ARIZONA DEPARTMENT OF HEALTH SERVICES

ARIZONA MATERNAL CHILD HEALTH NEEDS ASSESSMENT

JULY 2015

Findings from the Five-Year Needs Assessment serve as a cornerstone for the development of a five-year Action Plan for the state Title V program. The Needs Assessment findings have informed the selection of the state's priorities for its Maternal Child Health and Children with Special Health Care Needs populations.

Health and Wellness for All Arizonans

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State of Arizona

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MISSION
To Improve the Health and Wellness of People and Communities in Arizona

Table of Contents

INTRODUCTION

Every five years the Arizona Department of Health Services, Bureau of Women's and Children's Health assesses the status of the health and wellbeing of women and children in Arizona as a requirement of the Title V Maternal Child Health Block Grant. The Bureau serves as the administrator of this grant, created in 1981, to serve women and infants, children, and children with special health care needs. Included in this assessment is a review of the strengths and weaknesses of the systems in place for women and children, including children with special health care needs in order to set maternal child health priorities for the next five year. This 2015 Title V Maternal Child Health Needs Assessment contains the findings of Arizona's most current efforts.

This document will include an overview of the state, describe the process used to gather public input on the status of women and children and review the findings from the public process. Next, there is a review of the data on the health status of women and children including national survey data and vital statistics data. The document will go on to discuss the capacity of ADHS to care for women and children including workforce development, partnerships and collaboration with the larger community. Finally, Arizona's Title V priorities for the next five years will be presented.

From here the Bureau will go on, with the help of the community, to develop evidence based strategies and measurements of the strategies to address the identified priorities. As the needs assessment process is an ongoing part of public health surveillance, the Bureau will continue to reach out to our partners, stakeholders and the larger community for support and guidance as it continues to work every day to improve the health and wellbeing of every woman and child in Arizona, including children with special health care needs.

OVERVIEW OF THE STATE

In order to understand the role of the Arizona Department of Health Services Maternal and Child Health program it is helpful to understand some of Arizona Department of Health Services (ADHS) current priorities and how they are reflected in the Title V values, priorities, roles and responsibilities. This overview of Arizona's Title V program will view the state through the social determinants of health, generally described by the CDC as how the conditions where people are born, live, work, play and grow old shape and affect their health and wellbeing. [1]

The Arizona Department of Health Services (ADHS) is one of the executive agencies that report to the Governor. By statute it has been designated the Title V agency in Arizona. The Bureau of Women's and Children's Health (BWCH) is a component of the ADHS Public Health Prevention Services Division and the Chief of the Bureau of Women's and Children's Health serves as the Title V administrator. The Office for Children with Special Health Care Needs (OCSHCN) is one of the offices within BWCH. The Chief for the Office for Children with Special Health Care Needs serves as its Director.

The role of public health is assurance, assessment and policy development. In that role ADHS looks strategically at the state and develops priorities every five years. The Strategic Priorities adopted in 2013 include: Impact Arizona's Winnable Battles, Integrate Physical and Behavioral Health, Promote and

[1] 1http://www.cdc.gov/socialdeterminants/

Protect Public Health and Safety, Strengthen Statewide Public Health Infrastructure and Strengthen ADHS Integration, Effectiveness and Adaptability. The Winnable Battles priority includes: promote nutrition and physical activity to reduce obesity, reduce tobacco and substance abuse, reduce health care associated infections, reduce suicide and reduce teen pregnancy. Additionally, as a part of the process towards public health accreditation, in 2014, ADHS conducted a **State Health Needs Assessment**. The findings were developed in conjunction with 14 county health departments and hundreds of people throughout the state. From these findings the state is developing, and many county health departments have completed, Health Improvement Plans.

The state Needs Assessment identified 15 priorities: obesity, tobacco use, substance abuse, teen pregnancy, hospital associated infections, suicide, diabetes, heart disease (cardiovascular disease and stroke), cancer, chronic lower respiratory disease and asthma, oral health, unintentional injury, access to health insurance, access to well care and behavioral health. These priorities often mirrored the findings of the Title V Needs Assessment.

Four of the five winnable battles align with Maternal Child Health (MCH) priorities and will be addressed in some manner in the Title V Services Block Grant. Additionally, while two of the state health priorities specifically speak to Title V areas of interest; oral health and teen pregnancy, many of the other priorities speak to MCH priorities of preconception and interconception health.

When developing Maternal Child Health priorities, the Title V program looks at many factors, that include a review of the intent of the Title V Maternal Child Health Block Grant and legislative mandates. The program looks at what the community has identified as a priority and at what the data show is a concern. This means looking at disparities as well. For instance, although Arizona's infant mortality rate is 5.3, there is disparity between White non-Hispanic and Black infant mortality. The Title V administrator also needs to determine where there is political will as well as capacity in the state. As one of the roles of the Title V administrator is to be a good steward of public funds, it is important to ensure Title V funds are used wisely.

The Title V program is responsible for tracking emerging issues and identifying how they affect the maternal child health population in Arizona. Prescription drug abuse and subsequent Neonatal Abstinence Syndrome have been identified as emerging issues. Abuse and addiction to opioids is a serious and challenging national public health problem. Deaths from drug overdose have risen steadily over the past two decades and have become the leading cause of injury death in the United States (ASPE, 2015).

Compared to other states, these alarming outcomes placed Arizona as the 6th highest state in the nation for youth drug overdose rates in 2010 (Trust for America's Health, 2013) and 12th highest in 2012-2013 in adult prescription misuse and abuse (SAMHSA, 2015). The economic consequences are also significant. It is estimated that the cumulative negative fiscal impact to the state is $72 billion being largely borne by employers, the healthcare industry, and law enforcement (CDC, 2013; ACJC, 2015).

Additionally, between 2008-2013 there were a total of 1,472 cases of Neonatal Abstinence Syndrome (NAS) in Arizona with an NAS rate 2.83 (95% CI, 2.68- 2.97) per 1000 cases. A recent study (Ailes, E.C., et al, 2015) reported that one-third of women of childbearing age in the United States had an opioid prescription filled each year from 2008-2103. This included 39% of women aged 15-44 on Medicaid and

28% of women aged 15-44 on private insurance. These drugs can increase the risk of birth defects and NAS.

As will be described later in this Needs Assessment, bullying and safe sleep have been identified as emerging issues. Steps have been taken to address both. Bullying was brought up many times during community input sessions and safe sleep was first identified at a statewide Infant Mortality summit in January 2014. Arizona is participating in the Safe Sleep CoIIN. [2]

There are a number of statutes that speak to the priorities of Arizona's Title V program, some giving authority and others more general. This section will highlight statutes relevant to the Title V.

Arizona Revised Statute (§A.R.S.36-691) formally accepts Title V and designates ADHS as the Title V agency accepting the conditions of Title V of the Social Security Act, entitled "grants to states for maternal and child welfare", enacted August 14, 1935, and as amended. The statutory list of functions (§A.R.S. 36-132) of ADHS includes: encourage and aide in coordinating local programs concerning maternal and child health, including midwifery, antepartum and postpartum care; infant and preschool health and the health of school children, including special fields such as the prevention of blindness and conservation of sight and hearing; encourage, administer and provide dental health care services and aid in coordinating local programs concerning dental public health, in cooperation with the Arizona dental association. Subject to the availability of monies, develop and administer programs in perinatal health care.

State statute (§A.R.S. 36-697) authorized the Health Start program, administered by Bureau of Women's and Children's Health; the program is implemented to serve pregnant women, children and their families. The program is required to be statewide, based in identified neighborhoods and delivered by lay health workers through prescheduled home visits or prescheduled group classes that begin before the child's birth or during the postnatal period and may continue until the child is two years of age. Statute also requires the program to develop and distribute an Arizona Family Resource Directory to enable parents to obtain information that is critical to the development of their young children.

The Bureau of Women's and Children's Health also manages the Oral Health Fund. §A.R.S.36-138. The Office of Oral Health uses funds received by the department as reimbursement from the state's Medicaid program contractors for dental services provided by the department and expends the money from the fund for dental health services.

Senate Bill 1282, signed by the Governor, April 2015 removed the regulatory barrier that required a dentist's exam before a sealant could be placed. A dental hygienist employed by a public health agency may now perform a screening or assessment and apply sealants and topical fluoride. The old provision was seen as an impediment to the efficient operation of school sealant programs.

[2] National Institute for Children's Health Quality (NICHQ), Collaborative Improvement & Innovation Network to Reduce Infant Mortality (2015). Available at http://www.nichq.org/childrens-health/infant-health/coiin-to-reduce-infant-mortality

Amended rules, effective July 1, 2014, R9-101-117, were adopted for the licensing of lay midwives in Arizona. The new rules include a change to the scope of practice to include the delivery of frank breech and vaginal delivery after cesarean section under certain prescribed circumstances. The rule changes also add clear requirements for reporting, transfer of care and emergency action plans.

State statute (§A.R.S. 36-899.01) also requires ADHS to administer a program of hearing evaluation services administered to all children as early as possible, but in no event later than the first year of attendance in any public or private education program, or residential facility for handicapped children, and thereafter as circumstances permit, until the child has attained the age of sixteen years or is no longer enrolled in a public or private education program. The Bureau of Women's & Children's Health administers this program and provides administrative rules and technical assistance to schools to implement required hearing screening.

The Child Fatality Review Program is authorized by state statute (§A.R.S. 36-3501). The State Child Fatality Review Team is required to conduct an annual statistical report on the incidence and causes of child fatalities and submit a copy of this report, including its recommendations for action, to the Governor and legislative leadership on or before November 15 of each year. The Team is also required to develop protocols for child fatality investigations including protocols for law enforcement agencies, prosecutors, medical examiners, health care facilities and social service agencies. The team is required to educate the public regarding the incidence and causes of child fatalities as well as the public's role in preventing these deaths. In 2011, the Arizona Legislature revised the state child fatality statute to add authority to review maternal deaths. Maternal mortality review is implemented through a sub-committee of the State Child Fatality Review Team.

During the 2014 legislative session, the Critical Congenital Heart Defects (CCHD) screen was added to the core newborn screening panel with screening scheduled to begin in 2015 after rules are developed. Statute also called for the creation of an advisory panel of community partners and stakeholders to consider adding Severe Combined Immunodeficiency Disorder (SCID) and Krabbe disease. If the group agrees to add these two disorders, it is anticipated that they will be added to the core panel of disorders screened.

Effective July 24, 2014, Senate Bill 1124 changed the requirement for prescription dispensers to upload information into the Prescription Drug Monitoring Program within 24 hours. The shortened period will greatly reduce the previous lag-time (i.e., 7 days) in current patient prescription drug history in the CSPMP.

This legislative session the Governor signed HB 2643 into law which prohibits the state and its political subdivisions from using any personnel or financial resources to enforce, administer or cooperate with the Affordable Care Act in any way with the exception of public health prevention programs.

BRIEF HISTORY

Arizona is the sixth largest state in the nation, with a total area of 114,000 square miles – about 400 miles long and 310 miles wide. Located in the southwestern United States, it is bordered by California, Nevada, Utah, New Mexico and Mexico. Arizona is also one of the youngest states. The end of the Mexican-American War in 1848 resulted in Mexico ceding 55 percent of its territory, including parts of

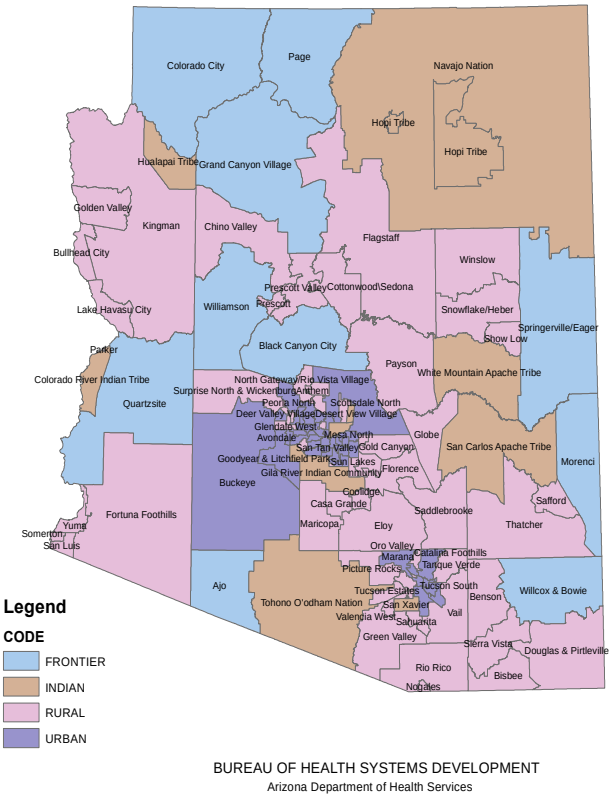
present-day Arizona to the United States. It was not until 1863 that a separate territory was carved out for Arizona.

On February 14, 1912, President Taft signed the bill making Arizona the 48th state. One-quarter of the land in Arizona is home to 21 federally recognized Native American Tribes and Nations.

POPULATION TRENDS

Arizona has 58 people per square mile; however, 64 percent of the population lives in urban areas where the population density is 544 people per square mile. Thirty-two percent of Arizona residents live in rural areas, where the density is 45 people per square mile, and 2 percent live in areas that are considered to be frontier, in which there are only 3.6 people per square mile. [3] Figure 1.1 is an Arizona map showing Frontier, Rural, Urban, and Indian areas of the state.

Figure 1.1 Arizona Frontier, Rural, Urban and Indian PCAs 2013



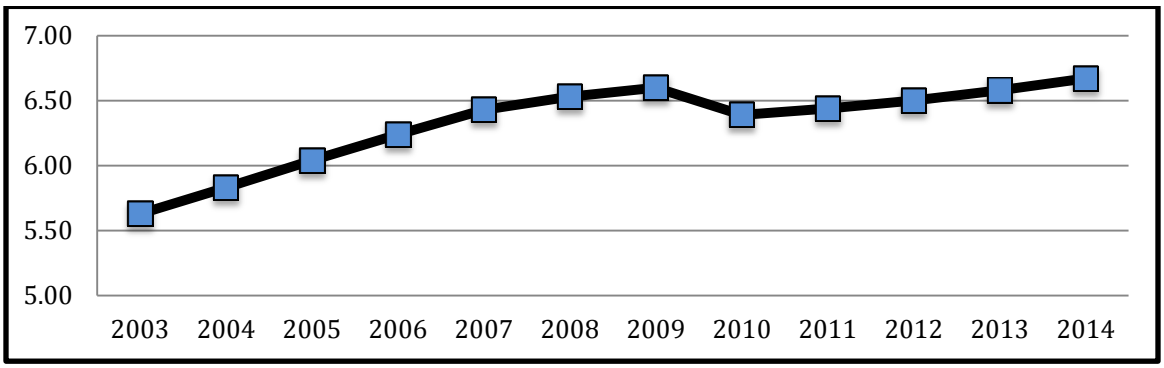
In the late 1990s and early 2000s, Arizona had the one of the highest growth rates in the nation. With the recession, growth slowed. From 2003 to 2013, the population of Arizona grew from 5.6 million to 6.6 million people. From 2003 to 2006, the growth rate was between a three and four percent increase per year. With the recession in 2008 the population growth slowed and actually decreased about three percent from 2009 to 2010. Growth resumed from 2010 through 2013 at a rate of about one percent per year.[4] Figure 1.2 shows the number of Arizona residents by year from 2003 through 2014. US Census estimates of the Arizona population for 2014 shows continued growth to 6.73 million.[5]

[3] Frontier Special Area (SArea)-STATISTICAL PROFILE - 20013. (September 12, 2014). *Arizona Department of Health Services-Bureau of Health Systems Development*. Retrieved February 9, 2015, from http://www.azdhs.gov/hsd/data/documents/reports/frontier.pdf

[4] Arizona Vital Statistics - Population Denominators. (November, 2014). *Arizona Department of Health Services.* Retrieved February 9, 2015, from http://www.azdhs.gov/plan/menu/info/pop/index.php?pg=2010

[5] US Census. (n.d.) Arizona Quickfacts. Retrived May 25, 2015 from http://quickfacts.census.gov/qfd/states/04000.html.

Figure 1.2 Arizona Population Growth in Millions, 2003 through 2014

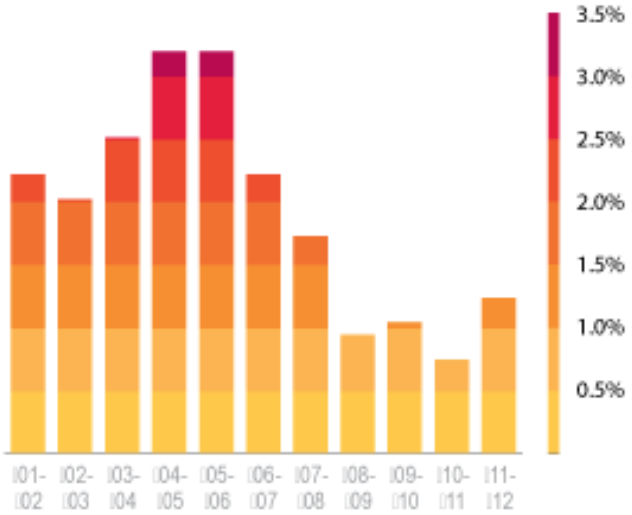


Source: Arizona Vital Statistics

Impacts of the recession were seen in a decrease in migration to Arizona as well as a decrease in resident births. Arizona Vital Statistics also noted factors affecting the population growth such as the number of undocumented residents who left the state, the decline in construction jobs, the number of foreclosures, the number of built but vacant homes, and the decline in the number of resident births. It should be noted that these factors all apply primarily to metropolitan, not rural, counties.

Showing signs of recovery, from 2010 to 2014, Arizona ranked in the top ten growth rates for states in all but 2011.[6] Figure 1.3 presents changes in growth over the last decade.[7]

Figure 1.3 Arizona Decade of Population Change



Source: U.S Census Bureau

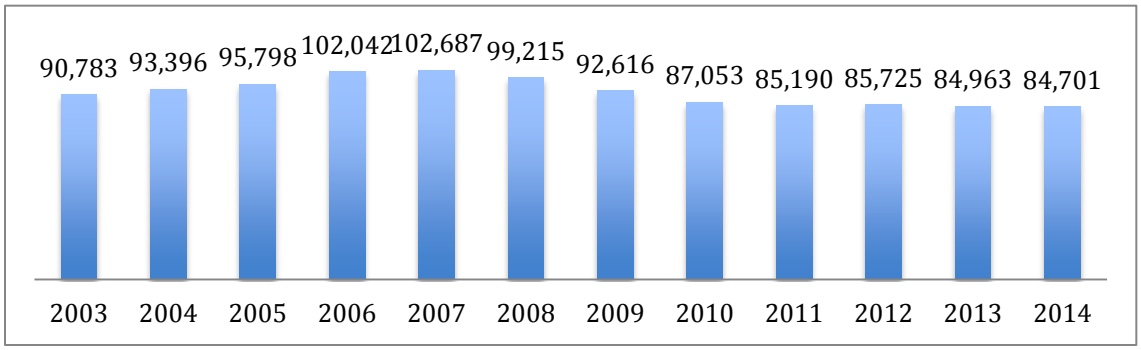
[6] National and State Population Estimates-NST-EST2014. (n.d.). *U.S. Census Bureau.* Retrieved February 10, 2015, from http://www.census.gov/popest/data/state/totals/2014/index.html.
[7] US Census Data Visualization Gallery. (n.d.) *U.S. Census Bureau.* Retrieved March 6, 2015 from https://www.census.gov/dataviz/visualizations/043/.

Population changes seen in Arizona as a whole have not been evenly distributed throughout the state. During the years between 2003 and 2013, growth rates in Arizona's 15 counties ranged from a low of two tenths of a percent in Gila County (53,555 residents to 53,670) to a high of 95 percent in Pinal County (201,565 residents to 393,813). Currently, 75 percent of the state's population resides in either Maricopa or Pima Counties.[8]

The number of births to Arizona residents peaked in 2007 at 102,687 births, and declined until 2012 (see Figure 1.4). In 2011, the number of births declined to 85,190, a 17 percent decrease from the high point in 2007.[9]

Figure.1.4 Number of Births to Arizona Residents

Source: Arizona Vital Statistics



There was also a pattern during this same time period in the increase and then declining proportion of Hispanic births. In 2003, Hispanic births (n=39,101) exceeded the number of non-Hispanic, White births (n=38,842). Hispanic births continued to outnumber non-Hispanic, White births through 2007, then declined. This trend of lower rates of Hispanic births continues. In 2013 there were 33,075 Hispanic births compared to 38,220 births to non-Hispanic, Whites.

The population of immigrants without documentation of American citizenship has also shown a pattern of increase and subsequent decrease. This population is estimated to have grown from 330,000 in January 2000 to 560,000 in January 2008, a 70 percent increase. The undocumented population declined 63 percent from 560,000 in January 2008 to 350,000 in January 2012.[10] In April 2010, Senate Bill 1070 was signed into law with the intent ". . . to discourage and deter the unlawful entry and presence of aliens and economic activity by persons unlawfully present in the United States." To have been effective July 2010, this legislation required police officers who were enforcing another law to

[8] Arizona Vital Statistics - Population Denominators. (2014, December). *Arizona Department of Health Services*. Retrieved February 9, 2015, from http://www.azdhs.gov/plan/menu/info/pop/index.php?pg=2010.

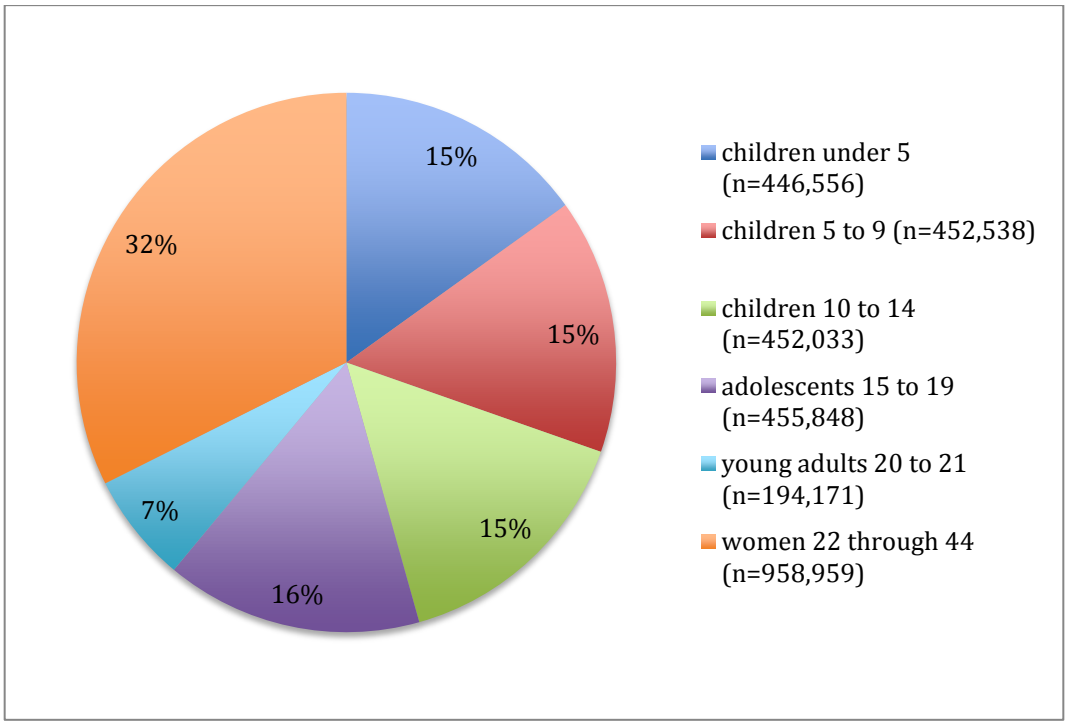
[9] Arizona Vital Statistics - Birth Statistics. (2014, December). *Arizona Department of Health Services*. Retrieved February 11, 2015, from http://www.azdhs.gov/plan/menu/info/trend/index.php?pg=births.

[10] Hofer, M., Rytina, N., & Baker, B.C. (2013, January). Estimates of the Unauthorized Immigrant Population Residing in the United States: March 2013. *U.S. Department of Homeland Security - Office of Immigration Statistics - Policy Directorate.* Retrieved February 13, 2015 from http://www.dhs.gov/sites/default/files/publications/ois_ill_pe_2012_2.pdf

determine, when practicable, the immigration status of the person lawfully detained and verify that status with the federal government.[11] In June 2012, the Supreme Court struck down three of the four sections of SB 1070. Private litigants continue to challenge in federal courts the fourth provision of SB 1070, the 'show me your papers' section as it is being implemented in Arizona.

The Maternal and Child Health (MCH) population in Arizona was 2,960,105 in a US Census five-year estimate for 2009-2013. This is an increase of about 2 percent from 2010 (n=2,906,615).[12] Of these, 1,226,868 are women of childbearing age (15 through 44). In 2011-2012, an estimated 310,801 children under 18 qualified as having a special health care need (CSHCN).[13] Figure 1.5 provides a breakdown of the MCH population by age group.[14]

Figure 1.5 Maternal Child Health Population, 2013



Source: U.S Census Bureau

[11] Chapter 113-Senate Bill 1070. (n.d.). *Arizona Department of State-Office of the Secretary of State*. Retrieved February 13, 2015, from http://www.azleg.gov/alispdfs/council/sb1070-hb2162.pdf

[12] American Factfinder. Single Years of Age and Sex: 2010. 2010 Census Summary File 1. (n.d.) *US Census.* Retrieved March 6, 2015 from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF

[13] National Survey of Children's Health. 2011-2012 (n.d.) . Retrieved February 17, 2015 from http://www.childhealthdata.org/browse/survey/results?q=2625&r=4

[14] 2009-2013 American Community Survey 5 Year Estimates: Sex by Age. (n.d.). *US Census.* Retrieved February 17, 2015, from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF.

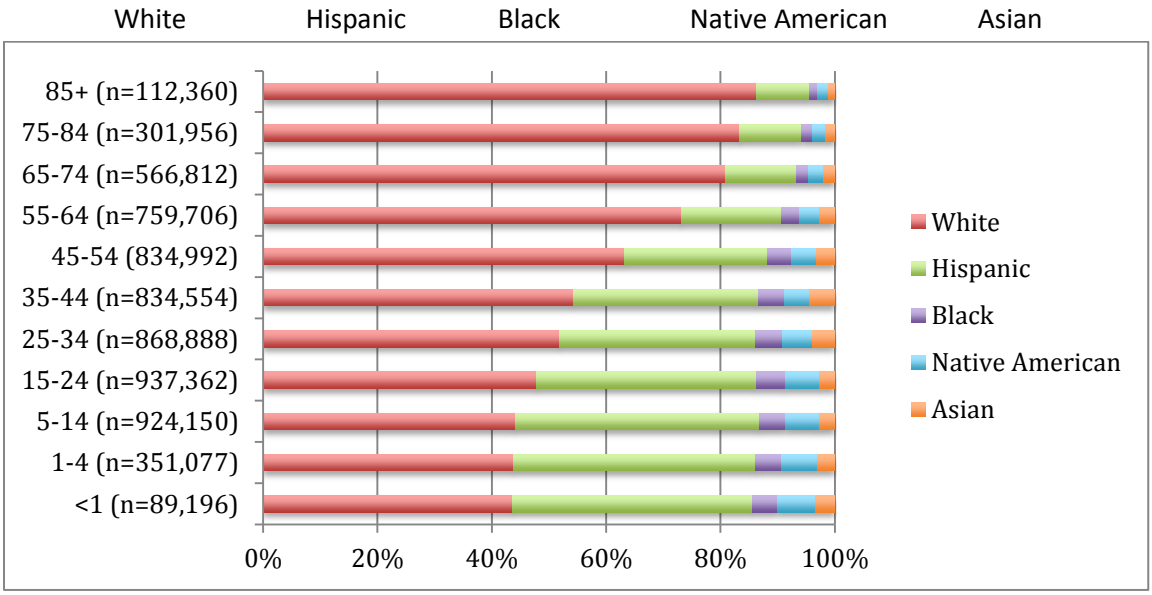
RACE/ETHNICITY

The racial and ethnic makeup of the state of Arizona is different than the nation. In 2013, the proportion of the population that is identified as Hispanic in Arizona was almost twice that of the nation (30 percent compared to 17 percent nationally). In addition to having a higher proportion of Hispanics, Arizona's population also differs from the nation in that there is a smaller proportion of African Americans (4.6 percent compared to 13 percent nationally) and a higher proportion of Native Americans (5 percent compared to 1 percent in the nation).[15]

Over 40 percent of those younger than five are Hispanic compared to ten percent of people 75 and older.

The racial makeup of Arizona varies by age group. Among older age groups, the population is predominantly white, while the proportion of the population represented by Hispanics is highest among the younger groups. Over 40 percent of those younger than five are Hispanic compared to ten percent of people 75 and older (see Figure 1.6).[16]

Figure 1.6 Proportion of the Population by Race within Age Group



Source: Arizona Vital Statistics

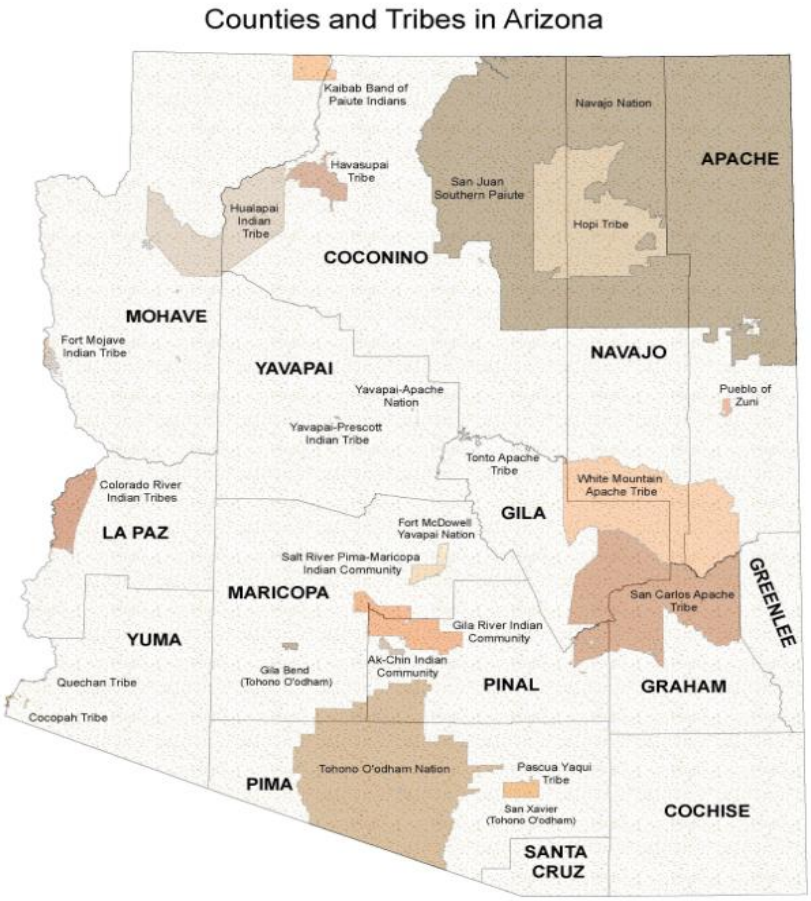
Twenty-one federally recognized American Indian tribes are located in Arizona, each a sovereign nation with its own language and culture. Tribal lands span the state and even beyond state borders, with the Navajo Reservation crossing into New Mexico and Utah, and the Tohono O'odham Reservation crossing international boundaries into Mexico.

[15] State and County Quickfacts. USA People Quickfacts. (n.d.). *US Census.* Retrieved February 16, 2015, from http://quickfacts.census.gov/qfd/states/00000.html.

[16] Arizona Vital Statistics –Population denominators for 2013 – Table 10C-1. (2014, November). *Arizona Department of Health Services*. Retrieved February 17, 2015, from http://www.azdhs.gov/plan/menu/info/pop/index.php

Seventy-four percent of Apache County, 44 percent of Navajo County, and 28 percent of Coconino County residents are American Indians.[17] Figure 1.7 is a map showing Arizona's counties and tribal lands.[18]

Figure 1.7 Arizona's Counties and Tribal Lands



Source: Inter Tribal Council of Arizona

LANGUAGE SPOKEN

Arizona residents are more likely to speak a language other than English at home (27 percent in Arizona compared to 21 percent nationally), however, they reported speaking English "less than very well" at rates similar to the nation (10 percent in Arizona compared to 9 percent nationally). Among Arizona

[17] Arizona Vital Statistics –Population denominators for 2013 – Table 10D-3. (2014, November). *Arizona Department of Health Services*. Retrieved February 16, 2015, from http://www.azdhs.gov/plan/menu/info/pop/index.php.
[18] Inter Tribal Council of Arizona. Maps: Arizona State Counties. (n.d.). Retrieved March 6, 2015 from http://itcaonline.com/?page_id=16.

residents who spoke a language other than English, 76 percent spoke Spanish, while the other 24 percent spoke one of many other languages.[19]

EDUCATION

Arizona has consistently ranked lower in the nation per pupil spending compared to the U.S. The National Center for Education Statistics reported that Arizona spent $7,382 per student compared to the nation's average of $10,667 in fiscal year 2012.[20] US Census data ranked Arizona 49th of the 50 states and the District of Columbia in public per pupil spending in fiscal year 2013.[21]

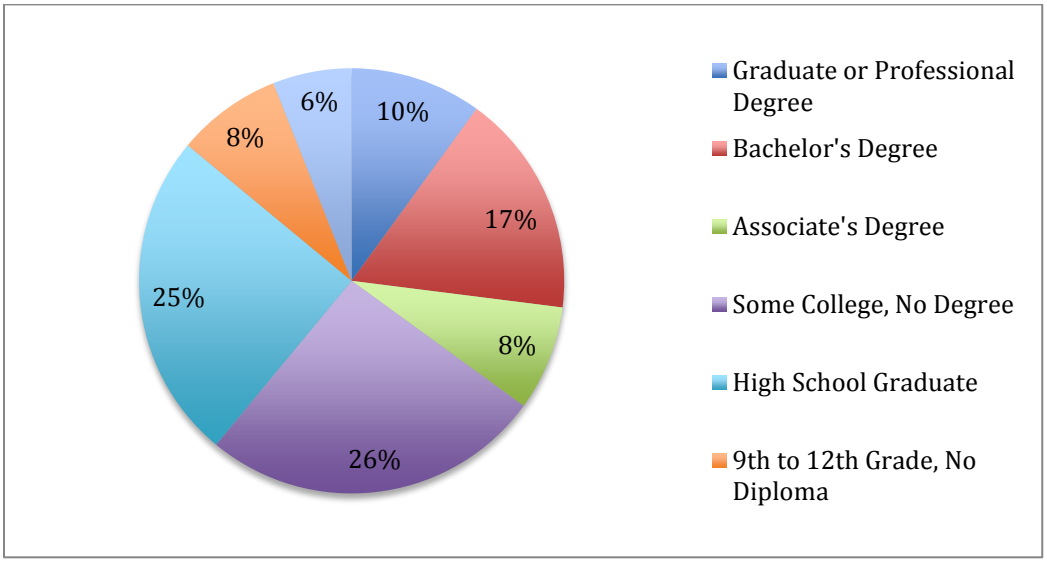
During the 2013 -2014 school year, Arizona had 238 school districts and 404 charter holders. Charters and districts together housed 1,924 schools and 1,112,146 students in kindergarten through 12th grade. Over 14 percent (n=157,438) of Arizona's K-12 students attend a charter school. This is a four percent increase from the 2008-2009 school year.[22]

> Over 14 percent of Arizona's K-12 students attend a charter school.

Educational attainment for adults living in Arizona is similar to the United States. Overall, 86 percent of Arizona residents age 25 and older are high school graduates compared to the same percent nationally. This is a 2 percent improvement from 84 percent in 2008. The most recent American Community Survey report shows that six percent of adults in Arizona did not complete ninth grade and another eight percent have not graduated from high school. Figure 1.8 provides a breakdown of the educational attainment status for Arizona residents age 25 and older.[23]

[19] American Community Survey 5-year estimates. Language Spoken at Home 2009-2013. (n.d.). Retrieved February 16, 2015, from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF.
[20] Revenues and Expenditures for Public Elementary and Secondary Education: School Year 2011-2012 (Fiscal Year 2012). (2015, January 29). *National Center for Education Statistics (NCES)*. Retrieved February 16, 2015, from http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2014301.
[21] Public Education Finances: 2013. (June 2015). Educational Finance Branch, US Census. Retrieved June 5, 2015 from https://www.census.gov/content/dam/Census/library/publications/2015/econ/g13-aspef.pdf.
[22] Annual Report of the Arizona Superintendent of Public Instruction. Fiscal Year 2013-2014. (2015, January) *Arizona Department of Education*. Retrieved February 16, 2015, from http://www.azed.gov/superintendent/files/2015/01/safr-2014-volume-i.pdf.
[23] Arizona – S1501 Educational Attainment 2009-2013. (n.d.). *U.S. Census Bureau*. Retrieved February 19, 2015, from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF.

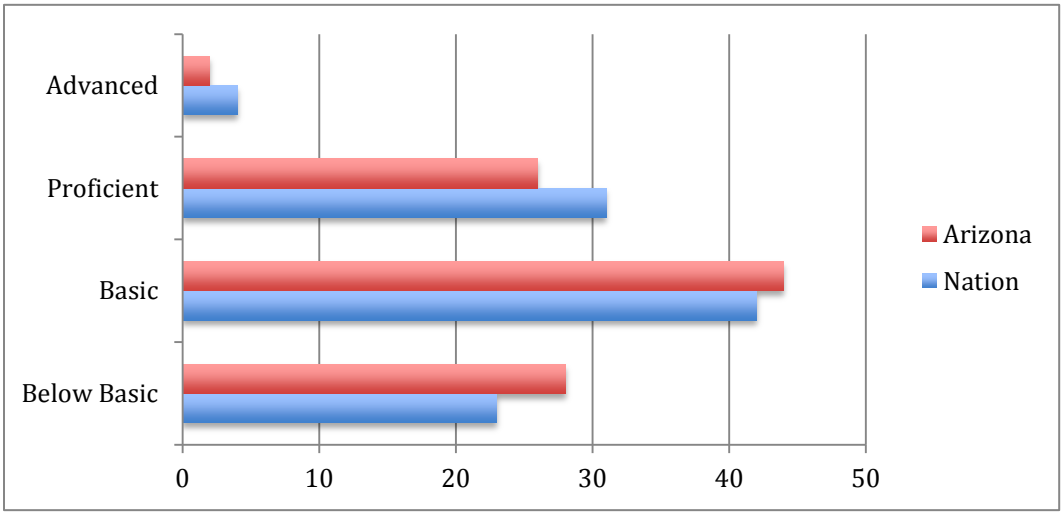
Figure 1.8 Educational Attainment, Arizona Residents Age 25 and Older, 2009-2013



Source: U.S Census Bureau

The National Assessment of Educational Progress (NAEP) is an assessment of what America's students know. In 2013, eighth grade students in Arizona public schools ranked 45th of 52 states and jurisdictions in NAEP reading scores.[24] In 2013, 28 percent of Arizona eighth graders tested below basic reading skill level for their grade compared to 23 percent nationally. For Arizona, this represents a statistically significant improvement over the reading level of 35 percent testing below basic skill level in 2007. Figure 1.9 compares Arizona reading test results to the nation at each level of achievement in 2013.[25]

Figure1.9 Percentage of Each Achievement Level for Reading, Grade 8, 2013



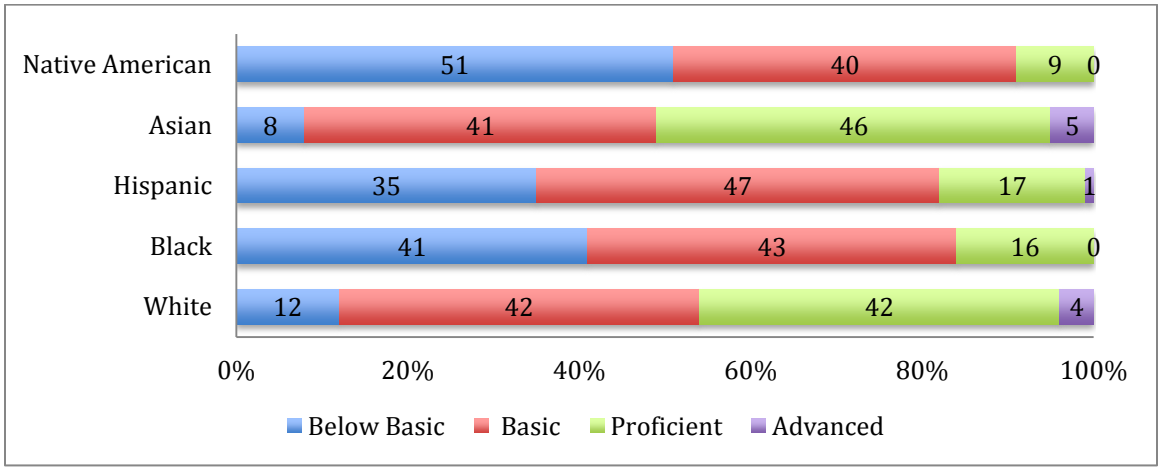
Source: National Center for Education Statistics (NCES)

[24] NAEP State Comparison (n.d.). *National Center for Education Statistics (NCES)*. Retrieved February 19, 2015, from http://nces.ed.gov/nationsreportcard/states/statecomparisontable.aspx?sbj=RED&gr=8&yr=2013&sample=R3&jur=AZ&st=MN

[25] NAEP 2013 State Snapshot (n.d.). *National Center for Education Statistics (NCES)*. Retrieved February 19, 2015, from http://nces.ed.gov/nationsreportcard/states/

NAEP reading achievement varies considerably by race and ethnicity. Higher proportions of Native American, Hispanic, and Black public school students tested below the basic level in reading achievement, while Asian students were more likely than other student groups to test at proficient or higher. Figure 1.10 shows eighth grade reading test results by race and ethnicity for each level of achievement in Arizona.[26]

Figure 1.10 Eighth Grade Reading Achievement Level by Race/Ethnicity, Arizona 2013



Source: National Center for Education Statistics (NCES)

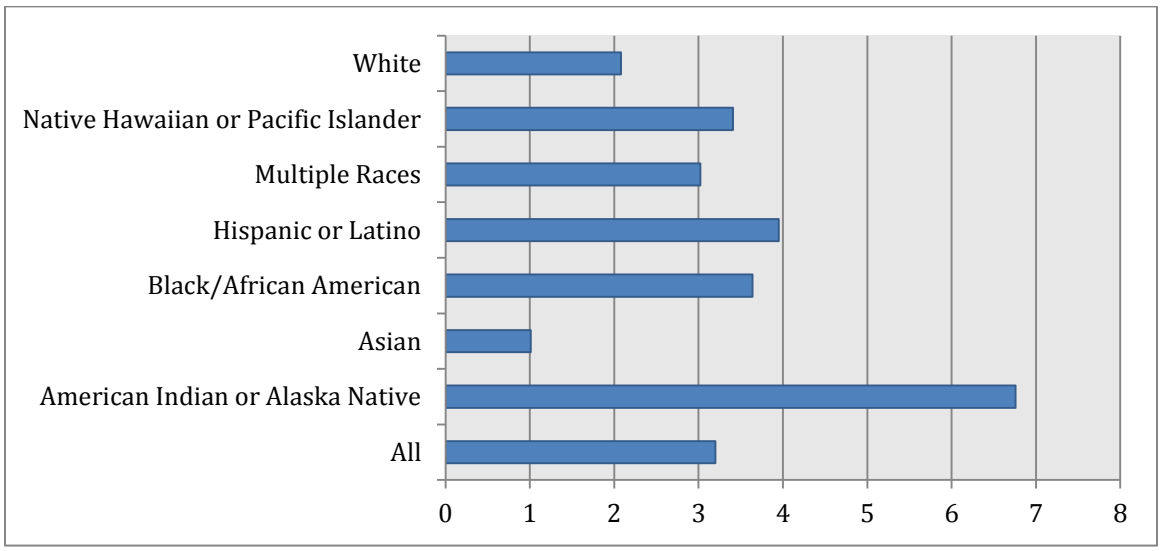
In fiscal year 2014, 3 percent of students dropped out of public school from grade seven through twelve. This is similar to the dropout rates from the 2008-2009 school year of 3 percent. The dropout rate for boys averaged 4 percent compared to 3 percent for girls. The dropout rate among Native American students was twice the statewide rate and rates for other subgroups such as Limited English Proficiency (LEP) were higher than the average for all students. Figures 1.11 provides details on Arizona's dropout rate by ethnicity.[27]

Arizona public schools ranked 45th of 52 states and jurisdictions in NAEP reading scores.

