
Asian/Pacific Islander	4.4%	3	0.0%	10.1%
American Indian Non-Hispanic	19.0%	26	10.1%	28.0%
Other	12.7%	34	7.2%	18.2%

Use caution in interpreting cell sizes less than 50. N* is unweighted.
National N is 53 = all 50 states, DC and Territories.

Health Risk Behaviors: Cigarette Use

The table to the left displays the proportions of Arizonans who reported that they currently smoke cigarettes by sex, age categories, marital status, educational attainment, employment status, income and race/ethnicity.

The "Nationwide" estimates are median values across all states, not means. The "National" level estimates reported here use medians because no national stratum was defined in the 2015 BRFSS survey. Survey results at the national level were not adjusted or weighted to produce a national mean result.

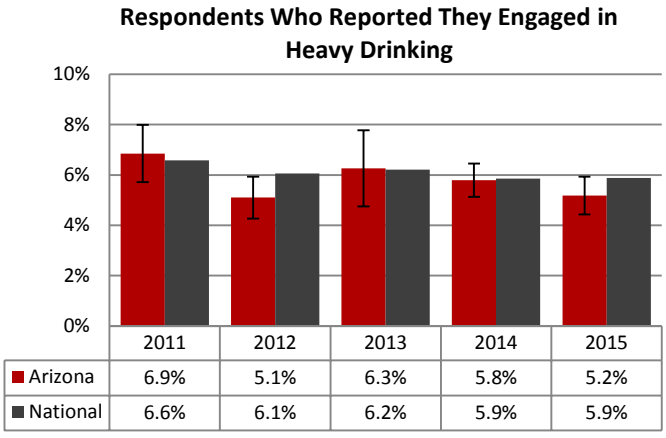
Health Risks & Behaviors: Alcohol Abuse - Heavy Drinking

Survey Question(s):

1) During the past 30 days, how many days per week or per month did you have at least one drink of any alcoholic beverage such as beer, wine, a malt beverage or liquor?
2) During the past 30 days, on the days when you drank, about how many drinks did you drink on the average?

In adults, alcohol use can be beneficial or detrimental to health. Research has shown that moderate daily consumption of alcohol in middle-aged and older adults reduces the likelihood of cardiovascular events, all-cause mortality, and helps keep cognitive function intact as a person ages. However, moderate alcohol consumption has been associated with increased risk of breast cancer, violence, drowning, and injuries from falls and motor vehicle crashes. Exceeding moderate alcohol consumption (heavy drinking) provides no health benefit and has been associated with increased body mass index, impaired cognitive functioning (both long term and short term), liver disease, hypertension, stroke, Type 2 diabetes, injury, and violence. To reduce the risk of alcohol-related harms, the 2015-2020 *U.S. Dietary Guidelines for Americans* recommends that if alcohol is consumed, it should be consumed in moderation—up to one drink per day for women and two drinks per day (not an average over time) men—and only by adults of legal drinking age.[42]

Heavy drinking is defined as having more than two drinks a day for men and more than one serving a day for women.[43] In 2015, BRFSS respondents surveyed who reported being a heavy drinker in 2015 (5.2%) is lower than the national median, 5.9% (see Figure A).



	2011	2012	2013	2014	2015
Arizona	6.9%	5.1%	6.3%	5.8%	5.2%
National	6.6%	6.1%	6.2%	5.9%	5.9%

Figure A: Arizona and National 2011-2015 BRFSS respondents who were classified as heavy drinkers.

In BRFSS 2015, 6.3% of males reported were classified as heavy drinkers and 4.1% of females based on CDC classification (see Figure B).

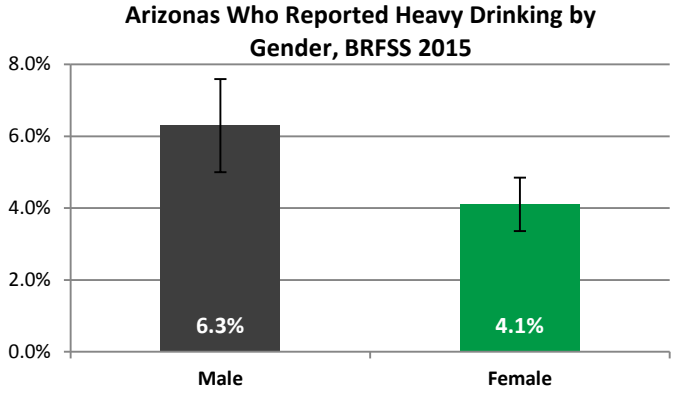


Figure B: Arizona 2015 BRFSS respondents who were classified as heavy drinkers by gender.

Comparing Arizona across the nation, Arizona is in the second-lowest category (5.0-5.7%) for reported heavy drinking (see Figure C).

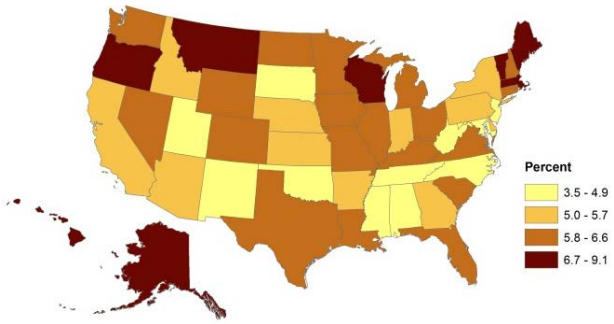


Figure C: U.S. Map of BRFSS 2015 respondents who were classified as heavy drinkers (natural breaks).

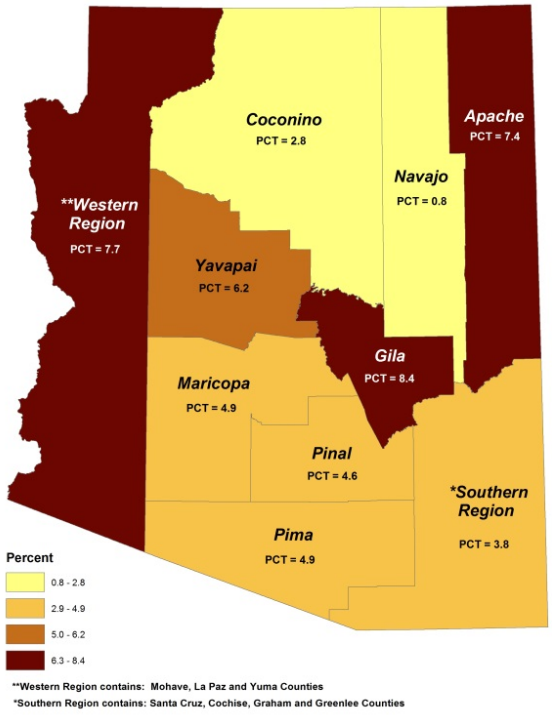


Figure D: Map of Arizona BRFSS 2015 respondents classified as heavy drinkers.

[42] U.S. Department of Health and Human Services and U.S. Department of Agriculture. *2015 – 2020 Dietary Guidelines for Americans.* 8th Edition, Washington, DC; 2015.
[43] U.S. Department of Agriculture and U.S. Department of Health and Human Services. Dietary Guidelines for Americans, 2010. 7th Edition, Washington, DC: U.S. Government Printing Office, December 2010.

Arizonans Who Reported Drinking Classified as Heavy Drinkers				
			Confidence Interval	
Characteristic	Percent	N*	Lower Mean	Upper Mean
National	**5.9%**	**53**		
Arizona	**5.2%**	**375**	**4.4%**	**5.9%**
Male	6.3%	159	5.0%	7.6%
Female	4.1%	216	3.4%	4.8%
18-24	2.9%	12	1.1%	4.6%
25-34	7.4%	38	4.6%	10.1%
35-44	4.8%	33	2.8%	6.8%
45-54	5.4%	58	3.7%	7.0%
55-64	5.8%	85	4.3%	7.3%
65+	4.5%	149	3.5%	5.5%
Married	4.9%	181	3.8%	5.9%
Divorced	6.7%	63	4.4%	9.0%
Widowed	3.7%	45	2.3%	5.1%
Separated	8.4%	7	0.6%	16.3%
Never Married	5.6%	64	3.8%	7.4%
Unmarried Couple	4.4%	12	1.1%	7.8%
Less than high school	3.6%	19	1.3%	5.9%
High School/GED	6.2%	99	4.6%	7.7%
Some College/Technical School	5.0%	92	3.7%	6.3%
College/Technical School Grad	5.5%	165	4.4%	6.7%
Employed for Wages	6.6%	155	5.2%	8.0%
Self Employed	7.1%	34	4.1%	10.1%
Out of Work	4.4%	15	1.8%	7.0%
Homemaker	1.7%	17	0.8%	2.7%
Student	2.9%	6	0.2%	5.5%
Retired	4.8%	135	3.7%	5.9%
Unable to Work	2.3%	12	0.7%	4.0%
Less than $10,000	6.7%	16	2.5%	10.9%
$10,000 to $14,999	4.8%	9	0.8%	8.8%
$15,000 to $19,999	4.1%	22	1.8%	6.3%
$20,000 to $24,999	2.2%	19	0.9%	3.5%
$25,000 to $34,999	6.1%	27	3.3%	8.9%
$35,000 to $49,999	6.5%	64	4.1%	8.9%
$50,000 to $74,999	5.9%	59	4.0%	7.8%
Above $75,000	7.1%	113	5.3%	8.8%
White Non-Hispanic	6.2%	315	5.3%	7.1%
Black/African American	2.5%	5	0.0%	5.5%
Hispanic	3.7%	33	2.1%	5.3%
Asian/Pacific Islander	0.4%	1	0.0%	1.1%
American Indian Non-Hispanic	5.2%	9	1.3%	9.1%
Other	5.1%	12	1.5%	8.8%

Use caution in interpreting cell sizes less than 50. N* is unweighted.
National N is 53 = all 50 states, DC and Territories.

Health Risks & Behaviors: Alcohol Abuse - Heavy Drinkers

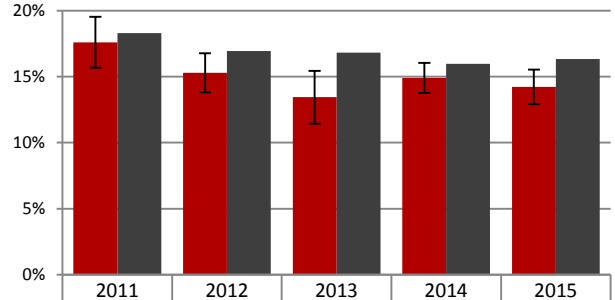
The table to the left displays the proportions of Arizonans who are heavy drinkers by sex, age categories, marital status, educational attainment, employment status, income and race/ ethnicity.

The “Nationwide” estimates are median values across all states, not means. The “National” level estimates reported here use medians because no national stratum was defined in the 2015 BRFSS survey. Survey results at the national level were not adjusted or weighted to produce a national mean result.

Health Risks & Behaviors: Alcohol Abuse - Binge Drinking

For men, binge drinking is defined as having five or more drinks on one occasion; for women, binge drinking is defined as having four or more drinks on one occasion. It is the most common form of drinking in the U.S. It is estimated that 1 in 7 adults binge drink about three to four times a month. Furthermore, it is a common risk behavior among all stages of life.[44] Since 2011, Arizonans surveyed who reported any binge drinking was lower than the national median. In 2015, Arizonans reported binge drinking 14.2% (see Figure A).

Respondents Who Reported Binge Drinking



	2011	2012	2013	2014	2015
Arizona	17.6%	15.3%	13.4%	14.9%	14.2%
National	18.3%	16.9%	16.8%	16.0%	16.3%

Figure A: Arizona and National 2011-2015 BRFSS respondents who responded that they participate in binge drinking as per CDC Guidelines.

When looking across all states in the U.S., Arizona is in the lowest category for reported binge drinking among survey respondents (see Figure B).

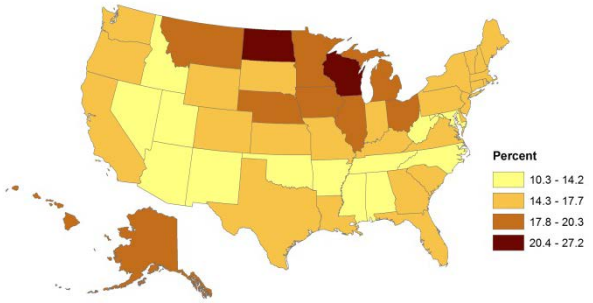
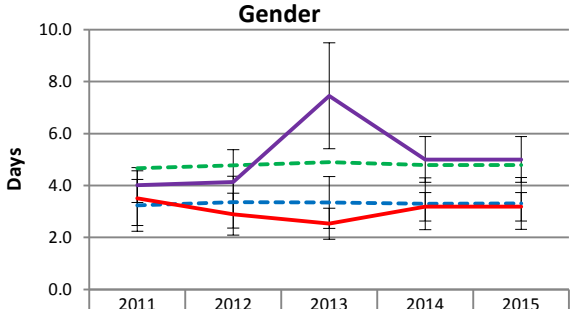


Figure B: U.S. map of BRFSS 2015 respondents who reported on average, consumption of four or more (females) and five or more (males) drinks (natural breaks).

In 2015, Men (5.0%) were more likely to engage in binge drinking than women (3.2%). Both nationally and in Arizona, men binge drink more frequently than women. In 2015, Arizona male respondents reported binge drinking more frequently than the national median for men (see Figure C).

Median Number of Binge Drinking Days Stratified by Gender



	2011	2012	2013	2014	2015
National Women	3.2	3.4	3.3	3.3	3.3
Arizona Women	3.5	2.9	2.5	3.2	3.2
National Men	4.7	4.8	4.9	4.8	4.8
Arizona Men	4.0	4.1	7.5	5.0	5.0

Figure C: Arizona and National BRFSS 2015 respondents who are binge drinkers and the average number of binge drinking days.

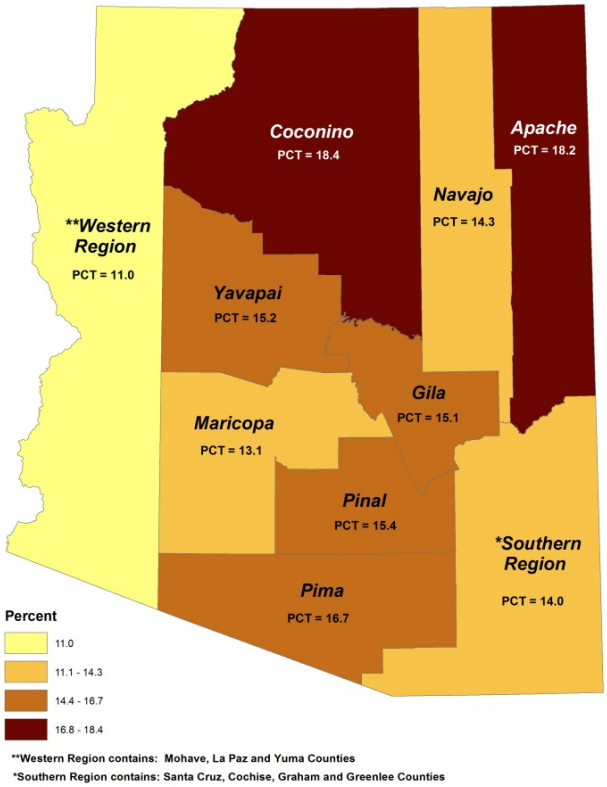


Figure D: Arizona map of BRFSS 2015 respondents who reported on average, consumption of four or more (females) and five or more (males) drinks.

[44] Bouchery EE, Harwood HJ, Sacks JJ, Simon CJ, Brewer RD. Economic costs of excessive alcohol consumption in the United States, 2006. External Web Site Icon. Am J Prev Med 2011;41:516–24.

Arizonans Who Reported Drinking Classified as Binge Drinkers				
			Confidence Interval	
Characteristic	Percent	N*	Lower Mean	Upper Mean
National	**16.3%**	**53**		
Arizona	**14.2%**	**685**	**12.9%**	**15.5%**
Male	20.3%	421	18.1%	22.6%
Female	8.3%	264	7.0%	9.7%
18-24	19.9%	64	14.7%	25.0%
25-34	23.3%	116	19.0%	27.7%
35-44	17.3%	123	13.9%	20.7%
45-54	13.5%	131	10.7%	16.3%
55-64	9.7%	126	7.7%	11.7%
65+	4.9%	125	3.7%	6.1%
Married	11.4%	324	9.8%	13.0%
Divorced	17.6%	108	13.8%	21.5%
Widowed	5.1%	31	2.2%	8.0%
Separated	16.0%	17	6.2%	25.8%
Never Married	21.3%	165	17.6%	24.9%
Unmarried Couple	16.1%	35	10.0%	22.1%
Less than high school	13.4%	42	8.9%	17.9%
High School/GED	15.3%	170	12.6%	17.9%
Some College/Technical School	14.4%	202	12.2%	16.6%
College/Technical School Grad	13.6%	271	11.7%	15.5%
Employed for Wages	19.6%	380	17.3%	21.9%
Self Employed	17.9%	66	12.8%	23.1%
Out of Work	12.6%	29	7.0%	18.3%
Homemaker	5.9%	29	3.2%	8.5%
Student	21.3%	32	13.6%	29.1%
Retired	5.9%	124	4.6%	7.2%
Unable to Work	5.2%	23	2.6%	7.7%
Less than $10,000	13.9%	27	8.0%	19.8%
$10,000 to $14,999	10.7%	22	5.2%	16.1%
$15,000 to $19,999	17.7%	49	12.0%	23.4%
$20,000 to $24,999	16.0%	52	10.9%	21.2%
$25,000 to $34,999	17.7%	52	12.3%	23.1%
$35,000 to $49,999	16.5%	99	12.6%	20.5%
$50,000 to $74,999	13.5%	88	10.0%	16.9%
Above $75,000	16.5%	223	13.9%	19.0%
White Non-Hispanic	12.3%	460	10.9%	13.6%
Black/African American	14.4%	19	7.4%	21.3%
Hispanic	18.7%	151	15.3%	22.0%
Asian/Pacific Islander	7.9%	7	1.2%	14.7%
American Indian Non-Hispanic	18.8%	21	9.5%	28.0%
Other	18.4%	27	10.9%	25.8%

Use caution in interpreting cell sizes less than 50. N* is unweighted.
National N is 53 = all 50 states, DC and Territories.

Health Risks & Behaviors: Alcohol Abuse – Binge Drinkers

The table to the left displays the proportions of Arizonans who are heavy drinkers by sex, age categories, marital status, educational attainment, employment status, income and race/ethnicity.

The "Nationwide" estimates are median values across all states, not means. The "National" level estimates reported here use medians because no national stratum was defined in the 2015 BRFSS survey. Survey results at the national level were not adjusted or weighted to produce a national mean result.

Beneficial Health Practices

Certain health practices decrease the risk of morbidity and mortality. Programs promoting awareness and policy changes will benefit the community as a whole. Continued monitoring of these practices will provide Arizona with a tool to assess the impact of these programs and policies. The Beneficial Health Practices Section of the 2015 Arizona BRFSS section includes an analysis of the following:

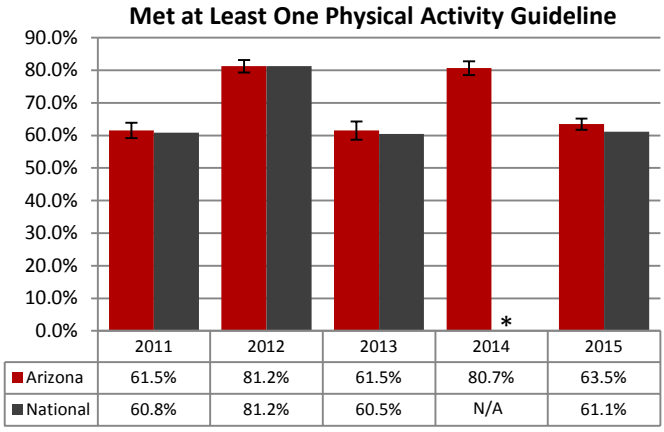
- **Physical Activity (variables _PAREC1, _PASTAE1) -** coded variable measuring a person's level of participation in moderate or vidgorous activities according to established guidelines. Physical activity decreases the risk of heart attack, colon cancer, diabetes and high blood pressure and may decrease the risk of stroke.
- **Fruit and Vegetable Consumption (variables FRUITJU1, FRUIT1, FVBEANS, FVGREEN, FVORANG, and VEGETAB1) -** binary outcome where the variables are summed together. If their daily total is five or greater than they are considered a positive outcome. If their daily total is less than five, they are considered a negative outcome.

Beneficial Health Practices: Physical Activity

In the past, the BRFSS physical activity questions focused on the amount of time a person participated in moderate or vigorous activities. The new physical activity questions remove ambiguity in these categories; the new questions; they ask if the interviewee participates in specific activities.

According to the American College of Sports Medicine's Fitness Advisory Board, Arizona (data are based upon Maricopa and Pinal Counties) is ranked 32nd in the nation in terms of promoting physical fitness. Some areas where Arizona did well included: having a high percentage of state land designated as parkland, higher park-related expenditures per capita, and having lower smoking and heart disease mortality.[45]

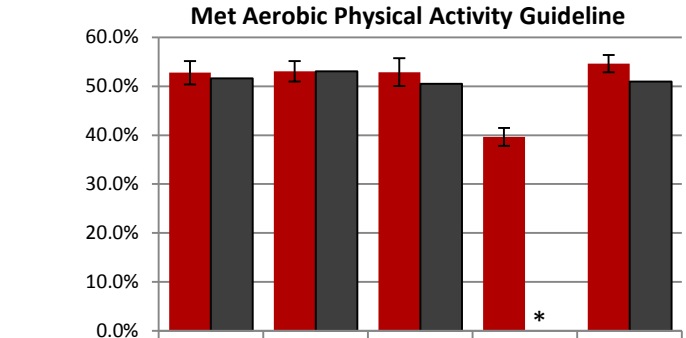
To further improve the health of Arizonans it is the goal of ADHS to increase physical activity throughout the state. Physical activity decreases the risk of heart attack, colon cancer, diabetes and high blood pressure, and may decrease the risk of stroke. It also helps with weight control, contributes to healthy bones, muscles and joints; reduces the incidence of falls among the elderly; helps to relieve the pain of arthritis; decreases symptoms of anxiety and depression; and can decrease the need for hospitalizations, physician visits and medications. Moreover, physical activity does not need to be strenuous to be beneficial.[46] Regular exercise also can contribute to the functional independence of the elderly and improve the quality of life for people of all ages.[47]



	2011	2012	2013	2014	2015
Arizona	61.5%	81.2%	61.5%	80.7%	63.5%
National	60.8%	81.2%	60.5%	N/A	61.1%

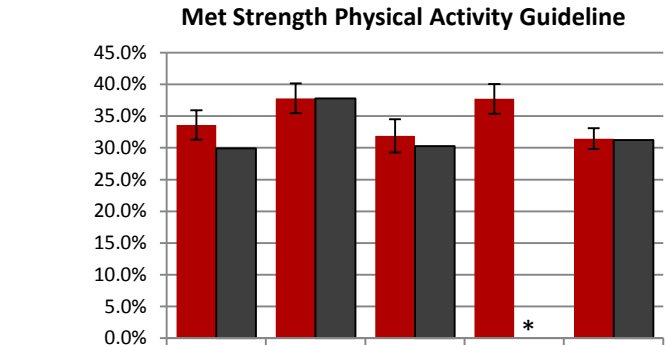
Figure A: Arizona and National 2011-2015 BRFSS respondents who reported that they met at least one physical activity guideline. *Not asked as a National question in 2014 (state-added only question).

In 2015, Arizonans were more likely to meet the aerobic physical activity guideline (54.6%) than the strength physical activity guideline (31.5%) (see Figure B & C).



	2011	2012	2013	2014	2015
Arizona Aerobic	52.8%	53.0%	52.9%	39.6%	54.6%
National Aerobic	51.6%	53.0%	50.5%	N/A	51.0%

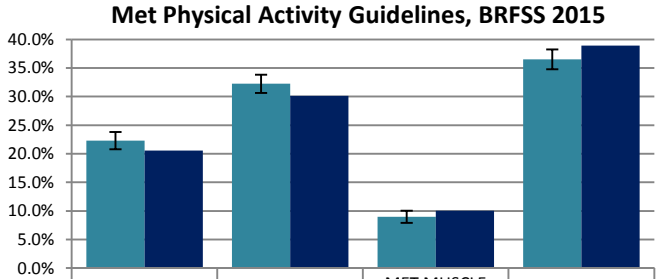
Figure B: Arizona 2015 BRFSS respondents who reported meeting aerobic physical activity guideline. *Not asked as a National question in 2014.



	2011	2012	2013	2014	2015
Arizona Strength	33.6%	37.8%	31.9%	37.7%	31.5%
National Strength	29.9%	37.8%	30.3%	N/A	31.2%

Figure C: Arizona 2015 BRFSS respondents who reported meeting strength physical activity guideline. *Not asked as a National question in 2014.

The proportion of Arizonans (36.5%) who reported not meeting either the physical activity or strength guideline in 2015 was lower than the national median, 38.9% (see Figure D). In 2015, 22.3% Arizona of survey respondents reported meeting both aerobic and muscle strengthening guidelines (see Figure D).



	MET BOTH GUIDELINES	MET AEROBIC GUIDELINE ONLY	MET MUSCLE STRENGTHENING GUIDELINE ONLY	DID NOT MEET EITHER GUIDELINE
Arizona	22.3%	32.2%	9.0%	36.5%
National	20.6%	30.1%	10.0%	38.9%

Figure D: Arizona 2015 BRFSS respondents reported meeting physical activity guidelines.

[45] American College of Sports Medicine. Acsm American Fitness Index™ Health and Community Fitness Status of the 50 Largest Metropolitan Areas 2011 Edition. Accessed 2/1/2013. http://www.americanfitnessindex.org/docs/reports/2011_afi_report_final.pdf

[46] U.S. Department of Health and Human Services. Center for Disease Control and Prevention, The Burden of Chronic Diseases and Their Risk Factors: National and State Perspectives. CDC.2004.

[47] Katz S. Branch LG, Branson MH., et al., Active Life Expectancy. N Engl J Med. 1983; 309: 1218-1224

In 2015, Apache County had the highest percentage of BRFSS respondents reporting they met both physical activity guidelines. The Southern Region (Santa Cruz, Cochise, Graham, and e Counties had the lowest (15.2%) meeting both guidelines (Figure E).

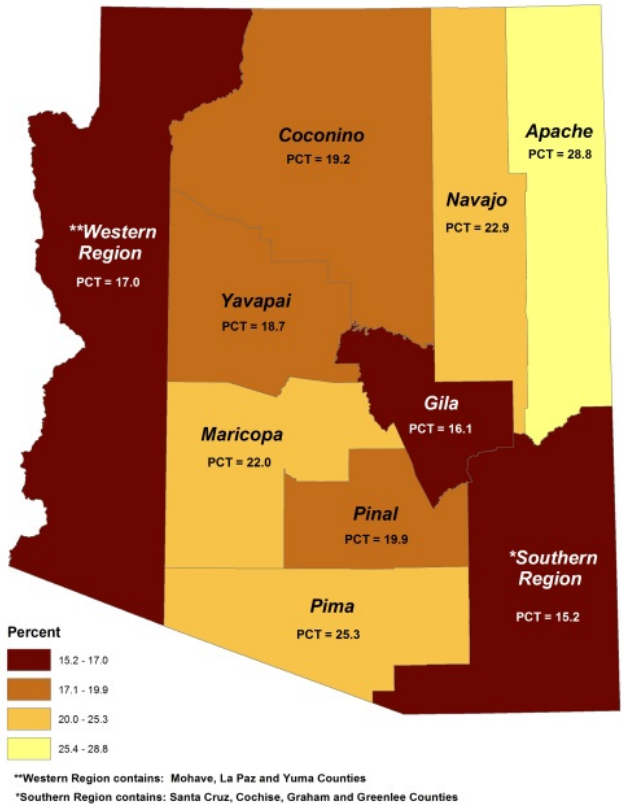


Figure E: Arizona BRFSS 2015 map of respondents who reported meeting both Physical Activity Guidelines.

Arizona Respondents Who Met One or More Physical Activity Requirements				
			Confidence Interval	
Characteristic	Percent	N*	Lower Mean	Upper Mean
National	**31.2%**	**53**		
Arizona	**31.5%**	**2146**	**29.8%**	**33.1%**
Male	66.1%	1870	63.5%	68.7%
Female	61.0%	2564	58.6%	63.3%
18-24	63.8%	170	57.0%	70.6%
25-34	64.0%	316	58.9%	69.0%
35-44	64.1%	485	59.8%	68.5%
45-54	60.1%	591	56.2%	64.0%
55-64	61.1%	851	57.9%	64.4%
65+	66.6%	2021	64.3%	68.9%
Married	64.7%	2397	62.5%	66.8%
Divorced	60.9%	620	56.5%	65.2%
Widowed	62.8%	641	58.2%	67.4%
Separated	52.1%	71	39.6%	64.5%
Never Married	65.2%	553	60.7%	69.7%
Unmarried Couple	56.3%	128	46.7%	65.8%
Less than high school	49.4%	218	43.1%	55.6%
High School/GED	60.4%	898	56.9%	63.9%
Some College/Technical School	64.8%	1314	61.9%	67.7%
College/Technical School Grad	73.0%	1993	70.6%	75.3%
Employed for Wages	62.9%	1434	60.2%	65.6%
Self Employed	65.9%	312	59.4%	72.5%
Out of Work	58.9%	165	50.5%	67.4%
Homemaker	60.3%	328	54.2%	66.4%
Student	71.5%	118	62.8%	80.2%
Retired	70.4%	1871	68.0%	72.8%
Unable to Work	42.0%	173	35.4%	48.6%
Less than $10,000	50.2%	110	40.6%	59.8%
$10,000 to $14,999	54.4%	150	45.5%	63.3%
$15,000 to $19,999	59.3%	250	52.2%	66.4%
$20,000 to $24,999	54.9%	316	48.4%	61.5%
$25,000 to $34,999	59.5%	355	53.4%	65.6%
$35,000 to $49,999	64.1%	569	59.2%	68.9%
$50,000 to $74,999	69.6%	613	65.1%	74.1%
Above $75,000	72.3%	1242	69.2%	75.3%
White Non-Hispanic	66.2%	3466	64.3%	68.1%
Black/African American	56.0%	105	45.4%	66.7%
Hispanic	59.5%	587	55.5%	63.5%
Asian/Pacific Islander	54.5%	71	42.6%	66.4%
American Indian Non-Hispanic	59.4%	82	48.0%	70.7%
Other	65.1%	123	56.2%	73.9%

Use caution in interpreting cell sizes less than 50. N* is unweighted.
National N is 53 = all 50 states, DC and Territories.

Barriers to Health Care: Physical Activity

The table to the left displays the proportions of Arizonans who met one or more physical activity requirements by sex, age categories, marital status, educational attainment, employment status, income and race/ethnicity

The "Nationwide" estimates are median values across all states, not means. The "National" level estimates reported here use medians because no national stratum was defined in the 2015 BRFSS survey. Survey results at the national level were not adjusted or weighted to produce a national mean result.

Beneficial Health Practices: Fruit & Vegetable Consumption

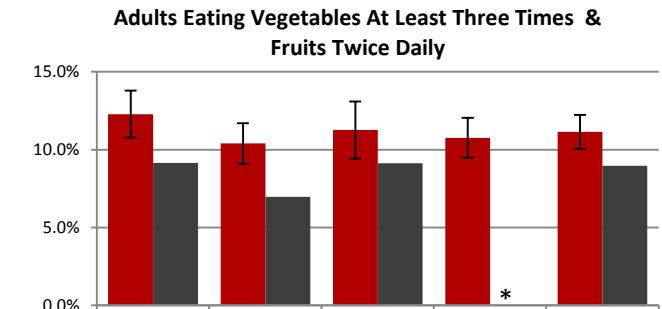
The 2015-2020 Dietary Guidelines for Americans, 8th edition, reflects the large body of evidence which shows that healthy eating patterns and regular physical activity can help people achieve and maintain good health and reduce the risk of chronic diseases like cardiovascular disease, type 2 Diabetes, and overweight and obesity. Previous edition of the Dietary Guidelines focused on individual dietary components. The current Guidelines reflect the growing body of research that examines the relationship between overall eating pat- terns, health, and risk of chronic disease. The Guidelines advise that a healthy eating pattern is not a rigid prescription but an adaptable framework that provide individual the choices to enjoy foods to meet their personal, cultural, and traditional preferences as well as fit within their budget.

One of the key recommendations from the Dietary Guidelines is to "Consume a healthy eating pattern that accounts for all foods and beverages within an appropriate calorie level." Specific recommendations regarding vegetables and fruits in a healthy eating pattern include:

- A variety of vegetables from all subgroups – dark green, red and orange, legumes (beans and peas), starches, and others
- Fruits, especially whole fruits

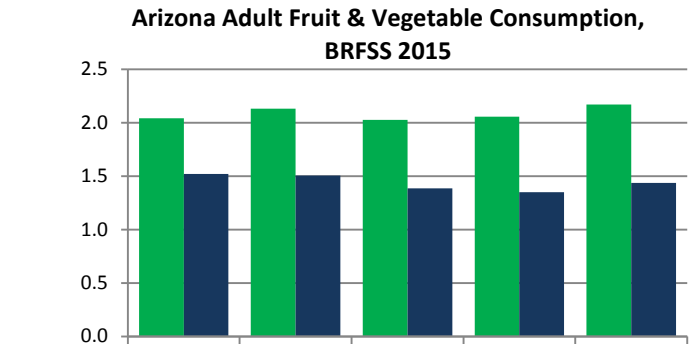
Overall, adults throughout the United States do not meet intake recommendations for vegetables or fruits. For most adults, 2 1/2 to 3 cups of vegetables, with a wide variety chosen from the vegetable subgroups, is recommended and 2 cups of fruit, preferably whole fruits, is recommended.

In 2015, 11.1% of Arizona BRFSS respondents consumed vegetables at least three time and fruits twice daily (see Figure A). The mean serving of fruits and vegetables consumed by Arizonans in 2015 were 1.4 and 2.2, respectively (see figure B).



	2011	2012	2013	2014	2015
Arizona	12.3%	10.4%	11.3%	10.8%	11.1%
National	9.2%	7.0%	9.1%	N/A	9.0%

Figure A: Arizona and National BRFSS 2015 respondents who reported consuming vegetables at least three times and fruits twice per day.



	2011	2012	2013	2014	2015
VEG ONLY	2.0	2.1	2.0	2.1	2.2
FRUIT ONLY	1.5	1.5	1.4	1.4	1.4

Figure B: Arizona BRFSS 2011-2015 Respondents Fruit & Vegetable Consumption.

When compared to other states, Arizona is in the second-highest category (9.4-11.3%) for percent of respondents who reported they are consuming at least three vegetables and two fruits per day (see Figure C).

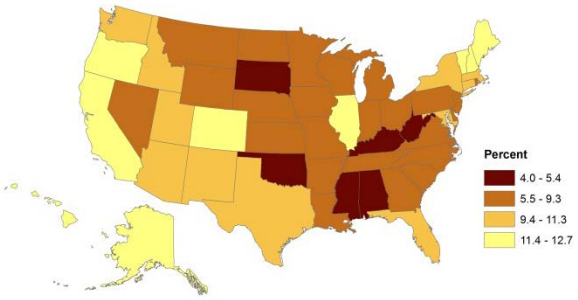
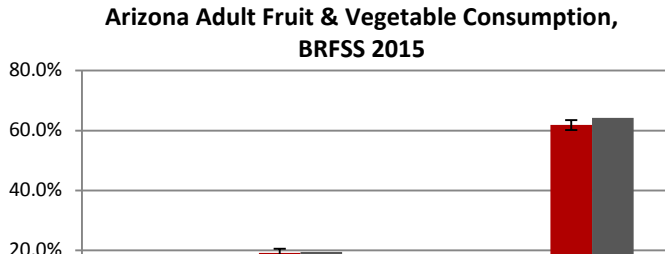


Figure C: United States Map of BRFSS 2015 respondents reporting consuming vegetables at least three times and fruits two times per day.

One of the most noteworthy items for the Arizona 2015 BRFSS is the large proportion of the population who reported not consuming vegetables or fruits 61.9% (see Figure D).



	Both Fruit & Veg	Fruit Only	Veg Only	No Fruit or Veg
Arizona	11.1%	19.2%	7.8%	61.9%
National	9.0%	19.5%	7.0%	64.2%

Figure D: Arizona and National BRFSS 2015 reported fruit and vegetable consumption.

In 2015, Apache County had the highest proportion of respondents consuming vegetables three times and fruits twice

daily, 19.4%. Coconino County had the lowest, 4.3% (see Figure E).

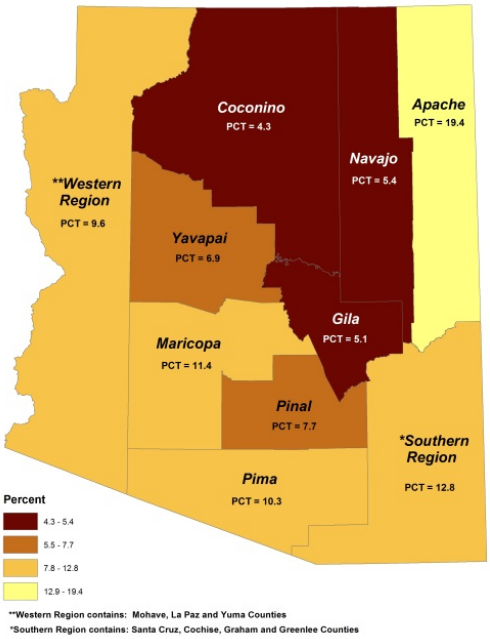


Figure D: Arizona Map of BRFSS 2015 respondents who reported consuming vegetables at least three times and fruits two times per day.

Arizona Respondents Who Consume At Least Two Servings of Fruits and Three Vegetables Per Day				
			Confidence Interval	
Characteristic	Percent	N*	Lower Mean	Upper Mean
National	**22.3%**	**53**		
Arizona	**20.5%**	**1258**	**19.0%**	**22.0%**
Male	7.9%	221	6.5%	9.3%
Female	14.2%	571	12.6%	15.9%
18-24	6.0%	16	2.7%	9.3%
25-34	14.3%	75	10.7%	18.0%
35-44	11.6%	91	8.8%	14.3%
45-54	10.7%	106	8.3%	13.1%
55-64	12.9%	183	10.7%	15.2%
65+	10.3%	321	8.9%	11.6%
Married	12.5%	450	11.0%	14.0%
Divorced	9.8%	111	7.3%	12.3%
Widowed	12.4%	113	9.1%	15.6%
Separated	9.2%	15	2.6%	15.7%
Never Married	8.8%	80	6.2%	11.4%
Unmarried Couple	10.4%	20	4.1%	16.6%
Less than high school	9.9%	45	6.5%	13.3%
High School/GED	9.4%	129	7.2%	11.5%
Some College/Technical School	12.0%	250	10.0%	13.9%
College/Technical School Grad	12.3%	365	10.8%	13.9%
Employed for Wages	10.0%	251	8.4%	11.5%
Self Employed	16.4%	70	11.6%	21.3%
Out of Work	7.5%	26	2.9%	12.1%
Homemaker	17.5%	83	12.7%	22.2%
Student	8.1%	16	3.0%	13.2%
Retired	10.4%	290	9.0%	11.9%
Unable to Work	10.8%	45	6.3%	15.3%
Less than $10,000	9.6%	21	3.4%	15.7%
$10,000 to $14,999	11.4%	38	5.6%	17.2%
$15,000 to $19,999	12.2%	52	7.6%	16.7%
$20,000 to $24,999	9.4%	56	5.8%	13.0%
$25,000 to $34,999	9.8%	58	6.1%	13.6%
$35,000 to $49,999	10.0%	96	7.1%	12.9%
$50,000 to $74,999	11.8%	107	8.9%	14.6%
Above $75,000	12.3%	217	10.3%	14.4%
White Non-Hispanic	10.9%	590	9.7%	12.1%
Black/African American	12.9%	19	5.6%	20.2%
Hispanic	12.3%	132	9.6%	15.0%
Asian/Pacific Islander	6.6%	12	2.3%	11.0%
American Indian Non-Hispanic	9.1%	11	1.9%	16.3%
Other	11.0%	28	5.6%	16.4%

Use caution in interpreting cell sizes less than 50. N* is unweighted.
National N is 53 = all 50 states, DC and Territories.

Beneficial Health Practices: Fruit & Vegetable Consumption

The table to the left displays the proportions of Arizonans who at least consume two fruits and three vegetables each day. The data are reported by age categories, marital status, educational attainment, employment status, income and race/ethnicity.

The “Nationwide” estimates are median values across all states, not means. The “National” level estimates reported here use medians because no national stratum was defined in the 2015 BRFSS survey. Survey results at the national level were not adjusted or weighted to produce a national mean result.

Health Conditions & Limitations

Chronic health conditions contribute to morbidity and mortality. Furthermore, these conditions reduce an individual's quality of life. The benefits of programs and policies targeting these conditions will be difficult to quantify as data collection on the community's quality of life is not feasible. However, monitoring the prevalence of these diseases will provide Arizona with a tool to assess the impact of these programs and policies. The Health Conditions and Limitations Section include an analysis of the following:

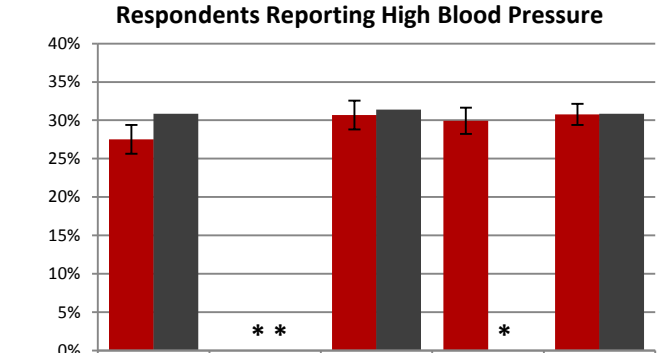
- **High Blood Pressure (variable AZ7_1 & BPHIGH4) –** Never receiving a diagnosis of high blood pressure is considered a positive outcome and receiving a diagnosis of high blood pressure is considered a negative outcome.
- **Obesity (variable _BMI5CAT) –** Not being obese is considered a positive outcome and being obese is considered a negative outcome.
- **Diabetes (variable DIABETE3) –** Never receiving a diagnosis of diabetes is considered a positive outcome and receiving a diagnosis of diabetes is considered a negative outcome.
- **Special Equipment (variable USEEQUIP) –** Never having a health problem or impairment that required special equipment is a positive outcome and having a health problem that required special equipment is considered a negative outcome.
- **Chronic Obstructive Pulmonary Disease (COPD) (variable CHCCOPD1) –** Never receiving a diagnosis of having COPD, emphysema or chronic bronchitis is considered a positive outcome, and receiving a diagnosis of having COPD, emphysema or chronic bronchitis is considered a negative outcome.
- **Cardiovascular Disease: Heart Attack (variable CVDINFR4) –** Never receiving a diagnosis of a heart attack is considered a positive outcome and receiving a diagnosis of a heart attack is considered a negative outcome.
- **Cardiovascular Disease: Angina (variable CVDCRHD4) –** Never receiving a diagnosis of angina is considered a positive outcome and receiving a diagnosis of angina is considered a negative outcome.
- **Stroke (variable CVDSTRK3) –** Never receiving a diagnosis of a stroke is considered a positive outcome and receiving a diagnosis of a stroke is considered a negative outcome.