[26] NAEP 2013 State Snapshot (n.d.). *National Center for Education Statistics (NCES)*. Retrieved February 19, 2015, from http://nces.ed.gov/nationsreportcard/states/

[27] Dropout Rate Report 2014-Arizona Public Schools Grades Seven Through Twelve. (n.d.). *Arizona Department of Education*. Retrieved February 20, 2015, from http://www.azed.gov/research-evaluation/dropout-rate-study-report/

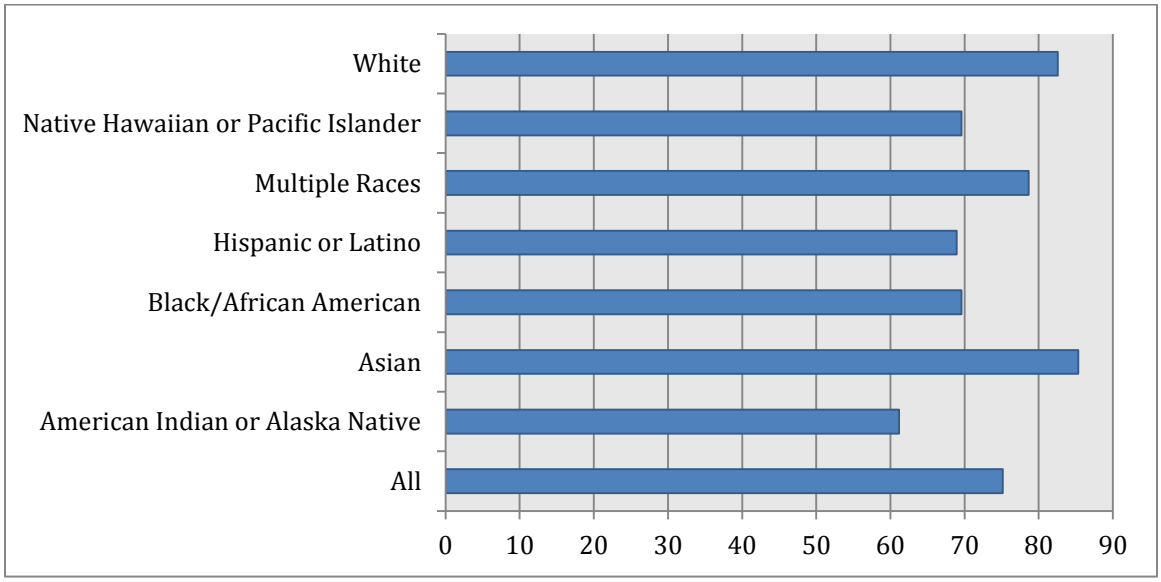
Figure 1.11 Arizona Dropout Rate, 7th-12th Grade by Race and Ethnicity, 2014



Source: Arizona Department of Education

The Arizona Department of Education also tracks cohorts of students and measures the percent graduated within four years. The graduation rate for the cohort that was expected to graduate by 2013 was 75 percent. Girls were more likely to graduate within four years (80 percent) than boys (71 percent). Graduation rate also varied considerably by ethnicity, with students of limited English proficiency graduating in four years at a rate 50 percentage points lower than average (20 percent). Graduation rates by ethnicity are shown in Figure 1.12.[28]

Figure 1.12 Four Year Graduation Rate for Arizona by Race and Ethnicity, 2013



Source: Arizona Department of Education

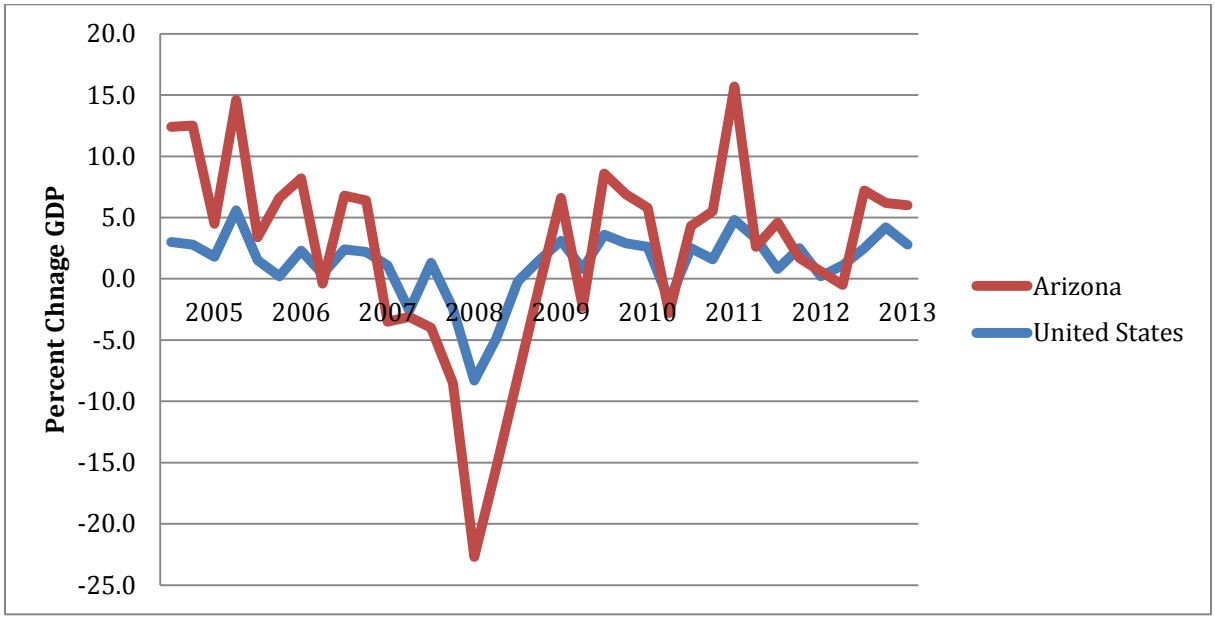
[28] Four Year Graduation Rates – 2013 Cohort. (n.d.). *Arizona Department of Education*. Retrieved February 20, 2015, from http://www.azed.gov/research-evaluation/graduation-rates/

ECONOMY

The economy of Arizona is growing after being hit hard during the recession. The Bureau of Economic Analysis calculates the gross domestic product (GDP) of states as well as the nation. GDP is the sum of what individuals, businesses and government spend on goods and services as well as investment and trade. Figure 1.13 shows the quarterly change in GDP from 2005 to 2013 for both the US and Arizona. Arizona contracted at a faster rate than the nation as a whole from 2005-2008, with a steep decline in 2008. Since that period, there has been positive GDP growth, but Arizona's rate of growth (1.1) has been lower than other neighbors in the southwest (3.3) and the nation as a whole (1.8).

Arizona has experienced positive economic growth, but its rate is slower than other neighbors in the southwest and the nation as a whole.

Figure 1.13 Percent Change in GDP in the US and Arizona 2005-2013



Source: US Bureau of Economic Analysis

Median household income in Arizona has historically tended to be lower than national averages. According to US Census, Arizona's median household income in 2013 was $50,602 compared to the rest of the nation at $51,939.

In 2013, the median household income varied widely by county. The highest median household income was in Maricopa County with $53,596 and the lowest was in Apache County with $31,476. Median household income also varies by type of household, with married couple families

Unemployment peaked in January 2010 at a rate of 11.1 from a low of 3.8 in January 2007. In January 2015, the unemployment rate was 6.6 with 207,915 unemployed.

earning $70,523, families with children under 18 earning $53,418, and female-headed single parent families earning $31,741.[29]

Arizona labor force and employment figures show patterns of steady growth through the 2000s, disruption around 2008, and current signs of recovery. Data from the Bureau of Labor Statistics shows the overall labor force peak in January 2009 at 3,135,600, decreased to 3,013,584 in January 2013, and rebound to 3,146,543 in January 2015. The unemployment rate similarly peaked in January 2010 at a rate of 11.1 from a low of 3.8 in January 2007. In January 2015, the unemployment rate was 6.6 with 207,915 unemployed, as displayed in Figure 1.14.[30]

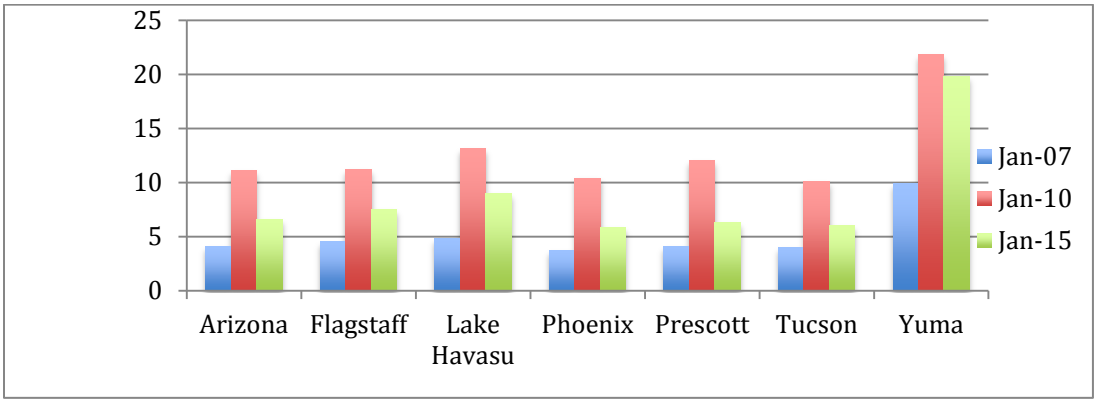
Figure 1.14 Arizona Unemployment Rate January 2005 – January 2015

Source: Bureau of Labor Statistics

Unemployment varies across Arizona. Figure 1.15 illustrates the range. While all parts of the state saw increased unemployment in 2010, the Phoenix Metropolitan Statistical Area showed the lowest rates while the Yuma Area suffered the largest percentage of unemployment. The highest rate of unemployment in Yuma Metropolitan Statistical Area was 31.2 percent in July of 2013.[31]

[29] GCT1901. Median Income in the Last 12 Months 5 year estimates, 2009-2013. (n.d) US Census. Retrieved March 4, 2015 from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_13_5YR_S1903&prodType=table
[30] Bureau of Labor Statistics. Data: Local Area Unemployment Statistics. (n.d.) Retrieved March 6, 2015 from http://data.bls.gov/timeseries/LASST040000000000003
[31] Bureau of Labor Statistics. Data: Local Area Unemployment Statistics. (n.d.) *Bureau of Labor Statistics.* Retrieved March 6, 2015 from http://www.bls.gov/data/#unemployment

Figure 1.15 Unemployment Across Arizona 2007, 2010 and 2014



Source: Bureau of Labor Statistics

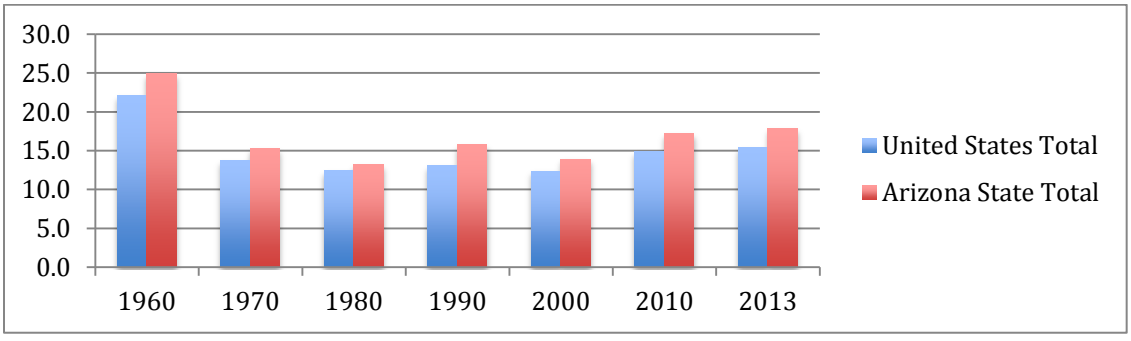
POVERTY

Arizona has a higher percentage of residents living in poverty compared to the nation. In a five-year estimate for 2009-2013, 15 percent of the nation lived in poverty compared to 18 percent of those living in Arizona. This rate was 14 percent in Arizona in 2000.[32] In Arizona in 2013, 26 percent of children under 18 and 31 percent of those without a high school diploma lived below the poverty line.[33]

In 2013, 26 percent of children under 18 and 31 percent of those without a high school diploma lived below the poverty line.

Except for a drop in the 1980s, the overall trend for the last 30 years in the United States was towards increasing rates of poverty. Arizona, during that period, has tended to have higher rates than the nation as a whole. Figure 1.16 illustrates this large-scale trend.[34]

Figure 1.16 Poverty Rates, 1960 to 2013 Arizona and United States



[32] Profile of Selected Economic Characteristics: 2000 Census 2000 Summary File 3. (n.d.). *US Census.* Retrieved on March 10, 2015 from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF

[33] American Community Survey 5 year estimates 2008-2013. Percent of People Below the Poverty Line in the Last 12 months. County or Equivalent. (n.d.). *US Census.* Retrieved March 6, 2015 from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF

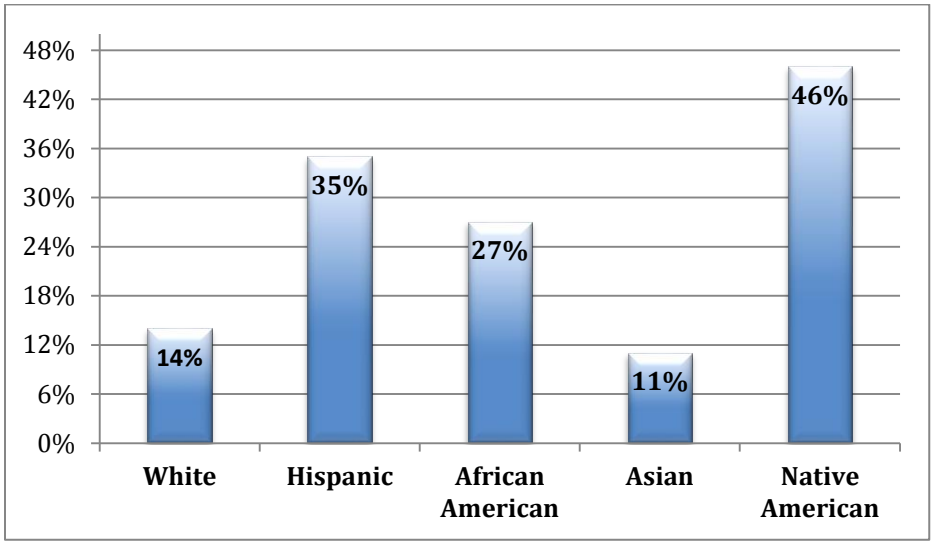
[34] Current Population Survey. Poverty Rates by County 1960 to 2010. (n.d.). *US Census.* Retrieved March 10, 2015 from http://www.census.gov/hhes/www/poverty/

Poverty varies dramatically by county. The highest rates of poverty are in Apache and Navajo Counties rates of 36 and 30 percent, respectively and the low in Greenlee, Pinal and Yavapai Counties of 16 percent.

In addition to individuals, poverty can be calculated for families with children under the age of 18. In a five-year estimate for 2009-2013, 21 percent of families with children were below the poverty line in Arizona. This was three percentage points higher than the national average (18%).

Rates of poverty for families with children vary widely by ethnic background. The National Center for Children in Poverty reports that in Arizona in 2012, eleven percent of Asian children live in a poor family compared to 46 percent of Native American children.[35] See Figure 1.17.

Figure 1.17 Children in Poor Families, by Race, 2012

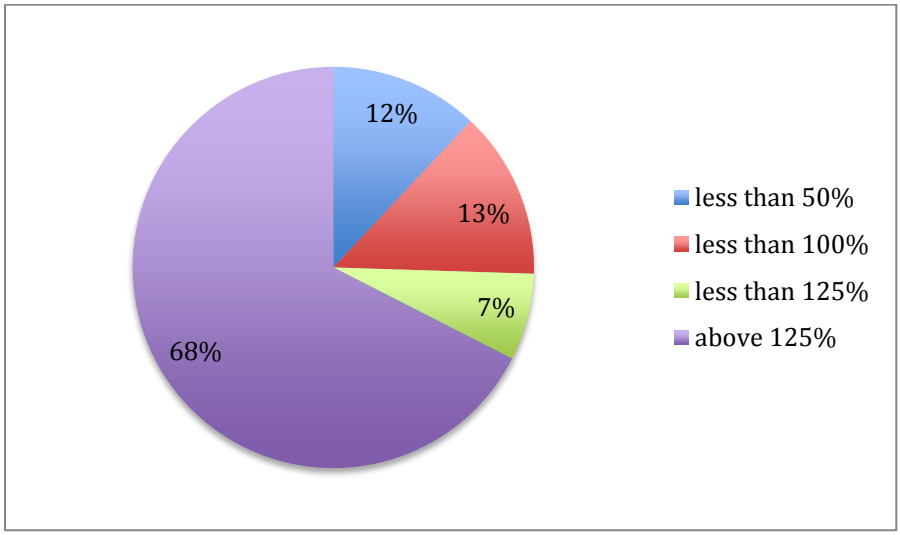


Source: National Center for Children in Poverty

For a family of four in 2015, the federal poverty level is $24,250.[36] In Arizona, eight percent of the population lives at less than 50 percent of the poverty level, or in extreme poverty. This proportion is larger for children under 18. Figure 1.18 illustrates the percentage of Arizona's children in extreme poverty, poverty, less than 125% of federal poverty level and above.[37]

[35] National Center for Children in Poverty. Arizona Demographics of Poor Children. (n.d.). *National Center for Children in Poverty.* Retrieved March 10, 2015 from http://www.nccp.org/profiles/state_profile.php?state=AZ&id=7
[36] 2015 Federal Poverty Guidelines. (n.d.). *US Department of Health and Human Services.* Retrieved March 9, 1015 from http://aspe.hhs.gov/poverty/15poverty.cfm
[37] S1703: SELECTED CHARACTERISTICS OF PEOPLE AT SPECIFIED LEVELS OF POVERTY IN THE PAST 12 MONTHS 2009-2013. (n.d.). *US Census.* Retrieved on March 9, 2015 from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF

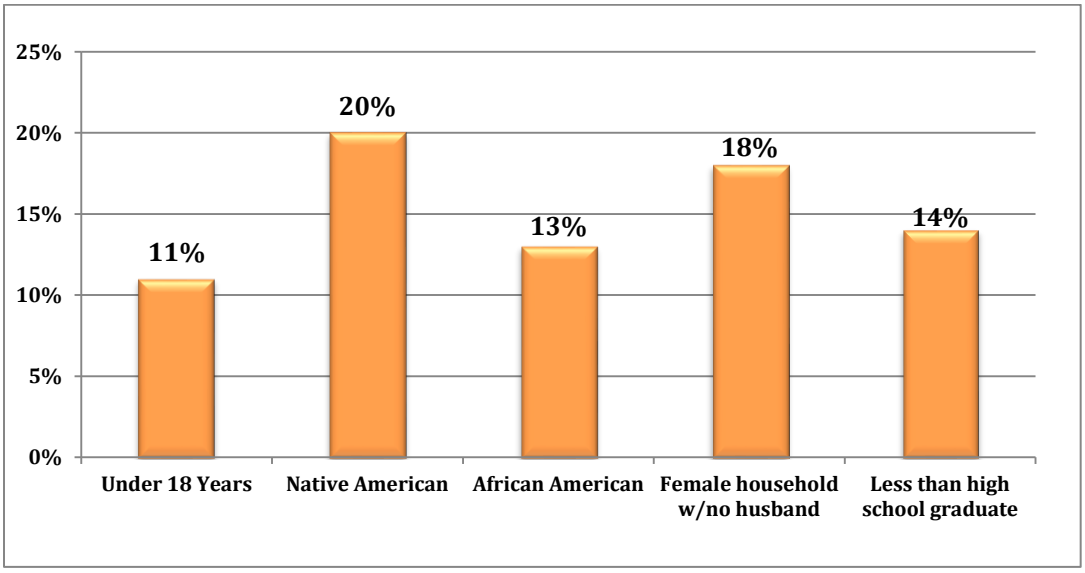
Figure 1.18 Percent Poverty of Children Under 18 by Level of Poverty 2008-1013



Source: US Census

Extreme poverty, or below 50% of the federal poverty line, shows similar trends as poverty overall, with some groups disproportionally affected. From 2009- 2013, the following percentages of Arizonans were in extreme poverty. For those under the age of 18, 12 percent are in extreme poverty. Of Native Americans, 20 percent are below 50 percent of the poverty line. Figure 1.19 presents selected percentages of groups in extreme poverty.[38]

Figure 1.19 Percent Population below 50% of Federal Poverty Level by Characteristics 2009-1013



Source: US Census

[38] S1703: SELECTED CHARACTERISTICS OF PEOPLE AT SPECIFIED LEVELS OF POVERTY IN THE PAST 12 MONTHS 2009-2013. (n.d.) *US Census.* Retrieved on March 9, 2015 from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF

There is also wide variation in the proportion of households receiving assistance such as Supplemental Security Income, Cash Public Assistance, or SNAP (food stamps) in Arizona. The most recent American Community Survey data shows that 13 percent of households in Arizona receive SNAP assistance or food stamps. The lowest is in Greenlee County at 11 percent to a high of 26 percent in both Apache and Navajo Counties.[39]

Household food insecurity is often a consequence of poverty. The USDA definition of food insecurity can be paraphrased as: a limited or uncertain availability of food. Low food security is food insecurity without hunger. Very low food security is food insecurity with hunger.[40] Food insecurity is similar but slightly higher in Arizona than in the United States as a whole and has increased in the past 10 years, notably between 2007 and 2008. In 2011- 2013, 16 percent of Arizona households had limited or uncertain food availability and six percent of those were hungry.

HEALTH INSURANCE AND ACCESS TO CARE

Availability of health insurance coverage impacts access to health care. Having timely, consistent and reliable access to appropriate health care services can prevent illness and provide opportunities to manage acute and chronic health conditions at points in the care spectrum that lower financial cost to the health care system while improving individual and community health outcomes.[41]

According to data retrieved from the 2014 Arizona State Health Assessment, about 1.2 million people (19%) of Arizona's population were uninsured.[42] Among this number, approximately 191,000 uninsured individuals are under the age of 18 [43] making Arizona's youth and children one of the least insured 0-18 populations in the country when compared to all other states.[44] Additionally, 20 percent of children in Arizona lacked consistent coverage in the past year as compared to 11 percent nationwide.[45]

Changes in Policy Impacting Insurance Status and Access to Care for Children in Arizona
Arizona's Children's Health Insurance Program (CHIP) or KidsCare, served children in households earning between 100 percent and 200 percent of the federal poverty level (FPL). Due to a number of recent changes in federal and state policy, Arizona's CHIP program has essentially disappeared.

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[39] Selected Economic Characteristics by County 2009-2013. (n.d.) *US Census.* Retrieved March 09, 2013 from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_13_5YR_DP03&prodType=table

[40] US Department of Agriculture. Definitions of Food Security. (n.d.). *US Department of Agriculture.* Retrieved March 10, 2015 from http://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/definitions-of-food-security.aspx

[41] CDC. (November, 2012). *Health Insurance and Access to Care*. Retrieved May 26, 2015 from http://www.cdc.gov/nchs/data/factsheets/factsheet_hiac.pdf

[42] Arizona Health Care Assessment. (April, 2014). *Arizona Department of Health Services.* Retrieved April 7, 2015 from http://www.azdhs.gov/diro/excellence/documents/az-state-health-assessment.pdf

[43] U.S. Census Bureau (2013). *Health Insurance Coverage Status, American Community Survey 1-Year Estimates*. Retrieved May 26, 2015 from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_13_1YR_S2701&prodType=table

[44] Arizona Report from the National Survey of Children's Health. NSCH 2011/2012. Child and Adolescent Health Measurement Initiative, Data Resource Center for Child and Adolescent Health website. Retrieved May 26, 2015 from www.childhealthdata.org.

[45] 2011/2012 NSCH National Chartbook Profile for Arizona vs. Nationwide (n.d.) National Survey of Children's Health. Retrieved April 7, 2015 from http://childhealthdata.org/browse/snapshots/nsch-profiles?rpt=16&geo=4

As Table 1 illustrates, policy changes occurring within the past five years have directly impacted insurance status and access to care for children living in Arizona.

Table 1. Health Care Policy Changes Affecting Arizona's Children, 2010 – 2015.

Date	Federal/State Policy Change
January 2010	KidsCare/CHIP enrollment freeze. Nearly 46,000 children are enrolled in KidsCare when the freeze goes into effect. KidsCare waiting list swells to more than 100,000 by July 2011.[46]
March 23, 2010	The patient Protection and Affordable Care Act (PL 111-148) is signed into law.
May 2012	Enrollment opens for Kids Care II, a time-limited alternative CHIP program for children up to 175% of the federal poverty line, or FPL, (unlike original KidsCare eligibility limit of 200% FPL). KidsCare II was the result of an agreement with federal officials to re-open CHIP coverage for some children, with the idea that the program would end in January 2014 to correspond with the ACA's new marketplace coverage options.
November 2012	Kids Care II enrollment reopens for additional children.
May 2013	Kids Care II returns income eligibility limit to 200% FPL.
January 1, 2014	Federally-facilitated marketplace insurance plans can be used to access health care services.
January 1, 2014	Transfer of school-aged "stairstep" children from KidsCare to Medicaid. More than 26,000 children ages 6 through 18 enrolled in KidsCare and KidsCare II (the state CHIP program) with family incomes up to 138% FPL transferred to the Arizona Health Care Cost Containment System (AHCCCS, or Medicaid). All children with incomes up to 138% FPL now eligible for Medicaid.
January 31, 2014	Kids Care II ends, KidsCare enrollment freeze remains in effect. 14,000 children lose KidsCare II, receive notices referring them to the ACA's new federal health insurance marketplace where they could potentially purchase health insurance.

Note: Contents for this table were drawn directly from Burak, E.W. (2015). *Children's Coverage in Arizona: A cautionary Tale for the Future of the Children's Health Insurance Program* (CHIP). Georgetown University Health Policy Institute Center for Children and Families.

[46] M. Heberlein, J. Guyer, and C. Hope. (September, 2011). *The Arizona KidsCare CHIP Enrollment Freeze: How Has it Impacted Enrollment and Families?* Kaiser Commission on Medicaid and the Uninsured and Georgetown University Center for Children and Families. Available at http://ccf. georgetown.edu/ccf-resources/1403/?issue=chip%2F.

Policy Changes in Arizona Affecting Insurance Status and Access to Care within the Adult Medicaid Population

On January 1, 2014 two policy changes impacting Medicaid eligibility for childless adults went into effect. The first policy change was the restoration of Proposition 204, extending eligibility to childless adults earning between 0 percent and 100 percent FPL. The second change was Arizona's expansion of Medicaid eligibility to include childless adults earning between 100 percent and 138 percent FPL. Proposition 204 eligibility had been frozen since 2011. Expanding coverage to the new adult group was an opportunity provided by the ACA and supported by then Governor Janet Brewer. In the 15 months since both of these policy changes took effect, both eligibility programs have provided Medicaid coverage for just over 336,000 individuals.

From December 2009 to May 1, 2015 there has been an overall increase in SOBRA enrollments for eligible pregnant women. Amended under Title VI of the Sixth Omnibus Budget Reconciliation Act of 1986, the Act gave states the option of extending coverage to women requiring pregnancy-related medical services beyond previously set income eligibility thresholds established by states.

Table 2. AHCCS SOBRA Members by Category, December 2009 – May 1, 2015.

Year (Dec)	1931-Formerly SOBRA Pregnant	SOBRA Pregnant	SOBRA Pregnant Emergency Services	SOBRA Pregnant Women Average
2009	3,465	9,399	4,758	9524
2010	3,301	9,458	3,400	9396
2011	3,767	9,780	3,550	9643
2012	3,717	10,332	3,297	10455
2013	3,993	10,480	3,123	10687
2014	3,818	9,653	Not included	
2015 (May 1)	2,446	16,126	Not included	

Note: Figures presented in this table were drawn from AHCCCS Population Statistics reports retrieved from https://www.azahcccs.gov/reporting/enrollment/population.aspx

I*mpact of the Federally-Facilitated Marketplace on Insurance Status and Access to Care in Arizona*

At the close of the second open enrollment period, Arizonans selected 205,666 marketplace plans through the federally-facilitated exchange[47]. Table 3 illustrates characteristics of the individuals selecting marketplace plans in Arizona.

Table 3. Marketplace Plan Selection Characteristics – Arizona, Post-Second Open Enrollment Period

Arizona: 205,666 plans selected	% (Number)
New Consumers	48% (98,720)
Plans eligible for financial assistance	76% (156,306)
Plan selections <18	23% (47,303)
Plan selections 19-64	77% (158,363)

Note: Data displayed in this table were drawn from ASPE. (March 10, 2015). *Health Insurance Marketplaces 2015 Open Enrollment Period: March Enrollment Report*. Retrieved May 27, 2015 from http://aspe.hhs.gov/health/reports/2015/MarketPlaceEnrollment/Mar2015/ib_2015mar_enrollment.pdf

Combined Impact of Health Reform in Arizona on Insurance Status and Access to Care

Recent federal and state health policy changes have increased the number of Arizonans covered by insurance. Counting marketplace plan selections (205,666) with the Proposition 204 restoration population (281,025) and the childless adult expansion population (55,136), just under half-a-million individuals (541,827) have health insurance that they may have not had it prior to the policy changes being implemented. This increase in coverage has also lowered the percent of uninsured in Arizona from 17 percent in 2013 to right around 10 percent currently- not including effects of employer-based and other non-marketplace/Medicaid insured populations.

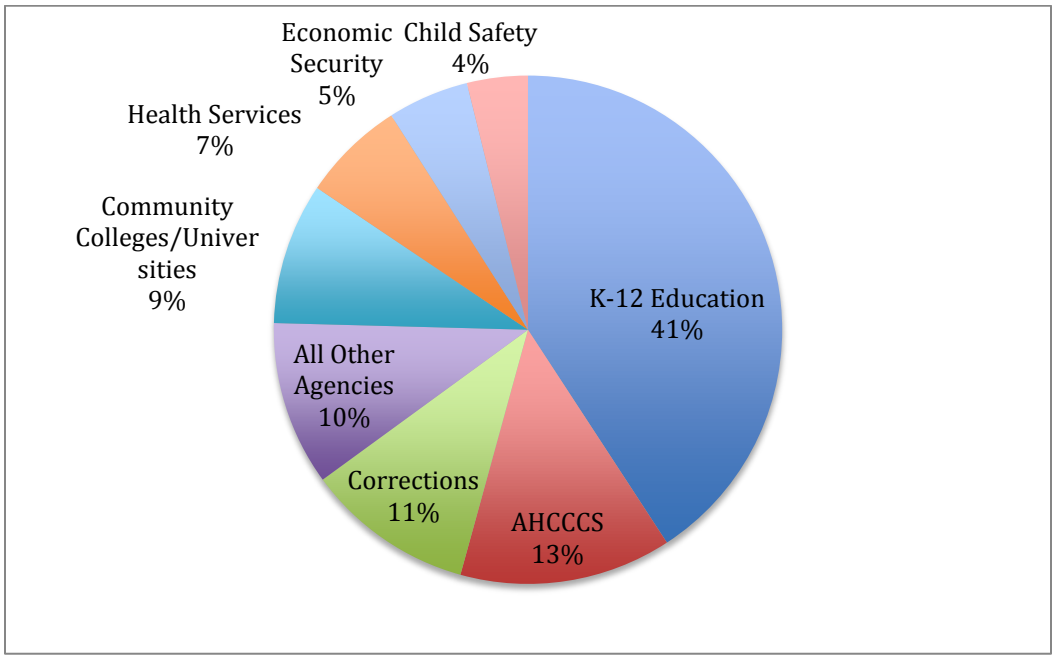
THE ARIZONA STATE BUDGET

About two-thirds of the over $9 billion Arizona budget for 2015 is made up of spending on K-12 education, AHCCCS (Arizona's Medicaid program) and the Department of Corrections. Forty-one percent of the general fund goes to elementary and secondary education ($3,808.4M), 14 percent for AHCCCS ($1,259.1M), and eleven percent for corrections ($996.8M). Health services receive six percent of the general fund expenditures ($610.8M).

[47] Figures in Table X reflect non-effectuated plans. In other words, plans that were selected but may have not had premiums paid.

Figure 1.20 illustrates spending priorities.[48]

Figure 1.20 Arizona General Fund Spending FY 2015



Source: Joint Legislative Budget Committee

As depicted in the previous section, Arizona labor force and employment figures were severely disrupted by the recession. There are current signs of recovery but Arizona has not yet regained its pre-recession economic footing. From this, Arizona has been faced with budget deficits and structural shortfalls. With the recession, the overall population and tax base of the state shrank. Recently, in an analysis by the Tax Foundation, Arizona was ranked 40th nationally in state tax collections based on per capita income and 43rd nationally in revenues per capita for fiscal year 2013.[49]

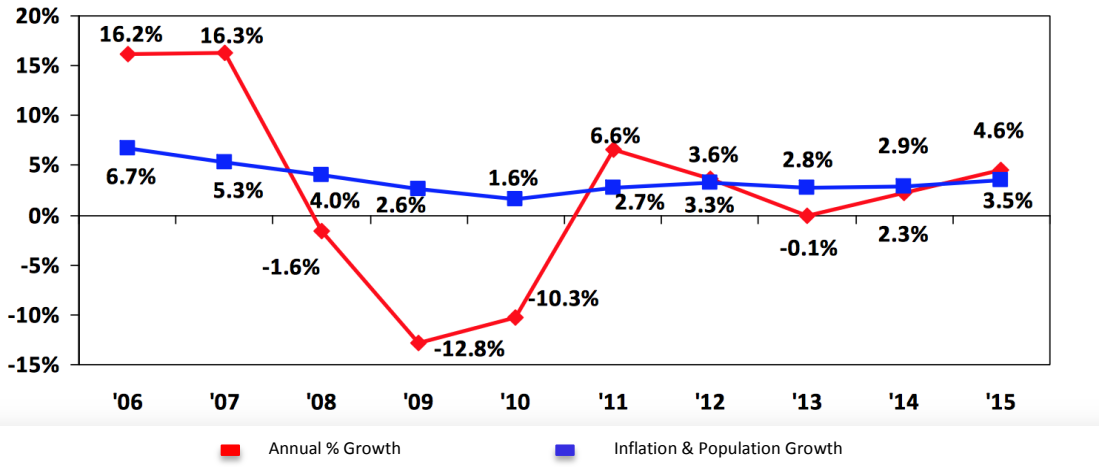
Figure 1.21 illustrates the deep dives and slow recovery of overall spending in Arizona. The Joint Legislative Budget Committee prepares annual budget analysis as well as examines trends over time. Over the last ten years, the Arizona general budget went from a spending high in 2007 of $10,200.5 billion to a low of $7,851.5 billion in 2010 to the current spending levels of $9,271.5. Figure 1.21 illustrates spending changes. [50]

[48] March Plan, As Engrossed. (March 9, 2015). *Arizona Joint Legislative Budget Committee.* Retrieved March 20, 2015 from http://www.azleg.gov/jlbc/marchplanengrossed030915.pdf.

[49] Facts & Figures: How Does Your State Compare? (2015) *Tax Foundation.* Retrieved March 24, 2015 from http://taxfoundation.org/article/facts-figures-2015-how-does-your-state-compare

[50] 10 Year History of General Fund Expenditures (FY 2006 - FY 2015) (n.d.). *Joint Legislative Budget Committee.* Retrieved on March 20,2015, From http://www.azleg.gov/jlbc/spendinghistorychart.pdf

Figure 1.21 Total General Fund Spending vs. Inflation & Population Growth



Source: Joint Legislative Budget Committee

Rankings of Arizona spending relative to other states in 2011 - 2012 showed that Arizona spent comparatively more per capita on police and fire protection (rank = 14) and corrections (rank = 16), and less on highways (rank = 48), health and hospitals (rank = 35), public welfare (rank = 41), all education (rank = 48), and K-12 schools (rank = 50).[51]

In order to balance the Arizona budgets since the beginning of the recession, all state agencies have been affected. In 2009, every state agency was given a lump sum reduction with discretion of where to cut. Agencies used a combination of program cuts, unpaid furlough days, and reductions in force, among other methods, to reduce their budgets.[52] In 2011, employees of each state agency took a combination of pay reductions and furlough days for each of the next two fiscal years, resulting in an overall annual compensation reduction of five percent. That hiring freeze was relaxed but another was instituted January 2015, with some allowance for positions deemed Mission Critical.

Examples of program and service cuts outside of the Department of Health Services that affect the maternal-child population include:

- Fifty percent reduction in job training funds for parents moving from welfare to work.
- Continued cap and phasing out of KidsCare (which is the state's CHIP program).
- Elimination of building renewal formula for public school building maintenance.

[51] Rankings and Estimates: Ranking of the States 2014 and Estimates of School Statistics 2015. (March, 2015). *National Education Association.* Retrieved March 24, 2015 from http://www.nea.org/assets/docs/NEA_Rankings_And_Estimates-2015-03-11a.pdf.

[52] McNichol, E., & Johnson, N. (2010, February 25). Recession Continues to Batter State Budgets; State Responses Could Slow Recovery. *Center on Budget and Policy Priorities*. Retrieved May 12, 2010, from http://www.cbpp.org/cms/index.cfm?fa=view&id=711

- Suspending or eliminating statutory funding formulas for K-12 education, community colleges and university financial aid.[53]
- Limit of lifetime eligibility for TANF to 12 months. [54]

VOTER REGISTRATION

Voter participation and citizen involvement is a critical component of the overall health and wellbeing of Arizona and the nation. In 2012, 65.2% of Arizona adults citizens, 18 years and older, were registered to vote, compared to 71.2% nationally. Compared to 2008, Arizona saw a 5% decrease in the percentage of registered voters while the percentage of registered voters in the United States marginally increased.

[53] Children's Action Alliance. (January 2015). Questions and Answers: About Arizona's State Budget and Taxes. Retrieved on March 24, 2015 from http://azchildren.org/wp-content/uploads/2015/01/CAA_Budget_QA.pdf.

[54] Morrison Institute of for Public Policy, Arizona State University (June 2015). TANF cuts: Is Arizona shortsighted in its dwindling support for poor families? https://morrisoninstitute.asu.edu/sites/default/files/content/products/TANF.doc_0.pdf

PROCESS

In 2014, the management team of the Bureau of Women's and Children's Health met to plan for the Five Year Needs Assessment. The process began with a list of guiding principles: listen to those who are not traditionally involved; learn from community members as well as the Maternal Child Health Community; and honor and respect the work that others in the community and state had done in the previous year to assess the well-being of Arizona's people. The goal was to determine the strengths and challenges related to women's and children's health across Arizona.

Work began with an extensive review of population and program data related to disparities, needs and strengths. The team reviewed current or previous needs assessments and strategic planning documents and sought input from the community through an online survey promoted through Facebook, Twitter and community partners, community listening sessions, regional forums and finally a priority setting session.

In looking at current needs assessments the team turned to the Arizona Department of Health Services (ADHS) first. In 2014, ADHS conducted an in-depth assessment of the health and wellness needs of all Arizonans. This assessment was a part of the Public Health Accreditation process. It began with partnering with each of the 15 county health departments as they conducted local or Community Health Assessment. The findings of the Community Health Assessments (CHAs) were used to inform the State Health Assessment (SHA). That information is helping to develop the statewide Health Improvement Plan.

While not specifically Maternal Child Health focused, the findings were important because more than 10,000 people across the state were engaged in the development of the assessments, both county and statewide, through focus groups, surveys, meetings and forums. In the end, fifteen priorities were identified. Some of these were identified at the county level as well. The priorities include: obesity, tobacco use, substance abuse, teen pregnancy, hospital associated infections, suicide, diabetes, heart disease (cardiovascular disease and stroke), other chronic disease (cancer, chronic lower respiratory disease), oral health, unintentional injury, access to health insurance, access to well care and behavioral health. Qualitative and quantitative analyses conducted for this Title V Needs Assessment identified many of the same topics. Several of these priorities are central to MCH priorities and can rightly be considered to speak to preconception or interconception health.