Health Conditions & Limitations: High Blood Pressure

Survey Question: Have you **EVER** been told by a doctor, nurse or other health professional that you have high blood pressure?

About 75 million American adults (29%) have high blood pressure - that's 1 of every 3 adults. Only about half (54%) of people with high blood pressure have their condition under control. Nearly 1 out of 3 American adults have blood pressure numbers that are higher than normal and are considered to be pre-hypertensive.[48] High blood pressure is called the "silent killer" because it often has no warning signs or symptoms, and many people don't realize they have it.[49] This is why it is important to get your blood pressure checked regularly. Measuring your blood pressure is quick and painless, and it is the only way to know whether your pressure is elevated. You can check your blood pressure at a doctor's office, at a pharmacy or at home.[50]

High blood pressure costs, (includes health care services, medications, to treat high blood pressure, and missed days of work) the nation over $46 billion each year.[51] High blood pressure has been associated with smoking, obesity, lack of physical activity, too much salt in the diet overconsumption of alcohol, stress, age, genetics, thyroid disorders and chronic kidney disease.[52] In 2015, 30.8% of Arizonans surveyed reported having high blood pressure (see Figure A).



	2011	2012	2013	2014	2015
Arizona	27.5%	N/A	30.7%	29.9%	30.8%
National	30.8%	N/A	31.4%	N/A	30.9%

Figure A: Arizona and national 2011-2015 BRFSS Respondents who reported being told by health professional that they have high blood pressure. *Not asked in 2012 and were state-added only in 2014.

In 2015, Arizonan males surveyed reported a higher proportion of high blood pressure than females surveyed (see Figure B).

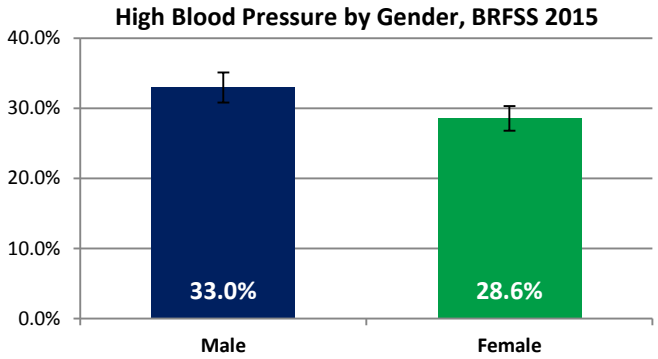


Figure B: Arizona and National 2011-2015 BRFSS respondents who responded that they have high blood pressure by Gender.

Arizona BRFSS 2015 survey respondents reporting an income less than $10,000 reported experiencing the largest proportion (36.0%) of high blood pressure followed by those reporting an income from $20,000 to $24,999 (34.1%) (see Figure C).

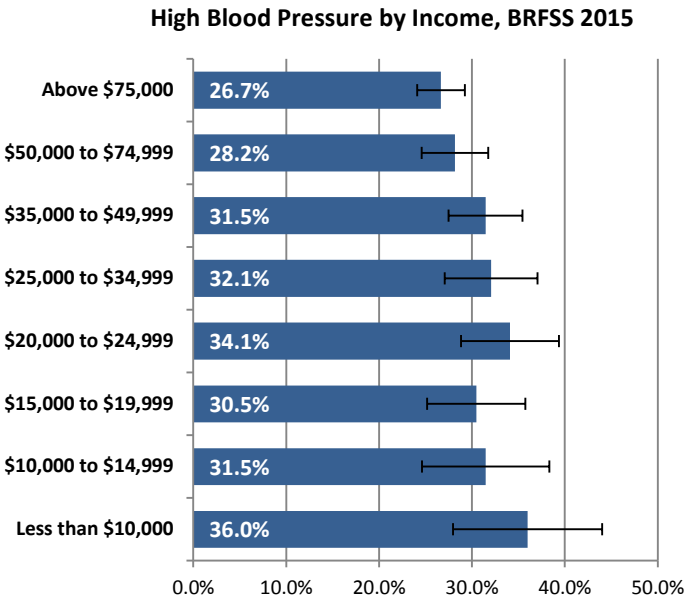


Figure C: Arizona 2015 BRFSS Respondents Who Reported Having High Blood Pressure by Income.

When compared to other states, Arizona is in the second-highest category (27.6-31.6%) for percent of respondents who reported that a health care professional told them they had high-blood pressure. (see Figure D).

[48] Merai R, Siegel C, Rakotz M, Basch P, Wright J, Wong B; DHSc., Thorpe P. CDC Grand Rounds: A Public Health Approach to Detect and Control Hypertension. MMWR Morb Mortal Wkly Rep. 2016 Nov 18;65(45):1261-1264

[49] U.S. Department of Health and Human Services, Center for Disease Control and Prevention, High Blood Pressure facts: Internet access: November 14, 2014.http://www.cdc.gov/bloodpressure/measure.htm.

[50] U.S. Department of Health and Human Services, Center for Disease Control and Prevention, High Blood Pressure facts: Internet access: November 14, 2014. http://www.cdc.gov/bloodpressure/docs/consumered_hbp.pdf

[51] Mozzafarian D, Benjamin EJ, Go AS, et al. Heart Disease and Stroke Statistics-2015 Update: a report from the American Heart Association. Circulation. 2015;e29-322.

[52] MayoClinic.org. Diseases and Conditions. High Blood Pressure (Hypertension). Accessed Jan 20, 2013. http://www.mayoclinic.org/diseases-conditions/high-blood-pressure/basics/symptoms/con-20019580.

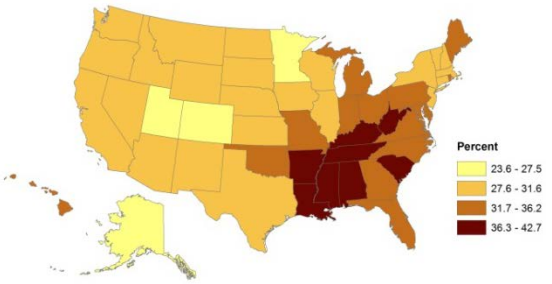


Figure D: U.S. Map of 2015 BRFSS Respondents Who Reported Having High Blood Pressure (natural breaks),

Arizona counties have reported percentages for high blood pressure as low as 16.9% (Coconino County) and as high as 45.5% in the Western Region (Mohave, La Paz, and Yuma Counties) (see Figure E).

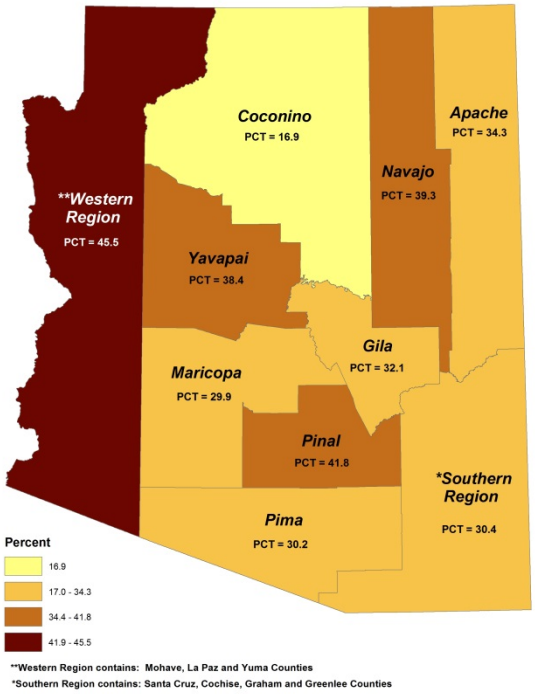


Figure E: Arizona BRFSS 2015 respondents who reported having high blood pressure by county.

Arizona Respondents Who Reported Having High Blood Pressure				
			Confidence Interval	
Characteristic	Percent	N*	Lower Mean	Upper Mean
National	**30.9%**	**53**		
Arizona	**30.8%**	**3238**	**29.4%**	**32.1%**
Male	33.0%	1394	30.8%	35.1%
Female	28.6%	1844	26.8%	30.3%
18-24	8.2%	22	4.4%	11.9%
25-34	12.3%	69	9.1%	15.6%
35-44	20.5%	167	17.1%	23.9%
45-54	30.8%	322	27.2%	34.3%
55-64	45.3%	706	42.2%	48.5%
65+	57.2%	1952	55.0%	59.4%
Married	32.8%	1614	31.0%	34.7%
Divorced	37.8%	506	34.0%	41.7%
Widowed	59.1%	701	54.7%	63.6%
Separated	28.5%	51	18.5%	38.6%
Never Married	16.9%	285	14.1%	19.7%
Unmarried Couple	19.0%	61	12.5%	25.5%
Less than high school	35.8%	265	30.7%	40.9%
High School/GED	31.3%	824	28.7%	34.0%
Some College/Technical School	30.4%	999	28.1%	32.7%
College/Technical School Grad	27.5%	1135	25.5%	29.5%
Employed for Wages	22.7%	747	20.6%	24.7%
Self Employed	25.8%	161	20.8%	30.9%
Out of Work	25.0%	116	19.3%	30.7%
Homemaker	23.2%	191	18.8%	27.6%
Student	10.7%	26	5.4%	16.0%
Retired	55.0%	1689	52.6%	57.3%
Unable to Work	54.1%	280	48.0%	60.2%
Less than $10,000	36.0%	115	28.0%	44.0%
$10,000 to $14,999	31.5%	156	24.6%	38.3%
$15,000 to $19,999	30.5%	228	25.2%	35.8%
$20,000 to $24,999	34.1%	292	28.8%	39.4%
$25,000 to $34,999	32.1%	282	27.1%	37.0%
$35,000 to $49,999	31.5%	425	27.5%	35.4%
$50,000 to $74,999	28.2%	373	24.6%	31.8%
Above $75,000	26.7%	609	24.1%	29.2%
White Non-Hispanic	34.4%	2562	32.7%	36.0%
Black/African American	33.5%	94	25.4%	41.6%
Hispanic	25.5%	417	22.4%	28.5%
Asian/Pacific Islander	10.7%	31	6.6%	14.9%
American Indian Non-Hispanic	24.6%	57	16.8%	32.5%
Other	26.4%	77	19.0%	33.7%

Use caution in interpreting cell sizes less than 50. N* is unweighted.
National N is 53 = all 50 states, DC and Territories.

Health Conditions & Limitations: High Blood Pressure

The table to the left displays the proportions of Arizonans who reported that they had high blood pressure by age categories, marital status, educational attainment, employment status, income and race/ethnicity.

The "Nationwide" estimates are median values across all states, not means. The "National" level estimates reported here use medians because no national stratum was defined in the 2015 BRFSS survey. Survey results at the national level were not adjusted or weighted to produce a national mean result.

Health Conditions & Limitations: Obesity

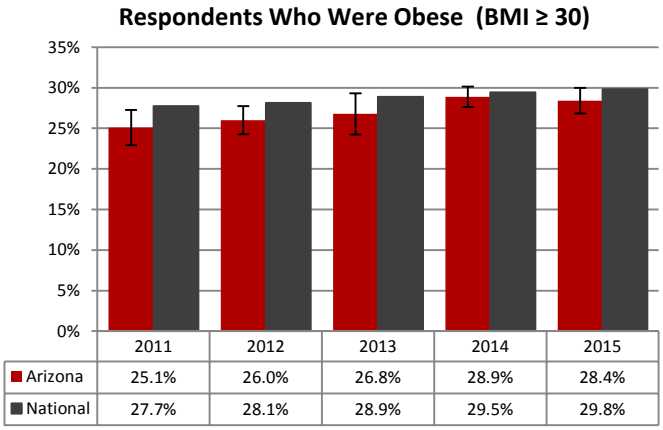
Survey Question(s):

1) About how much do you weight without shoes?
2) About how tall are you without shoes?

More than one-third of U.S. adults are obese. Obesity-related conditions include type 2 diabetes, heart disease, stroke and arthritis-related disabilities. [53] Furthermore, one in three cancer-related deaths can also be attributed to obesity.[54] Obesity has attained epidemic proportions in the United States more than doubling in the past two decades.[55] To assess obesity, the BRFSS collects data on self-reported height and weight; the formula for body mass index (BMI) is bodyweight in kilograms divided by height in meters squared. BMI Categories are defined as follows:

- Underweight (BMI 12.0 – 18.4)
- Overweight (BMI 25.0 – 29.9)
- Normal (BMI 18.5-24.9)
- Obese (BMI 30.0-99.8)

More than one in four (28.4%) of Arizonans surveyed in 2015 were obese, slightly below the national median (29.8%) since 2011 (see Figure A).



	2011	2012	2013	2014	2015
Arizona	25.1%	26.0%	26.8%	28.9%	28.4%
National	27.7%	28.1%	28.9%	29.5%	29.8%

Figure A: Arizona and National 2011-2015 BRFSS respondents who were obese based on self-reported height and weight.

Research has shown that low income households are less likely to live in communities that support healthy eating, and that stores in low-income communities are more likely to stock foods that are of lower quality, but are more filling. Furthermore, individuals from low-income households have expressed that fresh fruits and vegetables are desirable but impractical due to cost.[56] The effects of the unavailability of healthy foods can be seen in the rise of obesity in low income households. BRFSS data from 2000-2010 showed that respondents in low-income households were the most likely to report being obese. Recent data since 2011 show similar patterns with highest obesity levels reported by the respondents in the lowest income groups (less than $20,000), and the lowest levels reported in the highest income group (above $75,000) (see Figure B).

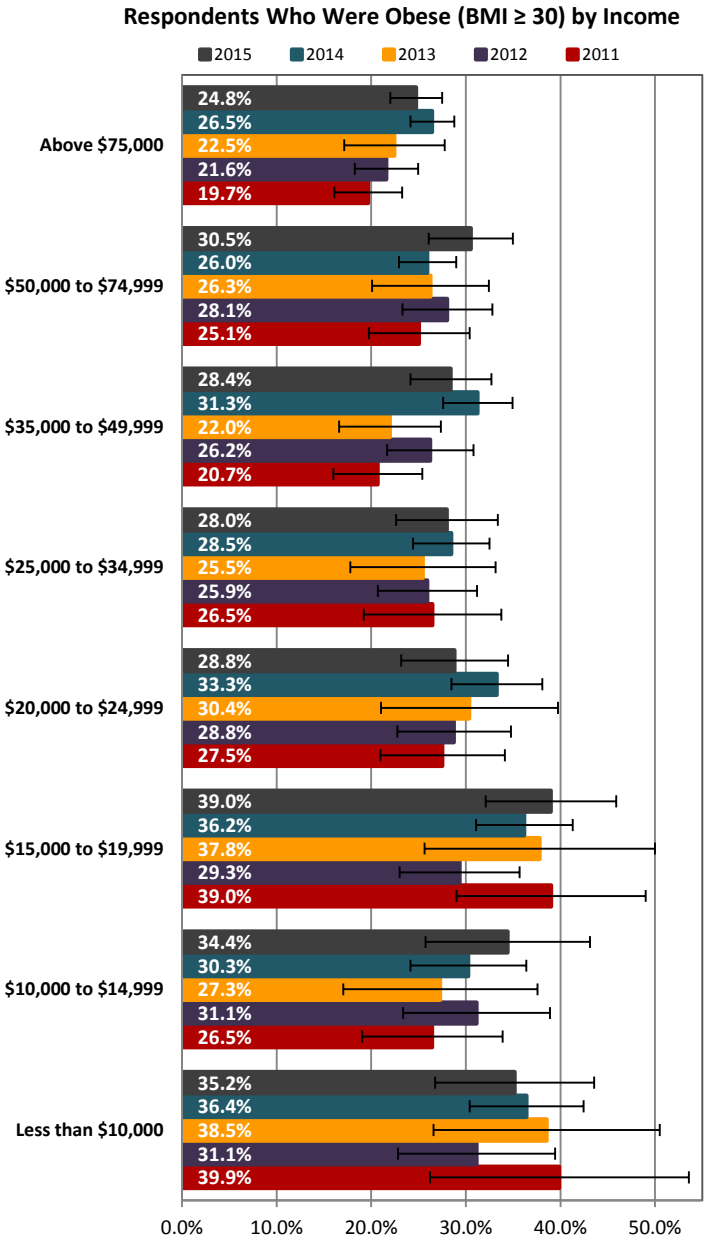
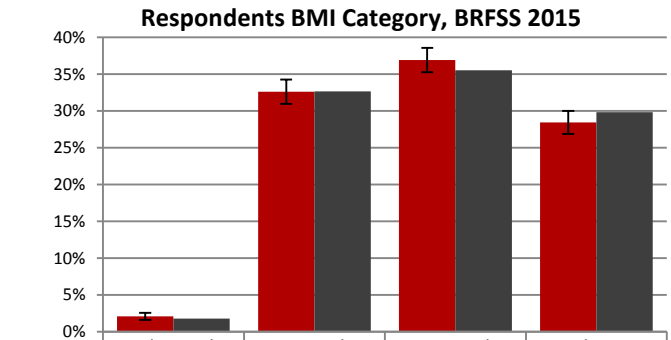


Figure B: Arizona 2011-2015 BRFSS Respondents Categorized as Obese Stratified by Income.

[53] Ogden CL, Carroll MD, Fryar CD, Flegal KM. Prevalence of obesity among adults and youth: United States, 2011–2014. NCHS data brief, no 219. Hyattsville, MD: National Center for Health Statistics. 2015.
[54] Trust for America's Health. Reports, Fast in Fat: How Obesity Threatens America's Future 2012. Published Sep 2012. Accessed Sep 2013. http://healthyamericans.org/report/100/.
[55] CDC. State-specific prevalence of obesity among adults---United States, 2009. MMWR 2010;59(30);951-955.
[56] Hendrickson D., Smith C., Eikenberry N. Fruit and vegetable access in four low-income food deserts communities in Minnesota. Agric. Hum. Values. 2006;23:371-383. doi:10.1007/s10460-006-9002-8.



	Underweight	Normal	Overweight	Obese
Arizona	2.1%	32.6%	36.9%	28.4%
National	1.8%	32.7%	35.5%	29.8%

Figure C: BRFSS 2015 Respondent Comparison of Arizona and National BMI Categories.

Although the disease burden associated with obesity is far reaching, being overweight and underweight can also have detrimental effects on health. In 2015, 32.6% of Arizonans reported being in the normal BMI range, while only 36.9% reported being in the overweight category (see Figure C).

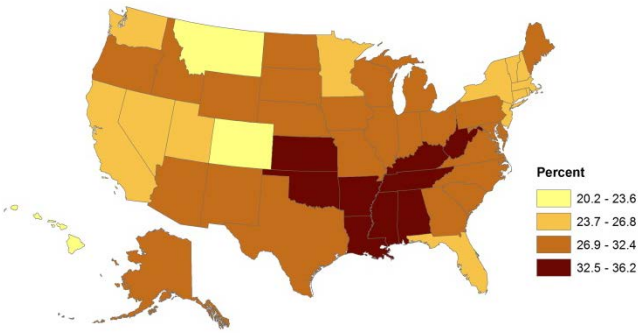


Figure D: United States Map of BRFSS 2015 Comparison of Arizona and National Obese BMI Category.

When compared to other states, Arizona is in the second-highest category (26.9-32.4%) for percent of respondents who reported they are obese (see Figure D).

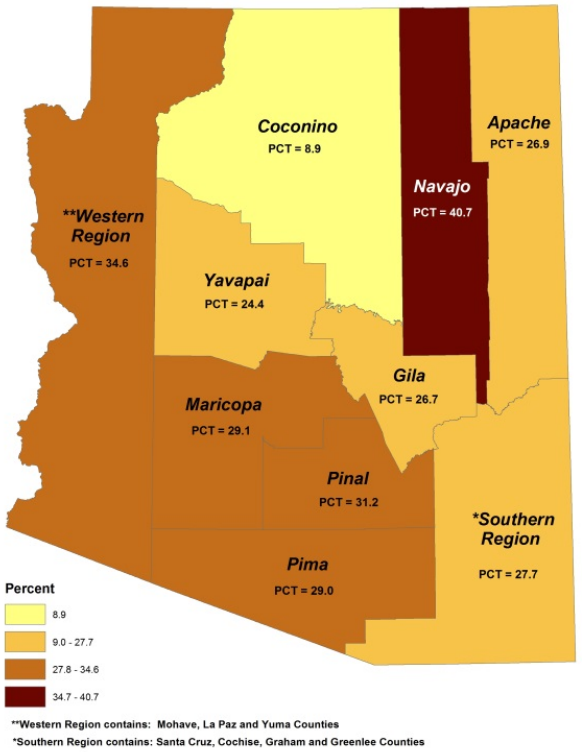


Figure E: Arizona BRFSS 2015 map of respondents who reported being the in the obese BMI category by county.

When compared to other counties in Arizona, respondents from Navajo county responded more frequently (40.7%) that they were obese (the highest-category possible) (see Figure E).

Arizona Respondents Who Were Obese (BMI ≥ 30)				
			Confidence Interval	
Characteristic	Percent	N*	Lower Mean	Upper Mean
National	**29.8%**	**53**		
Arizona	**28.4%**	**1907**	**26.8%**	**30.0%**
Male	29.6%	853	27.3%	32.0%
Female	27.1%	1054	25.1%	29.2%
18-24	17.5%	47	12.3%	22.8%
25-34	29.5%	140	24.7%	34.3%
35-44	33.4%	250	29.2%	37.6%
45-54	32.1%	309	28.4%	35.8%
55-64	33.4%	447	30.3%	36.5%
65+	24.2%	714	22.2%	26.3%
Married	29.7%	1009	27.6%	31.7%
Divorced	29.7%	301	25.8%	33.7%
Widowed	23.9%	218	19.6%	28.1%
Separated	37.7%	47	26.0%	49.3%
Never Married	25.9%	267	22.0%	29.8%
Unmarried Couple	27.4%	54	18.2%	36.5%
Less than high school	37.5%	172	31.5%	43.5%
High School/GED	28.2%	474	25.3%	31.2%
Some College/Technical School	30.3%	637	27.6%	32.9%
College/Technical School Grad	21.0%	620	19.0%	23.0%
Employed for Wages	29.3%	697	26.8%	31.9%
Self Employed	28.0%	101	21.8%	34.1%
Out of Work	31.8%	98	24.6%	39.0%
Homemaker	27.9%	129	22.2%	33.5%
Student	19.7%	44	12.6%	26.9%
Retired	24.2%	636	22.0%	26.3%
Unable to Work	42.4%	188	36.1%	48.7%
Less than $10,000	35.2%	82	26.8%	43.6%
$10,000 to $14,999	34.4%	103	25.7%	43.1%
$15,000 to $19,999	39.0%	146	32.1%	45.9%
$20,000 to $24,999	28.8%	167	23.2%	34.5%
$25,000 to $34,999	28.0%	161	22.6%	33.4%
$35,000 to $49,999	28.4%	262	24.1%	32.7%
$50,000 to $74,999	30.5%	253	26.1%	35.0%
Above $75,000	24.8%	427	22.0%	27.5%
White Non-Hispanic	25.3%	1314	23.7%	27.0%
Black/African American	31.5%	69	22.5%	40.6%
Hispanic	35.9%	385	32.0%	39.8%
Asian/Pacific Islander	8.5%	10	2.1%	14.9%
American Indian Non-Hispanic	42.5%	68	31.7%	53.3%
Other	24.1%	61	16.9%	31.3%

Use caution in interpreting cell sizes less than 50. N* is unweighted.
National N is 53 = all 50 states, DC and Territories.

Health Conditions & Limitations: Obesity

The table to the left displays the proportions of Arizona BRFSS survey respondents who were categorized as being obese (based on calculated BMI) by sex, age, marital status, educational attainment, employment status, income and race/ethnicity.

The "Nationwide" estimates are median values across all states, not means. The "National" level estimates reported here use medians because no national stratum was defined in the 2015 BRFSS survey. Survey results at the national level were not adjusted or weighted to produce a national mean result.

Health Conditions & Limitations: Diabetes

Survey Question: Has a doctor, nurse, or other healthcare professional **EVER** told you that you have diabetes?

More than 29.1 million Americans have diabetes, and 86 million have prediabetes, a serious health condition that increases the risk of Type II diabetes and other chronic diseases.[57] The 2011 national mortality data (the most current available) shows that diabetes mellitus is the seventh leading cause of death in the U.S. Nationally, in 2014 there were 76,488 deaths associated with diabetes.[58] Diabetes can cause heart disease, stroke, blindness, kidney failure, amputations, pregnancy complications, and death. Particularly at risk are the 1 out of 3 Americans unaware that they have prediabetes.

The hormones which appear during pregnancy can cause glucose intolerance. This is known as gestational diabetes. It typically goes away after childbirth.[59] Therefore, individuals who were diagnosed with gestational diabetes are not categorized as diabetics in this summary. In 2015, one in ten (10.1%) Arizonans surveyed reported they had a health professional tell them they had diabetes (see Figure A).

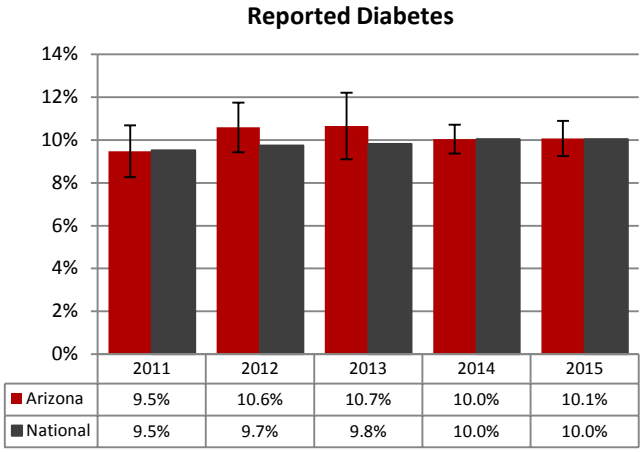
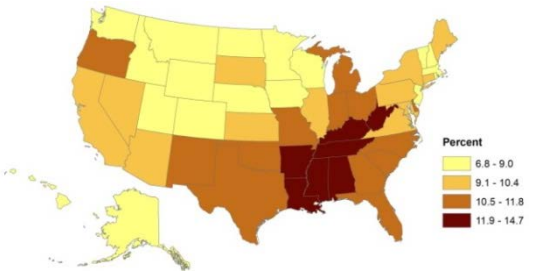


Figure A: Arizona and National 2011-2015 BRFSS respondents who reported that they were diagnosed with diabetes.



In BRFSS 2015, Arizona is in the second-highest category of those surveyed who reported a diabetes diagnosis when compared to the other states across the U.S. (see Figure B).

Figure B: US MAP of BRFSS 2015 respondents who reported having Diabetes. (natural breaks)

Research has shown that smoking decreases insulin sensitivity, which in turn results in disorders of glucose metabolism. Furthermore, it has been shown that smoking worsens metabolic control when compared to non-smokers. Additionally, nicotine has been shown to increase apoptosis of islet β- cells, which synthesize and secrete insulin.[60,61] Survey data indicates that current smokers and former smokers have a similar prevalence of diabetes, while former smokers have higher diabetes prevalence, at 14.6% (see Figure C).

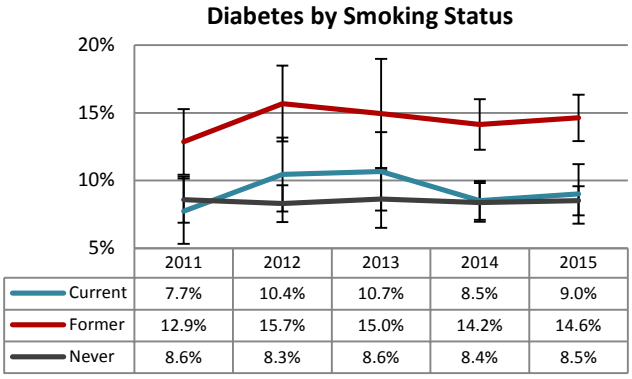


Figure C: Arizona 2015 survey respondents who reported having Diabetes by smoking status (current smoker, former smoker, never smoker).

When compared to other counties in Arizona, respondents from Gila County responded more frequently that they were told by a healthcare professional that they had Diabetes (26.6%), placing the county in the highest-category possible. (see Figure D).

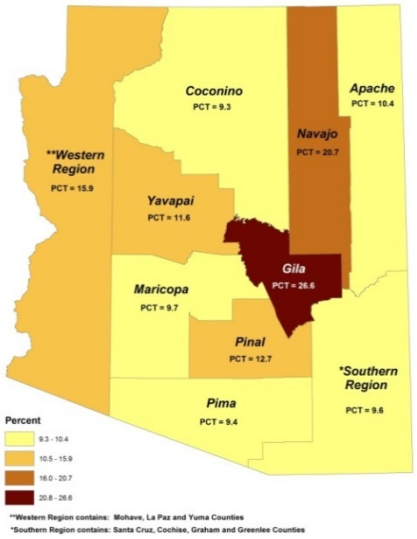


Figure D: Arizona BRFSS 2015 respondents who reported they were told they had diabetes by a health care professional.

[57] Centers for Disease Control and Prevention. "At a Glance 2016: Diabetes" 2016. Accessed Mar 23, 2017. <https://www.cdc.gov/chronicdisease/resources/publications/aag/pdf/2016/diabetes-aag.pdf>.
[58] Kochanek KD, Murphy SL, Xu JQ,Tejada-Vera B. Deaths: Final data for 2014. National vital statistics reports; vol 65 no 4.Hyattsville, MD: National Center for Health Statistics. 2016.
[59] U.S. National Library of Medicine. Literature. Gestational Diabetes. http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0001898/

[60] Xie X, Liu Q, Wu J, Wakuie M. Impact of cigarette smoking in type 2 diabetes development. Acta Pharmacol Sin. 2009. doi: 10.1038/aps.2009.49
[61] Rohit N Kulkarni. The islet beta-cell. Int J Biochem Cell Biol. 2004 Mar;36(3):365-71. doi: 10.1016/j.biocel.2003.08.010.

Arizonans Who Reported Ever Having Diabetes				
			Confidence Interval	
Characteristic	Percent	N*	Lower Mean	Upper Mean
National	**10.0%**	**53**		
Arizona	**10.1%**	**1100**	**9.3%**	**10.9%**
Male	9.8%	466	8.6%	11.0%
Female	10.3%	634	9.2%	11.5%
18-24	2.0%	5	0.0%	4.1%
25-34	1.9%	13	0.7%	3.0%
35-44	4.2%	38	2.6%	5.7%
45-54	10.1%	112	7.8%	12.5%
55-64	17.8%	255	15.3%	20.3%
65+	20.6%	677	18.8%	22.4%
Married	10.3%	534	9.2%	11.4%
Divorced	11.7%	169	9.4%	14.0%
Widowed	24.4%	257	20.3%	28.5%
Separated	16.6%	27	8.5%	24.7%
Never Married	4.7%	86	3.1%	6.3%
Unmarried Couple	5.5%	17	2.1%	8.8%
Less than high school	15.5%	121	12.0%	19.0%
High School/GED	10.5%	283	9.0%	12.1%
Some College/Technical School	9.3%	359	8.1%	10.5%
College/Technical School Grad	7.1%	326	6.1%	8.1%
Employed for Wages	5.8%	211	4.8%	6.8%
Self Employed	6.5%	42	4.0%	9.1%
Out of Work	9.7%	46	6.1%	13.3%
Homemaker	8.9%	68	6.2%	11.5%
Student	1.0%	7	0.0%	2.0%
Retired	19.3%	574	17.4%	21.1%
Unable to Work	28.6%	148	22.7%	34.5%
Less than $10,000	14.0%	55	9.3%	18.7%
$10,000 to $14,999	18.4%	79	12.8%	23.9%
$15,000 to $19,999	13.0%	87	9.1%	16.9%
$20,000 to $24,999	13.9%	112	10.3%	17.6%
$25,000 to $34,999	12.8%	112	9.7%	16.0%
$35,000 to $49,999	9.2%	145	7.3%	11.1%
$50,000 to $74,999	8.7%	126	6.7%	10.6%
Above $75,000	5.4%	148	4.3%	6.5%
White Non-Hispanic	9.5%	772	8.6%	10.4%
Black/African American	11.9%	36	7.1%	16.7%
Hispanic	9.8%	202	8.1%	11.5%
Asian/Pacific Islander	7.7%	16	3.1%	12.3%
American Indian Non-Hispanic	20.0%	41	12.1%	27.8%
Other	9.9%	33	5.8%	14.0%

Use caution in interpreting cell sizes less than 50. N* is unweighted.
National N is 53 = all 50 states, DC and Territories.

Health Conditions & Limitations: Diabetes

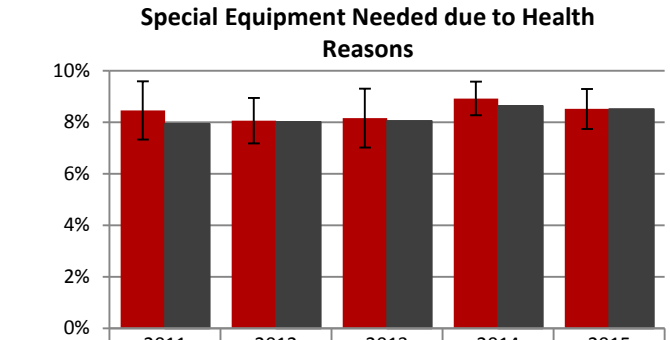
The table to the left displays the proportion of Arizonans who were diagnosed with diabetes by age categories, marital status, educational attainment, employment status, income and race/ethnicity.

The "Nationwide" estimates are median values across all states, not means. The "National" level estimates reported here use medians because no national stratum was defined in the 2015 BRFSS survey. Survey results at the national level were not adjusted or weighted to produce a national mean result.

Health Conditions & Limitations:
Special Equipment Required

Survey Question: Do you now have any health problem that requires you to use special equipment, such as a cane, a wheelchair, a special bed, or a special telephone?

In the United States there are an estimated 35-43 million people with physical and mental disabilities.[62] The National Response Framework defines special needs populations as follows: Populations whose members may have additional needs before, during and after an incident in functional areas, including but not limited to: maintaining independence, communication, transportation, supervision and medical care. Individuals in need of additional response assistance may include those who have disabilities, who live in institutionalized settings, who are elderly, who are children, who are from diverse cultures, who have limited English proficiency or are non-English speaking, or who are transportation-disadvantaged.[63] The proportion of Arizonans surveyed who indicated they needed special equipment for health reasons has been stable since 2011. In 2015, 8.5% of Arizonans surveyed reported having a health problem that required special equipment (see Figure A).



	2011	2012	2013	2014	2015
Arizona	8.5%	8.1%	8.2%	8.9%	8.5%
National	7.9%	8.0%	8.0%	8.6%	8.5%

Figure A: Arizona and National respondents who reported needing special equipment due to health reasons, BRFSS 2011-2015.

In BRFSS 2015, Arizona is in the second lowest category for respondents reporting a need for special equipment when compared to states across the nation (Figure B).

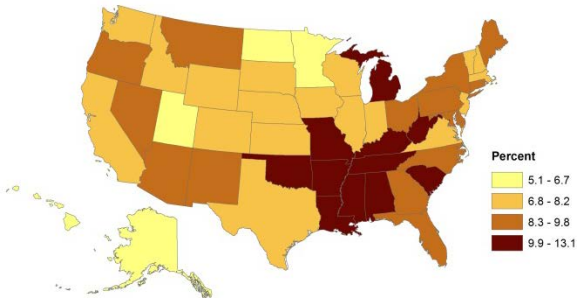


Figure B: BRFSS 2015 survey respondents who reported that they needed special equipment due to health reasons (U.S. map displays natural breaks).

Understanding the prevalence of disability is important for public health programs to be able to address the needs of persons with disabilities.[64]

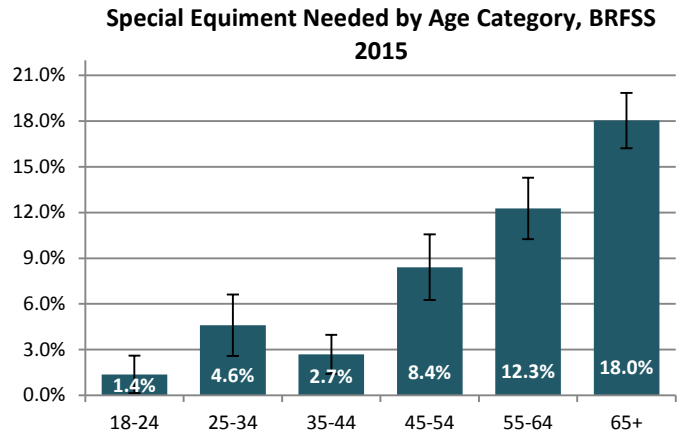


Figure C: Arizona 2015 BRFSS Respondents who reported needing special equipment due to health reasons by age category.

Figures C and D present the BRFSS 2015 data results for Arizona respondents who reported needing special equipment for health reasons stratified by educational attainment and by gender.

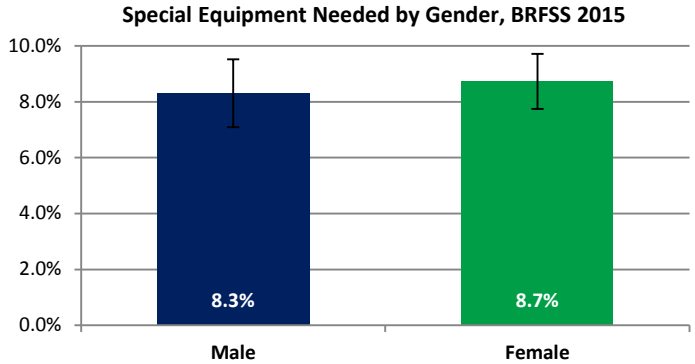


Figure D: Arizona BRFSS 2015 Respondents who reported needing special equipment due to health reasons by Gender.

[62] Centers for Disease Control and Prevention Services. National Health Interview Survey on Disability. 8 Nov 2015. Accessed 23 Mar 2017. < https://www.cdc.gov/nchs/nhis/nhis_disability.htm>.
[63] U.S. Department of Health & Human Services. "Avoiding Disasters for the "Special Needs Population." Accessed. 17 Mar. 2017 <https://www.hhs.gov/sites/default/files/ocr/civilrights/resources/specialtopics/emergencypre/eptrainingppt.pdf>.
[64] MMWR Prevalence of Disability and Disability Type Among Adults — United States, 2013Weekly July 31, 2015. 64(29);777-783. http://www.cdc.gov/mmWR/preview/mmwrhtml/mm6429a2.htm

Arizona Respondents Who Reported Needing Special Equipment Due to Health Reasons				
			Confidence Interval	
Characteristic	Percent	N*	Lower Mean	Upper Mean
National	**8.5%**	**53**		
Arizona	**8.5%**	**956**	**7.7%**	**9.3%**
Male	8.3%	366	7.1%	9.5%
Female	8.7%	590	7.7%	9.7%
18-24	1.4%	5	0.1%	2.6%
25-34	4.6%	24	2.6%	6.6%
35-44	2.7%	23	1.4%	4.0%
45-54	8.4%	90	6.3%	10.6%
55-64	12.3%	192	10.2%	14.3%
65+	18.0%	622	16.2%	19.9%
Married	7.1%	358	6.1%	8.1%
Divorced	13.4%	183	10.8%	16.0%
Widowed	24.5%	284	20.6%	28.4%
Separated	20.5%	25	9.7%	31.3%
Never Married	4.2%	82	2.9%	5.6%
Unmarried Couple	4.3%	20	1.8%	6.8%
Less than high school	11.8%	110	8.8%	14.8%
High School/GED	8.0%	245	6.7%	9.4%
Some College/Technical School	9.5%	318	8.1%	10.9%
College/Technical School Grad	5.7%	278	4.7%	6.7%
Employed for Wages	3.0%	87	2.1%	3.9%
Self Employed	2.7%	15	1.1%	4.4%
Out of Work	5.4%	31	2.9%	7.9%
Homemaker	6.2%	60	4.1%	8.3%
Student	5.1%	11	1.6%	8.5%
Retired	16.9%	521	15.0%	18.7%
Unable to Work	38.8%	224	33.0%	44.6%
Less than $10,000	19.5%	65	13.2%	25.9%
$10,000 to $14,999	16.5%	90	11.5%	21.5%
$15,000 to $19,999	11.3%	95	7.9%	14.7%
$20,000 to $24,999	9.6%	97	7.0%	12.2%
$25,000 to $34,999	8.0%	82	5.5%	10.4%
$35,000 to $49,999	7.4%	105	5.3%	9.5%
$50,000 to $74,999	6.0%	81	4.3%	7.7%
Above $75,000	4.2%	96	2.9%	5.4%
White Non-Hispanic	9.8%	762	8.9%	10.8%
Black/African American	12.5%	26	6.0%	19.0%
Hispanic	5.4%	109	4.1%	6.8%
Asian/Pacific Islander	1.3%	3	0.0%	2.9%
American Indian Non-Hispanic	8.3%	20	3.2%	13.5%
Other	11.9%	36	6.9%	16.8%

Use caution in interpreting cell sizes less than 50. N* is unweighted.
National N is 53 = all 50 states, DC and Territories.

Health Conditions & Limitations:
Special Equipment Required

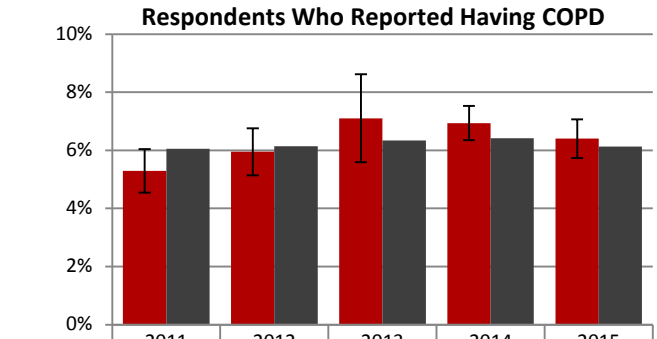
The table to the left displays the proportions of Arizonans who needed special equipment due to health reasons by sex, age categories, marital status, educational attainment, employment status, income and race/ethnicity.