Additionally, on January 7, 2014, more than 160 Arizonans met to begin the process of developing a state plan to improve birth outcomes. The purpose of this summit was to gather stakeholders and decision makers to identify key strategic areas for improving birth outcomes; identify how to build on and support current efforts taking place around Arizona and replicate successful strategies; develop a framework for ongoing collaboration; establish reliable and accurate measures to track outcomes and integrate elimination of health disparities into all aspects of the state plan. Partners included Arizona's

Medicaid agency, Arizona Health Care Cost Containment System (AHCCCS), the Governor's Office for Children, Youth and Families, National Governors Association, local representatives from ACOG and March of Dimes and the Arizona Perinatal Trust. Those in attendance included state and county public health organizations, clinicians, educators, city planning staff and early childhood partners.

The group identified four priorities: improving the health of all women and girls; promoting safe and stable families; decreasing prematurity; and reducing health disparities. The focus of safe and stable families was on safe sleep and Neonatal Abstinence Syndrome.

To gather other assessment information, the team turned to our sister bureaus. The state legislature appropriated $400,000 a year for folic acid awareness to the Bureau of Nutrition and Physical Activity. One of the strategies to determine the level of community understanding of the importance of folic acid was to hold focus groups. These groups included recently delivered women and physicians. Some in both groups were unfamiliar with the term "interconception health". Most women and some providers were unfamiliar with the recommendations regarding counseling patients to wait 18-24 months between pregnancies. Women expressed interest in receiving specific information in a variety of topics such as birth control, weight loss, and depression. The physicians indicated a preference for receiving information through their professional associations with multiple ways to obtain additional information and materials on folic acid, interconception health, and other topics of interest to their patients.

The Arizona Early Childhood Development and Health Board conducts a biennial statewide needs assessment and requires each of its 31 local regions to conduct a needs assessment every two years. Each regional needs and assets report provides a snapshot of the demographic characteristics of the region's young children ages zero through five and their families; the early care, development and health systems, services, and other assets available to children and families.

To build on findings from data review and previous assessments and to promote a fuller understanding of the concerns of the community, specifically maternal and child health, the team used multiple strategies to gather public input. First, the team set up Listening Sessions across Arizona with diverse groups of stakeholders. There were three other approaches to gathering public input. The MCH team hosted an Online Survey, Regional Meetings (to report on data, ask about local capacity and discuss community concerns), and lastly a strategic planning session (both in-person and online) for a final discussion of priorities.

Listening Sessions

From May 2014 through December 2014, 17 listening sessions were held throughout the state facilitated by BWCH staff and/or partners. All listening sessions took place in one of the following four Arizona counties: Maricopa, Pima, Coconino, and Santa Cruz. Participants were asked about: 1) the health needs of different populations in Arizona; 2) the health needs of their friends/family members; 3) where clients receive health information; 4) what problems/barriers clients experience when trying to

access services; 5) services that are needed but not being received; 6) things homes, schools, and communities can do to improve safety; and 7) things Arizona is doing well or areas where improvement is needed to address the health needs of women and children.

Listening sessions specifically targeted key groups to better understand their perception of health needs in their community. Listening session groups included: teen parents; lesbian gay bi-sexual and transgender community members; Arizona Health Care Cost Care Containment System MCH Directors; members of the County Directors of Nursing Association; families with children with special health care needs; participants from border communities; those living in public housing; members of African American churches and Tribal members. These sessions were intentionally participant-driven and were structured to gather insights from different populations and communities on what they saw as opportunities or concerns around the health and wellbeing of all women and children in Arizona. The team purposely did not start these sessions with a presentation of data about the health status of the community. The thinking was that if someone heard numbers about infant mortality or prematurity they might feel that a concern they had was not significant enough to mention. To support the free flow of information, a list of open ended questions was used to explore the insights of participants.
Notes from each listening session were manually reviewed for health topic themes, such as access to care or oral health. After reviewing each session, all listening session notes were compiled into a master document. From there, for each question, the number of responses related to each health topic was tallied.

BWCH Online Community Survey

In August 2014, the Bureau of Women's and Children's Health developed an online community survey seeking feedback from the community regarding the most important health needs for five populations: women, pregnant women and infants, children, adolescents, and children and youth with special health care needs (N.B. This survey was developed and posted well before the six populations for this Needs Assessment were identified). Survey respondents were provided a list of 27 to 65 health topics, depending on the population, and were asked to rank what they felt were the top five health needs for each population, with their top ranking (#1) being their biggest health need. Additionally, there were four open-ended questions at the end of the survey that asked participants to provide information on: 1) what men can do to promote the health of women and children; 2) up to three things the health department is doing well to address the health needs of the state; 3) up to three things the health department is not doing well to address the health needs of the state; and 4) up to three solutions for how the health department can better address the health needs of the state.

The survey was posted online from August 1, 2014 through November 30, 2014. A link to the survey was posted on the ADHS BWCH homepage. Internal and external partners and program contractors were also sent the survey link via email, along with information on survey purpose. In addition, information about the survey, as well as the survey link, was posted on ADHS social media accounts. A video blog was also created and posted online. Throughout the four months the survey was posted,

some minor revisions were made to the survey. One of the revisions included the option for respondents to provide their email address if they wanted to be contacted with the dates and locations of the community forums. Email information was entered on a different survey link, so email addresses were not linked to survey responses. In all, 948 individuals responded to the online survey and 325 provided their email address to receive further communication. A shortened version of the survey was also made available via paper, but few paper surveys were received.

Two different analysis methods were used to determine the top five health needs decided for each population group. The first method looked at the number of people who included a given topic as one of their top five rankings, regardless of which rank it received. The second method took into consideration where the topic was ranked in the top five. Topics ranked as number one were given a score of five points, a second ranked topic was given four points, a third ranked topic were given three points, fourth ranked received two points, and fifth ranked received one point. The points were then added together for each topic and were divided by the number of respondents for that ranking section.

Themes for the open-ended questions were determined through manual review of the responses; no qualitative analysis software was used. Broad themes were identified through the review of the responses; a tally was kept of all responses mentioning a given theme.

Community Forums- Priority Setting

In March and April of 2015, a total of 11 community forums were held in five Counties: Pima, Yuma, Cochise, Maricopa, and Coconino. Between the 11 forums, seven different communities were represented: Tucson, Yuma, Bisbee, Phoenix, Maryvale (West Phoenix), Flagstaff, and Tribal regions (via a Tribal Consultation). The meetings began with a presentation by BWCH with background information on the MCH Title V Block Grant and the process of the 5-year needs assessment, after which there was discussion of data on each of the six population domains: 1) women/maternal health; 2) perinatal/infant health; 3) child health; 4) children with special health care needs; 5) adolescent health; and 6) cross-cutting or life course. After the presentation by BWCH, participants were asked to write their top one or two needs for each population domain. These data were collected and added to the analysis.

Priority Setting

On April 20th 2015, the Bureau of Women's and Children's Health held an in-person and simultaneously online priority setting session to set 7-10 state MCH priorities. Participants were presented with all the information gathered previously, through the online survey, listening sessions and community forums. After a review of MCH data, participants reviewed the priorities generated through previous input. With this updated list of potential priorities, the participants voted for their top priority in each domain.

In all, BWCH staff traveled over 2,200 miles and heard from over 1,500 people to gather stakeholder input and support the involvement of communities in the needs assessment and priority processes.

In summary, the MCH staff looked at the needs and disparities evidenced through a review of the data and input from the community and with the help of the community identified ten priorities; seven that could be addressed by national performance measures and three Arizona specific:

- Improve the health of women before and between pregnancies
- Reduce infant mortality and morbidity
- Decrease the incidence of childhood injury
- Promote a smooth transition through the lifespan for children and youth with special healthcare needs
- Support adolescents to make healthy decisions as they transition to adulthood;
- Increase early identification and treatment of developmental delays
- Reduce the use of tobacco and other substances across the lifespan
- Improve the oral health of Arizona's children
- Increase the percentage of women and children who are physically active
- Strengthen the ability of Arizona families to raise emotionally and physically healthy children.

These priorities will form the basis of Arizona's Action Plan.

FINDINGS

Online Community Survey

A total of 948 individuals responded to the BWCH Online Community Survey. As the survey was posted before the new Title V Guidance, the groupings were slightly different. They included women, pregnant women and infants, children, children with special health care needs and adolescents. Overall, there was commonality in rankings across the five populations surveyed. Access to health care services was rated in the top five health needs for both ranking methods for each of the five populations. Other topics that were ranked in the top five for different populations included: abuse/violence (domestic violence and child abuse and neglect), early identification services, nutrition and physical activity, and behavioral health/depression. Also of importance was the inclusion of access to health insurance in the rankings. For all five of the populations, access to health insurance was not ranked in the top five when based on the number of people who put the topic in their rankings. Conversely, for three of the five populations, access to health insurance did make the top five lists when the rankings were based on how high the topic was ranked. This suggests that while access to health insurance was not a top five priority to the majority of the respondents, for those who found it to be a top five priority, they had strong feelings about the importance.

Factors Affecting Health:
Survey respondents were provided a list 14 factors and were asked to check off all of the factors affecting a person's health. In total, 750 individuals responded to the question. Overwhelmingly, access to health care services was a factor most people thought affected a person's health, it was chosen by 92.3% of the respondents (n=692). Nearly 87% of respondents (n=651) indicated that availability to food affects a person's health, followed by education (amount and quality) chosen by 84.5% of respondents (n=634). The next two factors were income (82%, n=615) and having social connections (such as religious, cultural, family, friends, neighbors) (81.5%, n=611). The other factors chosen by survey respondents included: availability of transportation (77.2%, n=579); genetics (things inherited from parents) (73.7, n=553); having an affordable place to live (73.5%, n=551); neighborhood and community safety (72.4%, n=543); occupation (type of job, where job is located) (67.5%, n=506); race and/or ethnicity (53.7%, n=403); politics (laws and other policies) (49.7%, n=373); sexual orientation (43.5%, n=326); and gender (41.3%, n=310).

What men can do to support the health of Women and Children:
When asked about what men can do to promote the health of women and children, 551 of the 948 individuals responded. Despite the variety of responses, clear themes emerged. Nearly 25% of the responses suggested that men could provide support, whether it be financial, emotional, or other types (n=138). Roughly 22% of responses mentioned that men should be involved and/or take an active role in the lives and well-being of children and women (n=121). Other common themes were: educate themselves (n=88); be advocates for maternal and child health (n=66); provide by having a job and/or insurance (n=53); promote and live healthy lifestyles (n=51); and have no violence (n=50).

What is the health department is doing well to address health needs:

The next open-ended question asked respondents to list up to three things the health department is doing well to address the health needs of Arizonans. Since each person could provide up to three suggestions, in total, 1,131 responses were provided by 446 people. The topic that came up most was that the department of health is doing a good job with immunizations and vaccines (n=196). Respondents also indicated that the department was doing a good job at providing people with information, through modes such as education, workshops, trainings, awareness, and access to information (n=160). According to those who responded, the department is also doing a notable job with programs (excluding home visiting) (n=72), WIC (n=69), and home visiting programs (n=61).

What is the health department is not doing well to address health needs:

Survey respondents were then asked to list up to three things the health department is NOT doing well to address the health needs of Arizonans. To this question, there were 858 responses from 375 individuals. The topic mentioned most often that the department is not doing well was access to services (excluding oral health) (n=87), this could include transportation, services not available, or services not affordable. Behavioral and mental health (n=69) were also brought up often as things the department was not addressing well. Despite the results from the question that asked what the department was doing well in which many people thought the department was doing a good job at providing people with information, many other people indicated the health department was not doing a good job with regards to public awareness, outreach, education, and resources (n=69). Respondents also indicated the department was not doing well with regards to: prevention education and services (n=38); funding and resources provided both within the department and to outside partners (n=33); health insurance, including access, use, and cost (n=32); and services and health in rural areas, including the need for inclusion of rural areas (n=32).

Solutions for how the health department can better address health needs:

The final open-ended question asked respondents to provide up to three solutions for how the health department can better address the health needs of Arizonans. As with the previous open-ended questions, there were many responses. A total of 862 responses were provided by 362 people. Overwhelmingly, the most common responses were related to sharing information and resources with others. Over 19% of the responses suggested more programs, services, trainings, and classes be provided (n=168) while nearly 18% suggested the department provide more education, resources, outreach, and awareness (n=155). Survey respondents also suggested that the department improve its funding, both amoung and to partners (n=72). Other suggestions included: collaborating and communicating both internally and externally (n=59); mental and behavioral health (n=44); health insurance (n=38); and staffing (n=37).

Listening Sessions

In total 17 listening sessions were held across the state targeting a diverse group of people. Listening session groups included: teen parents, lesbian gay bi-sexual and transgender community members, Arizona Health Care Cost Care Containment System MCH Directors, members of the County Directors of Nursing Association, families with children with special health care needs, and participants from border communities, those living in public housing, members of African American churches and Tribal members. Listening session participants were asked what the most important health needs were for a given population, such as women and children, in Arizona. If the listening session group consisted of service providers, rather than community members, the question asked about the most important health needs of the population they serve in the state. Of the suggested health topic themes, responses touched on 15.

Access to care was suggested most often (n=27), followed by chronic disease (n=19), maternal /child health topics (n=14), specialist care (n=13), and nutrition/obesity/physical activity (n=11). Other themes had fewer than 10 responses and included: health insurance, behavioral health, death/injury, special needs, substance use, safety, oral health, teen pregnancy, immunizations, and primary care. Additionally, listening session participants provided an overwhelming number of responses that could either fit under multiple themes (more than two) or did not fit under any of the health topic themes (n=98). Some of the responses mentioned were homelessness, social-emotional development, healthy aging, funding, and peer support.

Where people get information about health related topics:

When asked where they (or their clients) get information about health related topics, participants provided a variety of sources (note: participants could list multiple sources). The source of health information mentioned most often was the internet and apps, (n=27). The next top rated source was their doctor or health care provider (n=22). Other sources mentioned, included: family/friends, public health professionals, media/TV, and teachers/school. Participants also listed other sources that did fall into the previously mentioned source categories; some examples include the marketplace/Affordable Care Act, posters, home visitors, powwows, and health fairs.

Problems or barriers experienced when trying to get health services:

Access to care and health insurance were listed most often as problems or barriers experienced when trying to get health services. But even within the overall themes, there were a variety of different problems or barriers encountered. Some of the comments related to access to care mentioned transportation, program eligibility, office hours, cultural barriers, affordability of medications, and waiting periods. When it came to health insurance, barriers mentioned included eligibility, difficulty with the enrollment process, lack of understanding of benefits, and coverage only for children not parents. Other themes touched on were oral health, primary care, specialist care, safety, behavioral health, where to get health information, death/injury, and other topics that did not fall under any of the

themes. Some of the other responses touched on not getting referrals, obtaining a birth certificate, knowledge of available services, and affordability.

Services needed but not received:

When asked if there were services needed, but not received, respondents indicated there were. Specialist care was indicated most often (n=15), followed by health insurance (n=9), oral health (n=9), nutrition/obesity/physical activity (n=8), and access to care (n=7). Other areas mentioned included: chronic disease, substance use, teen pregnancy, safety, behavioral health, maternal/child health topics, and death/injury. Just like with the other listening session questions, there were responses that did not fit under the health topic themes. Some of these responses touched on respite care, lesbian, gay, bisexual, transgender and questioning friendly providers, better play areas, food banks, and utility services.

Things Arizona is doing well to address health needs:

When it comes to addressing health needs, there were many health topic areas where listening session participants felt Arizona was doing well. Participants thought Arizona was doing well with regards to health insurance (especially AHCCCS), nutrition/obesity/physical activity (especially WIC), behavioral health, maternal/child health topics, and providing resources.

Things Arizona is <u>not</u> doing well to address health needs:

Listening session participants were also asked to identify areas in which Arizona is not doing well to address health needs. The two most mentioned topics were access to care and health insurance. Non-coincidentally, these were also the two most commonly noted problems or barriers to people accessing health services. Within the comments about access to care, the differences in services between communities (such as urban versus rural) was mentioned multiple times. While for health insurance, multiple comments suggested that the copays and other costs were too high. Teen pregnancy was another area where respondents felt there could be some improvement. Other comments suggested that improvement is needed with regards to funding and improving the working relationship and dialogue with tribes.

How to get information to the community:

When asked about the best ways to get information out to the community, the most common response was social media, such as twitter, Facebook, and snap chat. Other suggestions included, but were not limited to, word-of-mouth, flyers, and events such as fundraisers and church programs.

Additional comments shared:

As with any meeting, there were additional comments shared at the Listening Sessions that were not in response to a particular question. Of all of these responses, 17 related to special needs, six to health insurance, five each for primary care and behavioral health, four for each access to care and maternal/child health topics, three for substance use, and one each for immunizations, safety, and

nutrition/obesity/physical activity. Additionally, there were 24 comments regarding topics other than the health topic themes; most of these responses were with regards to children.

Community Forums

Demographics:

A total of 160 people participated in the eleven community forums which were conducted statewide. Of the participants that provided this information 81% were females (n=129) while 4% were males (n=7) (not all completed demographics). More than half of the participants identified as White, non- Hispanic (57.5%, n= 92) followed by 21 percent Hispanic (n=34), 4.4% American Indian or Alaska Native (n=3), 3.1percent Black or African American (n=5), and 0.6 percent Asian or other Pacific Islander (n=1). The majority of participants were in the age group of twenty five to forty four years age group (41.9%, n=67) followed by more than forty five years of age (37.5%, n= 60) and six percent in eighteen to twenty four age range (n=10). Fifty four percent of the participants were providers (n= 86), 17 percent were stakeholders (n= 27), 16 percent were community members (n= 26) and only 2 percent were family members (n= 3). With respect to their affiliation with the children with special healthcare needs population domain, one fourth of the participants were caregivers (25.6%, n=41) while four percent were family members (n=6) and one percent identified as care-giver (n=2). The demographics exclude the tribal consultation community forum.

Results:

The community forums were interactive sessions during which we collected information to determine priority areas which the participants thought were important for the well-being of women and children in Arizona. BWCH staff gave a presentation on the MCH Title V Block Grant background, the process of the 5-year needs assessment, and select data on each of the six population domains after which there was discussion. The domains were: 1) women/maternal health; 2) perinatal/infant health; 3) child health; 4) children with special health care needs; 5) adolescent health; and 6) cross-cutting or life course. The participants provided information on the local activities promoting well-being of each given populations. Facilitated individual discussions about the concerns in their communities, priorities, and strategies on the six population domains led to the compilation of a list of priority areas for each of them. Every participant voted for one or two needs for each population which they thought was their top priority. After reviewing the exhaustive list of priorities from all community forums, the priorities were initially grouped together according to population domains. Subsequently, similar priority areas were combined together and included under a broader umbrella of health topic themes. The combined inputs are reported below by population domains.

Women/Maternal Health

The needs presented reflect the broader general priority areas which participants believed were most important for women and maternal health. The needs were: Women's health in general across the life-course, including sexual, reproductive, preconception, preventive health services like family planning, STI screening and treatment, preconception counseling and midwife care; mental health services,

including post-partum depression treatment; oral health, including access to dental care and dental insurance especially for pregnant women; nutrition and physical activity interventions to reduce obesity; affordable child care; chronic diseases; sexual assault and domestic violence services; substance abuse services including treatment, harm reduction services, overdose training and prevention including during pregnancy; and housing support for homeless pregnant women.

Perinatal /Infant Health:

The priorities which the participant believed were concerns for this population were: Injury prevention education including shaken baby, safe sleep and Cribs for Kids; family support and education services like child abuse prevention; substance exposed newborns; domestic violence services; immunizations for mom and baby; early identification and treatment of developmental delays; breastfeeding education and support; quality childcare; mental health services for perinatal mood disorder screening and treatment.

Child Health:

The combined priorities which the participants thought were the needs in child health were: nutrition and physical activity services-obesity prevention; early identification and intervention services-school readiness; access to high quality child care; mental health services-suicide prevention; injury prevention services like car seat clinics and education; exposure to adverse childhood experience; child abuse and neglect prevention; bullying prevention and school readiness.

Children with Special Health Care Needs:

The broad categories under which most of the priorities for children with special health care needs were navigating systems of care, improving health system and improving systems of care across the life course.

Adolescent and Young Adult Health:

The needs which reflect the broader general priority areas which participants believed were most important for adolescent and young adult health were: Nutrition and physical activity -obesity prevention services; behavioral health services for stress, depression, suicide prevention and sexual assault; substance abuse education, bullying prevention, assessment and services; teen pregnancy prevention services; sexual assault prevention; foster care services- transition to adulthood, transition housing; STI and contraceptive counseling and services and youth development.

Cross-Cutting Measures:

The umbrella health themes under which cross the life span included: Access to health and dental insurance; violence reduction- sexual assault, domestic violence and child abuse; access to quality health services including coordination, specialists, emergency and primary care; mental health services; programs for hunger/nutrition, food insecurity; wraparound services including transportation; health inequity, culturally competent care; substance abuse prevention and intervention and reproductive life planning.

Priority Setting/Session

On April 20th, 2015, the Bureau of Women's and Children's Health held an in-person and simultaneous online priority setting session to set the 7-10 state MCH priorities. Attendees were able to participate in person as well as through iLinc. There were 69 in-person attendees and 40 remote attendees.

The meeting began with introductions and an overview of the Title V MCH Block Grant and a description of priority needs, population domains and national priorities. Next, participants were presented with all the information gathered previously, through the online survey, listening sessions and community forums.

At that point, MCH staff presented data on the state of Arizona in the six domains. Then participants reviewed the priorities generated through previous input. Additions and modifications were limited and include: discussion of including child care as a MCH issue, adding maternal mortality under women/maternal health, adding newborn screening and early identification and treatment of all conditions to perinatal/infant health, adding oral health under child health, adding HPV vaccination and immunization and domestic and dating violence under adolescent and young adult health, adding mental health and oral health to access to quality health services in cross-cutting, and adding maternal depression and caregiver support to child with special health care needs. Additionally, there was discussion of placing access to quality health services (broadly defined and including mental health, specialists and oral health) only under cross-cutting rather than throughout the domains.
With this updated list of potential priorities, the participants voted for their top priority in each domain. In-person participants voted on large poster boards posted through the room. Online participants voted through email. Priorities were then ranked.

After voting, the group again reviewed the newly ranked priorities, with special attention to the highest ranked items noted above. The participants had a chance to identify any modifications. Overall the group felt that the priorities were in line with Arizona's MCH needs. Comments on areas that may not have been highlighted included: a comment that bullying, while a high priority in previous input, was not in the final list. There was also a comment that access to quality health care is critical to all domains, not just the cross-cutting domain.

The attendees were thanked for their input and the MCH Director let them know that staff would refine the priorities and align them with national performance measures.

The MCH staff then looked to the data to better understand the state of health and wellness of women and children in Arizona. The following sections will address health status by priority population.

WOMEN'S AND MATERNAL HEALTH

Women's and maternal health is an important predictor of an overall population's health, not only because it affects a large portion of the population, but also because of its effects on the health of future generations. This section focuses on access to care, pregnancy-related, tobacco use and alcohol abuse, and other health issues.

Through various sources, Arizonans identified access to healthcare services, domestic violence, and general wellness as top health priorities for women's and maternal health.

One useful tool available to assess the health of women in Arizona is the Behavioral Risk Factor Surveillance System (BRFSS), a telephone survey that collects data from all 50 states, the District of Columbia, and several territories. With guidance and help from the CDC, BRFSS is conducted through state health departments and is the largest ongoing health survey in the world[55].

From BRFSS, the state can obtain important information such as self-reported health status, access to care indicators, and information on alcohol and tobacco use. However, because of low sample sizes, specific estimates for Black or African American women and Asian or Pacific Islander women are not able to be calculated from BRFSS data for Arizona.

Arizona Vital Statistics data is also utilized to determine first trimester prenatal care initiation and cesarean section rates, among other measures.

General Health[56]

Good health is an important contributor to an individual's quality of life and general wellbeing, as well as a vital indicator of a population's health[57]. In Arizona, over 80% of women rated their general health as good, very good, or excellent, very similar to the percentage of US women who rated their general health as good, very good, or excellent (figure 2.1#).

Younger women (18 to 44 years old) were more likely to report good to excellent health than women older than 45. In 2013, 95% of women aged 25 to 34 reported good to excellent health, followed by 92% of women aged 35 to 44, 89% of women aged 18 to 24, 82% of women 65 and older, and 75% of women aged 45 to 64.

Good to excellent health was correlated with both education and income. Those with the most education (college or technical school graduates) were most likely to report good to excellent health

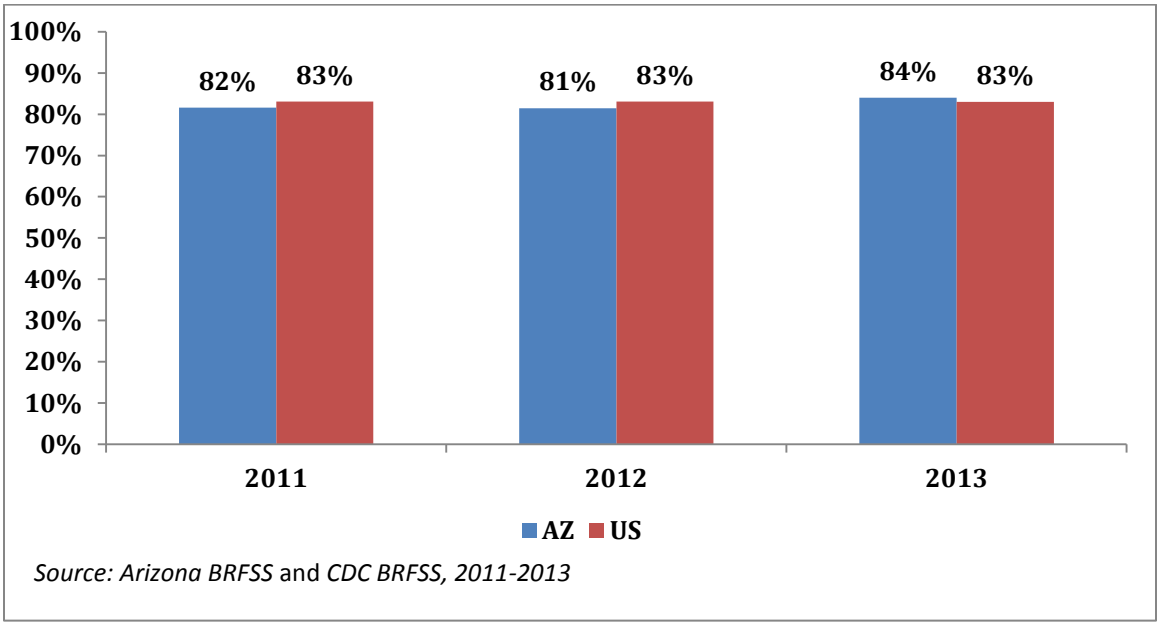
[55] BRFSS Frequently Asked Questions (FAQs). (2015, February 3). Retrieved May 29, 2015, from http://www.cdc.gov/brfss/about/brfss_faq.htm

[56] Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, [2011-2013].

[57] Health and Development. (2015). Retrieved May 29, 2015, from http://www.who.int/hdp/en/

(91% in 2013). Women who were not high school graduates were least likely to report good to excellent health (66% in 2013). Likewise, only about two-thirds of women with income less than $20,000 reported good to excellent health, compared to over 90% of women with incomes $50,000 or greater. In 2013, 93% of women in the highest income group ($50,000+) reported good to excellent health, compared to 87% of women in the next highest income level ($20,000-$49,999) and 67% of women in the lowest income level (< $20,000).

Figure 2.1. Percentage of Women Reporting Good to Excellent Health, Arizona & US, 2011-2013



Source: Arizona BRFSS and *CDC BRFSS, 2011-2013*

White non-Hispanic women and women of other races or ethnicities (which include Black or African American, Asian or Pacific Islander, other and multiracial) were most likely to report good to excellent health, with 86% and 83%, respectively, in 2013. Hispanic/Latina women were the least likely to report good to excellent health, with 79%. Data was not available for American Indian women in 2013.

Access to Health Care Services

Access to health care services, or the ability to reach necessary health services in a timely manner for the most optimal health outcomes, has become an increasingly important and prominent topic over the past few years, both in the national sphere and for the state, as evidenced by its consistently high ranking amongst Arizonan's top health priorities. Access to care is an important health measure, as it allows for the early identification, treatment and prevention of health conditions, thus reducing mortality and morbidity; promotes higher quality of life; and positively impacts life expectancy[58]. In order to assess the issue as it affects women's and maternal health, the program looked at various

[58]Access to Health Services. (2015, May 29). Retrieved May 29, 2015, from http://www.healthypeople.gov/2020/topics-objectives/topic/Access-to-Health-Services

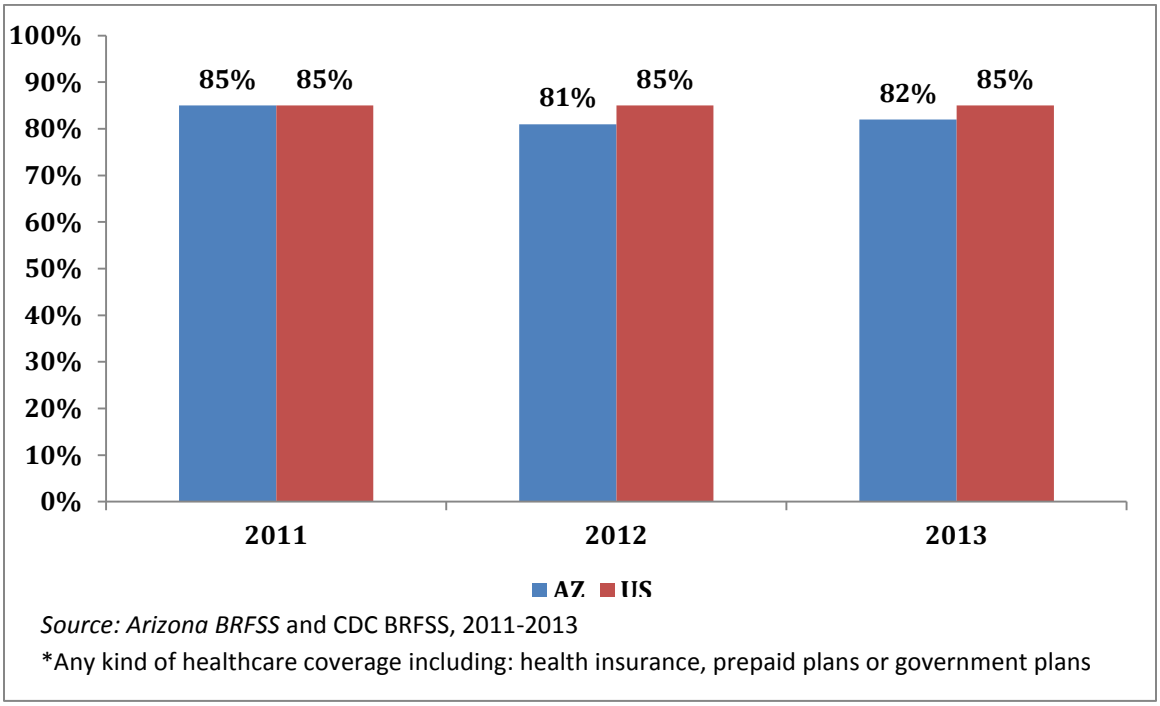
measures, such as health care coverage, routine checkups, inability to visit a doctor because of cost and first trimester prenatal care which were used as proxy indicators of access for care among others.

Health care coverage[59]

Health care coverage is a fundamental component of access to care. People with healthcare coverage are more likely to receive medical care, less likely to die early and less likely to have poor health[58].

According to data from BRFSS, 82% of Arizona women reported having healthcare coverage in 2013, compared to 85% of US women as a whole (Figure 2.2).

Figure 2.2. Percentage of Women with Healthcare Coverage*, Arizona & US, 2011-2013



Source: Arizona BRFSS and CDC BRFSS, 2011-2013

*Any kind of healthcare coverage including: health insurance, prepaid plans or government plans

Women 65 and over were the most likely to have healthcare coverage of any other group, reaching nearly 100%. Women between 25 and 34 were the least likely to have healthcare coverage. In 2013, 100% of women 65 and older reported having healthcare coverage, compared to 77% of women aged 45 to 64, 84% of women aged 35 to 44, 70% of women aged 25 to 34, and 79% of women aged 18 to 24.

Healthcare coverage follows a clear gradient by income and education level. Nearly 100% of women whose household income was $50,000 or greater had healthcare coverage, compared to around 80% of women whose household income was between $20,000 and $49,999. Women whose household income was less than $20,000 were the least likely to have healthcare coverage. In 2013, 95% of women in the

[59]Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, [2011-2013].

highest income level ($50,000+) had healthcare coverage, compared to 82% of women in the next income level ($20,000-$49,999) and 68% of women in the lowest income level (<$20,000). Similarly, college or technical school graduates were the most likely to have healthcare coverage while women who were not high school graduates were the least likely to have healthcare coverage. In 2013, 94% of college or technical school graduates had healthcare coverage, compared to 86% of women who had attended college or technical school, 82% of women who were high school graduates and 57% of women who were not high school graduates.

Hispanic/Latina women were markedly less likely to have healthcare coverage. In 2013, 89% of non-Hispanic white women had healthcare coverage, compared to 86% of women of other races/ethnicities, and 64% of Hispanic/Latina women. Data was not available for American Indian women in 2013.

Routine checkup[60]

Routine checkups are another integral part of access to care. Routine checkups, defined by BRFSS as a general physical exam and not an exam for a specific injury, illness, or condition, are crucial in the early detection and thus early treatment of health conditions[61]. In Arizona, a little over 80% of women visited a doctor for a routine checkup within the past 2 years.

Women of other races/ethnicities were the most likely to have visited a doctor for a routine checkup within the past 2 years, at 87%, followed by non-Hispanic white women at 84% and Hispanic/Latina women at 79%. Data was not available for American Indian women in 2013.

The percentage of women who visited a doctor for a routine checkup within the past two years followed a clear trend by income. Women in the highest income level ($50,000+) were most likely to have visited a doctor for a routine checkup (86% in 2013), followed by women in the next highest income level ($20,000-$49,999, 78%) and women in the lowest income level (<$20,000, 77%).

The most educated women (college or technical school graduates) were the most likely to have visited a doctor for a routine checkup with the past 2 years (86%, 2013), followed by high school graduates (81%), women who attended college or technical school (79%), and women who were not high school graduates (77%).

Women 65 and older were the most likely of any age group to have visited a doctor for a routine checkup within the past 2 years, with 94% in 2013, followed by 83% of women aged 35 to 44, 77% of women aged 18 to 24, 76% of women aged 45 to 64, and 73% of women aged 25 to 34.

[60]Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, [2011-2013].
[61]Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Questionnaire. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, [2011-2013].

Could not visit a doctor because of cost[62]

One barrier to accessing necessary health care services is cost. From 2011 to 2013, approximately one in five Arizona women reported not being able to visit a doctor in the past year because of cost (17% in 2013).

In 2013, 21% of women aged 45 to 64 reported not being able to visit a doctor because of cost, followed by 13% of women aged 25 to 34, 11% of women aged 18 to 24, 10% of women aged 35 to 44 and 2% of women 65 and older.

The percentage of women who could not visit a doctor because of cost in the past year followed clear trends by both income and education: women in the lowest income or education levels (< $20,000, not a high school graduate) were between four to five times more likely to report not being able to visit a doctor because of cost compared to women in the highest income or education levels ($50,000 or more, college or technical school graduate). In 2013, 33% of women in the lowest income level reported not being able to visit a doctor because of cost in the last year, compared to 16% of women in the next highest income level ($20,000 to $49,999) and 7% of women in the highest income level. In the same year, 34% of women who had not graduated high school reported not being able to visit a doctor because of cost in the last year, compared to 17% of high school graduates, 15% of those who attended college or technical school and 8% of college or technical school graduates.

A racial disparity also exists. Hispanic/Latina women were the most likely of any racial/ethnic group to report not being able to afford a doctor visit while white non-Hispanic women were the least likely (26% versus 14% in 2013, respectively). Seventeen percent of women of other races/ethnicities reported not being able to visit a doctor in the past year because of cost. Data is unavailable for American Indians in 2013.

First trimester prenatal care

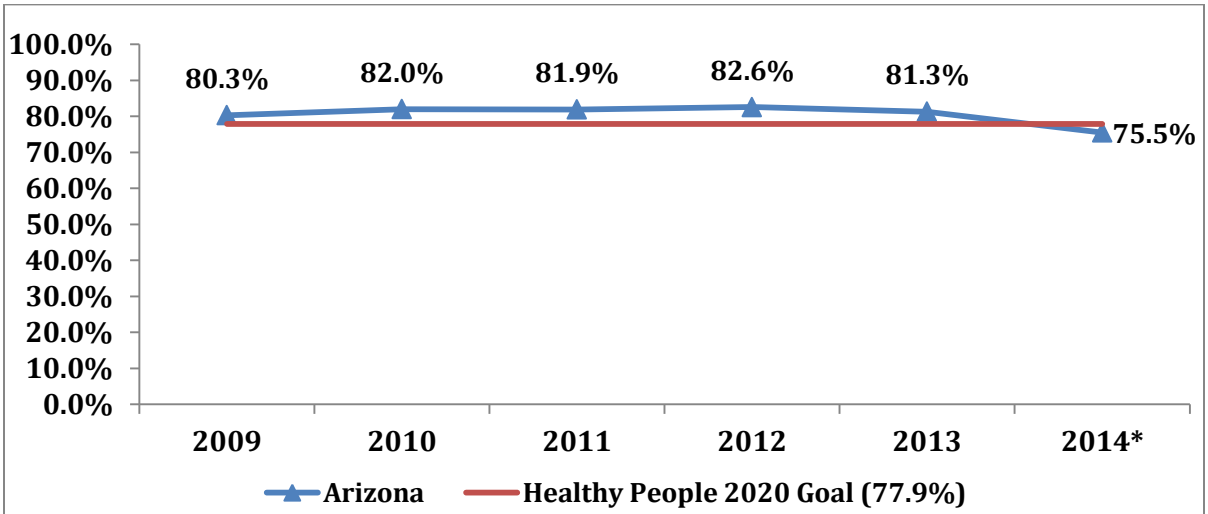
Prenatal care is an integral component of a healthy pregnancy, promoting positive outcomes for both mother and child. Ideally, prenatal care should begin as early in the pregnancy as possible, to allow for the early identification and treatment of issues that could otherwise affect the health of the mother and the growing baby[63]. In Arizona, from 2009 to 2013, over 80% of mothers initiated prenatal care in the first trimester, exceeding the Healthy People 2020 goal of 77.9% (Figure 2.3)[64].

[62]Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, [2011-2013].

[63]Beeckman, K., Louckx, F., & Putman, K. (2011). Predisposing, Enabling and Pregnancy-Related Determinants of Late Initiation of Prenatal Care. *Maternal and Child Health Journal*, 15(7), 1067-75. doi:10.1007/s10995-010-0652-1

[64]Maternal, Infant, and Child Health. (2015). Retrieved June 12, 2015, from http://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives

Figure 2.3. Percent of Mothers with 1st Trimester Prenatal Care, Arizona, 2009-2014



**In 2014, Arizona began using the 2003 birth certificate, in which certain measures, like initiation of prenatal care, were reported differently than in years previous.*

Source: Arizona Vital Statistics, 2009-2014

During this time period, mothers with private insurance were significantly more likely to initiate prenatal care in the first trimester than mothers with AHCCCS, with approximately 75% of AHCCCS, the state's Medicaid agency, mothers initiating prenatal care in the first trimester, compared to more than 90% of mothers with private insurance (75.1% versus 91.5% in 2013).

Disparities also existed between mothers in border counties and mothers in non-border counties, with the former significantly less likely to initiate prenatal care in the first trimester. In 2013, 71.7% of women in border counties received prenatal care in the first trimester, compared to 83.8% of women in non-border counties. In addition, mothers in urban counties were significantly more likely to receive prenatal care in the first trimester than mothers in rural counties. In 2013, 82.1% of mothers in urban counties initiated prenatal care in the first trimester, compared to 76.3% of mothers in rural counties.

White non-Hispanic and Asian or Pacific Islander mothers were more likely to receive first trimester prenatal care than other races/ethnicities. In 2013, 87.4% of white non-Hispanic mothers and 86.4% of Asian or Pacific Islander mothers received prenatal care in the first trimester, compared to 78.2% of Black or African-American mothers, 76.2% of Hispanic/Latina mothers, and 68.7% of American Indian mothers.

Folic acid[65]

Folic acid is a nutrient necessary for a healthy pregnancy and helps prevent major birth defects[66]. It is recommended that women take a folic acid supplement every day, however, only four in ten women of childbearing age in Arizona report doing so (43% in 2013).

Interpregnancy Interval

Interpregnancy intervals, or the time between the delivery date of the previous pregnancy and date of conception of the current pregnancy, have been shown to have an impact on birth outcomes[67]. Short (less than 18 months) and long (more than 59 months) interpregnancy intervals have been associated with adverse birth outcomes, such as preterm birth, low birth weight and increased fetal and infant mortality, as compared to the intermediate interval of 18 to 59 months[13,68,69].

In Arizona, the percent of women spacing their pregnancies 18 to 59 months apart has remained relatively steady from 45.2% in 2009 to 47.2 % in 2013. Throughout this time period, mothers between the ages of 18 to 24 and 25 to 34 were the most likely to have the desired interval between pregnancies (49.8% and 48.5%, respectively, in 2013) and followed by mothers older than 35 (39.9%). Mothers younger than 18 were the least likely to have the desired interval (16.7% in 2013).

Cesarean section

In the US, approximately 1 in 3 pregnancies is delivered via cesarean section. Rates of cesarean section rates have been on the rise, going from 20.7% in 1996 to 32.7% in 2013[70]. The World Health Organization (WHO) states that cesarean section rates should not be above 10-15% of all births, meaning that cesarean section rates in the US are at least double what the WHO recommends[71]. While indicated in certain situations, cesarean sections are major surgery and are not without their risks and complications. These risks include increased morbidity and mortality for mother and child, problems for future pregnancies and deliveries, and an increased use of medical resources[72]. In response to these rising rates, there has been an effort to reduce elective cesarean sections, especially those performed

[65]Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, [2011-2013].

[66]Facts about Folic Acid. (2015, April 28). Retrieved May 29, 2015, from http://www.cdc.gov/ncbddd/folicacid/about.html

[67] Ball, S. J., Pereira, G., Jacoby, P., de Klerk, N., & Stanley, F. J. (2014). Re-evaluation of link between interpregnancy interval and adverse birth outcomes: retrospective cohort study matching two intervals per mother. *BMJ : British Medical Journal*, 349, g4333. doi:10.1136/bmj.g4333

[68] Bryant, A., Fernandez-Lamothe, A., & Kuppermann, M. (2012). Attitudes toward birth spacing among low-income, postpartum women: a qualitative analysis. *Maternal & Child Health Journal,* 16(7), 1440-6. doi: 10.1007/s10995-011-0911-9

[69] Hussaini, K.S., Ritenour, D., & Coonrad, D.V. (2013). Interpregnancy intervals and the risk for infant mortality: a case control study of Arizona infants 2003-2007. *Maternal & Child Health Journal,* 17(4):646-53. doi: 10.1007/s10995-012-1041-8

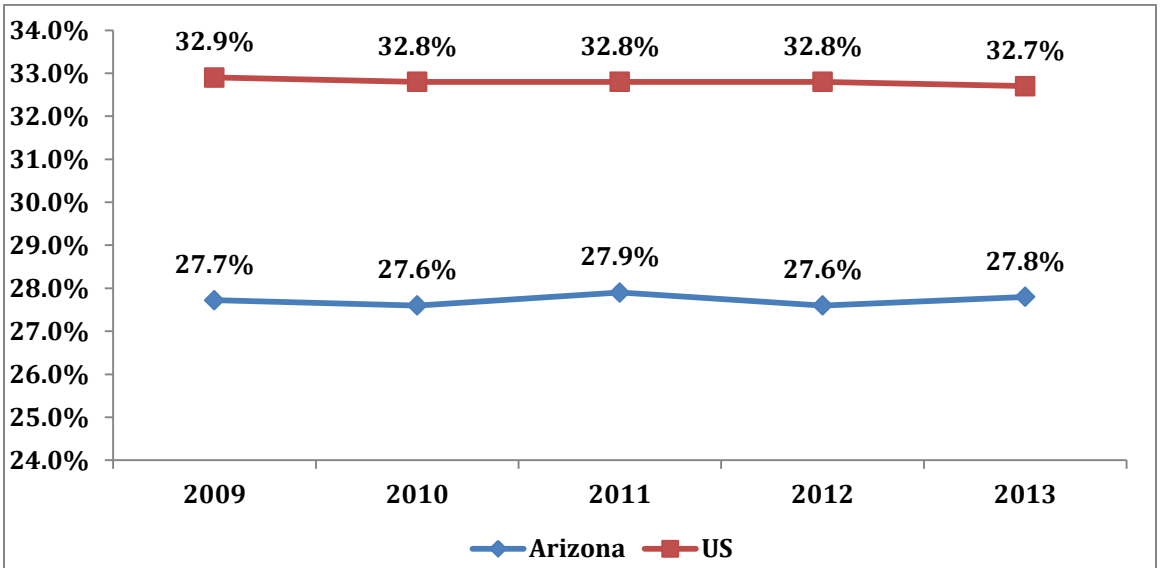
[70]Births - Method of Delivery. (2015, January 22). Retrieved May 29, 2015, from http://www.cdc.gov/nchs/fastats/delivery.htm

[71]Prosser, S. J., Miller, Y. D., Thompson, R., & Redshaw, M. (2014, April 26). Why 'down under' is a cut above: a comparison of rates of and reasons for caesarean section in England and Australia. *BMC Pregnancy Childbirth*, 14(149). doi:10.1186/1471-2393-14-149

[72]Births - Method of Delivery. (2015, January 22). Retrieved May 29, 2015, from http://www.cdc.gov/nchs/fastats/delivery.htm

before 39 weeks of gestation, a stance supported through various organizations and media, such as the American Congress of Obstetricians and Gynecologists[73].

Figure 2.4. Percentage of Births Delivered via Cesarean section, Arizona & US, 2009-2013



Source: Arizona Birth Certificate data, 2009-2013 and *National Vital Statistics System, 2009-2013*

From 2009 to 2013, the percentage of births delivered via cesarean section in Arizona has remained slightly under 28%. For all years during this time period, the rate of cesarean sections in Arizona was lower than the national rate (Figure 2.4).

The percentage of cesarean section was highest amongst Asian or Pacific Islander mothers (33.2% in 2013), followed by Black or African-American mothers (31.4%) and then white non-Hispanic mothers (28.4%). The percentage was lowest in Hispanic/Latina mothers (26.7%) and American Indian or Alaska Native mothers (24.0%).

Mothers with private insurance were significantly more likely to have cesarean sections than mothers on AHCCCS (30.9% versus 26.1% in 2013, respectively).

Tobacco and Alcohol Use

Current smoker[74]

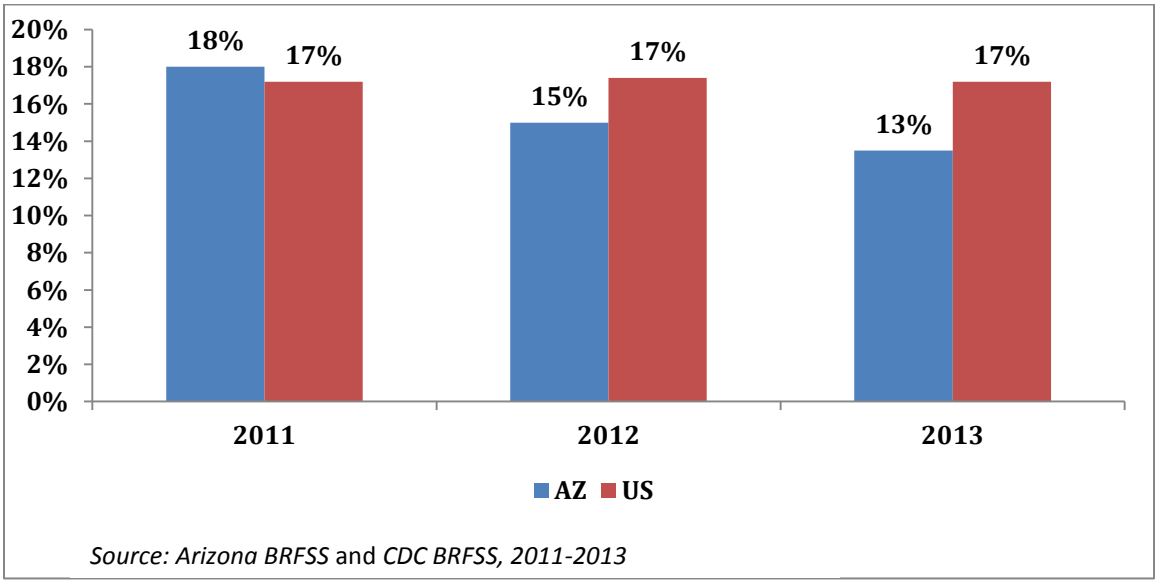
The negative effects of cigarette smoking are many and well-documented, and include various types of cancers, heart disease, lung disease and death[75]. Tobacco use is the leading cause of preventable

[73]Osterman, M. J. K., & Martin, J. A. (2014, November 5). Trends in Low-risk Cesarean Delivery in the United States, 1990–2013. *National Vital Statistics Reports*, 63(6).

[74]Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, [2011-2013].

morbidity and mortality in the United States, responsible for over 480,000 premature deaths. According to 2013 National Health Interview Survey data, the percentage of US adults who smoke is 17.8%[76]. BRFSS data shows that the percentage of US women who smoke is similar, stable at 17% from 2011 to 2013. However, the percentage of Arizona women who smoke has shown a decline, going from 18% in 2011 to 13% in 2013 (Figure 2.5).

Figure 2.5. Percentage of Women Who Smoke, Arizona & US, 2011-2013



Source: Arizona BRFSS and *CDC BRFSS, 2011-2013*

Hispanic/Latina women were the least likely to smoke. In 2013, 10% of Hispanic/Latina women reported smoking, compared to 15% of white non-Hispanic women and 14% of women of other races or ethnicities. There was insufficient data for American Indian women in 2013.

Smoking was correlated with level of income and education. Women in the lowest income group (<$20,000) were two to three times more likely to smoke than women in the highest income group ($50,000+) (19% versus 7% in 2013, respectively). Women in the lowest education group (not high school graduates) were the most likely to smoke and were three to six times as likely as the most educated women (college or technical school graduates) to be current smokers (18% versus 3% in 2013, respectively).

Women 65 years and older were the least likely to be current smokers. In 2013, 19% of women aged 45 to 64 smoked, followed by 15% of women aged 18 to 24, 11% of women aged 25 to 34, 10% of women 35 to 44, and 8% of women 65 and older.

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[75]U.S. Department of Health and Human Services, Public Health Service, Office of the Surgeon General. (2014). The health consequences of smoking-50 years of progress: A report of the surgeon general, 2014. Retrieved from http://www.surgeongeneral.gov/library/reports/50-years-of-progress/index.html#fullreport

[76]Jamal, A., Agaku, I. T., O'Connor, E., King, B. A., Kenemer, J. B., & Neff, L. (2014, November 28). Current Cigarette Smoking Among Adults — United States, 2005–2013. *Morbidity and Mortality Weekly Report*, 63(47), 1108-1112.

Women in rural counties were more likely to be smokers than women in urban counties (18% versus 13% in 2013, respectively).

Tobacco use while pregnant

In addition to the adverse health effects it may cause in the mother, tobacco use during pregnancy has been associated with negative outcomes for the child as well, including preterm birth, low birth weight, miscarriage, stillbirth, and sudden infant death syndrome[77]. In Arizona, from 2009 to 2013, the percentage of women who reported using tobacco during pregnancy was about 4.5% (4.4% in 2013).

Mothers on AHCCCS were significantly more likely to use tobacco during pregnancy than mothers with private insurance. In 2013, 6.4% of mothers on AHCCCS reported using tobacco compared to 1.8% of mothers with private insurance.

White non-Hispanic mothers were the most likely to report using tobacco during pregnancy (7.0% in 2013), followed by Black or African-American mothers (6.5%). The percentage was lowest in American Indian or Alaska native mothers (2.9%), Hispanic/Latina mothers (1.8%) and Asian or Pacific Islander mothers (1.1%).

Current drinker[78]

Approximately half of women 18 and older both statewide and in the nation are current drinkers, according to BRFSS data (Figure 2.6). While this may be problematic solely because even low to moderate alcohol consumption is associated with negative health effects, one must also consider the fact that 50% of pregnancies in the US are unplanned, meaning that developing babies may be unknowingly exposed to alcohol[79,80]. Fetal alcohol exposure during pregnancy has been linked to adverse outcomes such as preterm birth, low birth, and other physical, mental, and behavioral conditions[81].

In 2013, 50% of women aged 35 to 44 reported drinking, followed by 49% each of women aged 25 to 34 and 45 to 64, 43% of women 65 and older and 37% of women aged 18 to 24.

The percentage of women who reported currently drinking followed a clear trend by income and education level. College or technical school graduates were more likely than non-high school graduates to drink (64% and 34% in 2013, respectively) while women within the highest income group ($50,000+)

[77]Abroms, L. C., Johnson, P. R., Heminger, C. L., Van Alstyne, J. M., Leavitt, L. E., Schindler-Ruwisch, J. M., & Bushar, J. A. (2015). Quit4baby: Results From a Pilot Test of a Mobile Smoking Cessation Program for Pregnant Women. *Journal of Medical Internet Research mHealth and uHealth*, 3(1), e10. doi:10.2196/mhealth.3846

[78]Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, [2011-2013].

[79]Moderate Drinking. (2015, March 3). Retrieved May 29, 2015, from http://www.cdc.gov/alcohol/fact-sheets/moderate-drinking.htm

[80]Women. (2015, January 8). Retrieved May 29, 2015, from http://www.cdc.gov/preconception/women.html

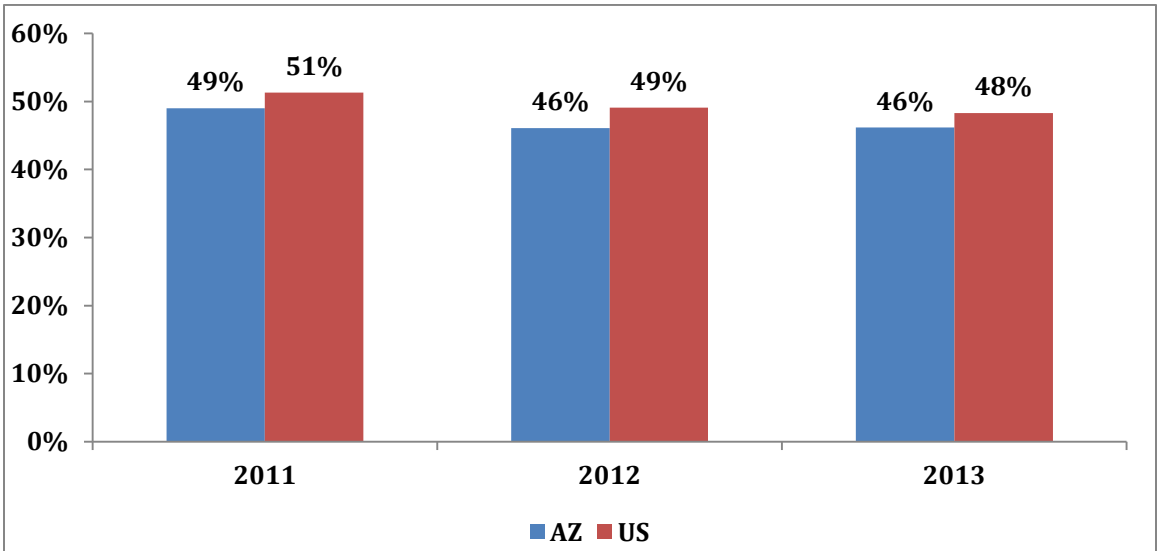
[81]Riley E. P., Infante M. A., & Warren K. R. (2011). Fetal Alcohol Spectrum Disorders: An Overview. *Neuropsychology Review*, 21(2), 73-80. doi:10.1007/s11065-011-9166-x.

were more likely to drink than women in the lowest income group (<$20,000) (58% versus 35% in 2013, respectively).

White non-Hispanic women were more likely to drink than any other racial/ethnic group (52% in 2013), followed by women of other races or ethnicities (41% in 2013). Hispanic/Latina women were the least likely to drink (34% in 2013). Sufficient data was not available for American Indian women in 2013.

Women living in urban counties were more likely than women living in rural counties to drink (48% versus 38% in 2013, respectively).

Figure 2.6. Percentage of Women Who Drink*, Arizona & US, 2011-2013



*At least one alcoholic drink in the past 30 days

Source: Arizona BRFSS and *CDC BRFSS, 2011-2013*

Violence

Domestic Violence[82]

Second only to access to health care services, Arizonans identified domestic violence as a top health priority for women. The National Network to End Domestic Violence (NNEDV) conducts an annual one-day domestic violence services census that collects data on domestic violence services. On September 17th, 2013, NNEDV collected information from 35 of the 43 identified Arizona domestic violence programs, which, altogether, served 1,796 domestic violence victims that day. Local domestic violence programs provided 1,181 victims with refuge in emergency shelters and transitional housing—555 of these victims were adults while 626 were children. Six hundred fifteen adults and children also received assistance with non-residential services, including legal advocacy, counseling, and children's support groups. Also on that day, 269 domestic violence hotline calls were answered (over 11 an hour, on

[82]National Network to End Domestic Violence. (2014). 2013 Domestic Violence Counts: A 24-Hour Census of Domestic Violence Shelters and Services. Washington, DC: National Network to End Domestic Violence.

average) and 294 people participated in 20 prevention and education training sessions across the state. Finally, there were 187 unmet requests for services, the majority of which were for housing (n=143, 76%).

In addition, according to the Arizona Coalition to End Sexual and Domestic Violence, in 2013, there were 100 separate domestic violence incidents that resulted in death[83]. One hundred twenty-five fatalities resulted from these incidents[82].

Sexual Violence

Another serious issue voiced by those polled is sexual violence. *Crime in Arizona* and *Crime in the United States*, annual reports produced by the Arizona Department of Public Safety and the Uniform Crime Reporting (UCR) Program from the Federal Bureau of Investigation, respectively, assesses the extent of the problem in both statewide and nationally.

In 2013, there were 1,833 forcible rapes in Arizona, 1,628 of which were completed and 205 were attempted[83]. Rape accounted for 7.4% of all violent crimes in Arizona during that year[83] . The actual number may be much higher as rape remains one of the most underreported crimes; only one in five women who were raped reported the rape to the police[84]. Forcible rape was the only major crime[85] included in the report to see an increase in offenses (nearly 8% from 1,693 in 2012.) In addition, Arizona has a higher rate of rape than the nation, at 35.4 per 100,000 inhabitants, compared to 25.2, using the old definition. Using the more current definition, Arizona's rate of rape was again higher than the national rate at 46.0 compared to 34.4[84].

In 2013, there were 210 hospital discharges with injuries related to sexual assault. Of these, 90% (n=189) were among female patients.

PERINATAL AND INFANT HEALTH

Infant health focuses on the health of babies less than one year of age. In 2013, 84,963 babies were born in Arizona and children under the age of 1 totaled 89,196[86]. Topics explored in perinatal and infant health include infant mortality, sudden unexplained infant death, preterm birth, low birth weight and neonatal abstinence syndrome.

Through the various avenues in which Arizonans were asked to provide their opinions on the top health priorities for pregnant women and infants, access to health care services and breastfeeding were found to be among the most important topics.

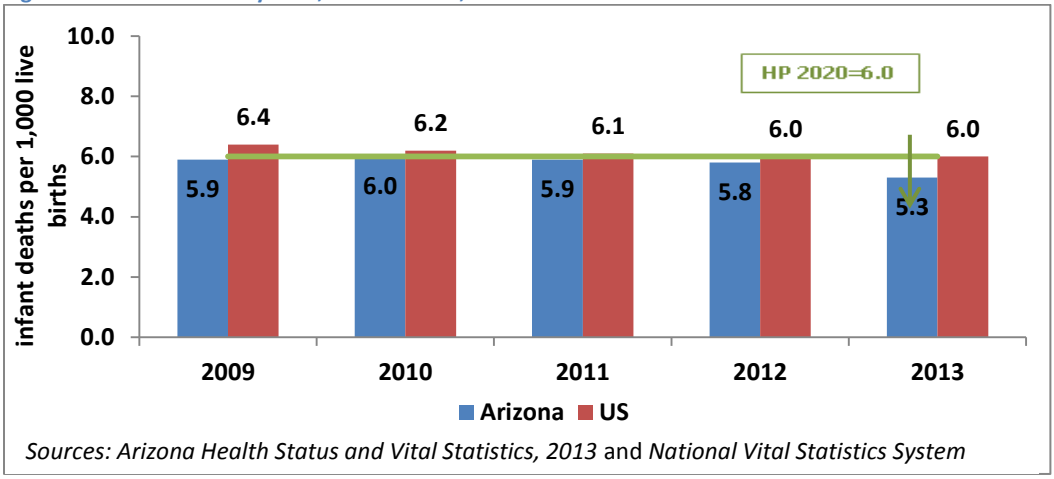
[83] Arizona Coalition to End Sexual and Domestic Violence. (August 2014). Arizona Domestic Violence Fatality Report.
[84] National Institute of Justice. (January 2006). Extent, Nature, and Consequences of Rape Victimization: Findings From the National Violence Against Women Survey. Washington, DC: US Department of Justice.
[85] The other major crimes included in the report were murder, robbery, aggravated assault, burglary, larceny-theft, motor vehicle theft and arson.
[86] Arizona Vital Statistics (2014)

Infant mortality

Infant mortality, or the death of a baby before its first birthday, is an important indicator of the general health status of a population and can be seen as a broad proxy measure of socioeconomic status and the availability and quality of healthcare services within a community[87]. In addition, a standardized measure, such as the infant mortality rate—the number of infant deaths per 1,000 live births, also allows for comparison between different populations so that areas of disparity can be identified[88].

For the time period between 2009 and 2013, Arizona's infant mortality rate (IMR) was consistently lower than that of the nation (Figure 3.1). In 2013, Arizona's IMR was 5.3 infant deaths per 1,000 live births, compared to 6.0 for the nation. For all years, Arizona met or fell below the Healthy People 2020 goal of 6.0 deaths per 1,000 live births[89].

Figure 3.1 Infant Mortality Rate, Arizona & US, 2009-2013



Sources: Arizona Health Status and Vital Statistics, 2013 and *National Vital Statistics System*

By Race/Ethnicity

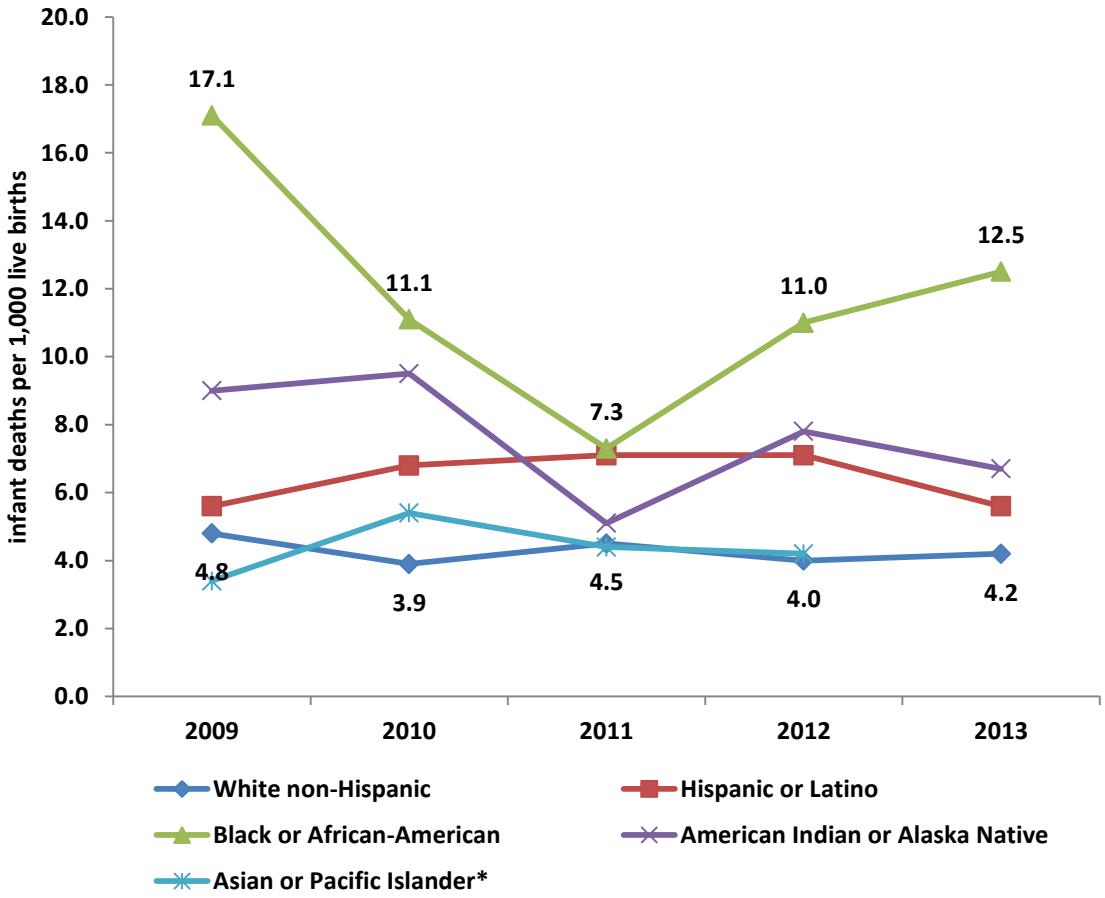
In Arizona, the highest infant mortality rates were seen amongst Blacks or African-Americans while the lowest rates were seen in white non-Hispanics and Asian or Pacific Islanders (Figure 3.2). However, it is worth noting that the Black or African-American IMR has declined more than 25%, going from 17.1 infant deaths per 1,000 live births in 2009 to 12.5 in 2013. In 2013, the IMR for white non-Hispanic infants was 4.2 deaths per 1,000 live births, followed by 5.6 for Hispanic or Latino infants and 6.7 for American Indian or Alaska Native infants. The IMR for Asian or Pacific Islander infants is not available for 2013 due to small sample size but was 4.2 in 2012.

[87]State Infant Mortality Collaborative: Infant Mortality Toolkit. (2013). *State Infant Mortality (SIM) Toolkit: A Standardized Approach for Examining Infant Mortality*. Retrieved June 12, 2015, from http://www.amchp.org/programsandtopics/data-assessment/InfantMortalityToolkit/Pages/default.aspx.

[88]Reidpath, D.D., & Allotey, P. (2003). Infant mortality rate as an indicator of population health. Journal of Epidemiology & Community Health, 57(5), 344-46. doi: 10.1136/jech.57.5.344

[89]Maternal, Infant, and Child Health. (2015). Retrieved June 12, 2015, from http://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives

Figure 3.2. Infant Mortality Rate, by Race/Ethnicity, Arizona, 2009-2013



*2013 rate for Asian or Pacific Islanders suppressed due to rate based on non-zero count less than 6

Source: Arizona Health and Vital Statistics. 2013

By urban and rural counties

From 2009 to 2013, the IMR was generally higher in rural counties than in urban counties; however, the gap between the two areas has been steadily decreasing. In 2013, the rural IMR was 5.8 infant deaths per 1,000 live births and 5.2 in urban counties compared to 7.4 and 5.7 in 2010, respectively.

Preterm birth

Preterm birth, or birth before 37 weeks gestation, is one of the leading causes of infant death in the United States, with prematurity-related issues accounting for 35% of infant deaths in 2010[90]. In 2013, more than 25% of all child deaths in Arizona were due to prematurity (210 out of 811)[91]. A death due to prematurity is defined as the death of an infant born before 37 weeks gestation, with no other

[90] Preterm Birth. (December 23, 2014). Retrieved June 12, 2015 from http://www.cdc.gov/reproductivehealth/maternalinfanthealth/pretermbirth.htm

[91] Arizona Child Fatality Review Program. (2014). Arizona Child Fatality Review Report.

underlying cause of death[92]. In 2013, the mortality rate due to prematurity was 2.4 deaths per 1,000 live births, the highest since 2009, when it was 2.6[92].

In addition to being a significant cause of infant and child mortality, preterm birth is also associated with longer hospitalization times (as compared to infants born at term), increased risk for birth defects, and long-term consequences such as physical impairments and neurological disabilities, not to mention the emotional and physical toll on families[92,93].

In the United States, over the past three decades, the percentage of preterm births increased by more than a third from 9.4% in 1981 to a high of 12.8% in 2006[94]. Since then, the percentage has been declining steadily, reaching 11.4% in 2013[94]. This downward trend has been echoed in Arizona's numbers, which declined 10%, going from 10.0% in 2009 to 9.0% in 2013 (Figure 3.3). The percentage of infants born preterm has been consistently lower in Arizona than in the US as a whole during this time period. For all years, the percent of preterm births in Arizona fell below the Healthy People 2020 goal of 11.4%[95].

Preterm infants are significantly more likely to be delivered via cesarean section than term infants. In 2013, 44.3% of preterm infants were delivered via cesarean section compared to 27.8% of term infants.

Much of the increase in preterm birth has been attributed to the delivery of late preterm infants (infants born at 34 to 36 weeks gestation)[96]. Recent years have seen a steady reduction in the percentage of late preterm births, going from a high of 9.15% in 2006 to 8.0% in 2013[96].

[92]Blencowe, H., Cousens, S., Chou, D., Oestergaard, M., Say, L., Moller, A., … the Born Too Soon Preterm Birth Action Group. (2013). Born Too Soon: The global epidemiology of 15 million preterm births. Reproductive Health, 10(Suppl 1). doi: 10.1186/1742-4755-10-S1-S2

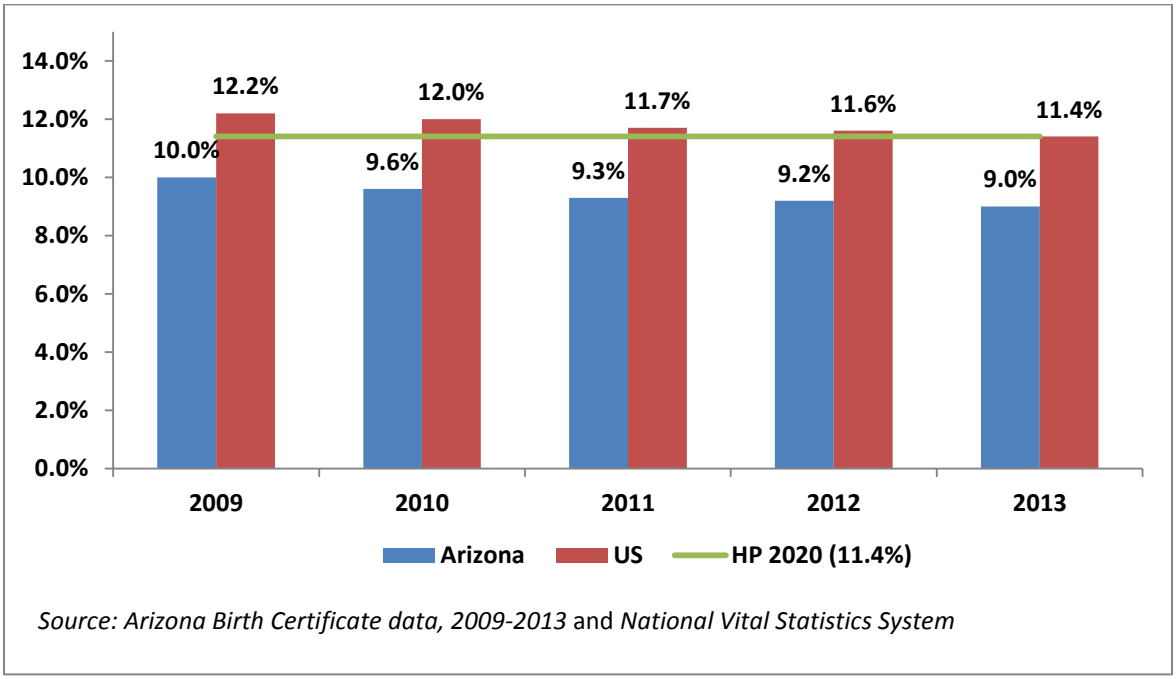
[93]Honein, M.A., Kirby R.S., Meyer, R.E., Xing, J., Skerrette N.I., Yuskiv, N., … National Birth Defects Prevention Network. (2009). The association between major birth defects and preterm birth. Maternal and Child Health Journal, 13(2), 164-75. doi: 10.1007/s10995-008-0348-y

[94]Martin, J.A., Hamilton, B.E., Osterman, M.J.K., Curtin, S.C., & Mathews, T.J. (2015). Births: Final Data for 2013. National Vital Statistics Reports, 64(1). Retrieved from http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_01.pdf

[95]Maternal, Infant, and Child Health. (2015). Retrieved June 12, 2015, from http://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives

[96]Martin, J.A., Kirmeyer, S., Osterman, M., & Shepherd, R.A. (2009). Born a Bit Too Early: Recent Trends in Late Preterm Births. NCHS data brief, no 24. Hyattsville, MD: National Center for Health Statistics.

Figure 3.3. Percent of Infants Born Preterm (<37 weeks gestation), Arizona & US, 2009-2013



Source: Arizona Birth Certificate data, 2009-2013 and *National Vital Statistics System*

This trend has been mirrored in Arizona, with the percentage of babies born late preterm decreasing from 7.6% in 2009 to 6.6% in 2013.

About four in ten late preterm infants are delivered via cesarean section (39.8% in 2013), a percentage which has remained stable from 2009 to 2013.

Low birth weight

Like prematurity, low birth weight (LBW), defined as less than 2,500 grams or 5 pounds, 8 ounces, and very low birth weight (VLBW), defined as less than 1,500 grams or 3 pounds, 5 ounces, are some of the leading causes of infant mortality and morbidity[97,98]. LBW infants are at a substantially increased risk of death than normal weight babies[98,99]. In addition, LBW increases the risk of adverse health conditions later in life, such as diabetes, hypertension and cardiac disease[98].

From 2009 to 2013, the percentage of LBW and VLBW babies was lower in Arizona compared to the US as a whole (7.0% and 8.0%, LBW; 1.2% and 1.4%, VLBW; 2013). The percentages have remained stable in both the state and the nation over this time period. For all years between 2009 and 2013, Arizona's

[97]Chen, Y., Li, G., Ruan, Y., Zou, L., Wang, X., & Zhang, W. (2013). An epidemiological survey on low birth weight infants in China and analysis of outcomes of full-term low birth weight infants. BMC Pregnancy and Childbirth, 13(242). doi: 10.1186/1471-2393-13-242.

[98]Goldenberg, R.L., & Culhane, J.F. (2007). Low birth weight in the United States. The American Journal of Clinical Nutrition, 85(2), 584S-590S.

percentages of both LBW and VLBW babies fell under the Healthy People 2020 goal of 7.8% and 1.4%, respectively[99].

Sudden Unexpected Infant Death

According to the CDC, sudden unexpected infant death (SUID) is an abrupt death in an infant less than one year of age[100]. In the US, about 3,500 infants die due to SUID every year[101]. In 2013, there were 74 SUIDs in Arizona[101]. Roughly 61% of SUIDs were due to suffocation; 34% were due to an undetermined cause[102]. Nearly 88% (n=65) were associated with unsafe sleep environments[102]. In 2013, white non-Hispanic children accounted for 46% of SUIDs, followed by Hispanics (30%), African Americans (15%), and American Indians (8%)[102]. It is important to note that African Americans represented less than 5% of the infant population in Arizona[102], meaning their burden of SUID is disproportional to their population.

The mortality rate due to SUID has been decreasing since 2009, going from 7.2 deaths per 100,000 children to 4.5 deaths per 100,000 children in 2013[102].

Neonatal Abstinence Syndrome

Maternal opiate use during pregnancy, both illegal and prescribed, has been associated with neonatal abstinence syndrome (NAS), a condition in which infants are born having been exposed to these illicit substances and experience withdrawal symptoms after birth[103]. Various studies have shown NAS to be associated with significant medical complications for the newborn, in addition to longer hospital stays and increased costs[104,105]. In 2009, the rate of babies born with NAS in the US was 3.39 per 1,000 births, almost double Arizona's rate of 1.71[106]. From 2009 to 2013, the rate of NAS in Arizona more than doubled to 4.03[20].

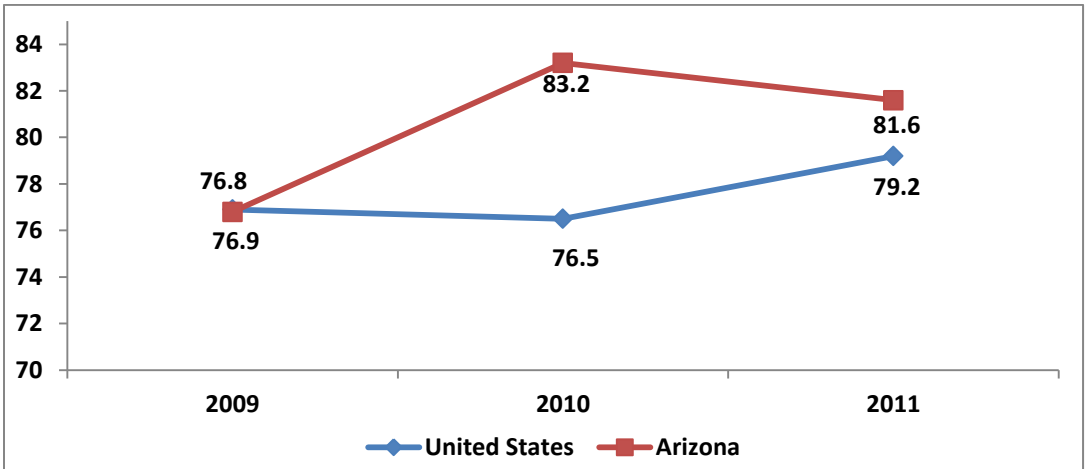
Breastfeeding

Breastfeeding is a highly effective measure which a mother can take to safeguard her child's well-being. Research suggests that breastfeeding is associated with a myriad of protective factors such as reduced risk of ear[107], respiratory[108] or gastrointestinal infection[109], sudden infant death syndrome[110] and type 2

[99]Maternal, Infant, and Child Health. (2015). Retrieved June 12, 2015, from http://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives
[100]Sudden Unexpected Infant Death and Sudden Infant Death Syndrome. (May 26, 2015). Retrieved June 12, 2015 from http://www.cdc.gov/sids/aboutsuidandsids.htm
[101]Arizona Child Fatality Review Program. (2014). Arizona Child Fatality Review Report.
[102]Arizona Vital Statistics. (2013).
[103]McQueen, K.A., Murphy-Oikonen, J., & Desaulniers, L. (2015). Maternal Substance Use and Neonatal Abstinence Syndrome: A Descriptive Study. *Maternal & Child Health Journal*. doi: 10.1007/s10995-015-1689-y
[104]Jansson, L.M., Velez, M., & Harrow, C. (2009). The Opioid Exposed Newborn: Assessment and Pharmacologic Management. *Journal of Opioid Management*, 5(1), 47-55.
[105]Lind, J.N., Petersen, E.E., Lederer, P.A., Phillips-Bell, G.S., Perrine, C.G., Li, R., … Anjohrin, S. (2015). Infant and Maternal Characteristics in Neonatal Abstinence Syndrome — Selected Hospitals in Florida, 2010–2011. *Morbidity and Mortality Weekly Report*, 64(8), 213-216.
[106]Hussaini S.K. (2014). Neonatal Abstinence Syndrome: 2008-2013 Overview. *Research Brief*.
[107]Duncan B, Ey J, Holberg CJ, et al. Exclusive breast-feeding for at least 4 months protects against otitis media. Pediatrics 1993;91(5):867-72.

diabetes[111]. Research also indicates that breastfeeding lowers the risk for pediatric overweight which is directly related to the duration of breastfeeding[112]. Breastfeeding rates have been increasing in the US with 79% of newborns who were born in 2011 were ever breastfed compared to 77% in 2010 (Figure 3.4)[113]. Arizona's breastfeeding initiation rates tend to be above national rates, with 81.6% in 2011 (Figure 3.4). Arizona has nearly reached the Healthy People 2020 goal of 81.9% of babies ever breastfed[114].

Figure 3.4 Percentage of Children Ever Breastfed, by birth year, Arizona & US, 2009-2011



Source: Centers for Disease Control and Prevention National Immunization Survey (NIS), 2009-2011

In 2003, an expert panel of researchers from CDC recommended an ongoing, national surveillance to monitor and assess hospital practices regarding breastfeeding[115]. The first national survey of maternity care practices, known as Maternity Practices in Infant Nutrition and Care (mPINC) was administered to every facility that routinely provides maternity care services in 2007[116]. In 2013, Arizona ranked #29 on the mPINC survey among all states, scoring a composite of 75 from a total of 100[116].

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[108]Bachrach VR, Schwarz E, Bachrach LR. Breastfeeding and the risk of hospitalization for respiratory disease in infancy: a meta-analysis. Arch Pediatr Adolesc Med 2003;157(3):237-43.
[109]Duijts, L., Jaddoe, V. W., Hofman, A., & Moll, H. A. (2010). Prolonged and exclusive breastfeeding reduces the risk of infectious diseases in infancy. Pediatrics, 126(1), e18-e25.
[110]Mitchell EA, Tuohy PG, Brunt JM, et al. Risk factors for sudden infant death syndrome following the prevention campaign in New Zealand: a prospective study. Pediatrics 1997;100(5):835-40.
[111]Owen CG, Martin RM, Whincup PH, et al. Does breastfeeding influence risk of type 2 diabetes in later life? A quantitative analysis of published evidence. Am J Clin Nutr 2006;84(5):1043-54.
[112]Division of Nutrition and Physical Activity: Research to Practice Series No. 4: Does breastfeeding reduce the risk of pediatric overweight? Atlanta: Centers for Disease Control and Prevention, 2007.
[113]National Center for Chronic Disease Prevention and Health Promotion. (2014). Breastfeeding Report Card, United States. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Division of Nutrition, Physical Activity, and Obesity.
[114]Maternal, Infant, and Child Health. (2015). Retrieved June 12, 2015, from http://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives
[115]Centers for Disease Control and Prevention (CDC). (2013). The CDC mPINC Survey. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.
[116]Centers for Disease Control and Prevention (CDC). (2013). The CDC mPINC Survey Results. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.

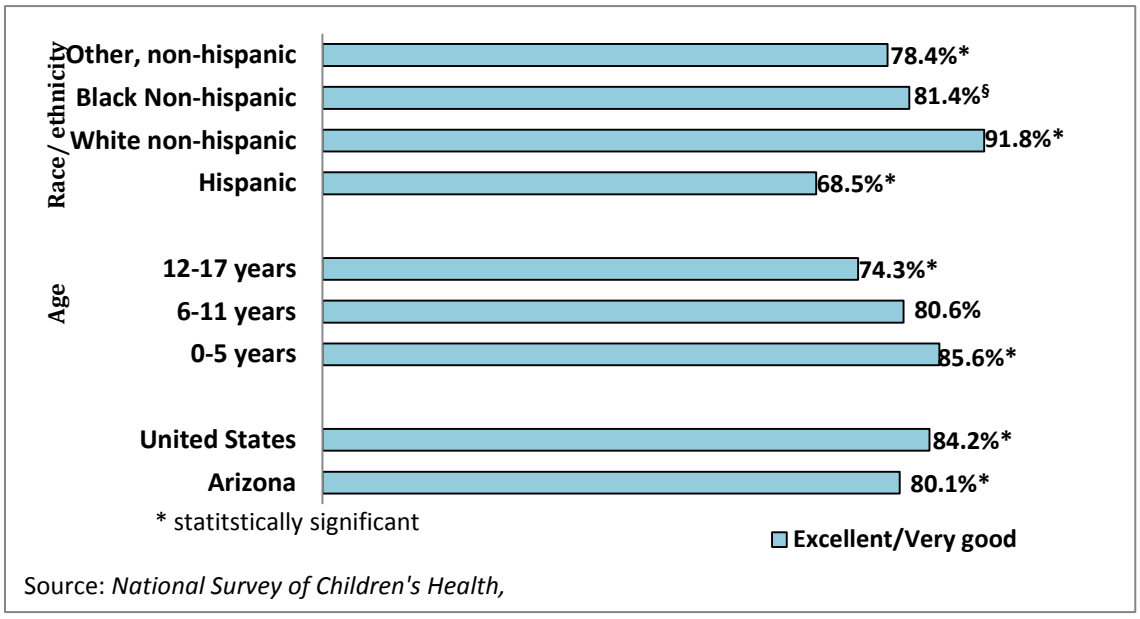
CHILD HEALTH

Children ages 1-14 years made up nineteen percent of the state population[117]. These early formative years of childhood plays a pivotal role for his or her global development and future well-being. Good fundamental scaffolding lays a strong foundation for achieving long term success. A study conducted by Vandell et al reported a positive association of early higher quality childhood care and higher academic achievement as well as lower externalizing behavior at adolescence[118]. Below is a report of how Arizona children are doing.