The "Nationwide" estimates are median values across all states, not means. The "National" level estimates reported here use medians because no national stratum was defined in the 2015 BRFSS survey. Survey results at the national level were not adjusted or weighted to produce a national mean result.

Health Conditions & Limitations:
Chronic Obstructive Pulmonary Disease (COPD), Emphysema, or Chronic Bronchitis

Survey Question: Has a doctor, nurse, or other health professional **EVER** told you that you have Chronic Obstructive Pulmonary Disease or COPD, emphysema or chronic bronchitis?

Chronic Obstructive Pulmonary Disease (COPD) is not one disease; it is an umbrella term that describes chronic lung conditions that cause pathological changes in the lungs. These changes occur in the large (central) airways, the peripheral bronchioles and the lung parenchyma. These changes essentially block airflow as the individual exhales, making it increasingly difficult to breathe. These changes are progressive, they are not fully reversible, and cannot be treated with inhaled steroids/corticosteroids (used to treat asthma). The primary treatment is the use of a bronchodilator; however, steroid inhalers can reduce COPD exacerbations and increase quality of life.[65] COPD is predominantly associated with smoking.[66]



	2011	2012	2013	2014	2015
Arizona	5.3%	6.0%	7.1%	6.9%	6.4%
National	6.1%	6.1%	6.3%	6.4%	6.1%

Figure A: Arizona and National 2011-2015 BRFSS respondents who reported that they have been diagnosed with COPD, Emphysema, or Chronic Bronchitis.

In 2015, Arizona BRFSS 6.4 of respondents reported that they had been told by a healthcare professional that they had COPD, emphysema, or chronic bronchitis (See Figure A). According to the 2015 BRFSS, Arizonans are more likely to report that they have been diagnosed with COPD when compared to the nation as a whole. Arizona is the second-lowest (5.2-6.6) category for COPD, Emphysema or Chronic Bronchitis when compared to the Nation (see Figure B).

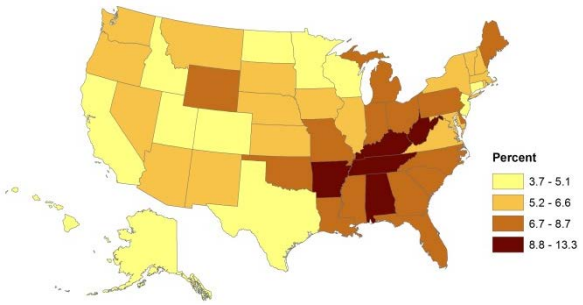
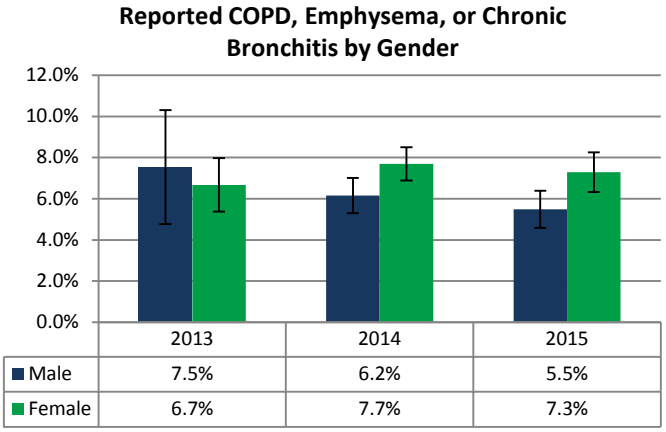


Figure B: BRFSS 2015 survey respondents who reported that they were diagnosed with COPD, Emphysema, or Chronic Bronchitis (natural breaks).

Figure C (below) shows lower levels of COPD among Arizona males for 2015 when stratified by gender.



	2013	2014	2015
Male	7.5%	6.2%	5.5%
Female	6.7%	7.7%	7.3%

Figure C: Arizona 2013-2015 BRFSS respondents who reported a health care professional told them they had COPD, Emphysema, or Chronic Bronchitis stratified by Gender.

When compared to other counties in Arizona, respondents from the Western Region (Mohave, LaPaz, & Yuma Counties) and Yavapai County responded more frequently tha they were diagnosed with COPD, Emphysea or Bronchitis placing the counties in the highest-category possible (6.9%-11.6%). (see Figure D).

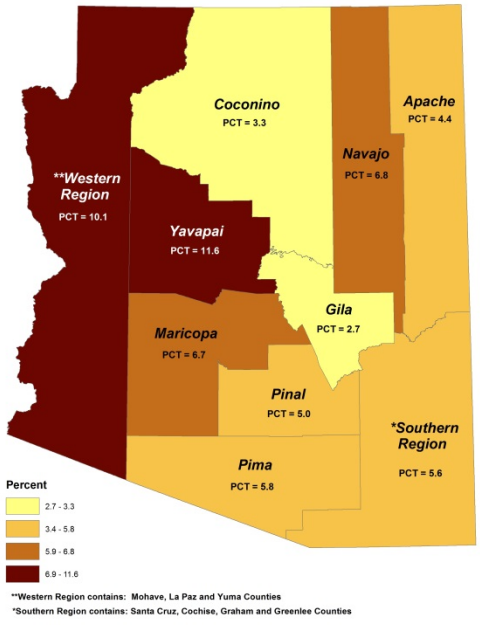


Figure D: Arizona BRFSS 2015 map of respondents who reported a health care professional told them they had

[65] Cayley WE Jr. Use of inhaled corticosteroids to treat stable COPD. Am Fam Physician. 2008 Jun 1;77(11):1532-3.
[66] National Clinic Guideline Centre (UK). Management of Chronic Obstructive Pulmonary Disease in Adults in Primary and Secondary Care. London: Royal College of Physicians (UK); 2010 Jun.

COPD, Emphysems, or Chronic Bronchitis by county.

Arizonans Who Reported Ever Having Had COPD, Emphysema or Chronic Bronchitis				
			Confidence Interval	
Characteristic	Percent	N*	Lower Mean	Upper Mean
National	**6.1%**	**53**		
Arizona	**6.4%**	**695**	**5.7%**	**7.1%**
Male	5.5%	249	4.6%	6.4%
Female	7.3%	446	6.3%	8.3%
18-24	2.2%	8	0.5%	4.0%
25-34	2.7%	16	1.1%	4.3%
35-44	2.0%	19	1.0%	3.0%
45-54	6.1%	73	4.4%	7.7%
55-64	9.0%	144	7.2%	10.8%
65+	13.8%	435	12.3%	15.4%
Married	5.8%	287	4.9%	6.6%
Divorced	10.2%	154	7.9%	12.5%
Widowed	13.9%	159	11.0%	16.8%
Separated	7.4%	12	1.8%	13.1%
Never Married	3.8%	58	2.5%	5.2%
Unmarried Couple	3.5%	16	1.2%	5.8%
Less than high school	7.0%	67	4.7%	9.2%
High School/GED	7.6%	212	6.2%	8.9%
Some College/Technical School	7.2%	233	6.0%	8.4%
College/Technical School Grad	3.5%	177	2.9%	4.2%
Employed for Wages	2.5%	88	1.7%	3.2%
Self Employed	3.9%	23	1.9%	5.8%
Out of Work	6.9%	26	3.5%	10.3%
Homemaker	5.9%	37	3.1%	8.7%
Student	2.7%	7	0.2%	5.1%
Retired	12.9%	371	11.3%	14.4%
Unable to Work	22.3%	138	17.8%	26.7%
Less than $10,000	9.8%	41	5.7%	13.8%
$10,000 to $14,999	11.6%	62	7.5%	15.7%
$15,000 to $19,999	7.3%	67	4.8%	9.7%
$20,000 to $24,999	8.4%	80	5.8%	10.9%
$25,000 to $34,999	7.8%	69	5.3%	10.2%
$35,000 to $49,999	6.1%	73	4.0%	8.2%
$50,000 to $74,999	4.6%	64	3.1%	6.0%
Above $75,000	2.7%	69	1.8%	3.5%
White Non-Hispanic	8.3%	591	7.4%	9.2%
Black/African American	2.6%	7	0.2%	5.0%
Hispanic	3.5%	67	2.4%	4.7%
Asian/Pacific Islander	0.5%	2	0.0%	1.3%
American Indian Non-Hispanic	3.3%	8	0.3%	6.4%
Other	8.2%	20	3.5%	12.8%

Use caution in interpreting cell sizes less than 50. N* is unweighted.
National N is 53 = all 50 states, DC and Territories.

Health Conditions & Limitations:
Chronic Obstructive Pulmonary Disease (COPD), Emphysema, or Chronic Bronchitis

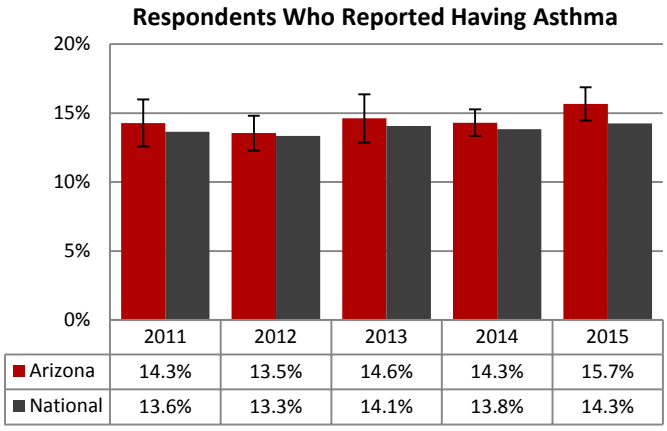
The table to the left displays the proportions of Arizonans who reported that someone in the health profession told them that they had COPD. The data are reported by sex, age, marital status, educational attainment, employment status, income and race/ethnicity.

The “Nationwide” estimates are median values across all states, not means. The “National” level estimates reported here use medians because no national stratum was defined in the 2015 BRFSS survey. Survey results at the national level were not adjusted or weighted to produce a national mean result.

Health Conditions & Limitations: Asthma

Survey Question: Has a doctor, nurse, or other health professional **EVER** told you that you had asthma?

Asthma is a chronic respiratory disease characterized by episodes or attacks of impaired breathing. Symptoms are caused by inflammation and narrowing of small airways and may include shortness of breath, coughing, wheezing, and chest pain. Disease severity ranges from mild with occasional signs to severe with persistent symptoms that impact quality of life. However, even people with mild disease may suffer severe attacks. Common attack triggers include airway irritants (e.g. tobacco smoke and air pollution), allergens, respiratory infections, stress, and exercise.[67] Therefore, continued monitoring of asthma prevalence is of great importance. In 2015, 15.7% of Arizonans surveyed reported being diagnosed with asthma, higher than the national, 14.3% (see Figure A).



	2011	2012	2013	2014	2015
Arizona	14.3%	13.5%	14.6%	14.3%	15.7%
National	13.6%	13.3%	14.1%	13.8%	14.3%

Figure A: Arizona and National 2011-2015 BRFSS respondents who reported that they have been tolwith asthma.

Although, Arizona had a higher prevalence of asthma when compared to the nation, it was not the state with the highest prevalence. When comparing Arizona to all the states in the U.S. the data shows that Arizona falls into the third highest class for individuals reporting that a health care professional had told them they had asthma (see Figure B).

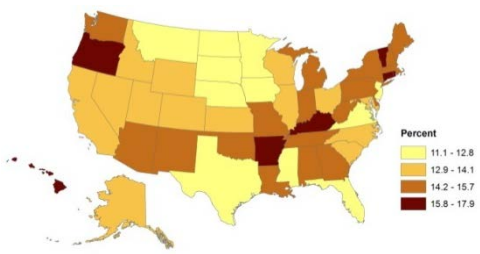


Figure B: National 2011-2015 BRFSS map of respondents who reported a health care professional told them they had asthma.

On May 31, 2012, the U.S. President's Task Force on Environmental Health Risk and Safety Risks to Children released the Coordinated Federal Action Plan to Reduce Racial and Ethnic Asthma Disparities. The document outlines the racial and socioeconomic disparities that exist in the U.S. regarding asthma burden. The disparities listed by the Task Force shows that minority children and children from impoverished families are disproportionately affected by asthma. Furthermore, minority children are less likely to be prescribed or receive the appropriate treatment.[68] As a follow-up to this initial work, the Asthma Disparities Workgroup released a series for recommendations to track racial disparities in childhood asthma. In the Arizona BRFSS 2015 survey, reported asthma among survey respondents was significantly lower among Asian and Pacific Islanders when compared to the state. Other race/ethnicity groups and risk factor groups such as poverty were not significantly different from the state mean (see Figure C).

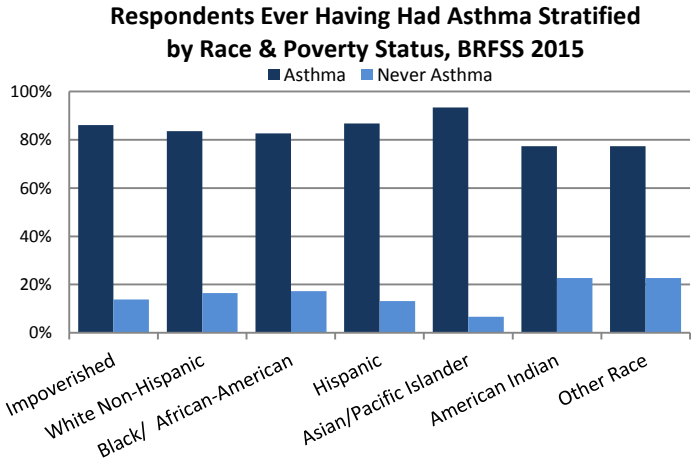


Figure C: Arizona 2015 BRFSS respondents who reported that they have been diagnosed with asthma stratified by race and poverty status.

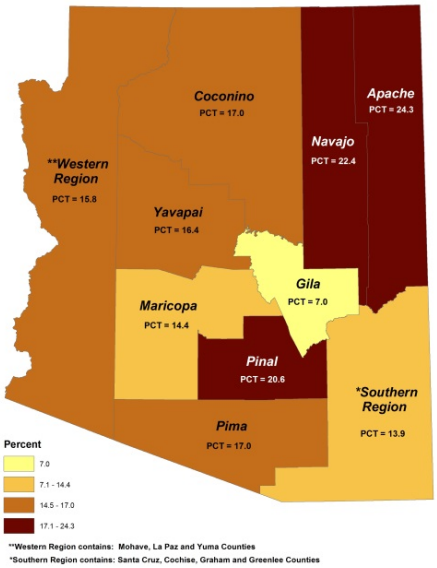


Figure D: Arizona BRFSS 2015 map of respondents who reported that they had ever been diagnosed with asthma by county.

[67] National Asthma Education and Prevention Program, Third Expert Panel on the Diagnosis and Management of Asthma. Expert Panel Report 3: Guidelines for the Diagnosis and Manage- ment of Asthma. Bethesda (MD): National Heart, Lung, and Blood Institute (US); 2007Aug. Available from: http://www.ncbi.nlm.nih.gov/books/NBK7232/

[68] EPA. President's Task Force on Environmental Health Risks and Safety Risks to Children: Coordinated Federal Action Plan to Reduce Racial and Ethnic Asthma Disparities. May 2012. https://www.epa.gov/sites/production/files/2014-08/documents/federal_asthma_disparities_action_plan.pdf

Arizonans Who Reported Ever Having Had Asthma				
			Confidence Interval	
Characteristic	Percent	N*	Lower Mean	Upper Mean
National	**14.3%**	**53**		
Arizona	**15.7%**	**1130**	**14.5%**	**16.9%**
Male	13.4%	392	11.8%	15.0%
Female	17.9%	738	16.1%	19.6%
18-24	19.6%	60	14.5%	24.6%
25-34	18.6%	113	15.0%	22.2%
35-44	15.9%	138	12.9%	18.9%
45-54	13.9%	161	11.3%	16.4%
55-64	15.3%	236	13.0%	17.6%
65+	12.4%	422	10.9%	13.8%
Married	13.8%	535	12.3%	15.2%
Divorced	18.4%	200	15.0%	21.7%
Widowed	13.6%	139	10.5%	16.6%
Separated	17.6%	27	9.6%	25.7%
Never Married	18.2%	173	14.9%	21.4%
Unmarried Couple	18.4%	43	11.9%	25.0%
Less than high school	13.6%	91	10.1%	17.1%
High School/GED	15.4%	253	13.0%	17.8%
Some College/Technical School	17.9%	384	15.7%	20.2%
College/Technical School Grad	14.0%	399	12.3%	15.8%
Employed for Wages	14.8%	380	13.0%	16.7%
Self Employed	15.1%	69	10.5%	19.8%
Out of Work	16.8%	52	10.8%	22.7%
Homemaker	14.2%	82	10.6%	17.7%
Student	23.6%	44	15.9%	31.3%
Retired	12.3%	365	10.7%	13.8%
Unable to Work	26.7%	128	21.2%	32.2%
Less than $10,000	20.6%	60	13.8%	27.5%
$10,000 to $14,999	17.3%	61	10.9%	23.7%
$15,000 to $19,999	19.8%	82	14.5%	25.0%
$20,000 to $24,999	14.9%	94	10.8%	19.0%
$25,000 to $34,999	17.9%	107	13.6%	22.3%
$35,000 to $49,999	14.6%	138	11.4%	17.8%
$50,000 to $74,999	13.7%	122	10.5%	17.0%
Above $75,000	13.6%	227	11.5%	15.8%
White Non-Hispanic	16.4%	853	15.0%	17.8%
Black/African American	17.3%	33	9.6%	25.0%
Hispanic	13.2%	170	10.7%	15.6%
Asian/Pacific Islander	6.6%	8	1.5%	11.7%
American Indian Non-Hispanic	22.6%	30	13.9%	31.4%
Other	22.7%	36	14.1%	31.3%

Use caution in interpreting cell sizes less than 50. N* is unweighted.
National N is 53 = all 50 states, DC and Territories.

Health Conditions & Limitations: Cardiovascular - Asthma

The table to the left displays the proportions of Arizonans who reported that they were diagnosed with asthma by age categories, marital status, educational attainment, employment status, income and race.

The "Nationwide" estimates are median values across all states, not means. The "National" level estimates reported here use medians because no national stratum was defined in the 2015 BRFSS survey. Survey results at the national level were not adjusted or weighted to produce a national mean result.

Health Conditions & Limitations: Cardiovascular - Angina

Survey Question: Has a doctor, nurse, or other health professional **EVER** told you that you had angina or coronary heart disease?

Angina usually causes uncomfortable pressure, fullness, squeezing or pain in the center of the chest. Pain can also be felt in your shoulders, arms, neck, jaw, back or it may feel like indigestion.[69] Angina is not a disease, but rather a symptom of an underlying heart problem, usually coronary heart disease (CHD). CHD is a disease where plaque, a buildup of cholesterol and white blood cells, narrows and stiffens the arteries. This makes it much more likely that blood clots will form in a coronary artery and restrict blood flow to the heart muscle. The reduction in oxygen-rich blood to the muscle results in angina and worst case, a heart attack. Depending on the angina type, there are many factors that can trigger angina pain and the different ways it presents. Major types of angina include: [70,71]

- **Stable Angina/Angina Pectoris:** Most common and follows a regular pattern. Pain occurs when the heart works harder than usual due to it not receiving enough blood flow.
- **Unstable Angina:** Unexpected chest pain, usually while resting. Typically results from atherosclerotic rupture causing a blood clot that blocks the flow of blood.
- **Variant (Prinzmetal) Angina:** Rarely occurs. Often happens while at rest and results from a spasm in a coronary artery.
- **Microvascular Angina:** Results from vascular spasms in the smallest coronary arteries.

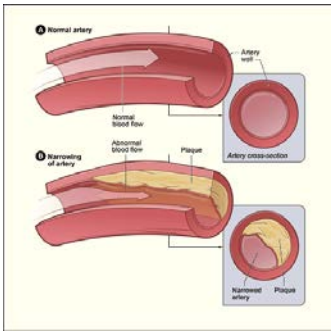
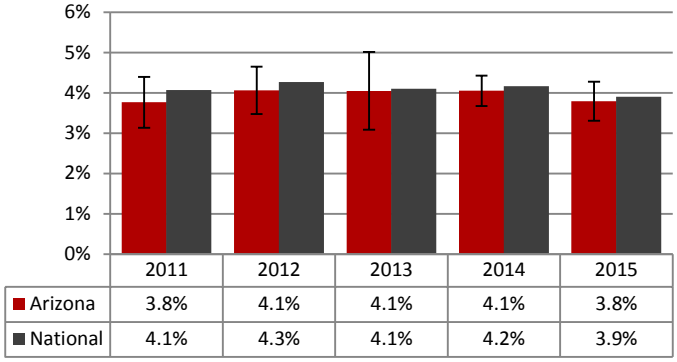


Figure A: Difference between a normal artery and an artery exhibiting atherosclerosis.

Angina is the result of a progressive disease and CHD is a form of atherosclerosis that affects the coronary arteries. Over time fat and cholesterol builds up on the artery walls, forming a plaque (see Figure A). Plaque buildup can begin as early as infancy, and it continues throughout life, although complications from plaque formation tend to develop later in life. Heart attacks and strokes are the most severe complication. Atherosclerosis has been shown to develop in healthy individuals; however, risk factors such as eating foods high in unhealthy cholesterol, having high blood pressure, having Type I or Type II diabetes, being overweight or obese, and eating an unhealthy diet will accelerate its' progression.[72] In 2015, 3.8% of Arizonans were diagnosed with angina, which was slightly lower than the national, 3.9% (see Figure B).

Respondents Who Reported Being Diagnosed with Angina



	2011	2012	2013	2014	2015
Arizona	3.8%	4.1%	4.1%	4.1%	3.8%
National	4.1%	4.3%	4.1%	4.2%	3.9%

Figure B: Arizona and National 2011-2015 BRFSS respondents who reported a health care professional told them they had angina.

When compared to other states across the nation, Arizona respondents are in the second lowest class (3.2-4.3%) for individuals reporting being told by a health professional that they ever had angina or CHD. Arizona Counties Yavapai and the Southern Region (Santa Cruz, Cochise, Graham, and Greenlee) had the highest rates of reported angina at 6.4% and 6.6%, respectively (Figure C).

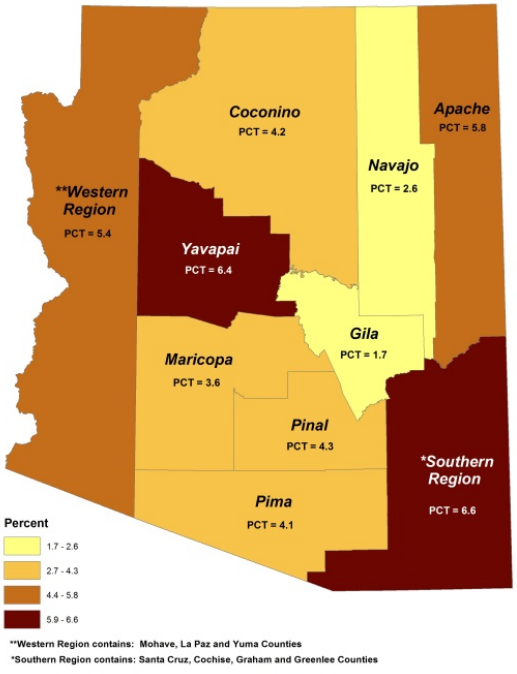


Figure C: Arizona BRFSS 2015 map of respondents who reported a health care professional told them they had angina.

[69] National Institutes of Health. National Heart, Lung, and Blood Institute. Explore Coronary Heart Disease: What is Coronary Heart Disease? Updated Oct 23, 2015. https://www.nhlbi.nih.gov/health/health-topics/topics/cad/

[70] National Institutes of Health. National Heart, Lung, and Blood Institute. Explore Coronary Heart Disease: What is Coronary Heart Disease? Updated Oct 23, 2015. https://www.nhlbi.nih.gov/health/health-topics/topics/cad/

[71] MayoClinic.org. Diseases and Conditions: Small vessel disease. Accessed Jan 20, 2013. http://www.mayoclinic.org/diseases-conditions/small-vessel-disease/home/ovc-20198376

[72] National Institutes of Health. National Heart, Lung, and Blood Institute. Health Topics: What is Atherosclerosis? Updated Aug 22, 2015. https://www.nhlbi.nih.gov/health/health topics/topics/atherosclerosis/MayoClinic.org. Diseases and Conditions: Small vessel disease. Accessed Jan 20, 2013. http://www.mayoclinic.org/diseases-conditions/small-vessel-disease/home/ovc-20198376

Arizonans Who Reported A Healthcare Professional Told Them They Had Angina				
			Confidence Interval	
Characteristic	Percent	N*	Lower Mean	Upper Mean
National	**3.9%**	**53**		
Arizona	**3.8%**	**461**	**3.3%**	**4.3%**
Male	4.8%	267	4.0%	5.5%
Female	2.9%	194	2.3%	3.5%
18-24	0.6%	1	0.0%	1.7%
25-34	0.1%	2	0.0%	0.3%
35-44	0.9%	5	0.1%	1.8%
45-54	3.1%	27	1.7%	4.5%
55-64	5.3%	90	4.0%	6.6%
65+	10.5%	336	9.1%	11.9%
Married	4.1%	236	3.4%	4.8%
Divorced	6.5%	79	4.6%	8.5%
Widowed	10.8%	114	8.0%	13.6%
Separated	0.4%	3	0.0%	0.9%
Never Married	0.6%	18	0.2%	1.1%
Unmarried Couple	0.9%	5	0.0%	1.9%
Less than high school	3.5%	38	2.0%	5.0%
High School/GED	3.6%	103	2.7%	4.5%
Some College/Technical School	4.0%	136	3.1%	4.9%
College/Technical School Grad	4.0%	181	3.2%	4.7%
Employed for Wages	1.4%	53	0.9%	1.9%
Self Employed	2.9%	16	1.0%	4.7%
Out of Work	2.6%	14	0.9%	4.4%
Homemaker	2.5%	23	0.9%	4.1%
Retired	9.8%	291	8.3%	11.2%
Unable to Work	10.0%	61	6.9%	13.1%
Less than $10,000	4.0%	20	1.7%	6.4%
$10,000 to $14,999	4.2%	29	2.1%	6.3%
$15,000 to $19,999	4.6%	38	2.6%	6.5%
$20,000 to $24,999	3.9%	49	2.6%	5.2%
$25,000 to $34,999	3.3%	35	1.8%	4.8%
$35,000 to $49,999	4.8%	61	2.9%	6.7%
$50,000 to $74,999	3.8%	56	2.6%	5.0%
Above $75,000	3.3%	86	2.3%	4.3%
White Non-Hispanic	5.2%	395	4.5%	5.9%
Black/African American	1.6%	6	0.1%	3.2%
Hispanic	1.5%	33	0.8%	2.2%
Asian/Pacific Islander	1.2%	4	0.0%	2.5%
American Indian Non-Hispanic	1.0%	3	0.0%	2.3%
Other	4.1%	20	1.7%	6.5%

Use caution in interpreting cell sizes less than 50. N* is unweighted.
National N is 53 = all 50 states, DC and Territories.

Health Conditions & Limitations: Cardiovascular - Angina

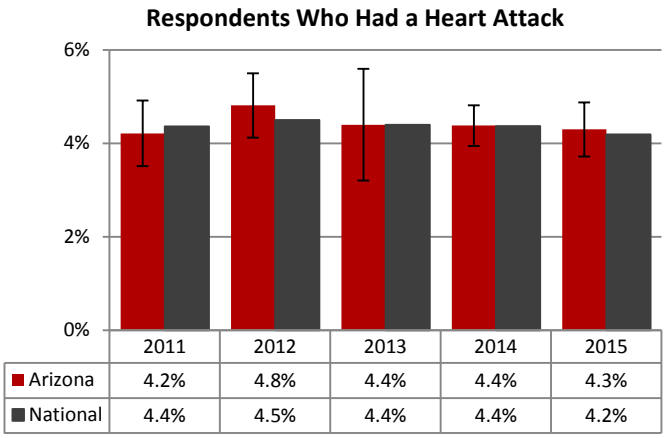
The table to the left displays the proportions of Arizonans who reported that a health professional told them that they suffered from angina. The data are reported by age categories, marital status, educational attainment, employment status, income and race/ethnicity.

The “Nationwide” estimates are median values across all states, not means. The “National” level estimates reported here use medians because no national stratum was defined in the 2015 BRFSS survey. Survey results at the national level were not adjusted or weighted to produce a national mean result.

Health Conditions & Limitations: Cardiovascular - Heart Attack

Survey Question: Has a doctor, nurse, or other health professional **EVER** told you that you had a heart attack, also called a myocardial infarction? **Possible Responses**: *Yes, No*, or *Not sure*.

Cardiovascular disease remains the leading cause of death in the United States. The 2014 national vital statistics mortality data (the most current available) shows that heart disease is the leading cause of death in the U.S. There were 614,348 (23.4%) deaths related to heart disease nationwide. It is estimated that 167.0 deaths per 100,000 were attributed to heart disease, after adjusting for age. Acute myocardial infarctions, also known as heart attacks, contributed to 114,019 deaths nationwide.[73] In 2015, 4.3% percent of Arizonans surveyed reported that a health professional told them they had a heart attack that was above the national median, 4.2% (see Figure A).



	2011	2012	2013	2014	2015
Arizona	4.2%	4.8%	4.4%	4.4%	4.3%
National	4.4%	4.5%	4.4%	4.4%	4.2%

Figure A: Arizona and National 2011-2015 BRFSS respondents who reported that a health care professional told them they had a heart attack.

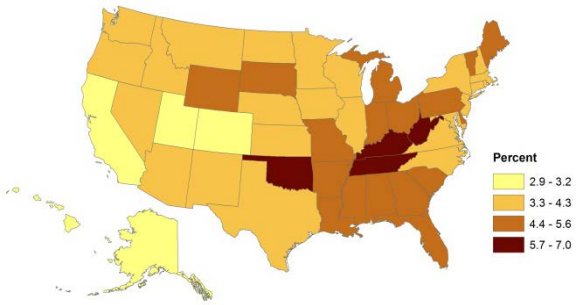


Figure B: BRFSS 2015 survey respondents who reported that a health care professional told them they had suffered from a heart attack. (natural breaks).

Arizona is in the second lowest category (3.3-4.3%) for survey respondents reporting they had a heart attack when compared to other states across the nation (see Figure B). In 2015, Arizona Male BRFSS respondents (5.6%) reported having a heart attack more frequently than females (3.0%) (see Figure C).

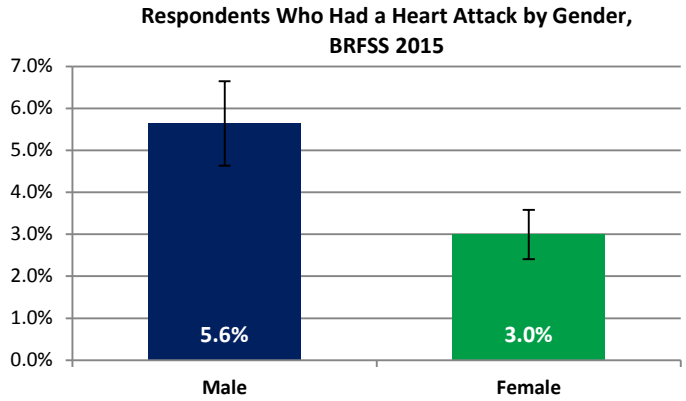


Figure C: Arizona 2015 BRFSS respondents who reported that a health care professional told them they had a heart attack by Gender.

Arizona Counties, including: Yavapai, Western Region (Mohave, La Paz, and Yuma) Southern Region (Santa Cruz, Cochise, Graham, and Greenlee) had the highest rates of reported heart attacks at 8.4%, 8.0% and 6.0 %, respectively (Figure D).

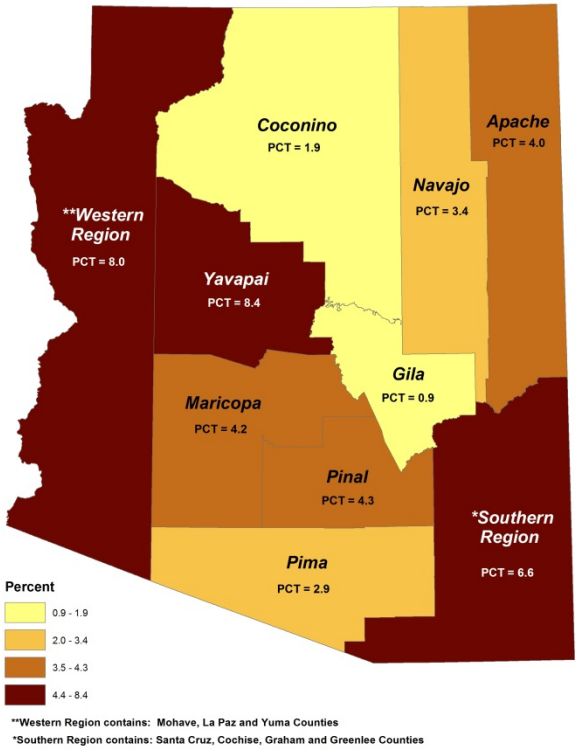


Figure D: Arizona BRFSS 2015 respondents who reported that a health care professional told them they had a heart attack.

[73] Kochanek, KD, Murphy, SL, Xu, JQ. Tejada-Vera, B. Deaths: Final data for 2014. National Vital Statistics Reports; vol 65 no 4. Hyattsville, MD: National Center for Health Statistics. 2016.

Arizonans Who Reported a Healthcare Professional Told Them They Had a Heart Attack				
			Confidence Interval	
Characteristic	Percent	N*	Lower Mean	Upper Mean
National	**4.2%**	**53**		
Arizona	**4.3%**	**488**	**3.7%**	**4.9%**
Male	5.6%	278	4.6%	6.6%
Female	3.0%	210	2.4%	3.6%
18-24	0.9%	2	0.0%	2.2%
25-34	1.2%	4	0.0%	2.9%
35-44	1.5%	10	0.4%	2.6%
45-54	3.5%	34	2.1%	4.9%
55-64	4.8%	81	3.6%	6.0%
65+	11.4%	357	9.9%	12.8%
Married	4.2%	229	3.5%	5.0%
Divorced	6.7%	80	4.9%	8.6%
Widowed	11.2%	137	8.7%	13.7%
Separated	2.0%	7	0.2%	3.8%
Never Married	1.2%	25	0.5%	1.8%
Unmarried Couple	4.5%	5	0.0%	10.2%
Less than high school	4.7%	43	2.3%	7.0%
High School/GED	4.5%	127	3.4%	5.6%
Some College/Technical School	4.7%	167	3.7%	5.6%
College/Technical School Grad	3.3%	148	2.6%	4.0%
Employed for Wages	1.4%	40	0.6%	2.2%
Self Employed	2.9%	17	1.1%	4.6%
Out of Work	4.4%	21	2.2%	6.5%
Homemaker	1.9%	21	0.7%	3.2%
Student	0.1%	1	0.0%	0.4%
Retired	10.7%	310	9.2%	12.2%
Unable to Work	14.5%	76	10.5%	18.6%
Less than $10,000	4.7%	24	2.3%	7.2%
$10,000 to $14,999	7.0%	41	4.0%	9.9%
$15,000 to $19,999	6.3%	51	4.0%	8.6%
$20,000 to $24,999	6.7%	53	3.3%	10.2%
$25,000 to $34,999	3.6%	40	2.1%	5.0%
$35,000 to $49,999	4.5%	63	2.8%	6.2%
$50,000 to $74,999	3.9%	48	2.5%	5.4%
Above $75,000	2.3%	63	1.5%	3.2%
White Non-Hispanic	5.2%	400	4.5%	5.9%
Black/African American	3.5%	10	0.9%	6.1%
Hispanic	3.0%	53	1.7%	4.4%
Asian/Pacific Islander	1.2%	3	0.0%	2.5%
American Indian Non-Hispanic	1.9%	7	0.2%	3.6%
Other	3.5%	15	1.1%	6.0%

Use caution in interpreting cell sizes less than 50. N* is unweighted.
National N is 53 = all 50 states, DC and Territories.

Health Conditions & Limitations: Cardiovascular - Heart Attack

The table to the left displays the proportions of Arizonans who reported that a health professional told them that they suffered from a heart attack. The data are reported by age categories, marital status, educational attainment, employment status, income and race/ethnicity.

The "Nationwide" estimates are median values across all states, not means. The "National" level estimates reported here use medians because no national stratum was defined in the 2015 BRFSS survey. Survey results at the national level were not adjusted or weighted to produce a national mean result.

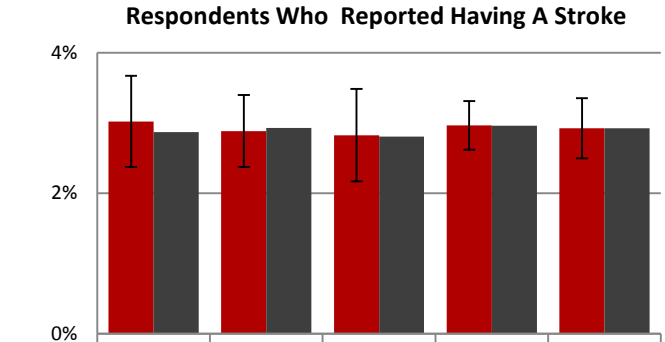
Health Conditions & Limitations: Stroke

Survey Question: Has a doctor, nurse, or other health professional **EVER** told you that you had a stroke?

Strokes are medical emergencies that result when "something blocks blood supply to part of the brain or when a blood vessel in the brain bursts. In either case, parts of the brain become damaged or die. A stroke can cause lasting brain damage, long-term disability or even death."[74] Strokes are the fifth leading cause of death in the U.S. in adults.[75] The three main types of stroke are:

- **Ischemic Stroke:** an artery that supplies blood to the brain is blocked; 87% of all strokes are ischemic.[76]
- **Hemorrhagic Stroke:** an artery in the brain leaks or ruptures (breaks open) and the leaked blood puts too much pressure on brain cells, which damages them.
- **Transient Ischemic Attack (TIA) (a warning or "mini-stroke"):** blood flow to the brain is blocked for a short period of time (< 5 minutes)[77]

In BRFSS 2015, 2.9% of Arizonans surveyed reported they had suffered from a stroke, national median 2.9% (see Figure A).



	2011	2012	2013	2014	2015
Arizona	3.0%	2.9%	2.8%	3.0%	2.9%
National	2.9%	2.9%	2.8%	3.0%	2.9%

Figure A: Arizona and National 2011-2015 BRFSS respondents who reported having suffered from a stroke.

When compared to other states across the nation, Arizona (2.9%) fell into the second lowest class (3.4-4.3%) of respondents reporting a healthcare professional had told them they had a stroke (see Figure B).

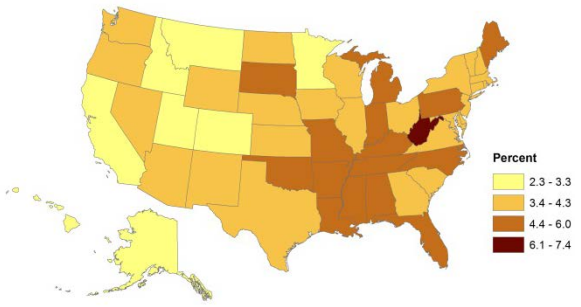


Figure B: U.S Map of 2015 BRFSS respondents who reported a health care professional told them they had angina.

In 2015, Arizona Male BRFSS respondents (3.0%) reported having a stroke slightly more frequently than females (2.8%) (see Figure C).

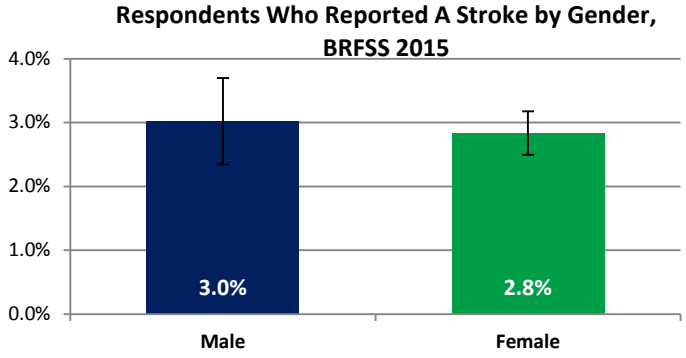


Figure C: Arizona 2015 BRFSS respondents who reported a health care professional told them they had a stroke by gender.

Arizona Counties, including: Gila, Pinal and the Western Region (Mohave, La Paz, and Yuma) had the highest rates of reported stroke at 5.9%, 5.3% and 5.3%, respectively (Figure D).

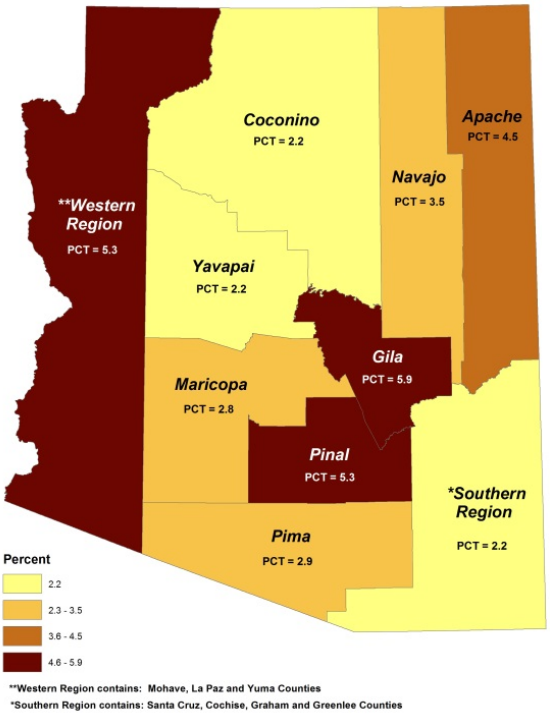


Figure D: Arizona BRFSS 2015 respondents who reported a health care professional told them they had a stroke by county.