Health Status[119]

This discussion will start with a review of the national survey data describing how parents felt about their child health. In general, the parents in Arizona were significantly less likely to describe the health of their children as excellent or very good (80.1%) than did parents nationwide (84.2%) as shown in the Figure 4.1. In Arizona, the health of 0-5 year olds was significantly more likely to be described as excellent or very good (85.6%) than was the health of 12-17 year olds (74.3%), while the health of 12-17 year olds was significantly more likely to be described as good (21.6%) than was the health of 0-5 year olds (11.3%). In Arizona, the health of White, non-Hispanic children was more often described as excellent or very good (91.8%) than was the health of Hispanic children (68.5%) and other, non-Hispanic children (78.4%) by their parents. This difference was statistically significant.

Figure 4.1 Child health status in general



Source: *National Survey of Children's Health,*

[117] Arizona Vital Statistics (2014)

[118] Vandell, D. L., Belsky, J., Burchinal, M., Vandergrift, N., & NICHD Early Child Care Research Network, L. (2010). Do Effects of Early Child Care Extend to Age 15 Years? Results From the *NICHD Study of Early Child Care and Youth Development. Child Development*, 81(3), 737–756. doi:10.1111/j.1467-8624.2010.01431.x

[119] National Survey of Children's Health. NSCH 2011/12. Data query from the Child and Adolescent Health Measurement Initiative, Data Resource Center for Child and Adolescent Health website. Retrieved [04/23/15] from www.childhealthdata.org

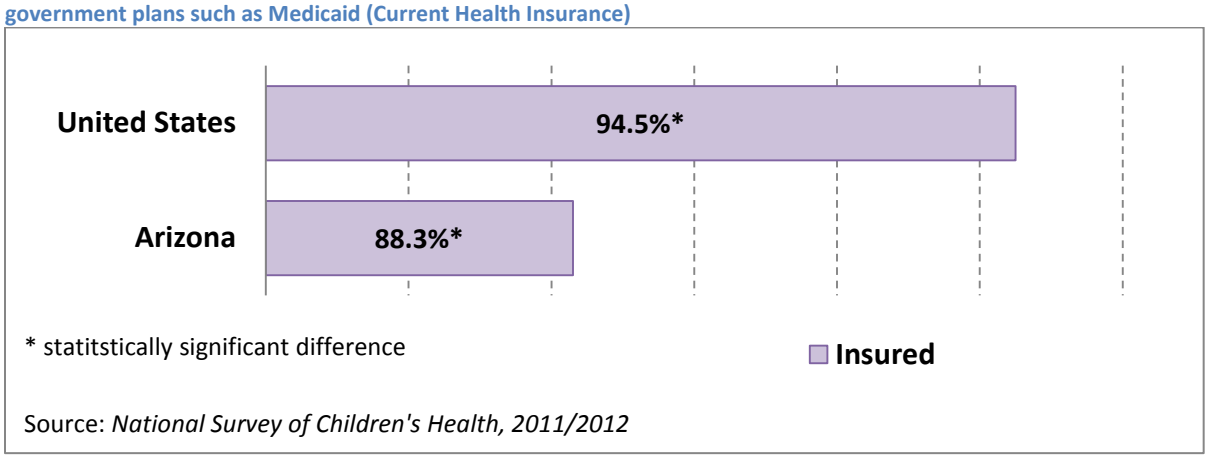
Nutritional Status and Obesity[120]

The percent of children 10 to 17 years of age in Arizona who were overweight or obese was higher than that of the United States. Based on results from the 2011/2012 National Survey of Children's Health, 36.7% of Arizona children 10 to 17 years of age were considered overweight or obese, compared to 31.3% nationally. More specifically, in Arizona, approximately 17% were overweight while 20% were obese. In Arizona, 40% of male (10 to 17 years) were overweight or obese while 33% of females were overweight or obese. Both of these values are higher for Arizona children than children nationwide, which saw 35% of males and 28% of females being overweight or obese. More Arizona Hispanics are overweight or obese than Hispanics nationwide (50.2% and 39.9%, respectively), while fewer White, non-Hispanics in Arizona are overweight or obese compared nationally (23.7% and 26.3%, respectively).

Health Insurance and Access to Care[121]

A study conducted by Haboush-Deloye et al in Nevada reported that health insurance coverage has a substantial influence on access to care for children in their early childhood[121]. Roughly, 88% of children in Arizona had any kind of heath care coverage at the time of the survey as compared to 94% nationwide (Figure 4.2). Additionally, only 81% of children in Arizona had consistent health insurance coverage during the past 12 months at the time of survey whereas 89% children nationwide. There was significant racial disparity according to the health insurance status. At the time of the survey, nearly 1 in 4 Hispanic children (24.5%) were uninsured or had periods of no coverage during the past 12 months, compared to 14.2% of White, non-Hispanic children. The sample sizes were too small to yield reliable estimates for the remaining children who identified themselves as some other race.

Figure 4.2 Children who have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicaid (Current Health Insurance)



Source: *National Survey of Children's Health, 2011/2012*

[120] National Survey of Children's Health. NSCH 2011/12. Data query from the Child and Adolescent Health Measurement Initiative, Data Resource Center for Child and Adolescent Health website. Retrieved [04/23/15] from www.childhealthdata.org

[121] Haboush-Deloye, A., Hensley, S., Teramoto, M., Phebus, T., & Tanata-Ashby, D. (2014). The Impacts of Health Insurance Coverage on Access to Healthcare in Children Entering Kindergarten. *Maternal and child health journal*, 18(7), 1753-1764.

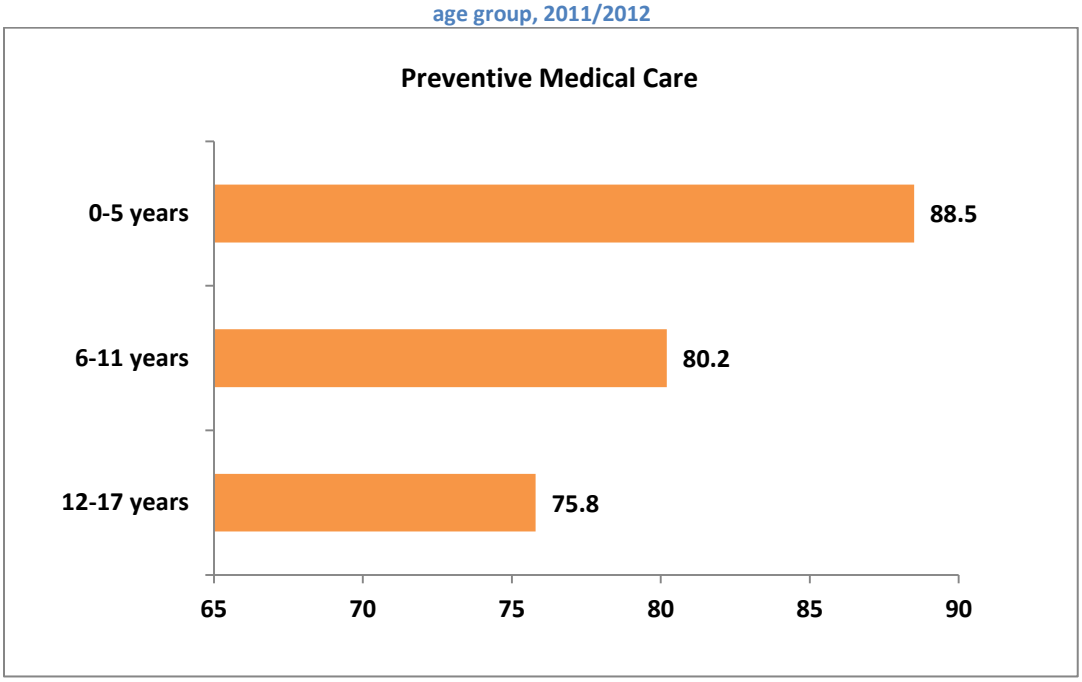
Recommended periodic screenings and routine check-ups are known to improve surveillance, early detection and early intervention of undesirable outcomes[122]. Healthy People 2020 have a goal of increasing the proportion of young children who are screened for autism spectrum disorder (ASD) and other developmental delays in a timely manner. The National Survey of Children's Health (2011-12) showed that only 22% of Arizona parents of children age 10-35 months reported their child was screened for being at risk for developmental, behavioral and social delays using a parent-reported standardized screening tool during a health care visit as compared to 31% nationally.

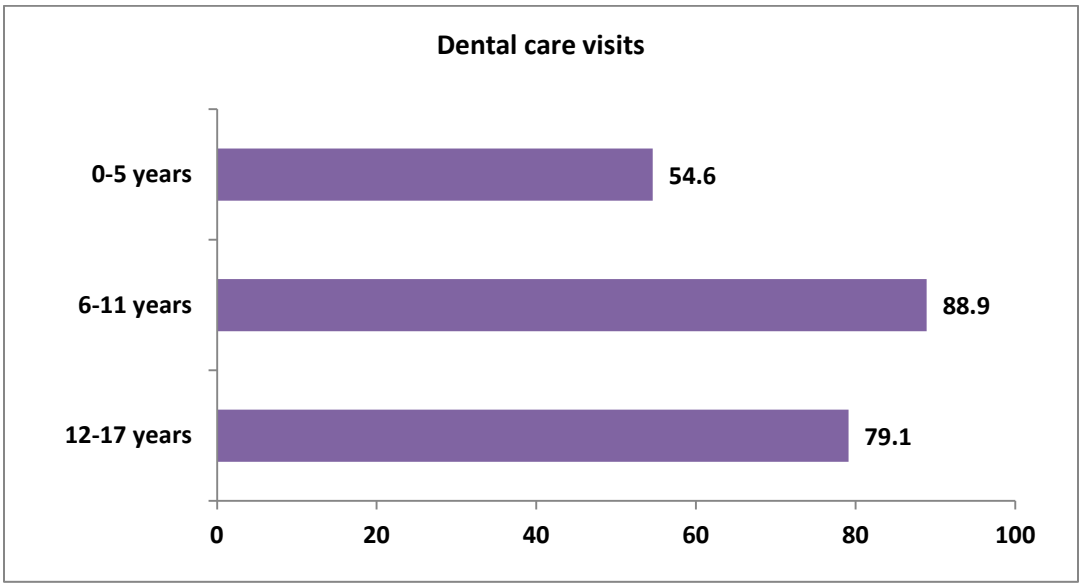
Arizona did not attain the Healthy People 2020 goal of 24.9%[123], furthermore, 81.4% of Arizonan children had one or more preventive medical care visits, while only 75% received one or more preventive dental care visits during 12 months at the time of the national survey. According to different age groups, significant disparities were seen with almost 89% of 0-5 year olds having had one or more preventive medical care visits in the past 12 months (or since birth), compared to 80% of 6-11 year olds had a visit, 75.8% of 12-17 year olds and approximately (Figure 4.3). In Arizona, 88.9% of 6-11 year olds had one or more preventive dental care visits in the past 12 months, which was significantly more than 12-17 year olds (79.1%) and 0-5 year olds (54.6%). The percent of 0-5 year olds having at least one preventive dental care visit was also significantly lower than that of 12-17 year olds (Figure 4.3).

[122] Earls, M. F. (2013). The importance of routine screening for strengths and risks in primary care of children and adolescents. *NC Med J*, 74(1), 60-65.

[123] Healthy people 2020: Maternal, Infant, and Child Health: Objectives. (2015). Retrieved May 29, 2015, from http://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/

Figure 4.3 Percent of children in Arizona who had one or more preventive medical or dental care visits in past 12 months, by age group, 2011/2012





Source: National Survey of Children's Health, 2011/2012

Immunizations[124]

In the 2013-2014 school year, self-reported data showed that 81,606 children were enrolled in child care centers in Arizona, 85,861 children and 81,588 children were enrolled in kindergarten and the 6th grade respectively in Arizona schools. Arizona children continue to have high immunization coverage levels, even though exemption rates have increased over the last decade. The increase in exemption rate is seen in self-reported data attained from both school as well as child care. In Arizona childcare centers, children may be exempt for medical or religious beliefs, while in Arizona schools children may be exempt for medical or personal beliefs.

Table 4: Arizona Childcare Immunization Coverage Levels Children 19-59 Months of Age

Year	# enrolled	4+ DTaP	3+ Polio	1+ MMR	3+ Hib	2 Hep A	3+ Hep A	1+ Varicella or Hx	Religious Exempt
2010-2011	76,659	94.7%	96.5%	96.4%	94.4%	81.8%	95.7%	96.2%	3.4%
2011-2012	79,615	94.8%	96.2%	96.3%	94.5%	83%	95.4%	96%	3.4%
2012-2013	84,244	93.6%	95.3%	95.6%	94.4%	80.9%	94.2%	95.3%	3.8%
2013-2014	81,606	93.4%	95.4%	95.7%	94.6%	80.8%	94.1%	95.1%	4.1%

Source: Arizona Immunization Data Report (2010-2014)

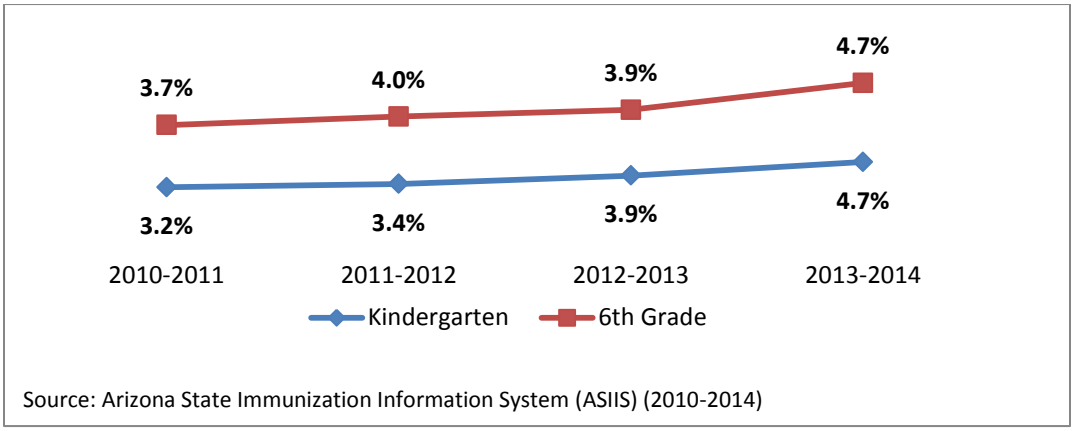
As shown in the table above, childcare centers religious belief exemption rates increased from 3.4% in the 2010-2011 school year to 4.1% in the 2013-2014 school year. The majority of counties (11 out of 15) in Arizona are below the state's average exemption rate of 4.1 percent with lowest being of 0.5 percent in Yuma County. The counties that are above the state average are Apache, Coconino, Maricopa, and Yavapai.

In kindergarten, personal belief exemption rates increased from 3.2% in 2010-2011 school year to 4.7% in the 2013-2014 school year. Nine Arizona counties have personal belief exemption rates below the State's 4.7%; some having exemption rates as low as 0.7% in Yuma. Here, Coconino, Maricopa, Mohave, Navajo, Pinal, and Yavapai have exemption rates above 4.7%.

In 6th grade, there was an increase of personal belief exemption rates from 3.7% to 4.7% from 2010-2011 to 2013-2014 respectively. Ten of the fifteen counties have personal belief exemption rates below the state's 4.7%; some have exemption rates from as low as 0.9% in Yuma to 2.9% in Pima. Here, Coconino, Graham, Maricopa, Pinal, and Yavapai have personal belief exemption rates above the state's average (Figure 4.4).

[124] Arizona Immunization Program. (2010-2014) *Arizona Immunization Data Report*

Figure 4.4 Personal belief exemption rates for immunization coverage levels in Arizona schools for kindergarten and 6th graders



Source: Arizona State Immunization Information System (ASIIS) (2010-2014)

Additionally, there is variation between public, charter, and private school personal belief exemption rates. While all types of institutions have experienced an increase in personal belief exemptions (PBE) from the 2012-2013 school year to the 2013-2014 school year, charter and private schools had a larger increase, particularly in the Kindergarten cohort. For instance, charter school kindergarten personal belief exemption rates increased from 7.4% to 9.1% whereas public schools kindergarten personal belief exemption rates increased from 3.1% to 3.6% (See Table 5).

Table 5: Personal beliefs exemption (PBE) rates of immunization coverage in Arizona schools by types of institutions

School type	Kindergarten 2012-13 PBE	Kindergarten 2012-13 PBE	% increase	6th Grade 2012-13 PBE	6th Grade 2012-13 PBE	% increase
Public	3.1%	3.6%	0.5%	3.2%	3.7%	0.5%
Charter	7.4%	9.1%	1.7%	9.0%	9.4%	0.4%
Private	6.2%	7.5%	1.3%	5.3%	6.7%	1.4%
Total	3.9%	4.7%	0.8%	3.9%	4.7%	0.8%

While Arizona's coverage rates remain high, increasing exemption rates and subsequent decreasing in immunization coverage erodes the integrity of the herd immunity in communities for vaccine preventable diseases. As herd immunity is compromised, unvaccinated individuals, children and adults alike, will be placed at a higher risk of contracting vaccine preventable diseases.

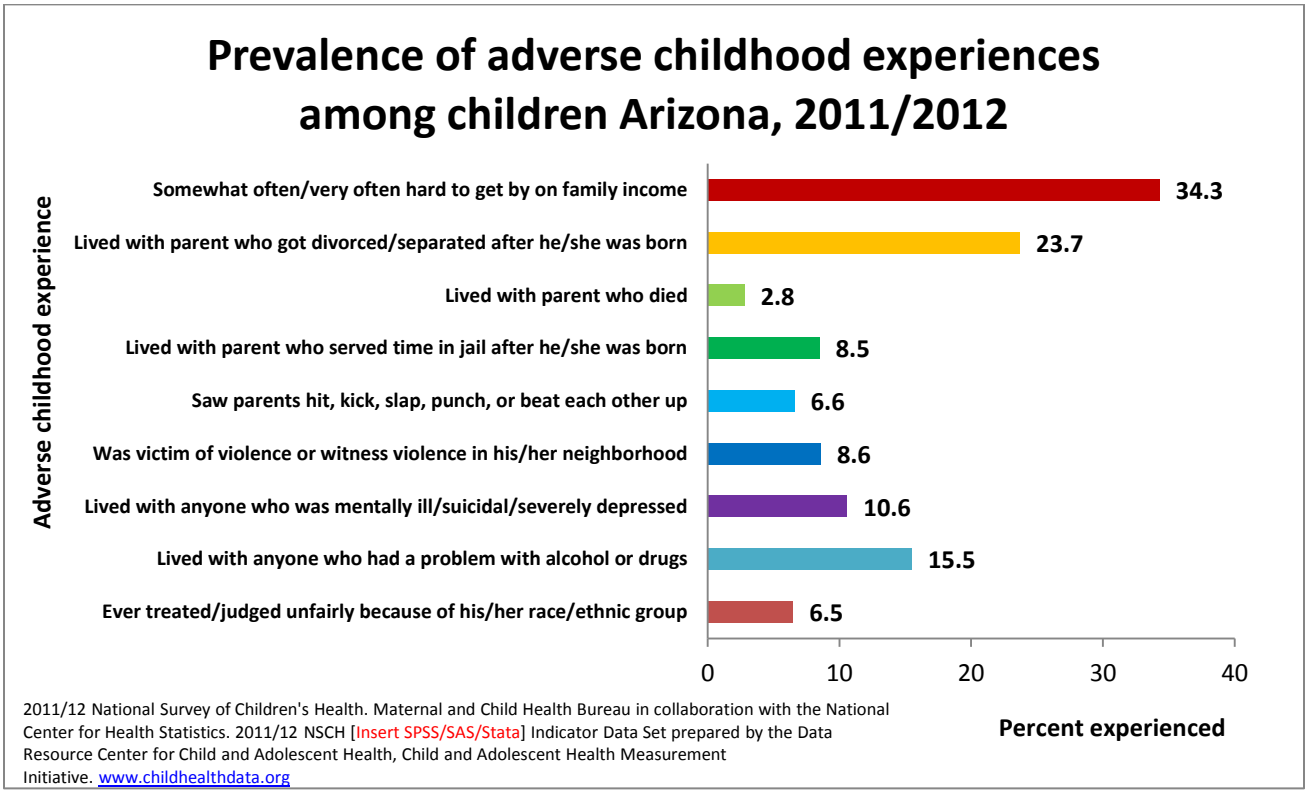
Adverse Childhood Experiences Among Children[125]

Numerous research studies have reported the association of adverse childhood experiences with poor mental, social and health outcomes later in life[126,127]. Early adverse experiences have proved to be linked with risky behaviors like drug and alcohol dependence[128]. Also, exposure to such stressful situations in developmental years in childhood have been associated with alteration of the brain structure resulting in an impact on functional as well as emotional well-being[129] .

On the 2011/2012 National Survey of Children's Health (NSCH), parents were asked if their child experienced any of the nine different life experiences. The experiences asked about included: socioeconomic hardship, divorce or separation of parent, death of parents, parent served time in jail, witness to domestic violence, victim or witness of neighborhood violence, lived with someone who was mentally ill or suicidal, lived with someone with an alcohol or drug problem, and were treated or judged unfairly due to their race or ethnicity. The figure below shows the prevalence of adverse childhood experiences among children Arizona, 2011/2012 based on the NSCH survey.

[125] National Survey of Children's Health. NSCH 2011/12. Data query from the Child and Adolescent Health Measurement Initiative, Data Resource Center for Child and Adolescent Health website. Retrieved [04/23/15] from www.childhealthdata.org
[126] Kelly-Irving, M., Mabile, L., Grosclaude, P., Lang, T., & Delpierre, C. (2013). The embodiment of adverse childhood experiences and cancer development: potential biological mechanisms and pathways across the life course. *International journal of public health*, 58(1), 3-11.
[127] Kelly-Irving, M., Lepage, B., Dedieu, D., Bartley, M., Blane, D., Grosclaude, P., ... & Delpierre, C. (2013). Adverse childhood experiences and premature all-cause mortality. *European journal of epidemiology*, 28(9), 721-734.
[128] Enoch, M. A. (2011). The role of early life stress as a predictor for alcohol and drug dependence. *Psychopharmacology*, 214(1), 17-31.
[129] Anda, R. F., Felitti, V. J., Bremner, J. D., Walker, J. D., Whitfield, C. H., Perry, B. D., ... & Giles, W. H. (2006). The enduring effects of abuse and related adverse experiences in childhood. *European archives of psychiatry and clinical neuroscience*, 256(3), 174-186.

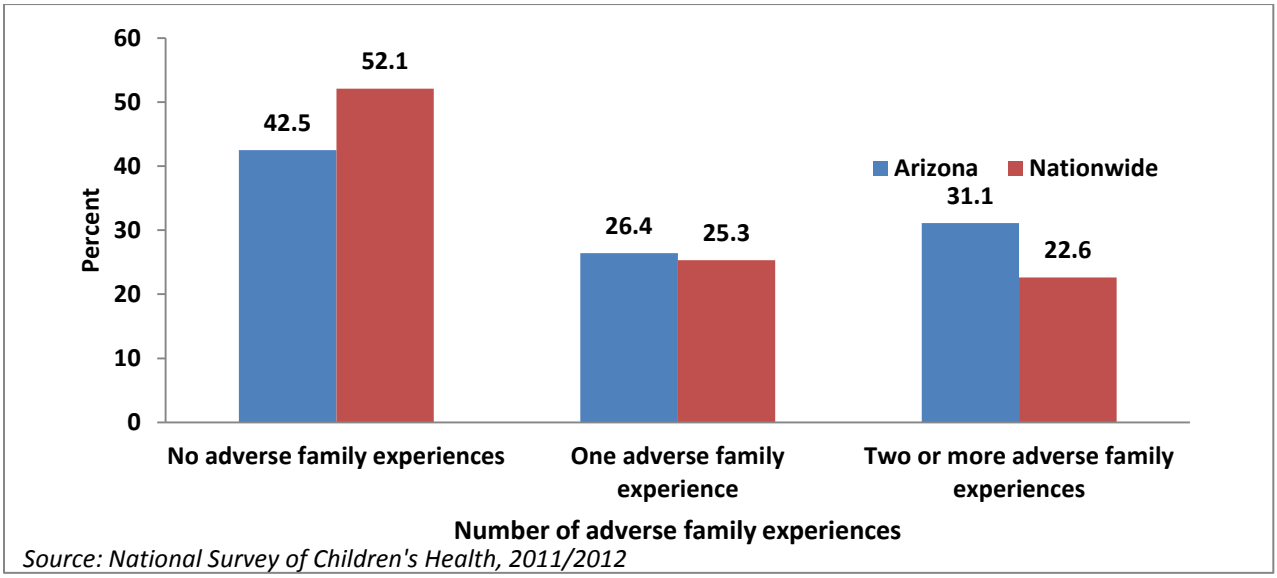
Figure 4.7 Prevalence of adverse childhood experiences among children Arizona, 2011/2012



In Figure 4.8 over 31% of Arizona children ages 0-17 years experienced two or more adverse childhood experiences (ACEs), based on a list of nine. This was significantly higher than the national average of 22.6%. A higher percentage of males (32.5%) experienced two or more ACEs than females (29.7%). Additionally, there are disparities between racial and ethnic groups in Arizona. A higher percentage of Black, non-Hispanic[130] children experienced two or more ACEs (43.9%) compared to the other races. Multi-racial/other, non-Hispanic children had the next highest percentage (38.1%), followed by Hispanics (32.8%), and White, non-Hispanics (25.5%). Experiencing two or more ACEs was more significantly more prevalent among children with special health care needs as compared to children without special health care needs (47.1% and 27.3%, respectively).

[130] Note: the sample sizes for Black, non-Hispanic children and Other, non-Hispanic children were below 50. Use caution when interpreting this data.

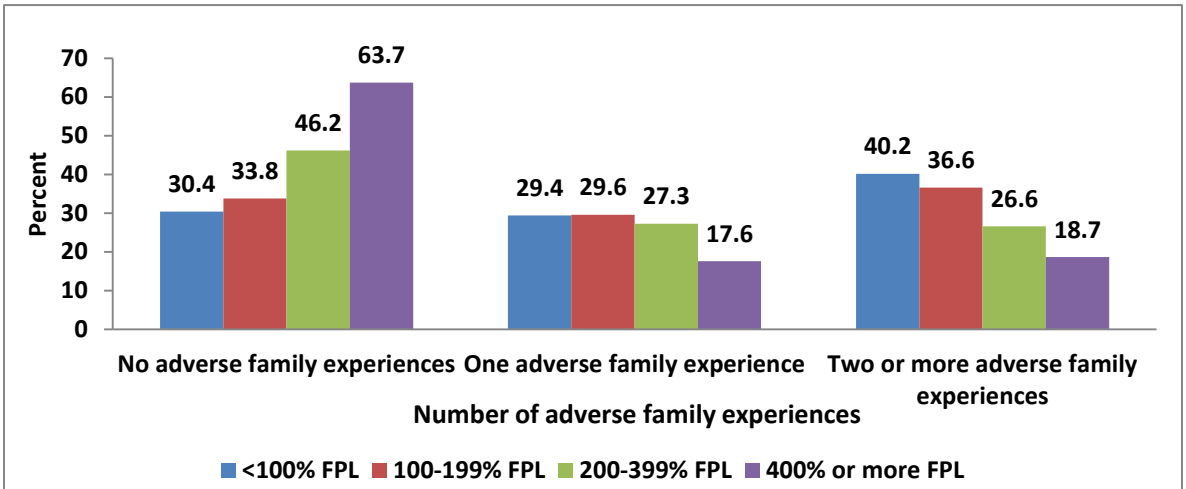
Figure 4.8 Prevalence of adverse childhood experiences among children 0-17 years (based on 9 questions), Arizona and Nationwide, 2011/2012



Source: National Survey of Children's Health, 2011/2012

Children with public insurance, or who were uninsured, were more likely to experience two or more ACEs than children with private insurance (39%, 44.7%, and 22.8% respectively). Figure 4.9 demonstrates the percent of children 0-17 years of age who experienced two or more ACEs was higher for those in families with lower incomes. Families with an income below 100% of the Federal Poverty Level (FPL) had the highest percent of children affected with 40.2%. As family income increased, the percent of children affected by two or more ACEs decreased, with 18.7% of children in families with 400% or more FPL being affected. The most frequent adverse childhood experiences reported by parents were: 1) the child's family found it somewhat often or very often hard to get by on family income (34.3%); 2) the child lived with a parent who got divorced or separated (23.7%); and 3) the child lived with anyone who had a problem with alcohol or drugs (15.5%).

Figure 4.9 Prevalence of adverse childhood experiences among children 0-17 years (based on 9 questions), by poverty level, Arizona, 2011/2012



Source: National Survey of Children's Health, 2011/2012

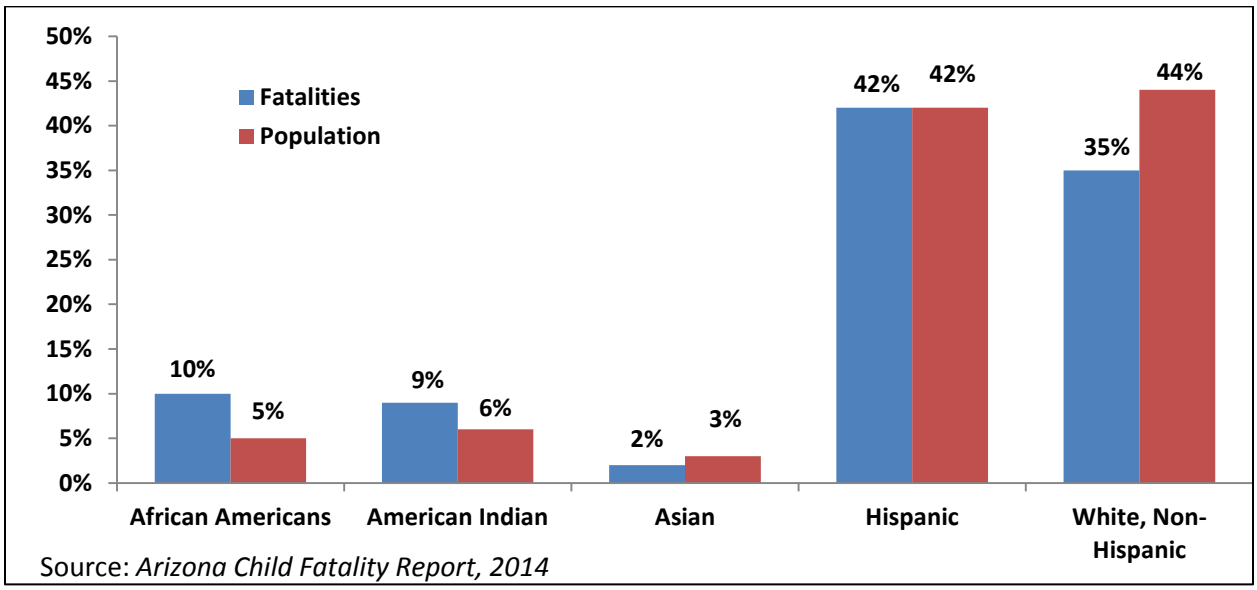
Child mortality[131]

In 2013, 811 children under the age of 18 died in Arizona. This was 136 fewer deaths than in 2009 (n=947) and 43 fewer deaths than in 2012 (n=854). During 2013, 56% of the child deaths occurred to children less than one year old, 16% to children 1-4, 5.8% to children 5-9, 9.5% to children 10-14, and 12.7% to children 15-17. The percentages of child deaths for children 1-4 and 10-14 both increased since 2009, while the percentages for children less than one, 5-9, and 15-17 all decreased. Of the 811 child deaths in 2013, 38.2% were determined to be preventable; this was an increase of nearly 15% since 2009 when 33.3% were deemed preventable. The percentage of deaths associated with substance abuse decreased by almost 18% from 2009 to 2013 (19.2% and 15.8%, respectively), while the percentage of deaths due to an unsafe sleep environment also decreased slightly from 8.1 in 2009 to 8.0 in 2013.

In 2013, there were major disparities on the percentage of child deaths represented by each racial and ethnic group compared to the percent of the child population represented by each racial and ethnic group in Arizona. As shown in the figure below, despite only representing 5% of the 0-17 year old population in the state, Blacks made up 10% of all child deaths. American Indians also had a higher percentage of children who died than what they represented for the entire child population; they represented 9% of all child deaths versus 6% of the child population. Conversely, White, non-Hispanic children made up 44% of the entire child population and just 35% of all child deaths, while Asians made up 3% of the population and 2% of child deaths. Hispanics were represented equally in both populations, representing 42% of all children in Arizona and 42% of all child deaths as well.

[131] Arizona Child Fatality Report (2014)

Figure 4.10 Percent of children deaths under the age of 18 years by race/ethnicity



Source: *Arizona Child Fatality Report, 2014*

Unintentional Injury Hospitalizations in Children

Burden in the US and Arizona

Both fatal and non-fatal child injuries can place a profound burden on families and communities. In the US over 9,000 children die annually due to injuries; an additional 225,000 children are hospitalized for non-fatal injuries and almost 9 million children are treated in emergency departments each year[132]. Nationally there is great variation among types of injuries among different age groups. That same variation exists in Arizona as well.

In Arizona:

In 2013, injury was responsible for 301 deaths, 3,066 inpatient hospitalizations and 129,805 emergency department visits in children aged 0-19 years. As is the case nationally, the types of injuries vary by age group and have been broken up into groups of injuries to those less than one year, one to nine years old and ten to nineteen years of age. For those 1 through 9 years of age the leading causes of hospitalizations were because of injuries by a fall or trauma and poisonings.

[132] Centers for Disease Control and Prevention (CDC). (2012) National Center for Injury Prevention and Control, Division of Unintentional Injury Prevention. Retrieved from http://www.cdc.gov/safechild/NAP/background.html on 05/23/15

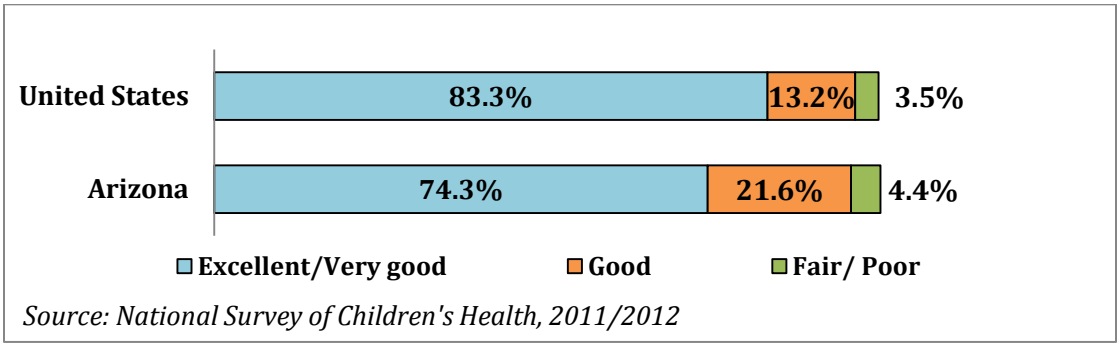
ADOLESCENT HEALTH

The unique needs of adolescence make it a critical period for promoting health, competence and capacity in order to prepare adolescents for a successful future. This discussion will focus on health priorities such as access to care, health status, risky behavior, teen pregnancy, depression, bullying and cyberbullying, suicide, and injury.

Health status[133]

Parents in Arizona were less likely to describe the health of their children aged 12-17 as excellent or very good (74.3%) than parents nationwide (83.3%) (Figure 5.1).

Figure 5.1 Child health status for aged 12-17 years of age



Source: National Survey of Children's Health, 2011/2012

Health Insurance and Access to Care[1]

NSCH 2011/12 reported that over twice as many adolescents in Arizona aged 12-17 years (15.2%) were not insured at the time of the survey as compared to the nation (6%). Additionally, only 78% had consistent health insurance coverage during the past 12 months at the time of survey compared to 89% of children nationwide. Adolescents were more likely to have private insurance (55.9%) as compared to public insurance (28.9%). Only 71.3% had current insurance which met their needs.

Obesity and Physical Activity[134]

The Youth Risk Behavior Surveillance System (YRBSS) is a nationwide school-based survey conducted by CDC that collects information on health and risk behaviors. Using YRBSS data, we can get a picture of adolescent health in the state and the nation.

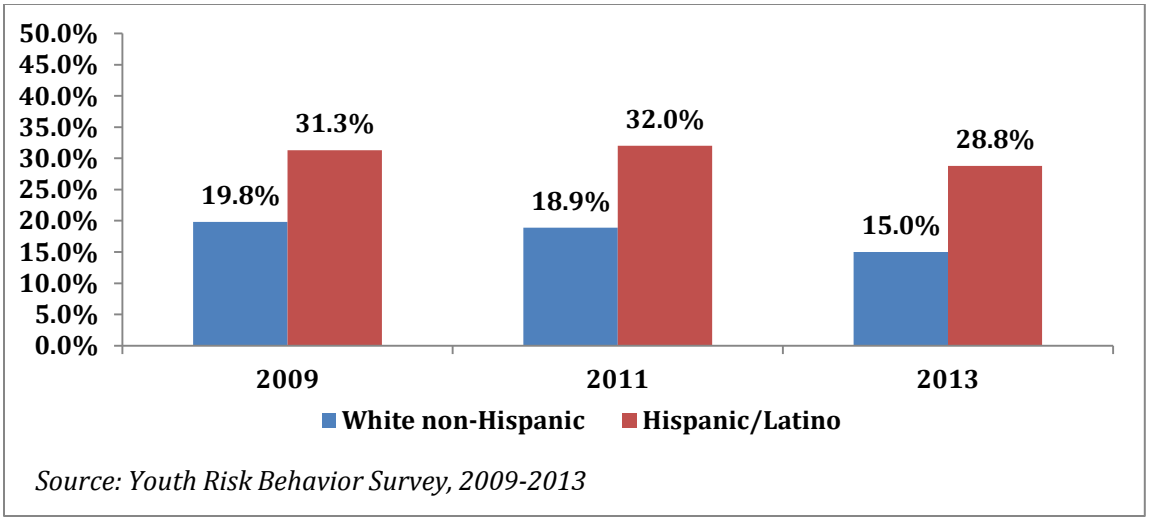
In 2013, 23% of Arizona high school students were overweight or obese, a percentage which has remained relatively stable since 2009. Hispanic/Latino high school students were more likely to be

[133] National Survey of Children's Health. NSCH 2011/12. Data query from the Child and Adolescent Health Measurement Initiative, Data Resource Center for Child and Adolescent Health website. Retrieved [04/23/15] from www.childhealthdata.org
[134] Centers for Disease Control and Prevention (CDC). *2009-2013 High School Youth Risk Behavior Survey Data.* Available at http://nccd.cdc.gov/youthonline/. Accessed on 05/20/15.

overweight or obese than white non-Hispanic students. In 2013, 15.0% of white non-Hispanic students were overweight or obese compared to 28.8% of Hispanic/Latino students (Figure 5.2).

In 2013, 58% of Arizona high school students were not physically active for at least 60 minutes per day on five or more days in the previous week compared to 53% nationally. Arizona females (66.8%) were more likely to not be physically active than Arizona males (49.6%).

Figure 5.2 Percent of Overweight and Obese High School Students, by race/ethnicity, Arizona, 2009-2013



Source: Youth Risk Behavior Survey, 2009-2013

Alcohol, Tobacco and Other Drugs[135]

The Arizona Youth Survey asks students in 8th, 10th, and 12th grade about different behaviors, such as substance abuse and antisocial behavior, providing a way to assess the health status of adolescents in the state.

Substance Abuse

For all years and grade levels, marijuana is the most commonly abused substance, followed by prescription drugs. Over the years, substance abuse by Arizona students has generally been decreasing, with the exception of marijuana for 10th graders and 12th graders. In addition, it can be seen that substance abuse increases by grade level, with the exception of inhalant abuse, which actually decreases by grade level (Table 6).

Antisocial Behavior

Antisocial behavior exhibits the same trend as substance abuse, with the percentage of students reporting antisocial behavior indicators increasing by grade level but also decreasing over time within each grade level. The exception to this are 10th grade students reporting carrying a handgun (Table 6).

[135] Arizona Department of Education. *2010-2014 Arizona Youth Survey Data.* Available at http://www.azed.gov/prevention-programs/resources/data/yrbs/. Accessed on 05/20/15.

Table 6: Behavior Reported by Students in Past 12 Months, Arizona Youth Survey, 2010-2014

	Grade 8			Grade 10			Grade 12		
	2010	**2012**	**2014**	**2010**	**2012**	**2014**	**2010**	**2012**	**2014**
Substance Abuse—*Any use in the past 30 days*									
Marijuana	8.9%	7.7%	6.9%	17.4%	17.7%	16.8%	21.3%	22.5%	22.9%
Inhalants	5.6%	4.2%	3.1%	3.0%	2.0%	1.3%	1.5%	1.3%	0.9%
Methamphetamines	0.2%	0.2%	0.1%	0.5%	0.5%	0.4%	0.6%	0.5%	0.4%
Prescription drugs	8.2%	5.7%	4.9%	11.8%	9.3%	7.1%	12.4%	10.0%	8.0%
OTC Drugs	5.4%	4.0%	3.1%	6.3%	4.9%	3.7%	6.3%	4.3%	3.4%
Antisocial Behavior—*Any time in the past 12 months*									
Drunk or high at school	12.8%	10.4%	8.4%	21.8%	19.8%	16.5%	22.1%	21.6%	19.8%
Attacked someone with the idea of seriously hurting them	16.6%	11.2%	9.8%	15.5%	9.7%	8.9%	11.5%	7.7%	6.6%
Carried a handgun	6.7%	5.7%	5.5%	7.6%	5.2%	5.6%	7.2%	5.9%	5.6%

Current Tobacco Use[136]

In 2013, 19.5% of Arizona high school students reported they currently used tobacco, including cigarette use, smokeless tobacco, or cigar use. The percentage of current tobacco users in Arizona was lower than the United States as a whole (22.4% in 2013). In Arizona, 23.7% of males reported being current tobacco users, much higher than the 14.9% of females (2013). White non-Hispanic students were more likely to currently use tobacco (23%) compared to 18% of Hispanic students.

Teen Pregnancy[137]

The United States has the highest teen pregnancy rate (57 per 1,000 females aged 15-19 years old) among several developed countries[138]. Teen pregnancy is associated with poor birth outcomes as well as long-term negative consequences for families. In addition, pregnancy during the teenage years has adverse implications on both the physical and mental well-being of women[139].

[136] Centers for Disease Control and Prevention (CDC). *2009-2013 High School Youth Risk Behavior Survey Data.* Available at http://nccd.cdc.gov/youthonline/. Accessed on 05/20/15.
[137] Arizona Vital Statistics. (2009-2013).
[138] Sedgh, G., Finer, L. B., Bankole, A., Eilers, M. A., & Singh, S. (2015). Adolescent pregnancy, birth, and abortion rates across countries: levels and recent trends. *Journal of Adolescent Health*, 56(2), 223-230.
[139] Patel, P. H., & Sen, B. (2012). Teen motherhood and long-term health consequences. *Maternal and child health Journal*, 16(5), 1063-1071.

In Arizona, the teen pregnancy rate declined 32.8% from 56.1 pregnancies per 1,000 females aged 15 to 19 in 2009 to 37.7 in 2013 (Figure 5.3).

From 2009 to 2012, the highest rates were seen in Hispanic/Latina teens; however that rate drastically dropped almost 50% from 92.4 to 50.7. Now, the highest teen pregnancy rates are seen in American Indian or Alaska Native teens and the lowest are seen in white non-Hispanic and Asian or Pacific Islander teens. In 2013, the teen pregnancy rate for American Indian or Alaska Native teens was 58.6, 50.7 for Hispanic/Latina teens, 47.5 for Black or African American teens, 18.9 for white non-Hispanic teens, and 13.2 for Asian or Pacific Islander teens.

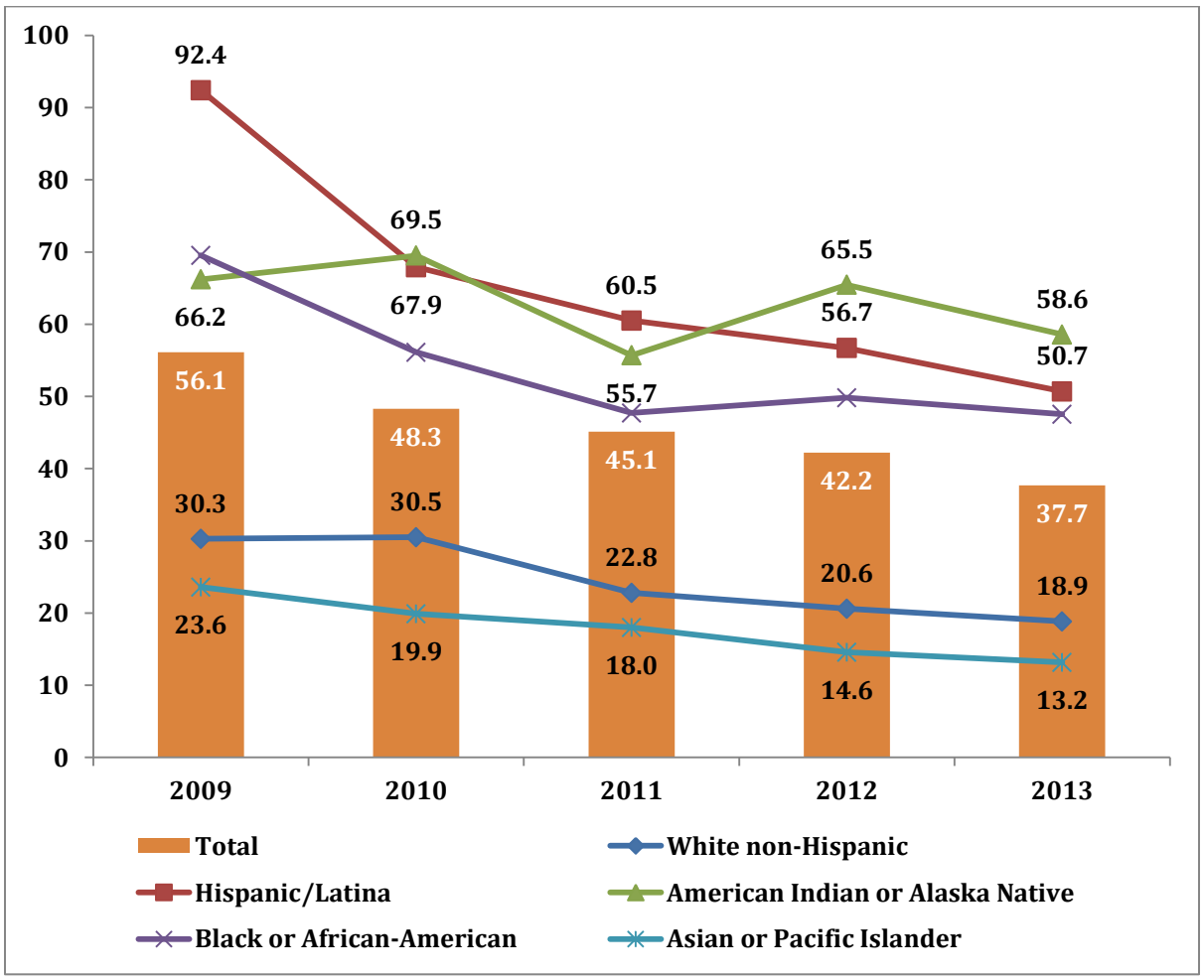
Teen prenatal care[140]

Older teens (18 to 19 years old) were more likely than younger teens (15 to 17 years old) to have initiated prenatal care in the first trimester. Younger teens were significantly more likely to not have received any prenatal care. Both groups of teens were less likely to receive first trimester prenatal care than Arizona women overall.

In 2013, 71.9% of 18 to 19 year olds initiated prenatal care in the first trimester, compared to 62.7% of 15 to 17 year olds and 81.3% for all Arizona women. In the same year, 2.7% of 15 to 17 year olds did not receive prenatal care at all, compared to 1.9% of 18 to 19 year olds.

[140]Arizona Vital Statistics. (2009-2013).

Figure 5.3 Teen Pregnancy Rate per 1,000 females aged 15-19 years old, by race/ethnicity, 2009-2013



Source: Arizona Teenage Pregnancy Report, 2003-2013

Contraception and no condom use

In addition to contraception, condom use has additional benefits of protecting against certain sexually transmitted diseases prevention[141], such as HIV/AIDS[142]. The percentage of high school students in Arizona reporting not using a condom during last sexual intercourse has increased from 40.3% 2009 to 44.9% in 2013. Female students were more likely than males to have not used a condom during their last sexual intercourse (51.5% and 37.8%, 2013). Arizona students were more likely than US students to report not using a condom (44.9% compared to 40.9%, 2013).

In 2013, 17.5% of Arizona high school students did not use any method to prevent pregnancy during their last sexual intercourse, compared to 13.7% of US high school students. Females and Hispanic students were more likely to not use any method to prevent pregnancy (19.3% and 20.8%).

[141]Widdice, Lea E. Cornell JL, Liang W, & Halpern-Felsher BL (2006).Having Sex and Condom Use: Potential Risks and Benefits Reported by Young, Sexually Inexperienced Adolescents. *Journal of Adolescent Health*, 39(4), 588-95.
[142]Crosby, R. A. (2013). State of condom use in HIV prevention science and practice. *Current HIV/AIDS Reports*, 10(1), 59-64.

Dating Violence[143]

Results from the Arizona Youth Survey showed that in 2014, 11.4% of 8th, 10th, and 12th grade students in Arizona reported having been hit, slapped, pushed, shoved, kicked, or in any other way physically assaulted by a boyfriend or girlfriend in the past year. This was a 16% decrease from the percentage of students reporting dating violence in 2012 (13.6%), and a 34% decrease from the percentage reported in 2010 (17.3%).

Bullying

Centers for Disease Control and Prevention defines bullying as victimization or undesirable aggressive behaviors by peers or any individual who are not siblings or dating that is repeated and intended to show the perceived inequality[144]. The recent decade has seen bullying emerge as an important public health issue, necessitating immediate measures and intervention. Significant long-term implications for the victims of bullying include mental trauma and suicidal ideation[145].

School Bullying

In 2013, 29.1% of Arizona high school students were harassed or bullied on school property at least once during the past 12 months. This percentage was higher among females, where 34% were harassed or bullied compared to 23.9% of males. White non-Hispanic students were also more likely to be harassed or bullied on school property than Hispanic students (34.2% and 23.4%, respectively). Younger students were also more likely to be harassed or bullied, with 35.3% of 9th graders, followed by 29.6% of 10th graders, 27.2% of 11th graders, and 22.5% of 12th graders.

Electronic Bullying

Electronic bullying or cyber bullying is defined as sending aggressive or harassing texts or social network posts online and includes various venues, such as email, chat rooms, instant messaging, and websites[146]. In 2013, 19.8% of Arizona high school students were electronically bullied at least once during the past 12 months. Females were more than twice as likely to experience electronic bullying compared to males (26.4% and 13.4%, respectively). White non-Hispanic students were also more likely to experience electronic bullying at 23.7%, compared to 15.9% of Hispanic students. Similar to bullying that occurred on school property, younger students were more likely to be bullied electronically. Ninth graders had the highest percentage of students who experience electronic bullying 25.5%), followed by 10th graders (20.5%), 11th graders (17.4%), and 12th graders (15.4%).

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[143] Arizona Department of Education. *2010-2014 Arizona Youth Survey Data.* Available at http://www.azed.gov/prevention-programs/resources/data/yrbs/. Accessed on 05/20/15.

[144] Gladden, R.M., Vivolo-Kantor, A.M., Hamburger, M.E., & Lumpkin, C.D. Bullying Surveillance Among Youths: Uniform Definitions for Public Health and Recommended Data Elements, Version 1.0. Atlanta, GA; National Center for Injury Prevention and Control, Centers for Disease Control and Prevention and U.S. Department of Education; 2014.

[145] Henry, K. L., Lovegrove, P. J., Steger, M. F., Chen, P. Y., Cigularov, K. P., & Tomazic, R. G. (2014). The potential role of meaning in life in the relationship between bullying victimization and suicidal ideation. *Journal of youth and adolescence*, *43*(2), 221-232.

[146] Wang, J., Iannotti, R. J., & Nansel, T. J. (2009). School bullying among adolescents in the United States: Physical, verbal, relational, and cyber.*Journal of Adolescent Health, 45*, 368–375.

Depression in Youth[147]

Arizona high school students were more likely to report feeling sad and hopeless (almost every day for 2 or more weeks in a row so that they stopped doing some usual activities during the 12 months before the survey) than their US counterparts. Females were more likely than males to report feeling sad and hopeless. In 2013, 44.3% of Arizona females reported having felt sad and hopeless in the past 12 months, compared to 39.1% of US females, 28.4% of Arizona males and 20.8% of US males.

Low self-esteem and depression is a vicious cycle with long-term implications. Depression may predispose an individual to have impaired social and communication skills which in turn might lead to their victimization by peers[148]. For example, a 2010 study shows that adolescent girls with depression are at a higher risk for bullying and substance abuse[149].

Suicide[150]

Seriously considered suicide

From 2009 to 2013, for both the state and the nation, female high school students were more likely than male high school students to report having seriously considered attempting suicide in the past 12 months. Arizona students were more likely than their US counterparts to report considering suicide.

In 2013, 19.2% of Arizona high school students seriously considered attempting suicide in the 12 months before the survey, compared to 17.0% nationally; 23.9% of females seriously considering attempting suicide versus 14.4% of males.

Attempted Suicide

In 2013, 10.6% of Arizona high school students attempted suicide one or more times during the 12 months before the survey, compared to 8% nationally. Females were more likely than males to report attempting suicide (12.9% and 8.1% in 2013, respectively).

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[147] Centers for Disease Control and Prevention (CDC). *2009-2013 High School Youth Risk Behavior Survey Data.* Available at http://nccd.cdc.gov/youthonline/. Accessed on 05/20/15.

[148] Kaltiala-Heino, R., Fröjd, S., & Marttunen, M. (2010). Involvement in bullying and depression in a 2-year follow-up in middle adolescence. *European Child & Adolescent Psychiatry*, *19*(1), 45-55.

[149] Luk, J. W., Wang, J., & Simons-Morton, B. G. (2010). Bullying victimization and substance use among US adolescents: Mediation by depression.*Prevention Science*, *11*(4), 355-359.

[150] Centers for Disease Control and Prevention (CDC). *2009-2013 High School Youth Risk Behavior Survey Data.* Available at http://nccd.cdc.gov/youthonline/. Accessed on 05/20/15.

Injury

Motor Vehicle Crashes[151]

Deaths from motor vehicle and transport crashes remain a leading cause of death for children aged ten and older in the United States. In Arizona, effective prevention efforts have reduced the overall number of motor vehicle and transport crash fatalities. Crashes still account for 10% of all child deaths and a larger percentage of non-fatal inpatient hospitalizations and emergency department visits in the state. In 2013, 80 children 0-19 years of age died, 648 were hospitalized and 7,906 were seen in an emergency department as a result of a motor vehicle traffic crash. Adolescents aged 15-19 had the highest inpatient hospitalization and emergency department visit rates due to motor vehicle crashes (90.9 per 100,000 children aged 15-19 and 992.8, respectively, 2013), compared to other age groups, followed by those aged 10-14 years (22.8 and 319.9 respectively, 2013).

[151] Arizona Child Fatality Review Program. (2014). Arizona Child Fatality Review Report.

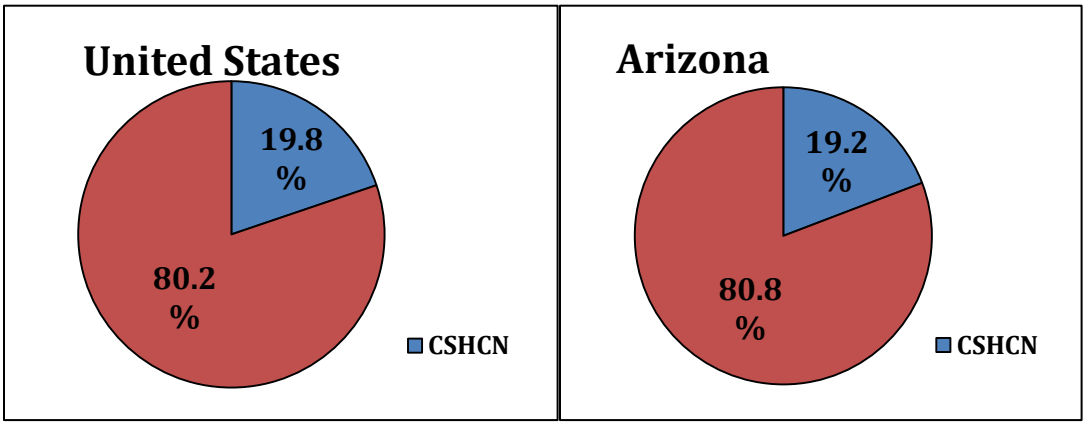
CHILDREN WITH SPECIAL HEALTH CARE NEEDS (CSHCN)

Children with Special Health Care Needs (CSHCN) are defined by the U.S. Department of Health and Human Services, Maternal and Child Health Bureau, and Health Resources and Services Administration as the children who are at increased risk for a chronic condition including behavioral, developmental, emotional or physical and have an increased requirement of health and related services as compared to children generally[152]. The CSHCN is a more vulnerable population and requiring specialty care and an organized healthcare delivery system providing comprehensive care and facilitating ease of access.

Prevalence: (National Survey of Children's Health, 2011/2012)

The discussion starts with a review of survey data to help understand Arizona's children with special health care needs. The National Survey of Children's Health is a nationwide survey administered by telephone in English or Spanish to collect information regarding the health status of children comparable by state as well as nationwide. Based on the National Survey of Children's Health results collected in 2011/2012, it is estimated that 19.2% of children 0-17 in Arizona have a special health care need[153]. This same survey estimated that 19.8% of children in the United States have a special health care need (Figure 6.1).

Figure 6.1 Prevalence of Children with special health care needs Arizona compared to the Nation



Source: National Survey of Children's Health NSCH 2011/12

[152] U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau. The National Survey of Children with Special Health Care Needs Chartbook 2009–2010. Rockville, Maryland: U.S. Department of Health and Human Services, 2013

[153] National Survey of Children's Health. NSCH 2011/12. Data query from the Child and Adolescent Health Measurement Initiative, Data Resource Center for Child and Adolescent Health website. Retrieved [05/23/15] from www.childhealthdata.org.

Demographics[154]

Based on the 2009/10 National Survey of Children with Special Health Care Needs (NS-CSHCN), among children in Arizona with an identified special health care need, 60% are males and 40% are females. Approximately, 47% are White, Non-Hispanic and 35.8% are Hispanic. The remaining 17.6% identified themselves as some other race, but sample sizes were too small to yield reliable estimates for each group. The CSHCN in Arizona tend to be identified when they are older, with only 18.6% in the 0-5 year age-group. The highest numbers of children are in the 6-11 year age group with 43.6%. The following Table 7 shows the age distribution of CSHCN in Arizona compared to the Nation.

Table 7: Age distribution of CSHCN population compared to the United States

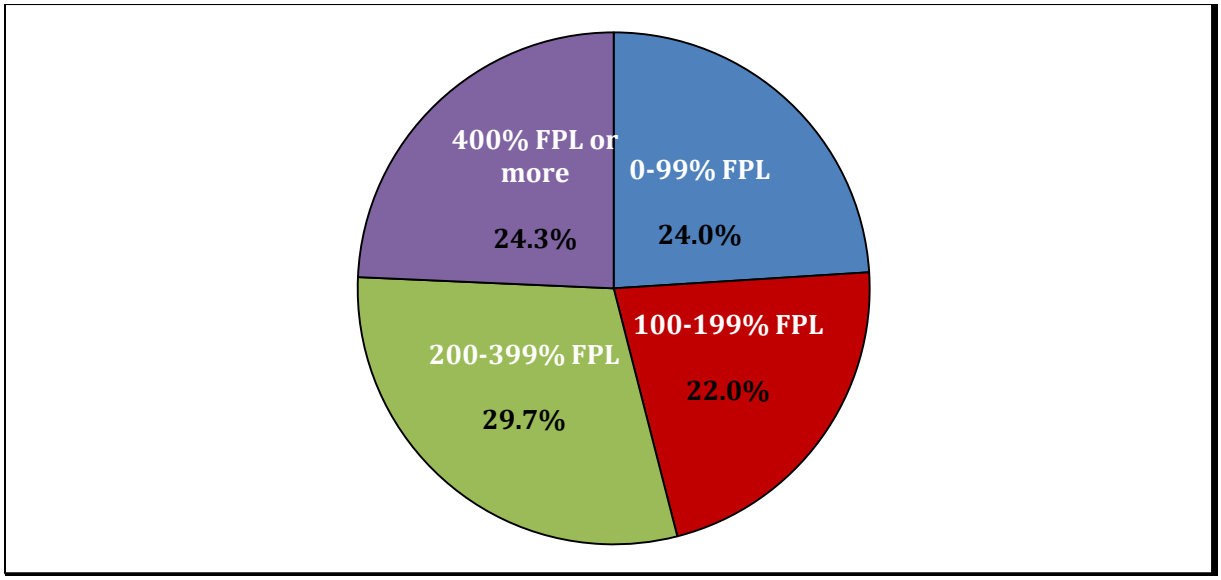
	Arizona (%)	Nation (%)
0-5 years	18.6%	20.8%
6-11 years	43.6%	38.7%
12-17 years	37.8%	40.5%

Nearly half of families in Arizona with CSHCN (46%) have income below 200% of the federal poverty level. A study conducted by Ghandour et al using NS-CSHCN in 2014 compared the out of pocket expenditure for healthcare services of children with special health care needs living in families[155]. It demonstrated that the percentage of CSHCN families who spent more than equal to three percent of household income on healthcare increased by 35% between 2001 and 2009-2010. Figure 6.2 below shows the distribution of income levels for families of CSHCN in Arizona.

[154] National Survey of Children with Special Health Care Needs. NS-CSHCN 2009/10. Data query from the Child and Adolescent Health Measurement Initiative, Data Resource Center for Child and Adolescent Health website. Retrieved [05/24/15] from www.childhealthdata.org.

[155] Ghandour, R. M., Hirai, A. H., Blumberg, S. J., Strickland, B. B., & Kogan, M. D. (2014). Financial and Nonfinancial Burden Among Families of CSHCN: Changes Between 2001 and 2009–2010. Academic pediatrics, 14(1), 92-100.

Figure 6.2 CSHCN ages 0-17 years at different income levels by Federal Poverty level (FPL)

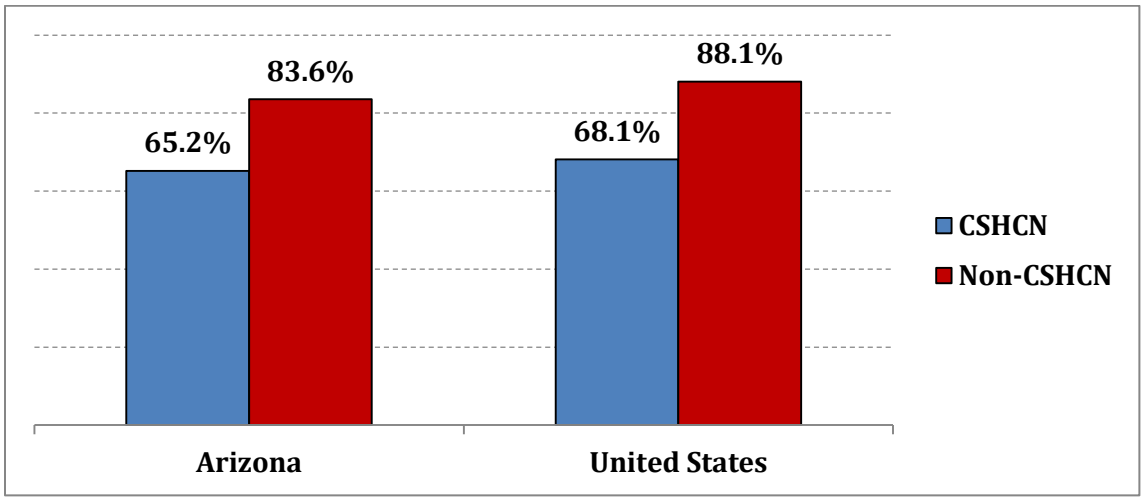


Source: National Survey of Children with Special Healthcare Needs NSCH 2011/12

Health Status[156]

In general, the parents of children with special health care needs in Arizona were less likely to describe the health of their children as excellent or very good (65.2%) as compared to non-CSHCN children (83.6%). Arizona parents of CSHCN reported similar levels of excellent or good health (65.2%) as parents of CSHCN nationally (68.1%) as shown in the Figure 6.3.

Figure 6.3 Child's health (0-17 years) described as excellent or very good, Arizona compared to United States



Source: National Survey of Children's Health NSCH 2011/12

[156] National Survey of Children's Health. NSCH 2011/12. Data query from the Child and Adolescent Health Measurement Initiative, Data Resource Center for Child and Adolescent Health website. Retrieved [05/23/15] from www.childhealthdata.org.

The NS-CHSCN 2009/10 asked families about the impact of child's conditions on their ability to perform daily activities[157]. This provides a general measure of the magnitude of difficulties CSHCN experience in their daily activities. In Arizona, only 31% of parents of CSHCN reported that their children's conditions never affected their daily lives, 39% reported that their daily activities were moderately affected some of the time, and 30% reported that their activities were consistently affected, often a great deal.

Adverse Childhood Experiences

Adverse childhood experiences during the formative phase of a child's life are known to have long-term global consequences. The Adverse Childhood Experiences (ACE) Study is one of the largest collaborative investigations conducted by the Centers for Disease Control and Prevention, and Kaiser Permanente's Health Appraisal Clinic in San Diego. It evaluated the associations of childhood maltreatment and its effects on health and well-being later in life. The ACE study reported that certain experiences may be associated with increased risk for the leading causes of disease, disability and mortality as well as poor quality of life and social problems in United States[158,159]. These consequences are more pronounced in the CSHCN population.

Based on survey results of the National Survey of Children's Health collected in 2011/2012, children with special health care needs were more likely to have experienced two or more adverse childhood experiences (47.1%) from a list of nine as compared to typically developing children (27.3%). The nine experiences asked about included: socioeconomic hardship, divorce or separation of parent, death of parents, parent served time in jail, witness to domestic violence, victim or witness of neighborhood violence, lived with someone who was mentally ill or suicidal, lived with someone with an alcohol or drug problem, and were treated or judged unfairly due to their race or ethnicity. Seventy-six percent of children with special health care needs had experienced at least one of the nine adverse childhood experiences as compared to 53.1% of typically developing children[160]. Data are presented in Figure 6.4.

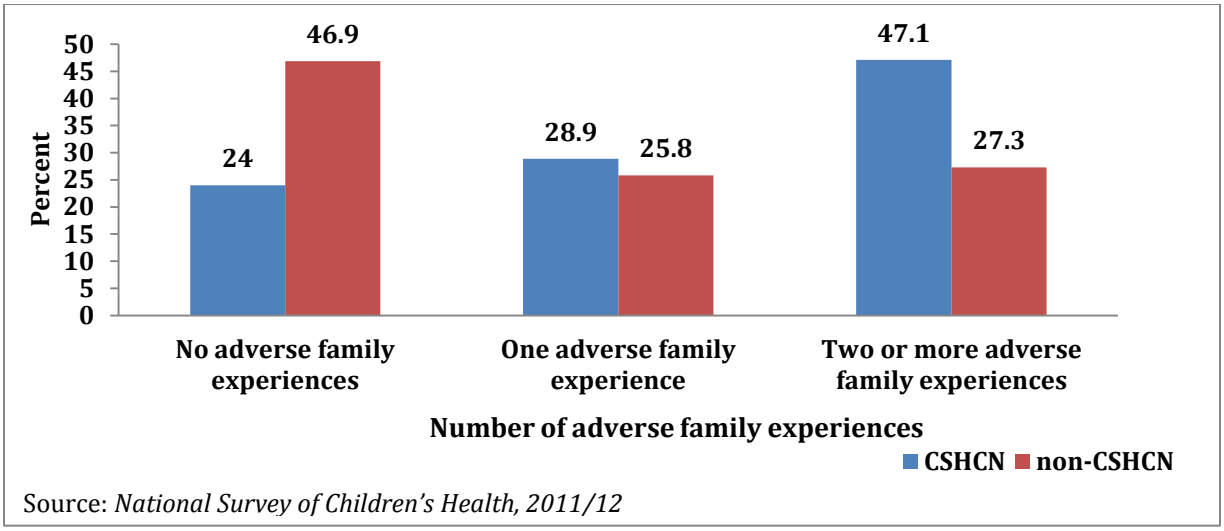
[157] National Survey of Children with Special Health Care Needs. NS-CSHCN 2009/10. Data query from the Child and Adolescent Health Measurement Initiative, Data Resource Center for Child and Adolescent Health website. Retrieved [05/24/15] from www.childhealthdata.org.

[158] Centers for Disease Control and Prevention, Injury Prevention & Control : Division of Violence Prevention. (2014, May 13). Retrieved May 26, 2015, from http://www.cdc.gov/violenceprevention/acestudy/index.html

[159] Adverse Childhood Experiences Study (CDC and Kaiser Permanente, see http:// www.ACEstudy.org) The Damaging Consequences of Violence and Trauma (see http://www.NASMHPD.org) and Trauma and Recovery (J Herman). Cost data: 2007 Economic Impact Study (PCAA). Chart created by Ann Jennings, PhD. http://www.TheAnnaInstitute.org Revision: April 6, 2010

[160] National Survey of Children's Health. NSCH 2011/12. Data query from the Child and Adolescent Health Measurement Initiative, Data Resource Center for Child and Adolescent Health website. Retrieved [05/23/15] from www.childhealthdata.org.

Figure 6.4 Prevalence of adverse childhood experiences among children 0-17 years (based on 9 questions), by CSHCN status, Arizona, 2011/2012.



Source: *National Survey of Children's Health, 2011/12*

Maternal and Child Health Bureau (MCHB) Goals for Children with Special Health Care Needs

Population

The Federal Maternal Child Health Bureau (MCHB) has set six goals for the CSHCN population. These goals include: 1) family participation during decision making 2) Medical Home access providing continuous and quality care 3) adequate insurance coverage 4) early detection and screening for special healthcare needs 5) comprehensive community services for ease of access 6) transitioning from child to adult healthcare. These critical outcome indicators help to assess the progress in developing and providing a healthcare delivery system which caters to the needs of CSHCN population. These outcome measures were included in the Healthy People 2020 Objectives for CSHCN[161]. Below is an analysis of what Arizona's families reported.

Family Centered Care[162]

The American Academy of Pediatrics (AAP) defines Family Centered Care (FCC) as a partnership among patients, families and health professionals to support and help families to make informed decisions regarding their children's health[163]. This comprehensive care focuses on empowering families to participate at all levels of decision making, physicians providing a culturally competent healthcare delivery system, improving outcomes and satisfaction. Approximately, 39% of families with CSHCN did

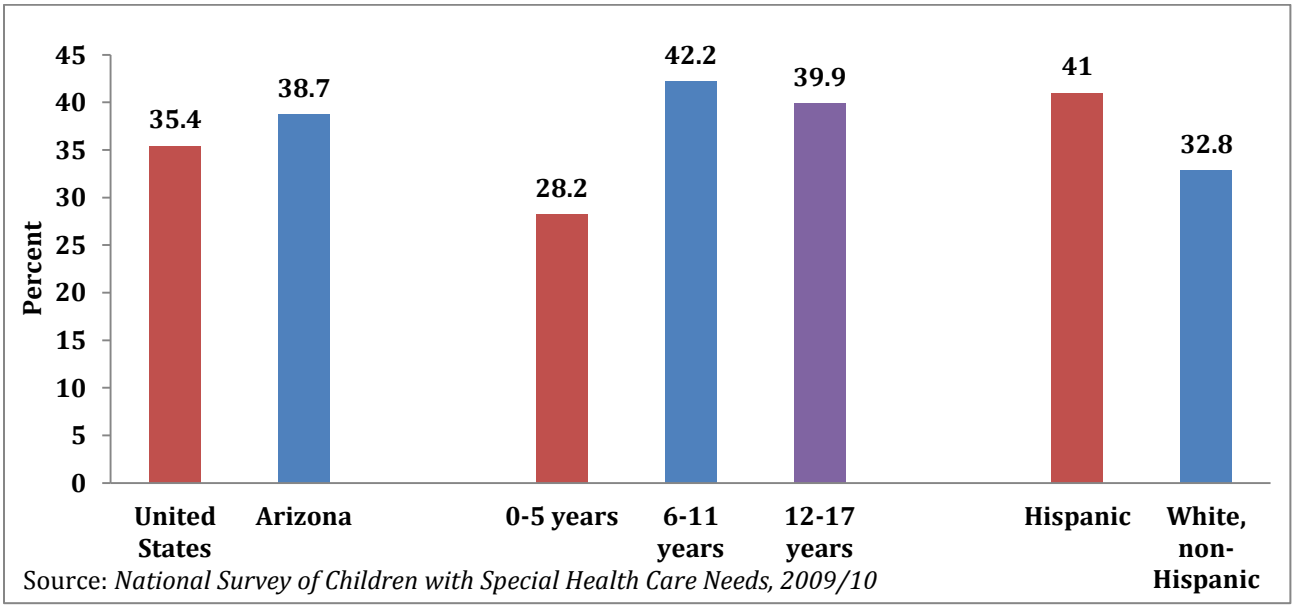
[161] U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau. The National Survey of Children with Special Health Care Needs Chartbook 2009–2010. Rockville, Maryland: U.S. Department of Health and Human Services, 2013

[162] National Survey of Children with Special Health Care Needs. NS-CSHCN 2009/10. Data query from the Child and Adolescent Health Measurement Initiative, Data Resource Center for Child and Adolescent Health website. Retrieved [05/24/15] from www.childhealthdata.org.

[163] INSTITUTE, F. P., & FAMILY-CENTERED, C. A. R. E. (2012). Patient-and family-centered care and the pediatrician's role. *Pediatrics*, 129(2), 394.

not receive FCC in Arizona as compared to 35% nationwide. Forty-two percent of 6-11 years old CSHCN did not receive FCC as compared to 28.2% 0-5 years old. There were no significant differences by race/ethnicities or age group among the families residing in Arizona. (Figure 6.5)

Figure 6.5 Percent of families of children with special health care needs who do not receive family centered care, Arizona and United States, 2009/10



Source: *National Survey of Children with Special Health Care Needs, 2009/10*

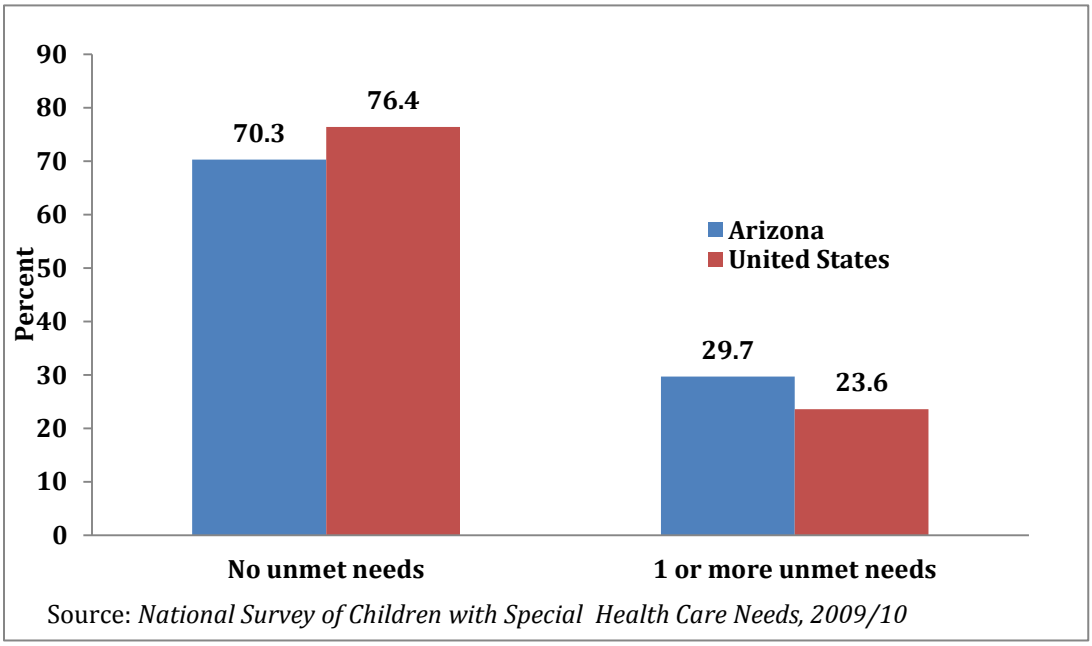
FCC approach recognizes the pivotal role of family perspective to medical decision making. Sixty-six percent of families in Arizona reported they are partners in shared decision-making for their child's optimal health as compared to 70% nationwide. Recent study by Kuo et al illustrated that FCC decreased the unmet needs of CSHCN population[164].

[164] Kuo, D. Z., Frick, K. D., & Minkovitz, C. S. (2011). Association of family-centered care with improved anticipatory guidance delivery and reduced unmet needs in child health care. *Maternal and child health journal*, 15(8), 1228-1237.

Unmet Medical Needs[165]

Based on the NS-CSHCN 2009/2010, 30% of CSHCN in Arizona reported having at least one unmet health care need during the past 12 months (See Figure 6.6). This rate is slightly higher in Arizona as compared to the nation (23.6 %).

Figure 6.6 Percent of children with special health care needs with any unmet needs for 14 specific health care services or equipment, in past 12 months, Arizona and United States, 2009/10



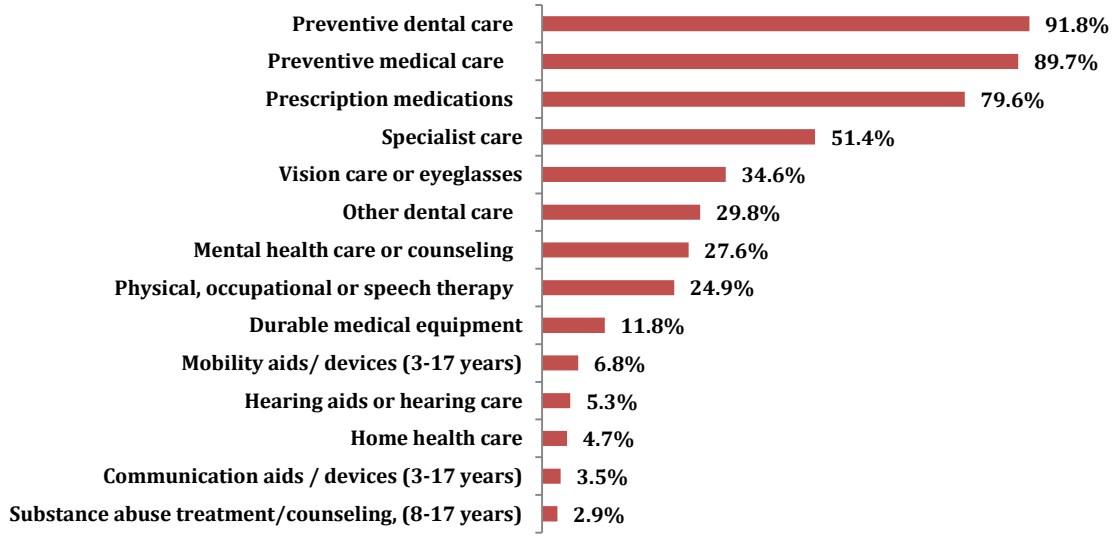
Source: *National Survey of Children with Special Health Care Needs, 2009/10*

The NS-CSHCN asked questions about fourteen specific healthcare services or equipment needs. The five most frequently noted types of care needed for CSHCN in Arizona were:

- Preventive dental care (91.8%)
- Preventive medical care (89.7%)
- Prescription medications (79.6%)
- Specialist care (51.4%)
- Vision care or eyeglasses (34.6%) (See Figure 6.7)

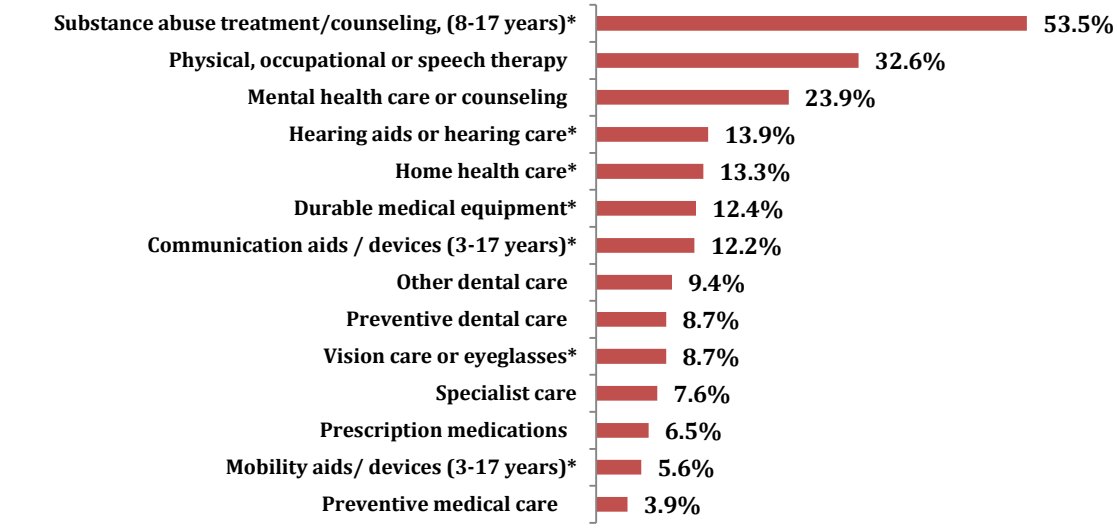
[165] National Survey of Children with Special Health Care Needs. NS-CSHCN 2009/10. Data query from the Child and Adolescent Health Measurement Initiative, Data Resource Center for Child and Adolescent Health website. Retrieved [05/24/15] from www.childhealthdata.org.

Figure 6.7 Percent of need for each of 14 specific healthcare services and equipment for CSHCN in Arizona



Source: *National Survey of Children with Special Health (2009-10)*

Figure 6.8 Percent of CSHCN in Arizona with 14 specific unmet needs of healthcare services & equipment



* Estimates based on sample sizes too small to meet standards for reliability or precision. The

Source: *National Survey of Children with Special Health (2009-10)*

Figure 6.8 shows the unmet needs of CSHCN population for fourteen specific healthcare services and equipment in the descending order of the needs.

Medical Home

The AAP defines medical home as comprehensive, continuous, and quality coordinated family centered care in one's own community[166]. Studies have suggested that having a medical home ensures improved health outcomes by decreasing the unmet health, dental and specialty care needs and fewer unmet family support services[167,168,169]. Bennett et al in a recent study established that medical homes may help in decreasing the racial disparity in unmet needs to some extent[170]. In Arizona, significantly fewer CSHCN successfully received coordinated, ongoing, comprehensive care within a medical home than the national average (36.1% and 43.0%, respectively)[171].

Transition to Adulthood

Medical advances and improved quality of care has enabled the majority of children born with special health care needs to attain adulthood. The transition of CSHCN to adulthood requires coordinated services and additional resources to facilitate the transition. An analysis done by Duke et al in 2011 demonstrated that FCC helps in addressing the issues of transitioning for youth with special healthcare needs[172]. The CSHCN population is more vulnerable to gaps or instability in the healthcare delivery systems[173]. Sixty-four percent of parents of youth with special health care needs in Arizona reported that they did not receive the services necessary to make appropriate transitions to adult health care, work, and independence as compared to 60% nationally.