[74] National Center for Chronic Disease Prevention and Health Promotion, Division for Heart Disease and Stroke Prevention. CDC: Stroke. Updated Dec 28, 2016.http://www.cdc.gov/stroke/types_of_stroke.htm
[75] K ochanek, KD, Murphy, SL, Xu, JQ. Tejada-Vera, B. Deaths: Final data for 2014. National Vital Statistics Reports; vol 65 no 4. Hyattsville, MD: National Center for Health Statistics. 2016.
[76] Mozzafarian D, Benjamin EJ, Go AS, Arnett DK, Blaha MJ, Cushman M, et al., on behalf of the American Heart Association Statistics Committee and Stroke Statistics Subcommittee. Heart disease and stroke statistics—2016 update: a report from the American Heart Association. Circulation 2016;133(4):e38–360.
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Arizonans Who Reported A Healthcare Professional Told Them They Had A Stroke				
			Confidence Interval	
Characteristic	Percent	N*	Lower Mean	Upper Mean
National	**2.9%**	**53**		
Arizona	**2.9%**	**348**	**2.5%**	**3.4%**
Male	3.0%	152	2.3%	3.7%
Female	2.8%	196	2.3%	3.4%
25-34	0.5%	5	0.0%	1.0%
35-44	1.0%	9	0.3%	1.8%
45-54	2.2%	26	1.2%	3.3%
55-64	4.5%	79	3.3%	5.7%
65+	7.5%	229	6.2%	8.9%
Married	2.4%	144	1.9%	2.9%
Divorced	4.7%	64	3.2%	6.2%
Widowed	8.9%	96	6.1%	11.6%
Separated	5.8%	8	0.0%	12.3%
Never Married	1.2%	26	0.6%	1.8%
Unmarried Couple	2.1%	7	0.1%	4.0%
Less than high school	3.4%	30	1.8%	5.1%
High School/GED	3.1%	104	2.3%	3.9%
Some College/Technical School	3.3%	120	2.5%	4.0%
College/Technical School Grad	1.9%	92	1.4%	2.4%
Employed for Wages	0.7%	30	0.3%	1.1%
Self Employed	0.7%	9	0.2%	1.3%
Out of Work	2.3%	13	0.8%	3.7%
Homemaker	3.2%	24	1.5%	4.8%
Student	0.2%	1	0.0%	0.5%
Retired	6.6%	189	5.3%	7.9%
Unable to Work	13.1%	77	9.4%	16.7%
Less than $10,000	3.5%	19	1.6%	5.5%
$10,000 to $14,999	5.3%	28	2.2%	8.4%
$15,000 to $19,999	4.8%	42	2.8%	6.8%
$20,000 to $24,999	3.1%	29	1.5%	4.7%
$25,000 to $34,999	2.8%	36	1.6%	3.9%
$35,000 to $49,999	2.4%	39	1.4%	3.3%
$50,000 to $74,999	1.5%	25	0.7%	2.3%
Above $75,000	1.4%	34	0.7%	2.0%
White Non-Hispanic	3.7%	292	3.2%	4.3%
Black/African American	2.9%	6	0.0%	6.4%
Hispanic	1.5%	32	0.9%	2.2%
American Indian Non-Hispanic	0.7%	2	0.0%	1.8%
Other	5.5%	16	1.7%	9.3%

Use caution in interpreting cell sizes less than 50. N* is unweighted.
National N is 53 = all 50 states, DC and Territories.

Health Conditions & Limitations: Stroke

The table to the left displays the proportions of Arizonans who reported that a health professional told them that they suffered from a stroke. The data are reported by sex, age, marital status, educational attainment, employment status, income and race/ethnicity.

The “Nationwide” estimates are median values across all states, not means. The “National” level estimates reported here use medians because no national stratum was defined in the 2015 BRFSS survey. Survey results at the national level were not adjusted or weighted to produce a national mean result.

Arizona BRFSS 2015 Respondent Profile

ARIZONA 2015 RESPONDENT PROFILE					
GROUPS	**PERCENT****	**N***	**GROUPS**	**PERCENT****	**N***
TOTAL	100	7946	**EMPLOYMENT**		
SEX			Employed for wages	44.9	2644
Male	49.3	3239	Self-employed	7.4	548
Female	50.7	4707	Out of work	5.8	314
AGE			Homemaker	8.8	627
18-24	13.1	306	Student	6.1	189
25-34	17.5	577	Retired	19.8	3045
35-44	16.4	875	Unable to work	6.0	501
45-54	16.2	1132	**INCOME**		
55-64	15.6	1576	<$25,000	26.3	1740
65+	21.2	3480	$25,000-$34,999	8.4	667
MARITAL STATUS			$35,000-$49,999	12.5	964
Married	50.0	4116	$50,000-$74,999	11.4	966
Divorced	11.3	1152	$75,000 or more	21.6	1848
Widowed	7.5	1200	**RACE/ ETHNICITY**		
Separated	2.0	146	White, Non-Hispanic	60.9	5952
Never married	23.0	1022	Black	4.0	210
Unmarried couple	5.2	226	Asian/ Pacific Islander	2.9	137
EDUCATION			American Indian	4.0	171
Less than High School	15.0	580	Hispanic	26.4	1243
High School Graduate/GED	25.4	1837	Other	1.8	233
Some College/Tech School	35.3	2413			
College Grad	23.9	3073			

Appendices

APPENDIX A

Healthcare Cost and Utilization

The tables and figures in Appendix A are generated from the Arizona Hospital Discharge Database. The International Classification of Diseases (ICD), published by the World Health Organization, is the standard diagnostic tool for epidemiology, health management and clinical purposes. The International Classification of Diseases Clinical Modification (ICD-CM) is the United States' clinical modification of the World Health Organization's ICD[1]. The term clinical is used to emphasize the modification's intent: to serve as a useful tool in the area of classification of morbidity data for indexing medical records, medical care review, and ambulatory and other medical care programs, as well as the basic health statistics. ICD-CM is the official system of assigning codes to diagnoses and procedures associated with hospital utilization in the United States[2]. In this 2015 BRFSS annual report, two versions of the ICD-CM were used; ICD-9-CM and ICD-10-CM. The ICD-9-CM reflects the 9th revision and the ICD-10-CM the 10th revision for which character classifications expanded to include health-related conditions and provide greater specificity. The ICD-9-CM codes refer to the time frame of January 1st 2015 through September 30th 2015 and expanded to the 5th character level. The ICD-10-CM codes refer to the time frame of October 1st 2015 through December 31st and expanded to the 6th and 7th character level. The estimated costs column in the tables is calculated with the Healthcare Cost and Utilization Project's databases dataset for 2015. The Healthcare Cost and Utilization Project (HCUP, pronounced "H-Cup") is a family of databases, software tools and related products developed through a Federal-State-Industry partnership and sponsored by Agency for Healthcare Research and Quality (AHRQ)[3]. HCUP databases are derived from administrative data and contain encounter-level, clinical and nonclinical information including all-listed diagnoses and procedures, discharge status, patient demographics, and charges for all patients, regardless of payer (e.g., Medicare, Medicaid, private insurance, uninsured)[3].

[1] International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM).(2015) Retrieved August 18, 2017 from http://www.cdc.gov/nchs/icd/icd10cm.htm

[2] Hart, A. C. (2014). ICD-10-CM for hospitals and payers, volumes 1, 2, 3: 2015 expert: International classification of diseases, 10th revision; clinical modification, sixth edition. Eden Prairie, MN: OptumInsight.

[3] Hart, A. C. (2014). ICD-10-CM for hospitals and payers, volumes 1, 2, 3: 2015 expert: International classification of diseases, 10th revision; clinical modification, sixth edition. Eden Prairie, MN: OptumInsight.

2015 Arizona Disease Burden Inpatient & Emergency Department Hospital Discharges	
Disease	***Estimated Costs***
Coronary Heart Disease	$1,651,827,676
Diabetes	$1,944,857,913
Lung Disease	$689,768,796
Stroke	$572,397,814
Total	***$4,858,852,199***

Table A1: In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-9 codes for Coronary Heart Disease: 411.1, 413.9, 414; Diabetes: 250; Lung Disease: 466, 490-492; Stroke: 430-438. In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-10 codes for Coronary Heart Disease: I20.0, I20.8-I20.9, I25-I25.9; Diabetes: E10-E11.9; Lung Disease: J20-J21.9, J40-J44.9; Stroke: G45-G45.9, I60-I69.

2015 Arizona Inpatient & Emergency Department Hospital Discharges			
Payer Type	***Number of Discharges***	***Estimated Costs***	***Average Length of Stay (Days)***
Charity	489	$6,912,011	6.0
Medicaid	132,733	$1,761,543,741	5.3
Medicare	460,017	$6,612,417,006	5.4
Other	18,810	$294,897,464	7.4
Private Insurance	130,759	$1,904,705,203	5.0
Self-Pay	18,374	$172,835,734	6.2
Total	***761,182***	***$10,753,311,159***	

Table A2: The 2015 hospital encounters, both inpatient and emergency department, by Payer type.

2014-2015 Arizona Influenza with Pneumonia Related Inpatient & Emergency Department Hospital Discharges			
Age	***Number of Discharges***	***Estimated Costs***	***Average Length of Stay (Days)***
<18	384	$4,569,263	4.3
18-24	74	$634,562	2.5
25-39	184	$2,315,688	5.5
40-54	278	$3,604,081	4.3
55+	2,020	$22,117,671	4.9
Total	***2,940***	***$33,241,266***	

Table A3: In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-9 codes for Influenza (and Influenza with Pneumonia): 487-488.89. In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-10 codes for Influenza (and Influenza with Pneumonia): J09-J11.89.

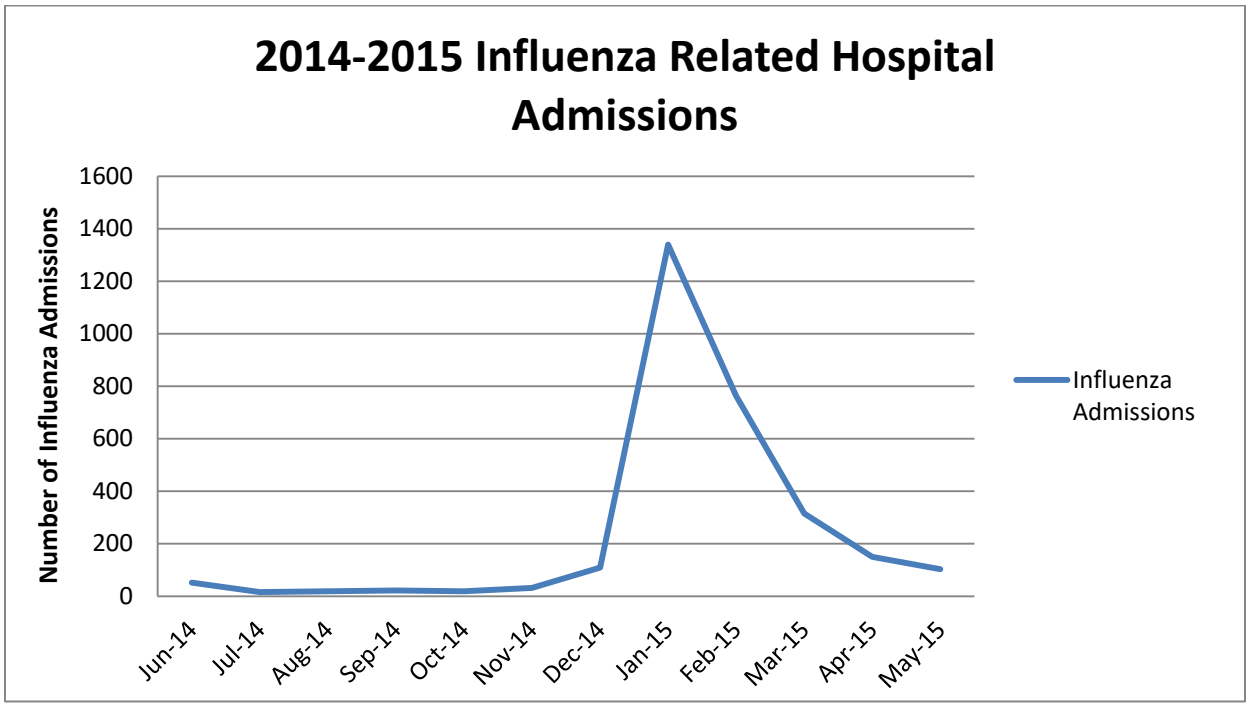

Figure A1: In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-9 codes for Influenza (and Influenza with Pneumonia): 487-488.89. In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-10 codes for Influenza (and Influenza with Pneumonia): J09-J11.89.

2015 Arizona Trachea, Bronchus and Lung Cancer Related Inpatient & Emergency Department Hospital Discharges				
Payer Type	***Number of Discharges***	***Died***	***Estimated Costs***	***Average Length of Stay (Days)***
Charity	4	1	$130,205	11.3
Medicaid	1,202	72	$19,172,592	6.2
Medicare	6,834	429	$99,395,027	5.8
Other	230	19	$4,335,476	6.6
Private Insurance	2,202	127	$34,998,648	5.5
Self-Pay	87	12	$1,192,482	5.5
Total	***10,559***	***660***	***$159,224,429***	

Table A4: In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-9 codes for Trachea, Bronchus and Lung Cancer: 162-162.9, 176.4, and 197-197.39. In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-10 codes for Trachea, Bronchus and Lung Cancer: C33-C34.9, C46.5-C46.52, and C78-C78.2.

2015 Arizona Asthma Related Inpatient & Emergency Department Hospital Discharges			
Age	***Number of Discharges***	***Estimated Costs***	***Average Length of Stay (Days)***
<18	5,263	$51,088,808	4.5
18-24	4,135	$31,706,157	4.4
25-39	9,791	$84,271,850	4.6
40-54	10,962	$125,682,316	5.0
55+	28,396	$371,809,234	4.9
Total	***58,547***	***$664,558,364***	

Table A5: In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-9 codes for Asthma: 493 (all). In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-10 codes for Asthma: J45 (all)

2015 Arizona Motor Vehicle Accidents Resulting in Injury Inpatient & Emergency Department Hospital Discharges				
Age	***Number of Discharges***	***Died***	***Estimated Costs***	***Average Length of Stay (Days)***
<18	436	12	$11,815,623	5.5
18-24	925	18	$22,204,592	5.7
25-39	1,319	27	$31,805,931	5.4
40-54	1,174	32	$28,762,959	5.7
55+	1,998	68	$46,884,191	6.4
Total	***5,852***	***157***	***$141,473,296***	

Table A6: In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-9 codes for Motor Vehicle Accidents that resulted in injury: E810-E819.9. In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-10 codes for Motor Vehicle Accidents that resulted in injury: V00-V99.

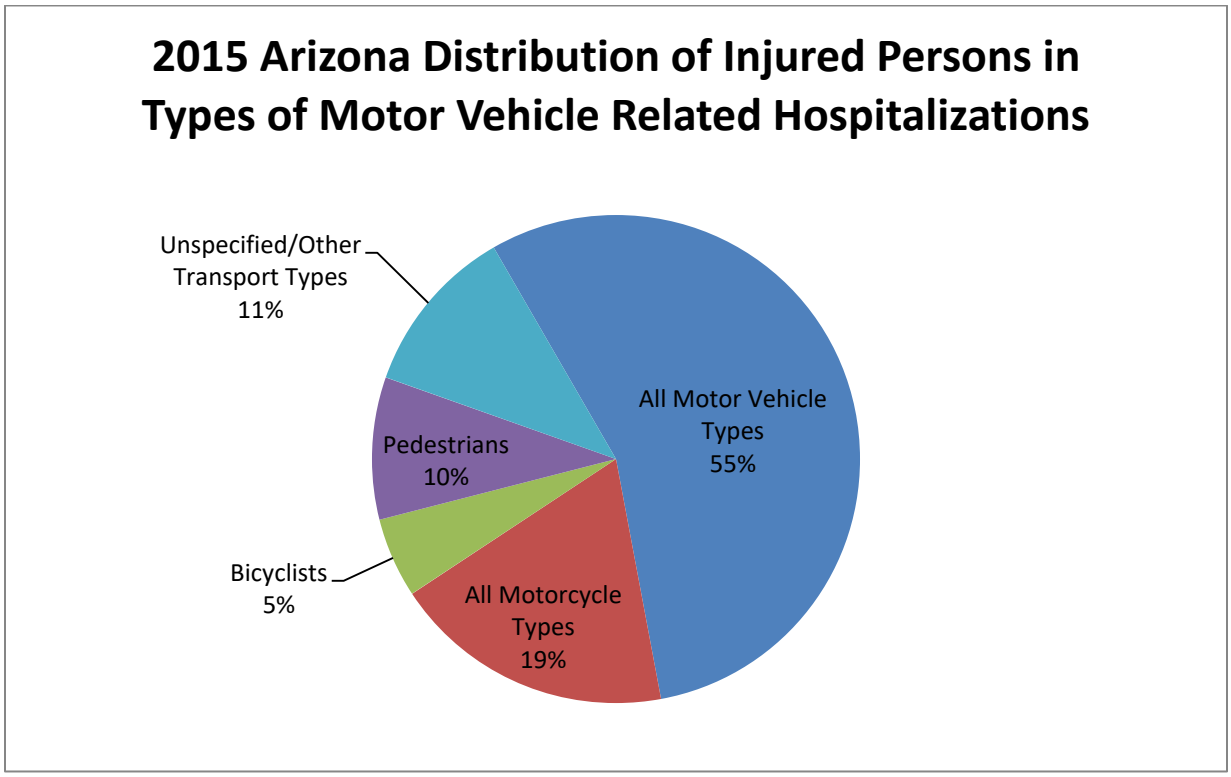

Figure A2: In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-9 codes for Motor Vehicle Accidents that resulted in injury: E810-E819.9. In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-10 codes for Motor Vehicle Accidents that resulted in injury: V00-V99.

2015 Arizona Alcohol & Dependency Related Inpatient & Emergency Department Hospital Discharges					
Age	***Number of Discharges***	***Crash Related***	***Died***	***Estimated Costs***	***Average Length of Stay (Days)***
<18	814	49	2	$5,283,625	9.0
18-24	2,012	323	16	$17,932,134	5.7
25-39	8,565	960	65	$83,085,526	5.9
40-54	13,564	1304	208	$150,350,922	6.0
55+	17,480	1776	417	$242,497,074	6.1
Total	***42,435***	***4412***	***708***	***$499,149,282***	

Table A7: In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-9 codes for Alcohol and Dependency: 303-303.9 and 305-305.09. In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-10 codes for Alcohol and Dependency: F10-F10.229 and F10.10.

2015 Arizona Alcohol Related Inpatient & Emergency Department Hospital Discharges			
Condition	***Number of Discharges***	***Estimated Costs***	***Average Length of Stay (Days)***
Fetal Alcohol Syndrome	73	$741,710	10.0
Alcohol Poisoning	88	$880,929	4.5
Alcoholic Cardiomyopathy	535	$10,910,651	6.6
Alcoholic Polyneuropathy	237	$2,916,676	5.7
Alcohol Induced Liver Damage	10,024	$136,822,719	5.7
Total	***10,957***	***$152,272,686***	

Table A8: In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-9 codes for Fetal Alcohol Syndrome: 760.71; Alcohol Poisoning: 980.9; Alcoholic Cardiomyopathy: 425.5; Alcoholic Polyneuropathy: 357.5; Alcohol Induced Liver Damage: 571.0, 571.1, 571.2, 571.3. In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-10 codes for Fetal Alcohol Syndrome: Q86.0; Alcohol Poisoning: T51.91XA, T51.92XA, T51.93XA, T51.94XA; Alcoholic Cardiomyopathy: I42.6; Alcoholic Polyneuropathy: G62.1; Alcohol Induced Liver Damage: K70.0, K70.10, K70.30, K70.9.

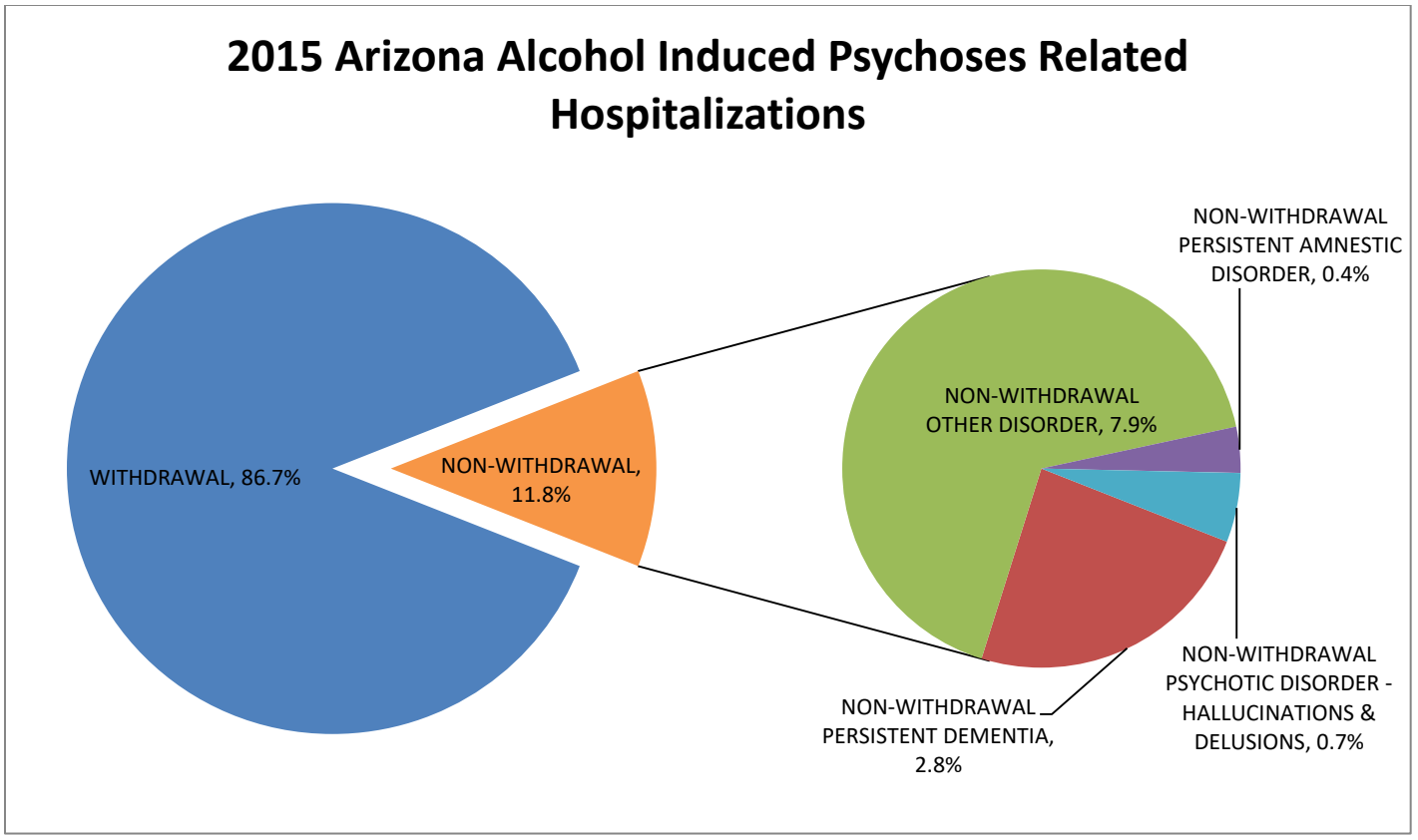

Figure A3: In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-9 codes for Alcohol Induced Psychoses: 291.0, 291.81, 291.11, 291.2, and 291.3. In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-10 codes for Alcohol Induced Psychoses: F10-F10.229 and F10.10.