[166] American Academy of Pediatrics, Medical Home Initiatives for Children With Special Needs Project Advisory Committee. The medical home. *Pediatrics*. 2002;110(1 pt 1): 184–186

[167] Strickland, B., et al. (2009). Access to the medical home: New findings from the 2005–2006 National Survey of Children with Special Healthcare Needs. *Pediatrics*, 123(6), e996–e1004.

[168] Benedict, R. E. (2008). Quality medical homes: Meeting children's needs for therapeutic and supportive services. *Pediatrics*, 121(1), e127–e134.

[169] Lewis, C., et al. (2005). Unmet dental care needs among children with special health care needs: Implications for the medical home. *Pediatrics*, 116(3), e426–e431.

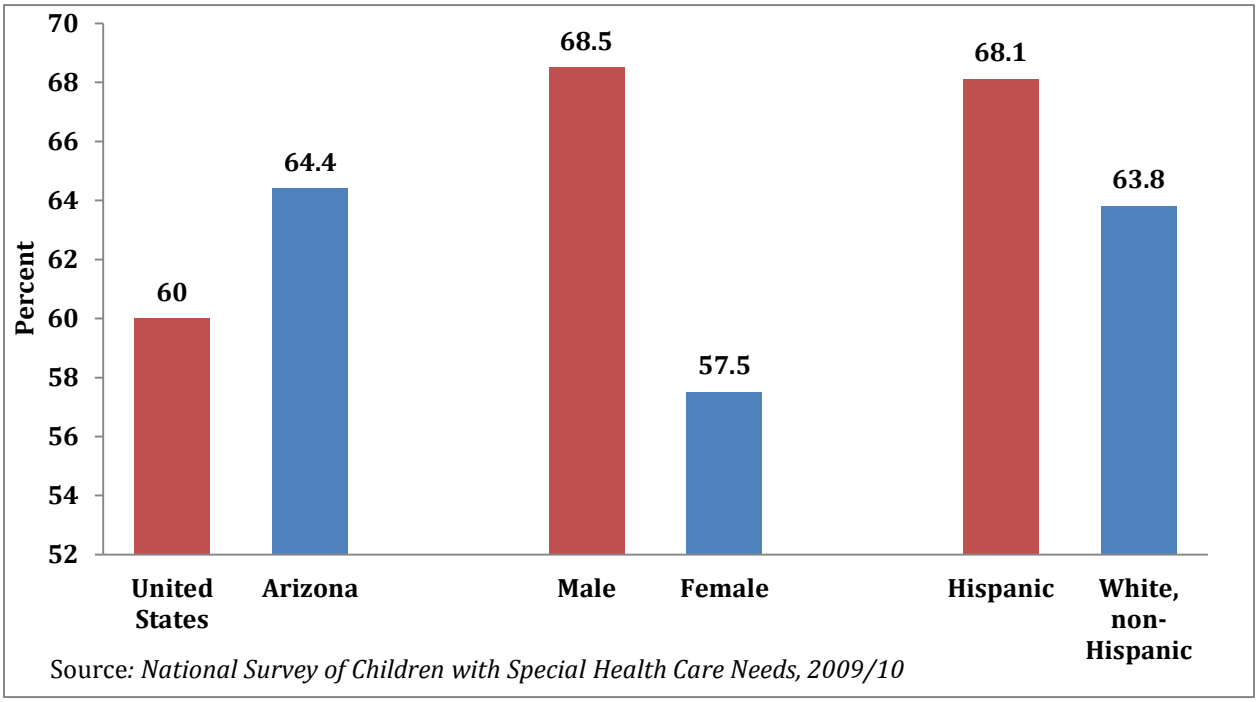
[170] Bennett, A. C., Rankin, K. M., & Rosenberg, D. (2012). Does a medical home mediate racial disparities in unmet healthcare needs among children with special healthcare needs?. *Maternal and child health journal*, 16(2), 330-338.

[171] National Survey of Children with Special Health Care Needs. NS-CSHCN 2009/10. Data query from the Child and Adolescent Health Measurement Initiative, Data Resource Center for Child and Adolescent Health website. Retrieved [05/24/15] from www.childhealthdata.org.

[172] Duke, N. N., & Scal, P. B. (2011). Adult care transitioning for adolescents with special health care needs: a pivotal role for family centered care. *Maternal and child health journal*, 15(1), 98-105.

[173] Bethell, C. D., Newacheck, P. W., Fine, A., Strickland, B. B., Antonelli, R. C., Wilhelm, C. L., ... & Wells, N. (2014). Optimizing health and health care systems for children with special health care needs using the life course perspective. *Maternal and child health journal*, 18(2), 467-477.

Figure 6.9 Percent of Youth (12-17 years) with special health care needs who do not receive the services necessary to make appropriate transitions to adult health care, work, and independence, Arizona and United States, 2009/10



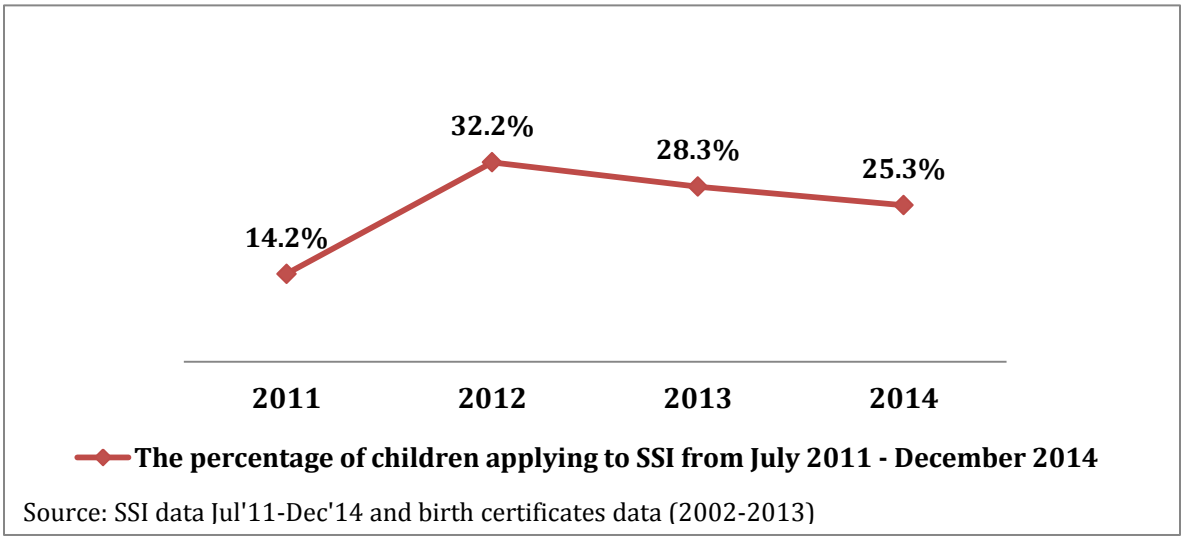
Source: *National Survey of Children with Special Health Care Needs, 2009/10*

Supplemental Security Income (SSI):

Supplemental Security Income (SSI) is a federal program funded by the general tax revenue (not Social Security tax) providing supplemental income to the aged, blind and disabled persons with no or little income to meet the basic necessities of food, shelter and clothing[174]. According to the NS-CSHCN 7.5% of CSHCN receive SSI disability benefits in Arizona as compared to 8% nationwide[175]. The data obtained by matching cases from children who applied for SSI benefits between July 2011- December 2014 and birth certificates data from 2002-2013 showed that 10,145 children applied for SSI benefits in the state. From 2011 to 2014 there was a slight gradual decline in the percent of children who applied for SSI benefits in Arizona. This data are presented in Figure 6.10.

[174] Social Security: Supplemental Security Income. (2015). Retrieved May 26, 2015, from http://www.ssa.gov/ssi/
[175] National Survey of Children with Special Health Care Needs. NS-CSHCN 2009/10. Data query from the Child and Adolescent Health Measurement Initiative, Data Resource Center for Child and Adolescent Health website. Retrieved [05/24/15] from www.childhealthdata.org.

Figure 6.10 Percentage of children applying to SSI from July 2011 - December 2014



Source: SSI data Jul'11-Dec'14 and birth certificates data (2002-2013)

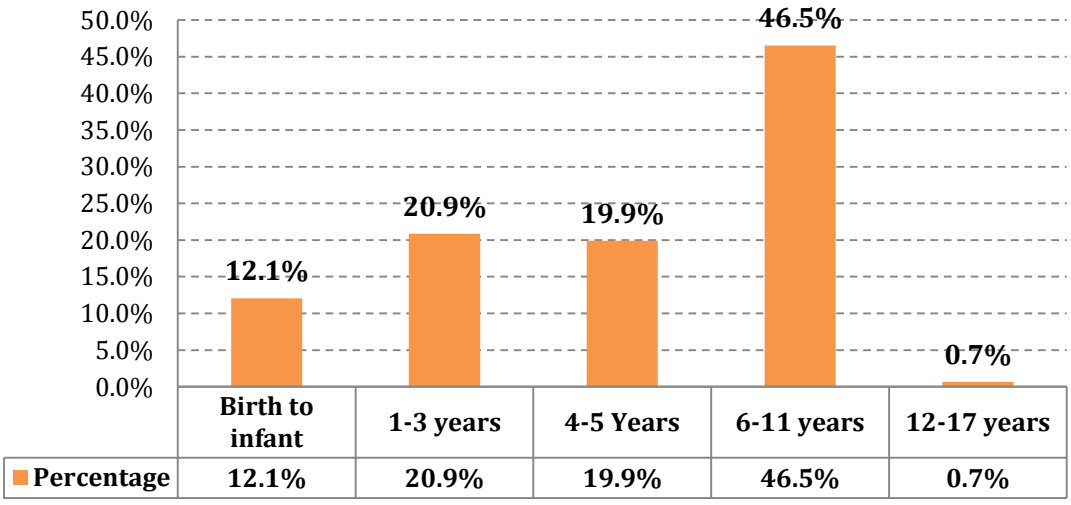
Table 8 : The number of children who applied for SSI by age-group

Age group	Number of Children	Percent (%)
Birth to infant	1224	12.07%
1-3 years	2115	20.85%
4-5 Years	2021	19.92%
6-11 years	4718	46.51%
12-17 years	67	0.66%

Source: SSI data Jul'11-Dec'14 and birth certificates data (2002-2013)

Table 8 shows the number of children who applied for SSI by age-group. Approximately fifty-three percent of applicants were birth through five years old, 46.5% were six to eleven and less than 1% were twelve years or over as shown in the Figure 6.11.

Figure 6.11 The number of children who applied for SSI by age-group



Source: SSI data July 11-Dec'14 and birth certificates data (2002-2013)

Sixty-five percent of children applying for SSI benefits between July 2011 and December 2014 were male (n=6,633) while 35% (n=3,512) were females. Applications also varied by race/ethnicity. Forty-seven percent of applications were for Hispanic or Latino children while 26% were for white non-Hispanic children, 15% for American Indian or Alaskan Native Children, 12% for African American Children and only 1% for children who are Asian or Pacific Islander.

The applications varied by condition for children applying for disability benefits. The top five conditions were behavioral health (26% of applications) speech and language (18.7%), autism (8.6%), learning disorder (5.41%) and respiratory conditions (5.37%). Table 9 shows the top five conditions.

Table 9: Top five conditions for which families applied for disability in the state of AZ

Condition	Number of children (%)
Behavioral Health	2189(21.6%)
Speech and Language	1901(18.7%)
Autism	873(8.6%)
Learning Disorder	548(5.4%)
Respiratory Conditions	538(5.3%)

CROSS-CUTTING OR LIFE COURSE

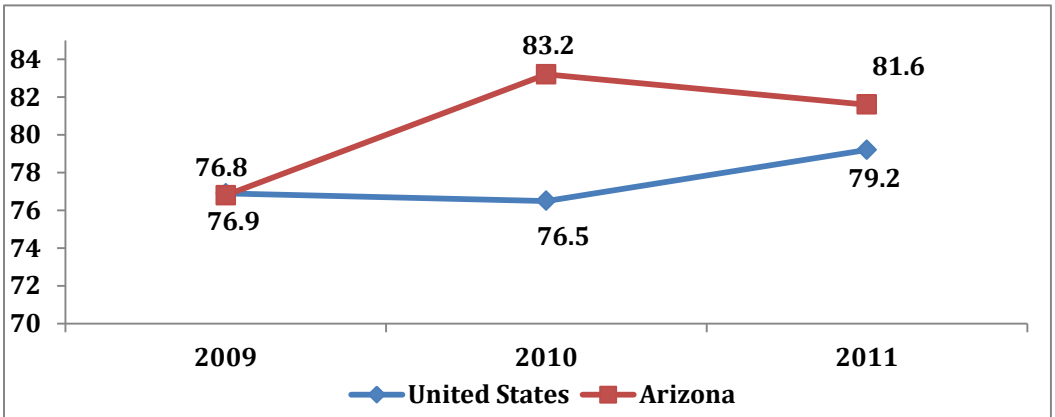
The life-course or cross-cutting approach describes health development as an ongoing process that starts before conception and continues throughout the lifespan[176]. A Life Course perspective shows how health is influenced by not only biological and individual behaviors, but also includes social, cultural, and environmental contributors. A maternal and child health life course perspective aims to approach a child's development holistically and promote health by a comprehensive and collaborative effort which helps to eliminate disparities and barriers to healthcare[177].

Nutritional Status and Physical Activity:

Breastfeeding

Numerous research suggests that breastfeeding is associated with protective factors which include, but are not limited to lower risk of ear[178], respiratory[179,180] or gastrointestinal infection, sudden infant death syndrome[181], Type 2 diabetes[182] and many more conditions. The breastfeeding rates continue to increase in the United States with 79% of newborns who were born in 2011 were ever breastfed compared to 77% in 2010. Arizona's breastfeeding initiation rates (81.6% in 2011) tend to be above national rates (79%). Overall, the state approximates to the Healthy People 2020 goal to increase the proportion of infants who are ever breastfed to 81.9%.

Figure 7.1 Ever breast fed rates for Arizona compared to United States



Source: Centers for Disease Control and Prevention National Immunization Survey (NIS), 2009-

[176] Halfon, N., Larson, K., Lu, M., Tullis, E., & Russ, S. (2014). Lifecourse health development: past, present and future. Maternal and child health journal, 18(2), 344-365.

[177] Pies, C., & Kotelchuck, M. (2014). Bringing the MCH life course perspective to life. Maternal and child health journal, 18(2), 335-338.

[178] Duncan B, Ey J, Holberg CJ, et al. Exclusive breast-feeding for at least 4 months protects against otitis media. Pediatrics 1993;91(5):867-72.

[179] Bachrach VR, Schwarz E, Bachrach LR. Breastfeeding and the risk of hospitalization for respiratory disease in infancy: a meta-analysis. Arch Pediatr Adolesc Med 2003;157(3):237-43.

[180] Duijts, L., Jaddoe, V. W., Hofman, A., & Moll, H. A. (2010). Prolonged and exclusive breastfeeding reduces the risk of infectious diseases in infancy. Pediatrics, 126(1), e18-e25.

[181] Mitchell EA, Tuohy PG, Brunt JM, et al. Risk factors for sudden infant death syndrome following the prevention campaign in New Zealand: a prospective study. Pediatrics 1997;100(5):835-40.

[182] Owen CG, Martin RM, Whincup PH, et al. Does breastfeeding influence risk of type 2 diabetes in later life? A quantitative analysis of published evidence. Am J Clin Nutr 2006;84(5):1043-54.

In 2003, an expert panel of researchers from CDC recommended an ongoing, national surveillance to monitor and assess hospital practices regarding breastfeeding. The first national survey of maternity care practices, known as Maternity Practices in Infant Nutrition and Care (mPINC) was administered to every facility that routinely provides maternity care services in 2007[183]. In 2013, Arizona ranked #29 on the mPINC survey among all states, scoring a composite of 75 from a total of 100.

Breastfeeding is a highly efficient and simple measure, which a mother can take to safeguard her child's well-being. Furthermore, research demonstrates that breastfeeding lowers the risk for pediatric overweight and it is directly proportional to the duration of breastfeeding[184].

Obesity and nutritional status based on body mass index

Body mass index (BMI) is an indicator calculated from an individual's weight and height. It is a reliable measure of fat in the body and used to categorize weight and screen for obesity[185]. Overweight in adults is defined as the BMI being 25-29.9 and obesity is defined as BMI more than 30[186]. Overweight or obesity in children is defined 85th percentile or above for children and teens of the same age and sex. Below is the nutritional status of Arizona children and adults.

Children and adolescents[187]

Based on results from the 2011/2012 National Survey of Children's Health (NSCH), the percent of children 10 to 17 years of age in Arizona who were overweight or obese (37%) was higher than that of the United States (31.3%). More specifically, in Arizona, approximately 17% were overweight while 20% were obese. In Arizona, 40% of boys (10 to 17 years) were overweight or obese while 33% of girls were overweight or obese. Both of these values are higher for Arizona children than children nationwide, which saw 35% of boys and 28% of girls being overweight or obese. More Arizona Hispanics are overweight or obese than Hispanics nationwide (50.2% and 39.9%, respectively), while fewer White, non-Hispanics in Arizona are overweight or obese compared nationally (23.7% and 26.3%, respectively). Significantly more Hispanic children (50.2%) ages 10-17 were reported as being overweight or obese compared to 23.7% of White, non-Hispanic children in Arizona (See Figure 7.2)

[183]Centers for Disease Control and Prevention (CDC). (2013). The CDC mPINC Survey. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.

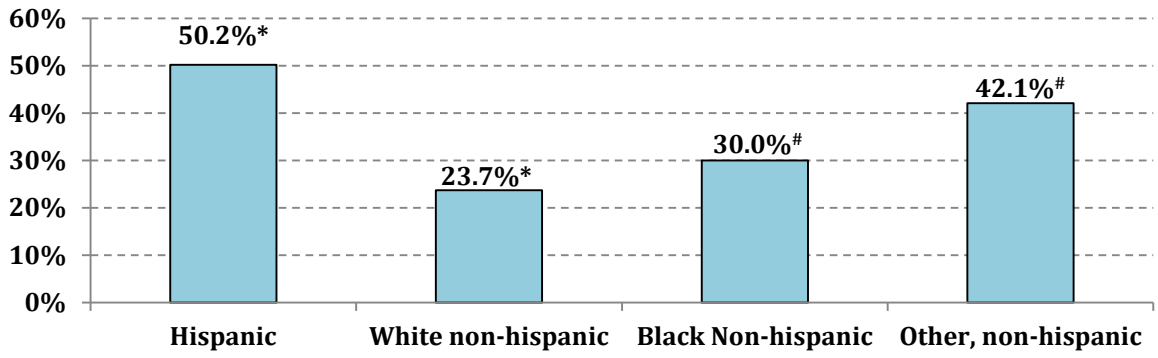
[184] Division of Nutrition and Physical Activity: Research to Practice Series No. 4: Does breastfeeding reduce the risk of pediatric overweight? Atlanta: Centers for Disease Control and Prevention, 2007.

[185] Body Mass Index. (2012). In F. Mooren (Ed.), Encyclopedia of Exercise Medicine in Health and Disease (p. 137). Springer Berlin Heidelberg.

[186] Classification of Overweight and Obesity by BMI, Waist Circumference, and Associated Disease Risks. Retrieved June 4, 2015, from http://www.nhlbi.nih.gov/health/educational/lose_wt/BMI/bmi_dis.htm

[187] National Survey of Children's Health. NSCH 2011/12. Data query from the Child and Adolescent Health Measurement Initiative, Data Resource Center for Child and Adolescent Health website. Retrieved [04/23/15] from www.childhealthdata.org

Figure 7.2 Children who were overweight or obese, based on BMI (10-17 years) by race/ ethnicity

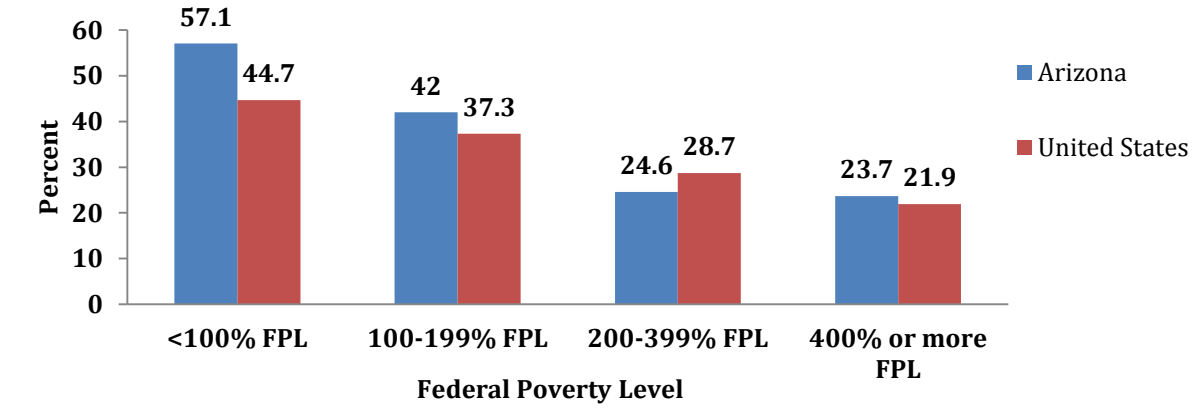


* statistically significant difference
# sample size too small to get reliable

Source: *National Survey of Children's Health, 2011/2012*

There are more children with special health care needs (CSHCN) who are overweight or obese in Arizona (37.6%) compared to the United States (35.3%). Similarly, there are more children without special health care needs who are overweight or obese in Arizona (36.3%) than the United States (35.3%). The difference between CSHCN and non-CSHCN who are overweight and obese in Arizona is smaller than the difference between the two groups at the national level. The percentage of overweight and obese children also differs by insurance type. Nearly 47% of Arizona children with public insurance are overweight or obese, compared to just 28.9% of Arizona children with private insurance. The same holds true for the nation as a whole. For both insurance types, the percent of overweight or obese children is greater in Arizona than the nation as a whole.

Figure 7.3 Percent of overweight or obese children ages 10-17 years, by federal poverty level, Arizona and United States, 2011/2012



Source: *National Survey of Children's Health, 2011/2012*

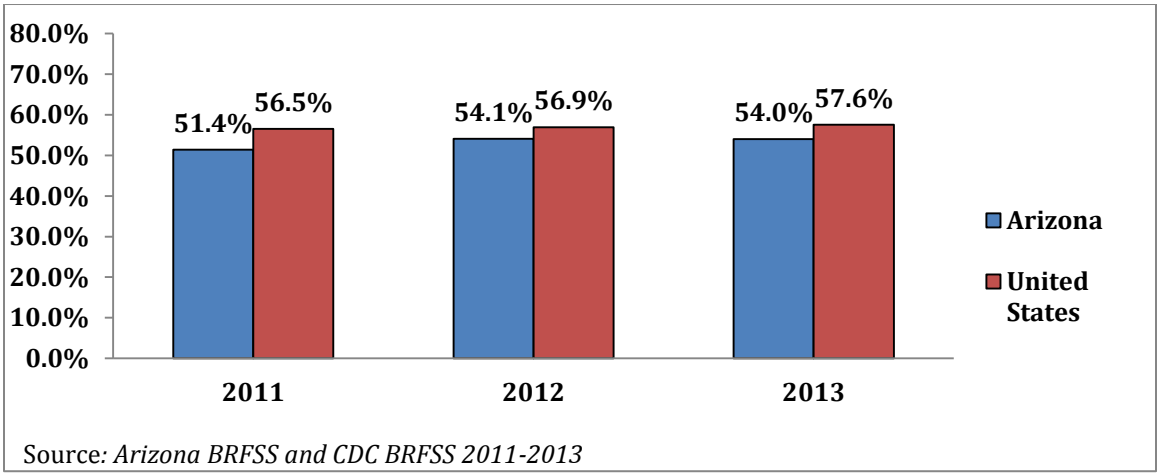
The percent of overweight or obese Arizona children who live at less than 100% of the federal poverty level (FPL) is 57.1%; this percent is more than double those who live at 200-399% FPL and 400% or more

FPL (24.6% and 23.7%, respectively). The percent overweight or obese at less than 100% FPL is also substantially higher than those at 100-199% FPL. While the same trend is true for the United States, the differences between the FPL categories are not as drastic and pronounced for the United States as it is for Arizona (Figure 7.3).

Women[188]

Based on data from the Behavioral Risk Factor Surveillance System (BRFSS), from 2011 to 2013 the percent of overweight and obese women 18 years and older in Arizona increased slightly from 2011(51.4%) to 2013(54%). During all three years, Arizona had fewer overweight or obese adults than the United States (Figure 7.4). In 2013, 18-24 years old women in Arizona had the lowest percentage of individuals (35.3%) who were overweight or obese while 45-54 years olds had the most (64.7%). To add, 47.4% 25-34 years old women, 54.2% 35-44 years old women and 53.4% women 65 years and older were obese or overweight.

Figure 7.4 Percent of women who are currently overweight or obese (based on BMI), Arizona and United States, 2011-2013

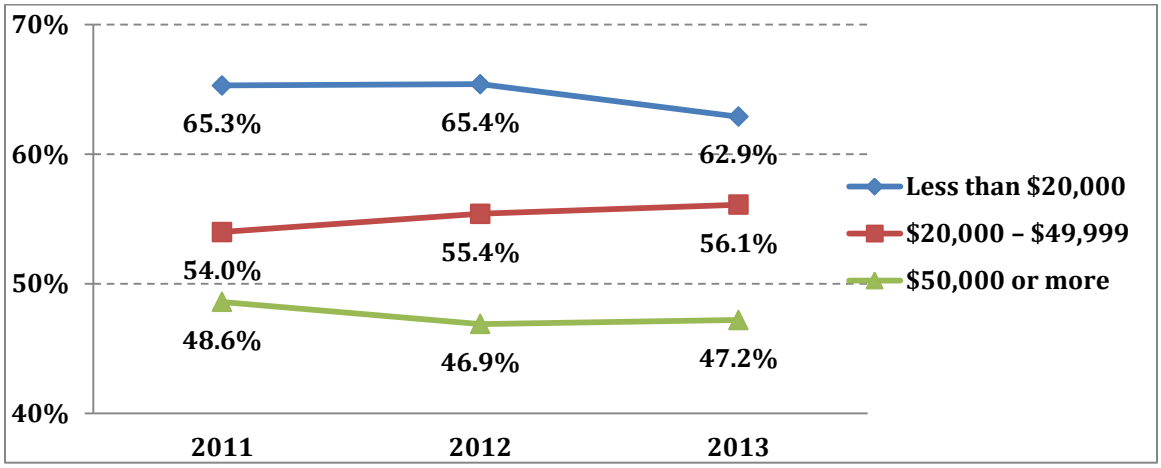


Source*: Arizona BRFSS and CDC BRFSS 2011-2013*

In 2012, significantly more Arizona women (61.3%) residing in rural counties were overweight or obese as compared to women (53.6%) residing in urban counties. Similar trends were seen in 2013 (57.1% in rural counties vs 54.3% in urban counties). In Arizona, considerable disparities were seen according to household income with the prevalence of obesity or overweight status decreasing with increasing income. In 2013, 62.9% women who made less than $20,000, 56.1% who made $25,000-49,999 and 47.2% who made $50,000 or more were overweight or obese (Figure 7.5). Furthermore, significant differences were demonstrated according to the level of education, but it did not correlate directly in Arizona, ranging; from a high of 66.2% in 2011 to 61.3% in 2013 among women who did not graduate high school to a low of 40.9% in 2011 to 46.9% in 2013 among women who graduated from college or technical school. In 2013, 52.3% high school graduates and 56.9% women who attended college or technical school were overweight or obese in Arizona.

[188] Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, [2011-2013].

Figure 7.5 Percentage of overweight and obese women by household income level



Source: Behavioral Risk Factor Surveillance System Survey 2011-13

Oral Health[189]

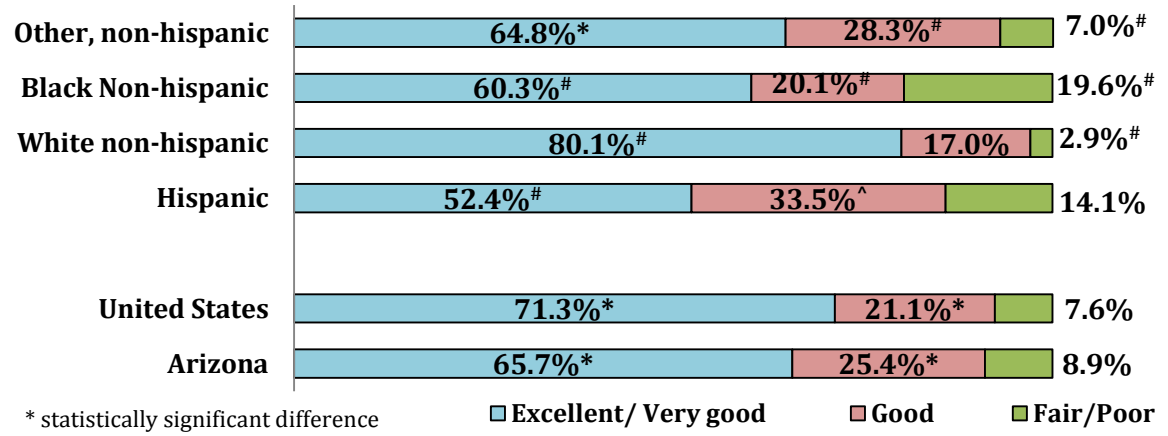
Good oral hygiene and timely treatment of oral health illness during preconception, pregnancy or intra-partum stage promotes general wellbeing, improved birth outcomes and inproved childrens' dental health[190]. Furthermore, women's preconception oral hygiene is vital and has impact on birth outcome and infant oral health[191]. Healthy People 2020 includes a goal to prevent and control oral and craniofacial diseases, conditions, and injuries, and to improve access to preventive services and dental care[192].

Oral Health Status of Children and Adolescents

Nearly 66% of Arizona parents described their child's teeth as being in excellent or very good condition, which was significantly less compared to national average of 71.3%. Arizona parents more often described their child's teeth as being in good condition (25.4%) than did parents nationally (21.1%). Both the differences were statistically significant. Furthermore in Arizona, disparities were seen by race/ ethnicity. Over 80% of White, non-Hispanic children were reported as having teeth in excellent or very good condition, compared to only 52.4% of Hispanic children and 64.8% of other, non-Hispanic children in Arizona. Over 33% of Hispanic children were reported as having teeth in good condition, compared to 17.0% of White, non-Hispanic children. The sample sizes for the remaining racial groups were small and the estimates were not reliable. (Figure 7.6)

[189] National Survey of Children's Health. NSCH 2011/12. Data query from the Child and Adolescent Health Measurement Initiative, Data Resource Center for Child and Adolescent Health website. Retrieved [04/23/15] from www.childhealthdata.org
[190] Boggess, K. A., & Edelstein, B. L. (2006). Oral Health in Women During Preconception and Pregnancy: Implications for Birth Outcomes and Infant Oral Health. Maternal and Child Health Journal, 10(Suppl 1), 169–174. doi:10.1007/s10995-006-0095-x
[191] Belda-Ferre, P., Alcaraz, L. D., Cabrera-Rubio, R., Romero, H., Simón-Soro, A., Pignatelli, M., & Mira, A. (2012). The oral metagenome in health and disease. The ISME journal, 6(1), 46-56.
[192] U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Healthy People 2020. Available at http://healthypeople.gov/2020.

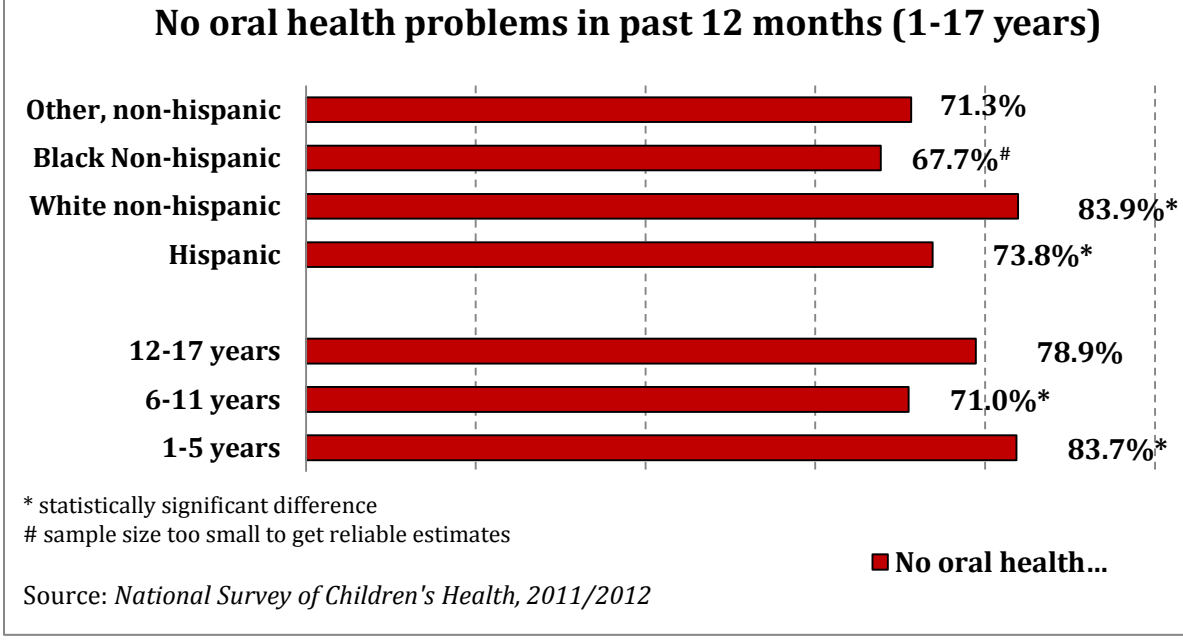
Figure 7.6 Oral health status of child aged 0-17 years



Source: *National Survey of Children's Health, 2011/2012*

Based on the NSCH, parents self-reported if their child aged 1-17 years had any oral health problems in the past 12 months. Seventy-one percent of 6-11 year olds had no oral health problems in the past 12 months, versus 83.7% of 1-5 year olds at the time of the survey. Almost 84% of White, non-Hispanic children had no oral health problems in the past 12 months, compared to 73.8% of Hispanic children. (Figure 7.7)

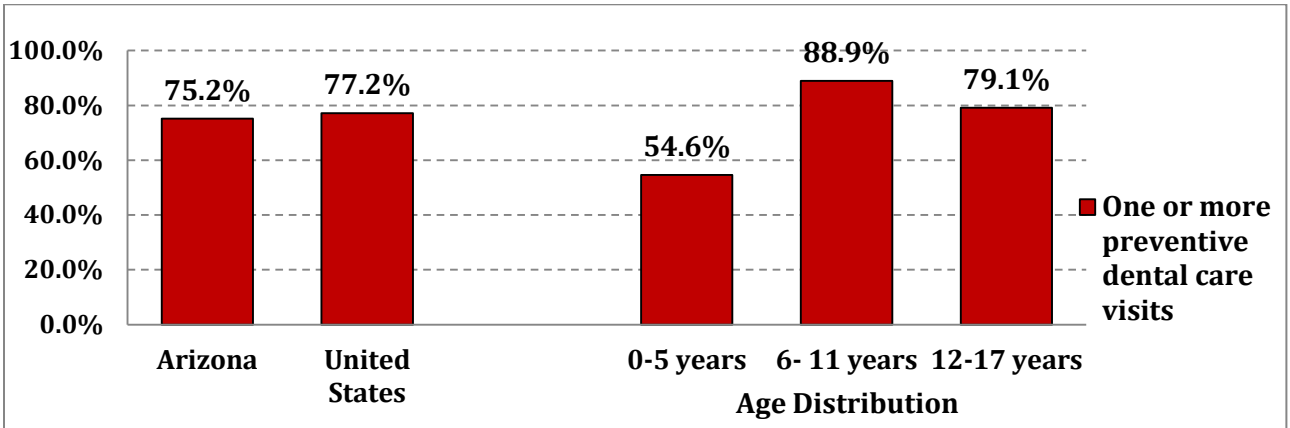
Figure 7.7 The percent of children who had no oral problems during the past 12 months or since birth



Source: *National Survey of Children's Health, 2011/2012*

As shown in Figure 7.8 below, 75% of Arizonan children went to a preventive care visit in the past 12 months at the time of the survey which was similar to the nation of 77%. In Arizona, 88.9% of 6-11 year olds had one or more preventive dental care visits in the past 12 months, which was significantly more than 12-17 year olds (79.1%) and 0-5 year olds (54.6%). The percent of 0-5 year olds having at least one preventive dental care visit was also significantly lower than that of 12-17 year olds.

Figure 7.8 The number of times children saw a dentist for preventive dental care such as check-ups and dental cleanings during the past 12 months or since birth



Source: *National Survey of Children's Health,*

Tooth Decay[193]

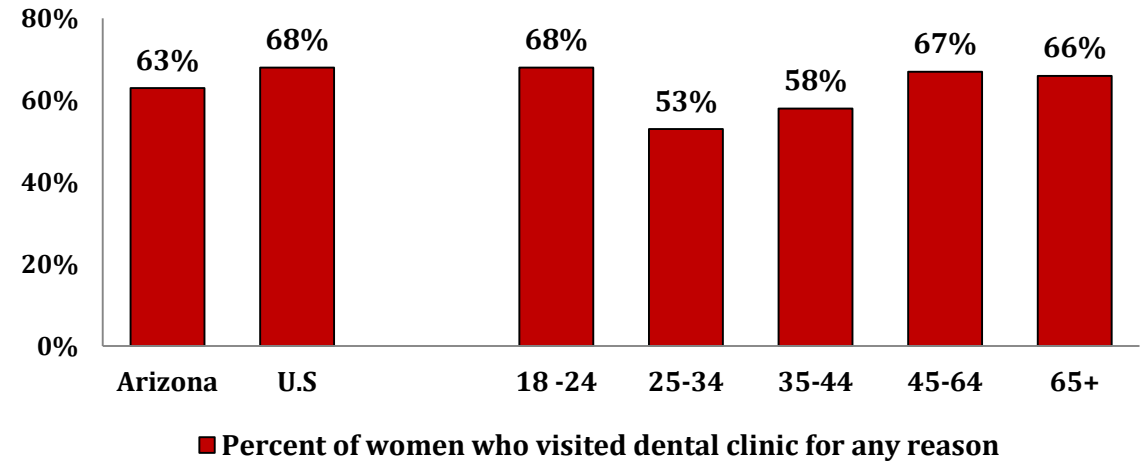
In Arizona, 64% of third graders had decay experience, compared to 58% of third graders nationally[194]. Additionally, there are racial and ethnic disparities in Arizona. Compared to white children (54.3%), American Indian (86.4%) and Hispanic children (68.5%) have a significantly higher prevalence of decay experience. Meanwhile, 59.3% of African Americans had a tooth decay experience. The Arizona children with AHCCCS insurance (67.7%) and children with no insurance (78.6%) have a significantly higher prevalence of decay experience than children with employer provided or privately purchased insurance (54.6%).

[193] Arizona Healthy Smiles Healthy Bodies Survey, 2013-2014
[194] National Health and Nutrition Examination Survey (NHANES) 1999-2004. Secondary analysis of public datasets.

Oral health status of women[195]

In 2012, 63% women in Arizona age 18 and older self-reported that they had a dental visit in the past at the time of the survey (Figure 7.9). This was lesser compared nationally where 68% females had a visit in the past year. There was some variation by age, with the highest percentages found among women age 18-24(68%). The percentage was similar for women age 45-64 (67%) and women age 65 and older (66%). The percentages were lower for other age groups (53% and 58% for 25-34 and 35-44 respectively). There was variation by race/ethnicity, with Hispanic/Latina women reporting the lowest percentage (48%), and non-Hispanic White women (69%) and women of other races or ethnicities (73%) reporting the highest percentages.

Figure 7.9 Percentage of Women Who Visited Dental Clinic in Past Year, Arizona and U.S. 2012 and age-group



Source: Arizona BRFSS and CDC BRFSS 2012

Tobacco and Maternal and Child Health

Smoking has long been associated with many ill effects. Recent trends show that mortality from cigarette smoking is increasing among women as compared to men in the United States who have plateaued since the 1980s[196]. Tobacco use in women before, during or after pregnancy continues to be the most common preventable causes of neonatal morbidity as well as mortality. Maternal smoking is associated with numerous poor birth outcomes including spontaneous abortions, preterm delivery, birth defects like cleft lip and palate, childhood obesity[197,198]. Furthermore, a child living in household where

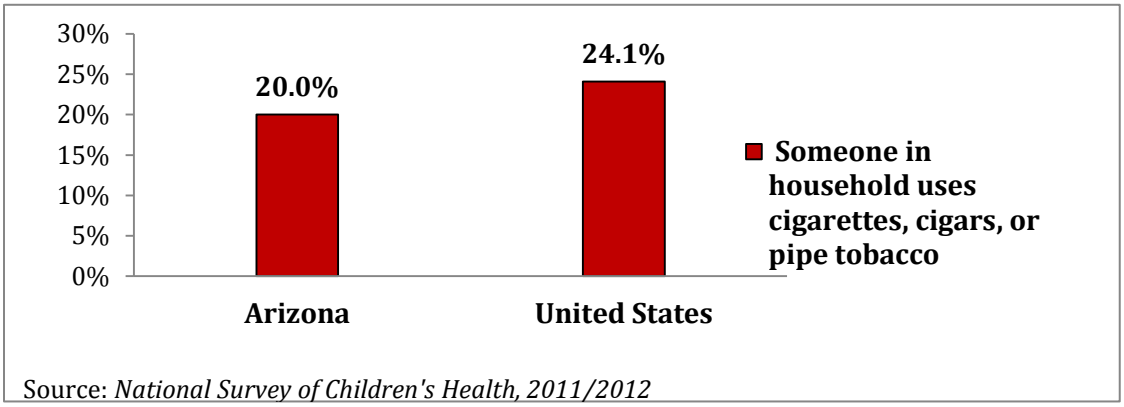
[195] Centers for Disease Control and Prevention (CDC) (2012). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, [2012].
[196] Thun, M. J., Carter, B. D., Feskanich, D., Freedman, N. D., Prentice, R., Lopez, A. D., ... & Gapstur, S. M. (2013). 50-year trends in smoking-related mortality in the United States. New England Journal of Medicine, 368(4), 351-364.
[197] National Center for Chronic Disease Prevention and Health Promotion (US); Office on Smoking and Health (US). How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking-Attributable Disease: A Report of the Surgeon General. Atlanta (GA): Centers for Disease Control and Prevention (US); 2010. 8, Reproductive and Developmental Effects. Available from: http://www.ncbi.nlm.nih.gov/books/NBK53022/

someone smokes has ill effects due to the second hand smoking. This second hand smoking is associated with ear disease[199], asthma and respiratory disease[200], and mental health problems[201] in the child.