2015 Arizona Diabetes Related Inpatient & Emergency Department Hospital Discharges			
Payer Type	***Number of Discharges***	***Estimated Costs***	***Average Length of Stay (Days)***
Charity	180	$11,220,471	6.6
Medicaid	35,744	$1,518,257,815	5.2
Medicare	135,472	$6,052,557,771	5.4
Other	5,771	$299,833,662	6.0
Private Insurance	39,063	$1,727,662,707	4.9
Self-Pay	5,656	$240,954,135	5.6
Total	***221,886***	***$9,850,486,561***	

Table A9: In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-9 codes for Diabetes: 250 (all). In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-10 codes for Diabetes: E10-E10.9 and E11-E11.9.

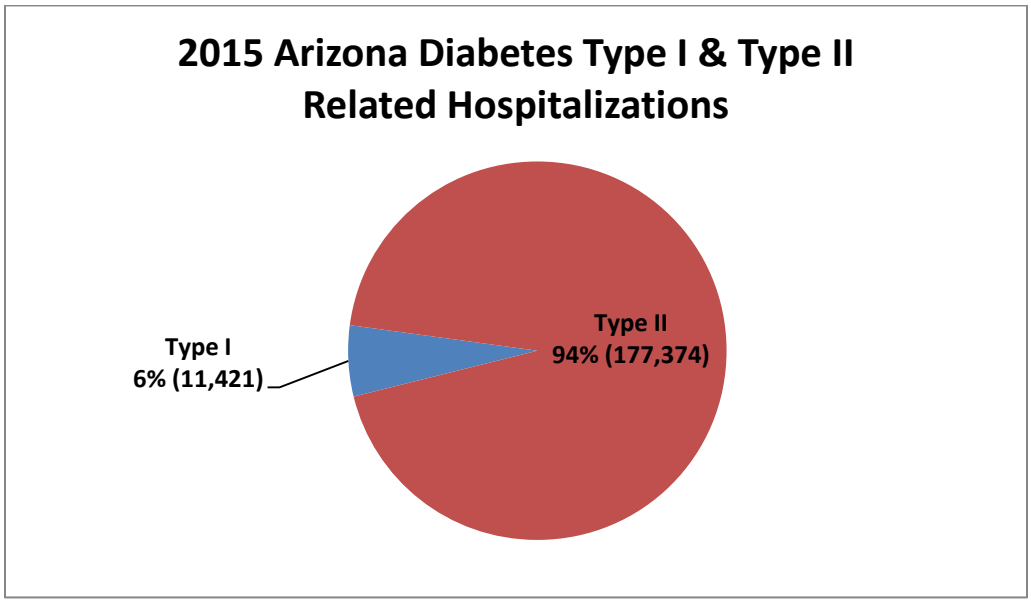

Figure A4: In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-9 code 250(all) with a 5th digit sub-classification of the Diabetes type. For Diabetes Type I: 1 and 3; Diabetes Type II: 0 and 2. In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-10 codes for Diabetes Type I: E10-E10.9; Diabetes Type II: E11-E11.9.

2015 Arizona Heart Attack Related Inpatient & Emergency Department Hospital Discharges				
Payer Type	***Number of Discharges***	***Died***	***Estimated Costs***	***Average Length of Stay (Days)***
Charity	21	1	$436,716	5.6
Medicaid	2,335	115	$53,749,473	5.5
Medicare	13,779	1090	$292,527,574	5.3
Other	548	33	$14,283,705	4.8
Private Insurance	4,150	150	$91,340,153	4.2
Self-Pay	488	39	$9,592,132	2.0
Total	***21,321***	***1428***	***$461,929,754***	

Table A10: In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-9 codes for Heart Attack: 410-410.92, 411-411.19. In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-10 codes for Heart Attack: I21-I21.4, I22-I22.9, I23-I23.8.

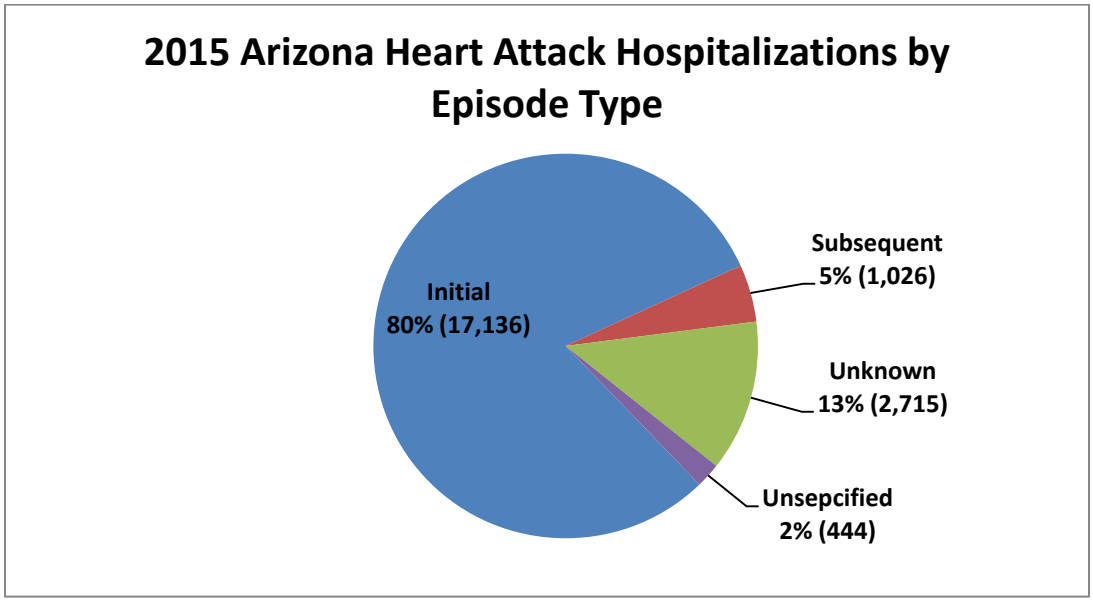

Figure A5: In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-9 code 410 (all) with a 5th digit sub-classification of the Heart Attack Episode type. For Initial Episode: 1; Subsequent Episode: 2; Unspecified Episode: 0. In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-10 codes for Heart Attack Episode type. For Initial Episode: I21.0, I21.01, I21.02, I21.09, I21.1, I21.11, I21.19, I21.2, I21.21, I21.29, I21.3; Subsequent Episode: I21.4, I22, I22.0, I22.1, I22.2, I22.8, I22.9; Unspecified Episode: I23.0, I23.1, I23.2, I23.3, I23.4, I23.5, I23.6, I23.7, I23.8.

2015 Arizona Angina Related Inpatient & Emergency Department Hospital Discharges- ICD9			
Payer Type	***Number of Discharges***	***Estimated Costs***	***Average Length of Stay (Days)***
Charity	1	$7,726	3.0
Medicaid	186	$2,951,302	4.4
Medicare	1,023	$15,232,714	4.2
Other	47	$820,566	4.8
Private Insurance	270	$4,658,532	4.3
Self-Pay	18	$171,948	3.6
Total	***1,545***	***$23,842,788***	

Table A11: In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-9 codes for Angina: 413 (all).

2015 Arizona Angina Related Inpatient & Emergency Department Hospital Discharges- ICD10			
Payer Type	***Number of Discharges***	***Estimated Costs***	***Average Length of Stay (Days)***
Medicaid	28	$319,215	3.4
Medicare	172	$2,347,456	4.2
Other	10	$165,242	5.2
Private Insurance	45	$454,608	3.1
Self-Pay	7	$98,603	3.9
Total	***262***	***$3,385,123***	

Table A12: In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-10 codes for Angina: I20-I20.9.

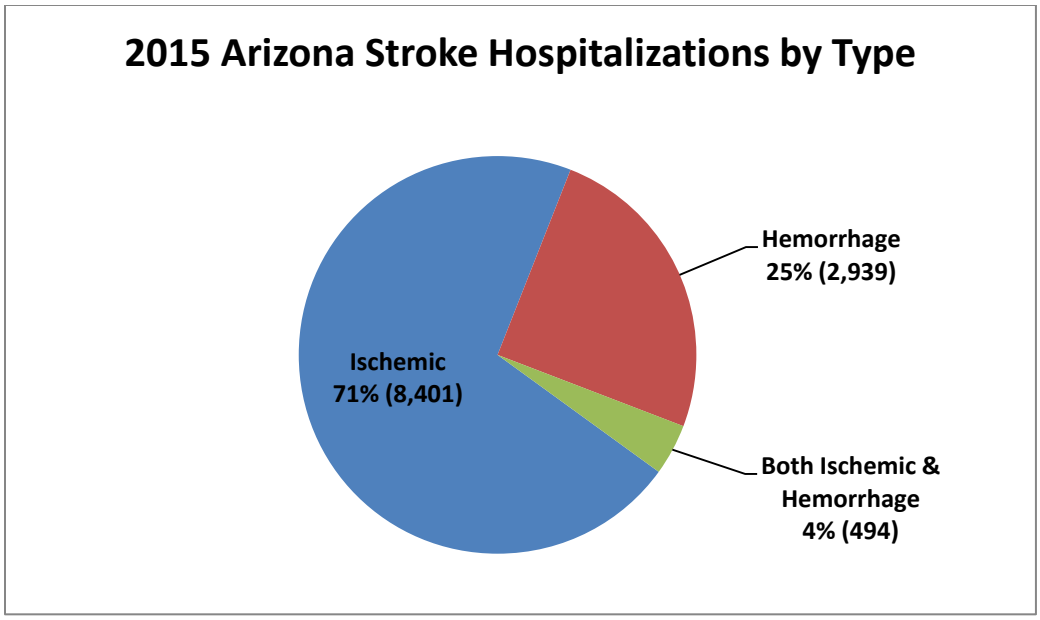

Figure A6: In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-9 codes for Stroke. For Ischemic Stroke: 433.01, 433.21, 433.81, 433.91, 434.01, 434.11, 434.91; Hemorrhage Stroke: 430, 431, 432.0, 432.1 432.9. In 2015 the hospital encounters, both inpatient and emergency department, contained the following ICD-10 codes for Stroke. For Ischemic Stroke: I63.22, I63.019, I63.119, I63.219, I63.59, I63.20, I63.30, I63.40, I63.50; For Hemorrhage Stroke: I60.9, I61.9, I62.1, I62.00, I62.9.

Appendix B: BRFSS Resources & Associated Documentation

All documents for the 2015 BRFSS Survey listed below can be located on the Arizona Department of Health Services Website here: **http://azdhs.gov/preparedness/public-health-statistics/behavioral-risk-factor-surveillance/index.php**. Information for past years is also available.

- Arizona BRFSS Questionnaire, 2015
- Arizona BRFSS Landline and Cell Phone Codebook Report, 2015
- Arizona BRFSS Calculated Variable Data Comparison Report, 2015
- Arizona BRFSS Core Variable Report, 2015
- Arizona BRFSS Module Questions Data Report, 2015
- Arizona BRFSS Data Set, 2015

Appendix C: Risk Factors/Chronic Disease Glossary

Arthritis Burden	While the word *arthritis* is used by clinicians to specifically mean joint inflammation, it is used in public health to refer more generally to more than 100 rheumatic diseases and conditions that affect joints, the tissues which surround the joint, and other connective tissue. The pattern, severity, and location of symptoms can vary. http://www.cdc.gov/arthritis/basics/general.htm
Alcohol Consumption	According to the *Dietary Guidelines for Americans*, moderate alcohol consumption is defined as having up to one drink per day for women and up to two drinks per day for men. This definition is referring to the amount consumed on any single day and is not intended as an average over several days. http://www.cdc.gov/alcohol/faqs.htm#whatAlcohol
All-Cause Mortality	All-cause mortality is a term used by epidemiologists, or disease-tracking scientists, to refer to death from any cause.
Asthma	The National Heart, Lung, and Blood Institute defines asthma as "…a chronic inflammatory disorder of the airways in which many cells and cellular elements play a role, in particular, mast cells, eosinophil, T lymphocytes, airway macrophages, neutrophils, and epithelial cells. In susceptible individuals, this inflammation causes recurrent episodes of wheezing, breathlessness, chest tightness and coughing, particularly at night or in the early morning. These episodes are usually associated with widespread but variable airflow obstruction that is often reversible either spontaneously or with treatment. The inflammation also causes an associated increase in the existing bronchial hyper-responsiveness to a variety of stimuli" (NHLBI 2003). http://www.atsdr.cdc.gov/csem/csem.asp?csem=18&po=4
Binge Drinking	Respondents who reported having five or more drinks on an occasion, one or more times in the past month.
Cardiovascular Disease	Respondents who reported a doctor told them they had a heart attack, angina or stroke. Coronary artery disease can cause a heart attack. If you have a heart at- tack, you are more likely to survive if you know the signs and symptoms, call 9-1- 1 right away, and get to a hospital quickly. People who have had a heart attack can also reduce the risk of future heart attacks or strokes by making lifestyle changes and taking medication. http://www.cdc.gov/heartdisease/
Cholesterol Awareness	Cholesterol is a waxy substance that is found in the fats (lipids) in your blood. While your body needs cholesterol to continue building healthy cells, having high cholesterol can increase your risk of heart disease. http://www.mayoclinic.com/health/high-blood-cholesterol/DS00178 Behavioral Risk Factor Surveillance System respondents who had had their blood cholesterol checked were asked about high blood cholesterol: "Have you EVER been told by a doctor, nurse or other health professional that your blood cholesterol is high?" Responses were grouped into two categories: Yes and No. Analyses excluded respondents younger than 20 years of age and those who did not report ever having had their cholesterol checked. http://dhds.cdc.gov/guides/healthtopics/indicator?i=HighCholesterol
Chronic Obstructive Pulmonary Disease (COPD)	One of the most common lung diseases. There are two main forms of COPD—Chronic Bronchitis (long-term cough with mucus), and emphysema (Involves the destruction of the lungs over time). Most people have a combination of the two forms. http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0001153/

Current Smoking	Respondents who reported smoking at least 100 cigarettes during their lifetime and who smoke now (regularly or irregularly).
Diabetes	Respondents who reported a doctor them they had diabetes. Diabetes is a serious disease that affects almost every part of your body and can shorten your life. Some complications with diabetes are kidney disease, heart disease, stroke, eye disease, and having to have a leg or foot amputated. If you already have diabetes, you can still do a lot to keep from getting complications from diabetes. http://www.cdc.gov/Features/LivingWithDiabetes/
Disability	Is a secondary condition and can include pain, depression, and a greater risk for certain illnesses. To be healthy, people with disabilities require health care that meets their needs as a whole person not just as a person with a disability. http://www.cdc.gov/ncbddd/disabilityandhealth/healthyliving.html
Influenza Vaccination	Respondents 65 years or older who reported not receiving a flu shot in the past 12 months. Influenza illness can include any or all of these symptoms: fever, muscle aches, headache, lack of energy, dry cough, sore throat, and possibly a runny nose. http://www.cdc.gov/flu/professionals/diagnosis/labrolesprocedures.htm
Immunization	Immunizations work by stimulating the immune system, the natural disease- fighting system of the body.
Fruits/Vegetables	Respondents who reported that they consumed fewer than five servings of fruits and vegetables daily. To increase fruit and vegetable consumption of community members, it is important to improve access to, and increase the availability of high quality, affordable fruits and vegetables. A diet high in fruits and vegetables can reduce the risk for many leading causes of death and can play an important role in weight management. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5935a1.htm
HCUP	Healthcare Cost http://hcupnet.ahrq.gov/HCUPnet.jsp?Id=6A4B1124FA223267&Form=SelQUERYTYPE&JS=Y&Action=%3E%3ENext%3E%3E&_QUERYTYPE=DxPr
Heart Attack	The death of heart muscle due to the loss of blood supply. The loss of blood sup- ply is usually caused by a complete blockage of a coronary artery, one of the arteries that supplies blood to the heart muscle. Death of the heart muscle, in turn, causes chest pain and electrical instability of the heart muscle tissue. http://www.medterms.com/script/main/art.asp?articlekey=3669
Health Care Coverage	Respondents who reported that they did not have health care coverage.
Hypertension Awareness	Hypertension, also known as high blood pressure, affects one out of every three American adults. But more than half don't have their blood pressure under control. Left untreated, high blood pressure raises your risk for heart disease, stroke, kidney failure, and other conditions. Prevention is your best defense, but lifestyle changes and medications can help get your blood pressure numbers to a healthy level. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6040a1.htm
Heavy Drinking	Adult men having more than two drinks per day and adult women having more than one drink per day. Excessive drinking, either in the form of heavy drinking or binge drinking, is associated with numerous health problems, including chronic diseases such as liver cirrhosis (damage to liver cells), pancreatitis (inflammation of the pancreas), various cancers, including liver, mouth, throat, larynx (the voice box), esophagus, high blood pressure, and psychological disorders. Heavy drinking can cause unintentional injuries, such as motor-vehicle traffic crashes, falls, drowning, burns, and firearm injuries. It also can cause violence, such as child maltreatment, homicide, and suicide.

HIV/AIDS	HIV is the human immunodeficiency virus. It is the virus that can lead to acquired immune deficiency syndrome, or AIDS. http://www.cdc.gov/hiv/topics/basic/index.htm
Limited Activities	Respondents who reported they were limited in any activities due to any impairment or health problems.
No Leisure-Time Activity	Respondents who reported that they did not participate in physical activity in the past month outside of normal work-related activities.
Pre-Diabetes	The condition of having a hereditary tendency or high probability for developing diabetes mellitus, although neither symptoms nor test results confirms the presence of the disease. http://dictionary.reference.com/browse/prediabetes?s=t
Pre-conception Health	Pre-conception care and interventions are designed to reduce perinatal risk factors and, for optimal effectiveness, must be successfully implemented before the start of pregnancy. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1592248/
Respondent	Arizona residents 18 years of age or older. In some cases various subset(s) of this group may be used.
Seat belt Use	Respondents who reported that they "sometimes", "seldom", or "never" wear seat belts when driving or riding in a car.
Special Equipment	Respondents reported having a health problem or impairment that required special equipment.
Special needs population	Populations whose members may have additional needs before, during and after an incident in functional areas, including but not limited to: maintaining independence, communication, transportation, supervision and medical care. Individuals in need of additional response assistance may include those who have disabilities; who live in institutionalized settings; who are elderly; who are children; who are from diverse cultures; who have limited English proficiency or are non-English speaking; or who are transportation-disadvantaged.
Stroke	Stoppage of blood flow to the brain due to a sudden blockage or rupture of a blood vessel in the brain resulting in the loss of consciousness, partial loss of movement, or loss of speech. http://www.bing.com/Dictionary/search?q=define+stroke&qpvt=DEFINE+STROKE&FORM=DTPDIA
Tobacco Use	Smoking causes cancer, heart disease, stroke, and lung diseases (including emphysema, bronchitis and chronic airway obstruction). For every person who dies from a smoking-related disease, 20 more people suffer with at least one serious illness from smoking. Centers for Disease Control and Prevention. Cigarette Smoking-Attributable Morbidity United States, 2000. Morbidity and Mortality Weekly Report 2003; 52 (35):842–4 [accessed 2012 Jun 7].

Appendix D: Behavioral Risk Factor Surveillance System Methods

- **Behavioral Risk Factor Surveillance System, OVERVIEW: BRFSS 2015**

  https://www.cdc.gov/brfss/annual_data/2015/pdf/overview_2015.pdf

- **Behavioral Risk Factor Surveillance System, Comparability of Data BRFSS 2015**

  https://www.cdc.gov/brfss/annual_data/2015/pdf/compare_2015.pdf

Appendix E: Disclaimer for 2015

Due to significant changes in the BRFSS methodology as described above, Arizona's BRFSS estimates for 2011, 2012, 2013, 2014, and 2015 data SHOULD NOT be compared to estimates provided from previous years. Thus, Arizona's 2011 through 2015 data present a new baseline for Arizona BRFSS survey results. The new methodology changes will cause breaks in the BRFSS trends, but going forward, will also greatly improve the accuracy, coverage, validity, and repetitiveness of the Arizona BRFSS. Additional information regarding the new BRFSS METHODS is available at:

http://www.cdc.gov/brfss/annual_data/2011/2011_weighting.htm