Child Health

Based on the NSCH, in Arizona, only 20% of children live in a household where someone uses cigarettes, cigars, or pipe tobacco, which is significantly less than the national average of 24 percent (Figure 7.10).

Figure 7.10 The percent of children who live in a household where someone smokes



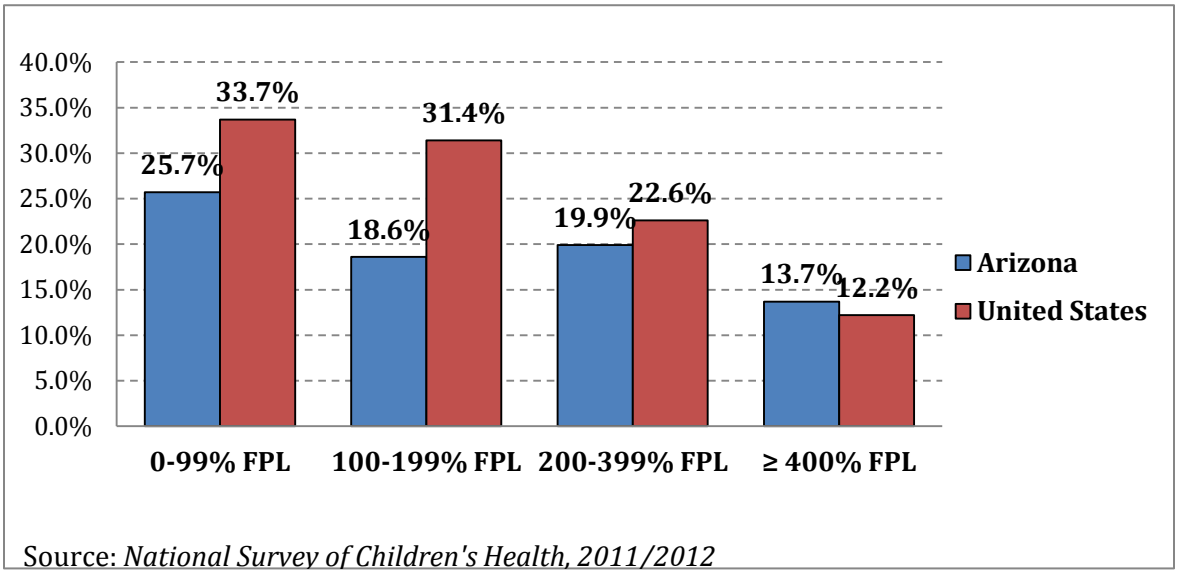
Source: *National Survey of Children's Health, 2011/2012*

Fewer Hispanic households (17.2 %) had someone who smoked as compared to White, non-Hispanics (21.2 %). Considerably more children with special healthcare needs (25.1%) live in the household with someone using cigarettes, cigars, or pipe tobacco as compared to non-CSHCN children in Arizona (18.7 %). The rates are higher nationally with approximately 30 percent of children with special healthcare needs living in a household where someone smokes as compared to 23 percent non-CSHCN.

Smoking in households where a child lives had an inverse relationship with income level. The higher the household income level the lesser the smoking rates. The percent of Arizona children who live at less than 100% of the federal poverty level (FPL) and has someone smoking in household is 25.7%; this percent is more than those who live at 200-399% FPL and 400% or more FPL (19.9% and 13.7%, respectively). While the same trend is true for the United States, the differences between the FPL categories are more drastic and pronounced for the United States as it is for Arizona. (Figure 7.11)

[198] Gorog, K., Pattenden, S., Antova, T., Niciu, E., Rudnai, P., Scholtens, S., ... & Houthuijs, D. (2011). Maternal smoking during pregnancy and childhood obesity: results from the CESAR study. Maternal and child health journal, 15(7), 985-992.
[199] Jones, L. L., Hassanien, A., Cook, D. G., Britton, J., & Leonardi-Bee, J. (2012). Parental smoking and the risk of middle ear disease in children: a systematic review and meta-analysis. Archives of pediatrics & adolescent medicine, 166(1), 18-27.
[200] Burke, H., Leonardi-Bee, J., Hashim, A., Pine-Abata, H., Chen, Y., Cook, D. G., ... & McKeever, T. M. (2012). Prenatal and passive smoke exposure and incidence of asthma and wheeze: systematic review and meta-analysis. Pediatrics, 129(4), 735-744.
[201] Bandiera, F. C., Richardson, A. K., Lee, D. J., He, J. P., & Merikangas, K. R. (2011). Secondhand smoke exposure and mental health among children and adolescents. Archives of pediatrics & adolescent medicine, 165(4), 332-338.

Figure 7.11 Smoking in household with a child by Federal Poverty Line, 2011-2012



Source: *National Survey of Children's Health, 2011/2012*

Women's Health[202]

In 2013, the Behavioral Risk Factor Surveillance System (BRFSS) survey reported that 13.5 percent of women in Arizona were current smokers as compared to 17.2 percent nationally. Furthermore, data from the Health Status and Vital Statistics Report of Arizona for 2013 show that 4.4% of women giving birth smoked during pregnancy in 2013. A recent study evidenced that smoking during pregnancy is related to statistically significant increase in cardiovascular defects, limb reduction, and cleft palate in the child[203].

[202] Centers for Disease Control and Prevention (CDC) (2012). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, [2012].

[203] Hackshaw, A., Rodeck, C., & Boniface, S. (2011). Maternal smoking in pregnancy and birth defects: a systematic review based on 173 687 malformed cases and 11.7 million controls. Human Reproduction Update, 17(5), 589-604.

MATERNAL CHILD HEALTH CAPACITY OF THE BUREAU OF WOMEN'S AND CHILDREN'S HEALTH

The following section will describe the capacity of Arizona's Title V program to serve the women and children of Arizona, including children with special health care needs, by discussing the organizational structure, agency capacity and MCH workforce capacity of the Arizona Department of Health Services Bureau of Women's and Children's Health. This section will also describe the partnerships, collaboration and coordination both internally and externally.

ORGANIZATIONAL STRUCTURE

The Arizona Department of Health Services (ADHS) is one of the executive agencies that report to the Governor. On January 2, 2015, Doug Ducey became the 23rd person to take the oath of office as Governor of Arizona. §A.R.S. Title 36-691 designated the Arizona Department of Health Services as Arizona's Title V MCH Block Grant administrator.

The Arizona Department of Health Services is organized into four divisions: Public Health Services, Behavioral Health Services, Licensing Services, and Operations. The Office of Director includes a Native American Liaison, Local Health Liaison, Border Health, Public Information Office, and Legislative Services. Bureau of Health Statistics is also part of the Division of Public Health Services. The Division of Behavioral Health Services includes the State Hospital. An ADHS organization chart can be viewed at http://azdhs.gov/diro/documents/adhs-org-chart.pdf.

The Division of Public Health Services is organized into two primary service lines: Public Health Preparedness Services and Public Health Prevention Services (PHPS). Public Health Prevention Services includes four bureaus: Women's & Children's Health (includes the Office for Children with Special Health Care Needs), Nutrition & Physical Activity (includes WIC), Tobacco & Chronic Disease, and Health Systems Development (includes Center for Health Disparities).

Arizona Department of Health Services' administrative offices are located in the capitol mall area in the city of Phoenix. This location enhances collaboration between ADHS divisions as well as other state agencies.

The Bureau of Women's and Children's Health (BWCH) is comprised of seven offices: Office of Women's Health, which includes adolescents, Office of Children's Health, which includes infants, Office for Children with Special Health Care Needs, and cross cutting efforts which includes the offices of Oral Health, Injury Prevention, Assessment & Evaluation, and the Business & Finance Section. The BWCH chief serves as the Title V Administrator. Most of the programs funded through Title V are housed in the BWCH. Where the funded programs are not a part of the Bureau there is a clear coordination of efforts.

AGENCY CAPACITY

The Bureau of Women's and Children's Health (BWCH) administers a range of programs that focus on the health of women and children. This discussion of the capacity of Arizona's Title V agency to meet those needs will utilize the framework of populations as outlined in the 2015 Title V Needs Assessment and Application. The programs are primarily preventive or serve as safety net services in communities with limited resources. While several programs serve more than one population, a decision was made to include it in the population most affected by the program where possible.

Women/Maternal

In order to support the health and wellness of Arizona's women, the programs seek to ensure that women have the information and resources necessary to achieve optimal health and wellness.

BWCH is responsible for administering the Federal **Family Violence Prevention** and Services Act (FVPSA) grant funds which supports the establishment, maintenance, and expansion of programs and projects that prevent family violence and to provide immediate shelter and related assistance for survivors and their dependents. The program collaborates with state and private agencies to implement services based on the Arizona Service Standards and Guidelines for Domestic Violence Programs. The Guidelines were developed by the State Agency Coordinating Team (SACT) and supported by the Arizona Coalition to End Sexual and Domestic Violence (ACESDV). The Program funds nine organizations who are a part of the Safe Home Networks in Arizona's rural communities; each reflecting the unique needs of their community and the victims that they assist.

In 2014, BWCH collaborated with ACESDV, Arizona State University Morrison Institute for Public Policy and the Arizona Department of Economic Security to implement a statewide study to ascertain how well shelters were meeting the needs of domestic violence victims and their families and prompt discussion among practitioners, funders and stakeholders about the results of the study. A key finding was that non-shelter support services are equally as important in rural and urban communities and ranked as a higher need than shelter services. In April 2015, the data was distributed to domestic violence service providers statewide. During the coming year, state and local agencies will determine how to use this data to strengthen advocacy and support victim's needs.

The Centers for Disease Control (CDC) and Prevention, National Center for Injury Prevention and Control (NCIPC) provides funding to the BWCH to administer the **Sexual Violence Prevention and Education Program** (SVPEP). This funding was established in 1994 under the Violence against Women Act (VAWA) and reauthorized in 2013 to reduce sexual violence through implementation of evidence based/ informed primary prevention with individuals and communities. The Arizona SVPEP contracts with two state universities and two community based organizations to provide multi-session educational presentations for youth and young adults in middle and high schools as well as universities. Services are provided in three of Arizona's 15 counties.

Arizona SVEP also implements the Arizona Safer Bars Alliance (ASBA), an innovative project to decrease sexual violence by providing bystander intervention training to staff of alcohol serving establishments. ASBA is working with the University of Arizona to move the program from an evidence-informed to an evidence-based project. The SVPEP participates with the Governor's Commission to Prevent Violence Against Women and is a member of the State Agency Coordinating Team (SACT).

BWCH also administers the **Sexual Assault Services Program** (SASP) which provides direct services to individuals who have survived sexual violence. The Office on Violence against Women (OVW) provides funding to support crisis centers and nonprofit organizations that provide direct intervention and supportive services. The SASP funds are targeted to under-served/rural areas where services for sexual assault victims/survivors are minimal or non-existent. The SASP contractors are established agencies with experience providing sexual assault services in rural areas to underserved populations. The staff understands the cultural and social issues as they relate to reporting and responding to sexual violence.

BWCH uses Title V Maternal and Child Health Services Block Grant funds to support the **Reproductive Health/Family Planning Program**, a statewide, clinic-based, program that provides comprehensive reproductive health services to promote optimal health for Arizona's men and women. The Reproductive Health Program partners with the Title X grantee on data collection and training. It works with WIC, home visiting programs, and the Office of Immunizations on referrals; with the STD and HIV programs to obtain data and ensure the Title V clinics are following current screening and testing guidelines; with school nurses, domestic violence agencies, and provides information at community events. Each provider maintains a comprehensive list of local resources to assist clients and refers to them for physical and/or behavioral health care and social services.

The Title V agency serves women by supporting their entry into prenatal care through home visiting programs. **Health Start** is a state supported home visitation program that utilizes community health workers (CHW) to identify women early in their pregnancy and link them to prenatal care. Health Start Program integrates domestic violence screening into the scope of services provided to clients. CHWs provide education, referrals and developmental screenings until the child's second birthday.

Health Start is a member of the Strong Families Arizona Home Visiting Alliance, which facilitates collaboration among all home visiting programs in Arizona. Health Start also coordinates with the Department of Child Safety and Medicaid health plans. It serves as a lead member of the Statewide Task Force on Preventing Prenatal Exposure to Alcohol and Other Drugs. Health Start also collaborates with the ADHS Bureau of Behavioral Health; the Arizona Community Health Workers and the federally qualified health centers.

Described in more detail in the Infant/Perinatal section, the Maternal, Infant and Early Childhood Home Visiting Program (MIECHV) promotes and encourages prenatal care and postpartum care; screens and refers for pre and postnatal use of alcohol, tobacco or drugs; provides information and education on birth spacing and preconception care; screens and refers for maternal depression; increases health insurance enrollment for families and screens and refers for domestic violence including completing a

safety plan when needed. MIECHV partnered with Arizona Family Health Partnerships, the Arizona Title X provider, to develop and implement a Family Planning/Well Woman training to provide home visitors with information and tools for young families regarding birth spacing, preconception and inter-conception health.

The 2014 Strong Families Home Visiting Conference provided several sessions targeting women and maternal health. Workshops included Client-Centered Reproductive Health and Interconception Care and Counseling; Mental Health First Aid; Helping Moms and Kids Make Healthier Food Choices; Engaging Reluctant Parents through Adult Learning; Healthy Mind, Healthy Body, Happy Mom; Helping Moms and Kids Make Better Food Choices; Working with Victims of Domestic Sex Trafficking; Substance Abusing Mothers and the Home Visitor; A Healthy Environment Starts Here: Supporting Healthy Eating in Pregnancy and Teaming Up: Supporting Home Visitors in Addressing Domestic Violence. Planning is underway for the 2015 Conference with similar workshop offerings.

Title V helps to support the **Midwife** Licensing Program that currently licenses 73 midwives; 13 were new in 2014. The application for initial licensure requires documentation that the North American Registry of Midwives certifies the midwife as a Certified Professional Midwife. The license renewal process includes a minimum of 20 hours of continuing education units to improve a midwife's ability to provide services within the scope of practice, recognize and respond to situations outside the midwifery scope, and provide guidance to other services a client may need.

Title V also helps to support the **Arizona Birth Defects Monitoring Program** in ADHS's Bureau of Public Health Statistics. The measurable outcomes of the program are to prevent or reduce birth defects and developmental disabilities and to reduce health disparities in the occurrence of folic acid-preventable spina bifida and anencephaly by reducing the birth prevalence of these conditions. This is accomplished through statewide surveillance to track and publish the occurrence and associated factors; providing data for national and local projects and reviews; publishing annual reports which include prevention strategies and developing, presenting, and distributing birth defects prevention information at public health events.

As in every state, Title V funds a toll free **Hot Line** for assistance connecting to resources for our women and children. Arizona's toll free Hot Lines provide women's health information relating to pregnancy, pregnancy testing sites, referrals, lactation referrals, prenatal vitamins, Federal Emergency Management Administration Services, AHCCCS (Arizona's Medicaid), Family Assistance programs, Text4Baby, and Low Cost Prenatal Packages and breastfeeding support. A bilingual Lactation Consultant staffs the line during normal business hours. After hours and on weekends and holiday the breastfeeding support is provided 24/7 by a bilingual contracted International Board Certified Lactation Consultants (ICBLC).

The purpose of High Risk Perinatal Program/Newborn Intensive Care Program (HRPP/NICP) is to reduce maternal and infant mortality and morbidity through a regionalized statewide system of coordinated perinatal care. The components of the program are: an Information and Referral Line; **Maternal and**

Neonatal Transport Services; Hospital and Inpatient Physician Services, including Developmental Care training and Community Nursing Services.

In 2011, the child fatality statute was expanded to include evaluation of the incidence and causes of maternal fatalities in Arizona. Maternal fatalities associated with pregnancy include the death of a woman while she is pregnant or within a year of her pregnancy. This led to the establishment of Arizona's first **Maternal Mortality Review** Subcommittee, which operates under the existing Child Fatality State Team. The Subcommittee members are highly respected professionals in the field including; OB/GYNs, perinatologists, directors of nursing, maternal-fetal medicine specialists, public health professionals, domestic violence specialists, behavioral specialists, and representatives from Arizona's tribal nations.

Preconception Health is a major focus of the BWCH and the Bureau supports a Preconception Health Alliance comprised of more than 30 internal and external partners working to improve the health of women and birth outcomes. Quarterly meetings support the goals of the Preconception Health Strategic Plan: 1) Increase the public's awareness about the importance of preconception health, 2) Promote behaviors that contribute to positive preconception health among women and men across the life span; and 3) Increase access to and delivery of physical, oral and behavioral health services that contribute to preconception health. The Preconception Health Alliance issues a women's health report every two years to track trends in women's health status.

BWCH has been providing leadership on preconception health for over eight years and as a result has successfully integrated preconception health screening, education and referrals into home visitation, family planning and community health nursing programs. The Office Chief for Women's Health is member of the CDC Preconception Health Consumer Workgroup.

Title V funds **Community Health Grants**, by partnering with the County Health Departments to address preconception health. While the approach varies by county, each utilizes the Spectrum of Prevention. This model moves from providing direct services to community education, provider education, fostering coalitions, changing organizational practices, and implementing policy. As a result of the findings of the 2015 Title V Needs Assessment findings, these contracts will now provide a menu of evidence based or evidence informed strategies based on the new priorities from which counties may choose.

Arizona is part of the national **Collaborative Improvement & innovation Network** (CoIIN) efforts around preconception health. As well, Arizona's Title V leadership is a part of the US Mexico Border Reproductive Health Task Force on Maternal Mortality and Teen Pregnancy Prevention.

Infant/Perinatal

In an effort to support parents with newborns, the BWCH utilizes Title V funds to maintain a **MCH Hotline**. Arizona Department of Health Services (ADHS) through the Bureau of Women's and Children's Health (BWCH) has provided a toll-free hotline to parents and families in Arizona since 1986. The mission of the Hotlines is to assist low-income people in Arizona in overcoming system, social and cultural barriers which otherwise separate them from health care. The Arizona Breastfeeding Hotline provides access to skilled lactation help 24-hours a day, seven days a week. During the business week the Hotline is staffed by a bilingual Certified lactation Consultant and afterhours by a bilingual International Board Certified Lactation Consultants (IBCLCs). Approximately 400 mothers per month have reached out during evening, weekend, and holiday hours to the Hotline for answers about positioning and latch, medications, managing work and school, and infant behavior.

The Bureau of Nutrition and Physical Activity has taken the lead on **breastfeeding**, adopting strategies that intervene on individual and community/institutional levels, and target different segments of the population. Together, over the long term, these strategies are expected to lead to a higher proportion of babies being born to mothers in Arizona who breastfeed, and who continue to breastfeed at six months and one year, and who exclusively breastfeed at three months and six months by implementing strategies in four major areas: 1) Training, 2) Technical Assistance, 3) Policy and Procedures, and 4) Direct Support Services.

The Maternal, Infant, Early Childhood Home Visiting (MIECHV) grant supports the Bureau of Nutrition and Physical Activity to provide breastfeeding training to over 150 home visitors. The goal of the course is to provide the skills, tools and resources to all home visitors in order to help them to help their clients make and reach their breastfeeding goals. The classes provide additional education hours for any home visitor who plans on taking the International Board Certified Lactation Consultant exam. In October 2014, eight Arizona WIC Program staff earned certification as new International Board Certified Lactation Consultants (IBCLCs) raising the total number of Arizona WIC IBCLCs to 75. As a result of StrongFamiliesAz, through MIECHV funding, 27 home visitors in local communities will be eligible to sit for the ICBLC certification test in July 2015, predominantly in rural and tribal areas.

Arizona's **home visiting programs** provide support for new families to understand the needs of their newborns and works to improve the quality of and access to preventive services. This is clearly evident in the extensive breastfeeding support; both direct services and infrastructure support. Arizona's Title V program is home to three different home visiting programs; the High Risk Perinatal Program, Health Start and MIECHV.

Arizona receives both formula and competitive funding for early childhood home visiting through the **Maternal, Infant and Early Childhood Home Visiting Program** (MIECHV), a federally funded grant to develop a statewide multi-pronged approach to build a system of family support programs at the state and local level. The overall goal is to improve the health and wellbeing of at-risk children and families.

The program provides evidence based home visiting programs to pregnant women and families with children under the age of five. The program promotes and encourages breastfeeding; follows up with families on well child doctor visits and immunizations; increase health insurance enrollment for infants; educates families on safe sleep practices and car seat safety; educates families on home safety precautions and preparedness; completes child development screenings and provides families with education on proper child development and coping strategies to ensure child safety and wellbeing.

Programs funded include Healthy Families (HF), Nurse-Family Partnership (NFP) and Family Spirit in the White Mountain Apache Tribe. Coordinators are funded to work in seven Arizona counties to support local capacity building, a networked home visiting referral system and engage families. MIECHV funds comprehensive program evaluation; a state-local continuous quality improvement program; and in September 2015 will complete an evaluation of the Arizona home visiting system as part of the larger early childhood health and development structure.

Evidence based home visiting is augmented by a comprehensive workforce development program provided through regional trainings and education, online courses, regular informative e-newsletters and an annual summit. Home Visitors receive a variety of trainings to prepare them to work with perinatal and infant health issues. Online training topics related to infants include Baby Behavior, Safe Sleep and Breastfeeding Webinars for Lactation Education Credit. Of the forty-five (45) Benchmark Institutes for Home Visitors, the following classes addressed perinatal/infant health: Breastfeeding Basic Training; Breastfeeding Basic Training II; Current Trends in Breastfeeding; Infant Mental Health; Infant Toddler Developmental Guidelines and ASQ-3 and ASQ:SE.

The **High Risk Perinatal Program/Newborn Intensive Care Program** (HRPP/NICP) is a program addressing critically ill neonates and high risk pregnant women in imminent danger of premature delivery. This Program has been managed from the Bureau of Women's and Children's Health for over 40 years. The Program has three components; Transport, Hospital and Community Nursing home visiting after discharge. The program contracts with medical transport companies; neonatologists and maternal fetal medicine specialists, hospitals and community nurses. The contracted hospitals are all Level II, II enhanced qualifications (EQ) and III hospitals that are certified by the Arizona Perinatal Trust (APT)/Arizona Perinatal Regional System, Inc. (APRS, Inc.), to provide the appropriate level of hospital care to Program babies and their families. This contract is a requirement of APT certification.

The Program funds a centralized toll free, 24/7 Information and Referral Line that provides the crucial link between consulting perinatologists and neonatologists and referring health care providers caring for high risk pregnant women in crisis and neonates who present in distress. If, at the time of consult, a transport is deemed necessary, the contracted perinatologists or neonatologist will make transport arrangements with a contracted transport company.

In order to serve the sickest or most premature, infants are eligible for full enrollment in the HRPP if they have spent at least their first five days in the Neonatal Intensive Care Unit (NICU). The Program

requires higher levels of care, Level II Enhanced Qualification and Level III NICUs to staff a NIDCAP® certified Developmental Specialist to support staff and families to better understand the special needs of the most premature infants.

Partially supported through Title V, the Community Nursing Services component of the HRPP/NICP delivers a statewide, coordinated system of specialized nursing services to infants who are enrolled in the Program. The Community Health Nurse (CHN) provides support to families during the transition of the infant to home; conducts developmental screening (Ages & Stages), breastfeeding support, physical and environmental assessments and makes referrals to specific community services as needed. This program is linked with the Office for Children with Special Health Care Needs (OCSHCN) to provide services for families who do not meet the eligibility criteria for HRPP/NICP but could benefit from these services. The CHN's also collaborate with the Newborn Screening Program (NBS) to locate infants who require a second screening to facilitate the repeat of the tests.

The **Health Start** community health workers educate parents about child development, immunizations, home safety and vehicle safety. The community health workers also screen each child on a periodic basis using the Ages and Stages Questionnaire to identify potential developmental delays and refer the family to the appropriate provider.

The Bureau of Women's and Children's Health is the administrative home of **Arizona's Child Fatality Review** (CFR) whose goal is to reduce preventable child fatalities through systematic, multidisciplinary, multi-agency, and multi-modality reviews of child fatalities in Arizona. This is accomplished through interdisciplinary training and community-based prevention education and through data-driven recommendations for legislation and public policy. The CFR will be more fully discussed in the Child section of this report except for Safe Sleep efforts and SUID which will be discussed here.

The CFR program has also been responsible for supporting the increased adoption of the Arizona **Sudden Unexpected Infant Death Investigation** checklist, which law enforcement is required to fill out in the event of any unexplained infant death. This form helps first responders to identify and informs better analysis of SUID. The program has put together training and curriculum for law enforcement and other first responders on infant death scene investigations. The first training was held in 2015 with more scheduled for later in the year.

The **Safe Sleep Task Force**, staffed through the BWCH, Office of Injury Prevention is comprised of community partners including the March of Dimes, Arizona Prenatal Trust, Child Care Licensing, Managed Care Organizations, hospitals located throughout the state and local health departments. The Safe Sleep Task Force has elected to support universal adaption of the AAP Safe Sleep Guidelines. The strategies identified included: Promote universal adaption of AAP guidelines statewide by: collaborating with our community partners to support safe sleep efforts and education. Partners include First Things, the Arizona Perinatal Trust, StrongFamiliesAz Home Visiting Alliance, ADHS Child Care Licensing, Health Plans, state universities, Arizona for Supportive Child Care and WIC.

In the summer of 2014, Arizona became a part of the national Collaborative Improvements and Innovation Network to Reduce Infant Mortality (CoIIN) Safe Sleep Initiative. By 2016, Arizona plans to reduce safe sleep related deaths by improving safe sleep practices. The goal is to decrease the safe sleep SUID mortality rate by 10%. Arizona also plans to work toward the reduction of disparities between White and Non-Hispanic Black and American Indian/Alaska natives by 10%.

Children

Arizona's Title V program houses the **Office of Injury Prevention** which serves as a coordinating body for injury prevention within ADHS. The Office of Injury Prevention is responsible for: identifying injury problems and the specific needs for injury prevention programs, policies and services within the state; keeping abreast of developments within the field of injury prevention and sharing with others; understanding where injury prevention fits into what other agencies are doing and serving as a coordinating force that brings different players to the table and building a solid constituency for injury prevention activities within the state.

Utilizing HRSA funds, Arizona's **Emergency Medical Services for Children** (EMSC) program has improved access to and quality of pediatric emergency care. EMSC has focused on two specific areas in an effort to improve pediatric emergency care from a system perspective; pediatric designation system and workforce development.

Arizona established an inclusive **pediatric designation system** that set minimum voluntary pediatric emergency care standards for all emergency departments. The group developed criteria for the system focusing on staff qualifications including continuing education, minimum pediatric equipment requirements and pediatric policies including transfer agreements and process improvement requirements. The Arizona designation system model offers three tiers of pediatric preparedness for which all hospital emergency departments (ED) can apply. This model system allows rural and critical care access EDs to participate, as well as community hospitals that may have limited pediatric service lines. The AZ EMSC Program contracted with the Arizona Chapter of the American Academy of Pediatrics (AzAAP) to serve as the designation body. To build in sustainability, participating hospitals pay an annual membership fee and a three-year verification fee. As of May 2015, there are 33 member hospitals of which 25 have under gone a site verification visit.

The EMS for Children's Program uses a portion of grant funds from HRSA to support **pediatric education** including a stand-alone pediatric conference that is offered to providers from all Arizona EMS regions, and the Central Region continues to support including a pediatric track as part of their two-day conference. The Arizona Emergency Nurses Association also provides a pediatric track as part of their annual conference. EMSC funds supported two Emergency Pediatric Care (EPC) Courses offered on the Navajo and Hopi reservations.

Arizona's **Child Fatality Review** (CFR) was created in 1993 (A.R.S. § 36-342, 36-3501-4) and data collection began in 1994. Since 2006, all child death, from birth through age 17, occurring in the state are reviewed by 11 local child fatality review (CFR) teams located throughout Arizona. The state team provides oversight to the local teams, produces an annual report summarizing review findings, and makes recommendations regarding the prevention of child deaths. County specific data is produced and disseminated as fact sheets. These recommendations have been used to educate communities, initiate legislative action, and develop prevention programs. The MCH Program shares this information with partners at state wide and local meetings.

Many of the CFR teams have been responsible for promoting increased public awareness about child safety and the prevention of fatalities. This includes the development of resources distributed to communities and sharing of targeted interventions. Some of these activities include:

- Child passenger safety training: car seat distribution, performing car seat checks
- Bike and pedestrian safety: community safety events and distributing helmets
- Child abuse and neglect prevention: distributing cribs to parents and promoting safe sleep practices
- Home safety: sharing safety information in the community
- Water safety: distributing water safety clings and training on proper supervision techniques

Safe Kids Arizona is housed in the Office of Injury Prevention, which serves as a liaison to Safe Kids Worldwide and the local coalitions. Currently there are 5 Safe Kids Coalition throughout the state of Arizona, most of which are based at the county health departments. All of the Safe Kids Coalitions work at the grass roots level relying on partners to make their presence known throughout the communities in which they serve.

Title V funds **County Health and Prevention Grants**. One of the current goals is injury prevention. Counties currently reduce the number of injuries and deaths caused by motor vehicle crashes through the use of correctly installed child car safety seats and educating teens on motor vehicle safety. Seven Arizona county health departments are currently funded currently through this opportunity.

As has been discussed, all of Arizona's **home visiting programs** support families with young children. The Strong Families Arizona Alliance Professional Development component builds capacity in local communities for all home visitors, especially in the rural areas. Home Visitors received a variety of training addressing the benchmarks. In addition to an online class on child nutrition, in 2014 home visitors were offered a Benchmark Institute on Empower Home Visiting: Physical Activity and Nutrition. One of the new oral health training sessions will address child oral health. 2014 Conference topics on child health included: Oral Health in Early Childhood; The FUN-damentals of Physical Activity; Avoiding Meal Time Power Struggles: Addressing Selective Eating with Toddlers; Positive Relationships with Children: The Why; Targeting Childhood Lead Screening Plan; Where Pink Meets Blue: Understanding Gender Issues; Understanding Children's Temperament; Helping Moms and Kids Make Healthier Food Choices; Books Build Better Brains; Emergent Literacy at Home; Introduction to the AZ Early Learning Standards. This program is described in more detail in the Infant/Perinatal Section.

The Bureau uses Title V funds to support the **Medical Service Project** (MSP). The Medical Services Project (MSP) provides access to health care for uninsured school-age children from low income families who do not qualify (or are in the process of qualifying) for the Arizona Health Care Cost Containment System (AHCCCS). The goal of the Medical Services Project is to increase access to health care for Arizona's uninsured school-age children. MSP objectives include:

- Increase the number of uninsured children of low-income families living up to 300% of Federal Poverty Level, including those with special health care needs, to access and be linked to medical/dental/optometry services;
- Increase the number of children/families that are connected to resources that assist families in applying for health care services for continuous care;
- Increase the proportion of children, including those with special health care needs, that access and complete scheduled well-child visits as outlined by the American Academy of Pediatrics;
- Increase the proportion of providers, including physicians, midlevel providers, ancillary specialists, dentists, school nurses, childcare health consultants and home visitors that participate in the Medical Services Project Network and;
- Ensure access to quality, culturally competent care, including a network of referral supports, for uninsured children of low-income families.

In 2014, the Arizona Chapter of the American Academy of Pediatrics worked with school nurses to identify school-age children who meet the Medical Services Project's eligibility criteria and are in need of acute care services. The children were referred to participating health care providers who have agreed to accept a predetermined fee of $5.00 or $10.00 as payment in full for each office visit. Children may receive free diagnostic laboratory services, prescription medication and eyeglasses through the Medical Services Project.

With the help of Title V funding, Arizona has partnered with **The Arizona Partnership for Immunization (TAPI)** to promote immunizations statewide. TAPI is a non-profit statewide coalition formed to foster a comprehensive, sustained community program for the immunization of Arizonans against vaccine preventable diseases. TAPI works to improve the immunization levels of children in Arizona. Cooperative efforts between the public and private sectors have become a major force in implementing system changes resulting in long-term improvements in immunization service delivery in Arizona. TAPI has over 400 members representing over 200 organizations. TAPI's efforts are reflective of the importance of immunization over the life span, and will impact Arizona and its citizens' quality of life.

Adolescent

As a critical period of the life course framework, adolescent health is a major focus of the Bureau of Women's and Children's Health (BWCH) that administers several programs that touch the lives of youth.

Arizona's **Teen Pregnancy Prevention** (TPP) Program focuses on improving the health and social well-being of youth through the reduction of teen pregnancies and sexually transmitted diseases, and the awareness of healthy relationships and life skills. The program provides youth with knowledge and skills that can be applied throughout their lives and parents with skills to be able to communicate with their youth effectively. The program utilizes state lottery dollars to provide abstinence and abstinence plus educational programs to youth, as well as parent education. Since 2010, as a result of the Affordable Care Act, ADHS has received Title V abstinence education dollars and abstinence plus education dollars under the Personal Responsibility Education Program (PREP).

The Teen Pregnancy Prevention Program funds county health departments and three tribes utilizing lottery revenue to provide abstinence plus programming to youth and parent/teen communication education to parents. Many funded programs implemented a youth development/service learning focus and/or provided parent education related to talking with their teens about responsible sexual health and risk factors leading to teen pregnancy through the use of evidence-based/promising practices curricula. Additionally, the federally funded programs also have created youth advisory groups to assist with the development of successful programming.

The TPP contractors have developed positive working relationships with owners and staff of foster care group homes and juvenile justice staff. This has facilitated their ability to provide teen pregnancy prevention/youth development services on a regular basis to youth deemed as high risk. In many cases, these services are the only opportunity the youth have to learn about healthy relationships, goal setting and pregnancy prevention.

Over the years, the TPP has revised program policy and procedures to incorporate new evidence based approaches into service delivery strategies. The TPP program has implemented a fidelity monitoring tool and data collection system to assess whether facilitators are complying with the curriculum developer's instructions and identify potential training/technical assistance needs.

The goal of the **Positive Choices** program is to implement a proactive prevention education program in all Arizona middle and high schools promoting positive life choices by educating the students about the harms and consequences of destructive behaviors in order to reduce motivation to use drugs and become involved in harmful social environments. The outcome objectives include reducing intentions to use drugs and alcohol and engage in risky behaviors, increasing knowledge of positive life choices, healthy relationships, and mental health and supportive resources.

Children with Special Health Care Needs

The Office for Children with Special Health Care Needs (OCSHCN) maintains its critical Title V role in key areas: Information and Referral, Education and Advocacy, and Systems of Care for children and youth with special health care needs, all funded through Title V.

OCSHCN educates families, stakeholders and community partners regarding children and youth with special health care needs (CYSHCN). The Office is responsible for short and long range planning activities for tele-health, e-learning, education and advocacy, training, family and youth leadership, web page, cultural competence, medical home, and transition to adulthood. Additionally, the Office is responsible to assess and implement education for staff, providers, families, and family/youth advisors (leaders); and activities that promote improvement of quality of life.

OCSHCN advocates by partnering and collaborating with numerous state and local agencies, nonprofit, community based and private organizations, to promote family-centered, community based, comprehensive, coordinated systems of care for CYSHCN. These partnerships are coordinated to develop and implement innovative models of community based care and resources for CSHCN, to meet the complex needs of families with children with special needs. Partnerships are built and enhanced through multiple formal and informal methods.

OCSHCN provides education and training to families and professionals on best practices focused on family–centered care; cultural competence; medical home; pediatric to adult transition and technical assistance in the development of best practices for CYSHCN.

OCSHCN contracts with Raising Special Kids to facilitate identification, recruitment, training and reimbursement for Family and Young Adult Advisors to participate in projects, committees, workgroups, resource development, policy and program development implementation, and evaluation at national, state and community levels. Family Advisors have provided Family-Centered Medical Home training and "Day in the Life," in-home experiences for healthcare professionals. Family Advisors deliver Health Care Organizer Training for families. The Program plans to have by year end a cadre of 80 -100 Parent Advisors and 20 -25 Young Adult Advisors, who have received over 15 hours of training in policy development, leadership development, communication with professionals, Moving from Me to We, MCH 101, Cultural and Linguistic Accessibility Standards, HIPAA and FERPA.

The Programs' efforts to increase the percentage of CYSHCN who receive care within a Medical Home are ongoing and often closely aligned with the measure around children with adequate insurance. OCSHCN uses Title V funds to support the Bureau of Women's and Children's Health Information and Referral services Hot Line, which can serve as a referral system as well as directly assisting families in navigating the system of care, helping them to understand eligibility requirements for different programs, application processes, and rights. OCSHCN responds directly to inquiries from families and professionals via telephone, email and in-person. Inquiries are related to insurance, care and services for children with special health care needs, providing referrals, insurance options, program eligibility information, grievance and appeals processes, and educational supports information.

In Arizona, all Social Security Income (SSI) recipients are eligible for comprehensive services under Medicaid. Consequently, OCSHCN works to ensure individuals and families are aware of their eligibility for Medicaid. Letters are sent to all families of SSI applicants to inform them of Medicaid and other

services dependent on the applicant's conditions or need for services for which they may be eligible, and OCSHCN provides assistance with the application process when needed.

OCSHCN developed the Medical Home Care Coordination Manual provides families and providers with resources including an overview of systems of care with eligibility requirements, resources for families, transition to adulthood help, as well as examples of letters of medical necessity. Upon completion of minor updates, the Care Coordination resource will be available on the website as well as on CDs and flash drives, which are provided at all outreach and trainings.

In partnering with these other councils and agencies, OCSHCN is involved in policy development regarding inclusion of children and youth with special health care needs and their families. OCSHCN supports analysis and reporting of data, development of management reports, statistical analysis, study design and interpretation, performance measure and survey development and the development of the Title V Needs Assessment.

In looking to improve the overall health of CYSHCN, the Program implemented Health Advocacy for CYSHCN and Their Families to improve the overall health of CYSHCN by making health promotion information available and accessible along with opening up multiple opportunities for physical activity. This project provides CYSHCN opportunities to build healthy lifestyle habits, supporting health into adulthood, which underlies every successful transition.

The Program contracts with Special Olympics of Arizona, which promotes overall health for CYSHCN through the Healthy LEAP Program. Healthy LEAP incorporates healthy lifestyle, injury prevention, hygiene, obesity prevention, nutrition, sports injury prevention, sun safety, alcohol and tobacco prevention education into physical activity for CYSCHN through Unified Sports programs statewide.

The Program contracts with a local nonprofit agency in northern Apache County to offer a Community Gardening program. The program incorporates healthy lifestyle, injury prevention, hygiene, obesity prevention, nutrition, sports injury prevention, sun safety, alcohol and tobacco prevention education into physical activity through gardening. The integrated program collaborates with the local Boys and Girls Club to use the facility and grounds. The program is offered to all Boys and Girls Club participants and includes CYSHCN.

The ADHS Division of Public Health Prevention Services collaborated across bureaus to introduce the innovative Health in Arizona Policies Initiative (HAPI). Through this initiative, ADHS has worked with 13 county health partners to educate Arizona's state, county and local decision makers about the health implications of policy. Local County Health Departments have implemented public health strategies with a strong emphasis on the K-12 settings including food availability and physical activity. Funding from Title V has allowed counties and community based organizations to specifically create opportunities for CYSHCN to incorporate wellness into everyday life, and to develop local wellness policies of inclusion.

With an eye to the implementation of best practices, OCSHCN enlisted the help of Northern Arizona University (NAU) to examine existing curricula and assess it across several parameters for its applicability to the needs of CYSHCN. Two curricula were identified that could be adapted, and the efforts resulted in the development of a checklist and guide that can universally be used to assess curriculum.

In addition to working to affect the larger policy arena, OCSHCN oversees contracts for social services and gap filling services, such as metabolic formula; respite and palliative care including supporting overnight stays that enable families to stay near their hospitalized CYSHCN, and to increase the involvement of families and youth within OCSHCN, other ADHS programs and other state agencies.

The Metabolic Formula Program helps to provide prescribed metabolic formula and/or medical foods to all eligible children and young adults statewide who are uninsured or underinsured for the treatment of genetic disorders. This is to assure normal growth and development of children and adults by preventing severe mental and physical defects or possibly death that can occur without early detection and dietary treatment.

OCSHCN, through community contracted providers such as Ryan House and Ronald McDonald House provide access to respite and palliative care for children with life threatening conditions, and their families. With the support of Title V funds, Ryan House provides, at no cost to the family, respite and palliative care for children, with potentially life-limiting conditions, birth through age 16. Ryan House provides a home like environment with care provided by a highly trained medical and child life staff. It is the first facility of its kind in the country and one of only two currently available in the US. Families may stay with their child in a family suite, in their own room, or may choose to leave their child and take a long weekend break or take a rare vacation with their other children. The Ronald McDonald House (RMH) Charities of Phoenix provides overnight facilities for out of town families of hospitalized patients, including CSHCN. OCSHCN provides Title V funds for the Ronald McDonald Houses in Phoenix and Tucson.

Title V funding is used to support the Sensory Program which includes infrastructure necessary to carry out the state mandate §A.R.S. 36-899.01. The mandate requires that all private, charter and public schools make available to its students a systematic screening for hearing disorders in order to allow early identification and appropriate intervention. The Sensory Program contracts with providers in the community to fund a hearing and vision screening train the trainer program. The Program provides an annual hearing screening report form to schools, collects annual data from schools and loans hearing screening equipment to trained screeners to screen Arizona's children. The Arizona Department of Health Services, in conjunction with community partners has developed Vision Screening Guidelines.

OCSHCN supports the EAR Foundation to make available National Hearing Screen Training Curriculum (NHSTC) to Maricopa Integrated Health Systems' (MIHS) community health clinics via the MIHS e-learning system. Additionally, the EAR Foundation promotes access to NHSTC to birthing hospitals.

Cross Cutting

Many parts of maternal child health public health prevention efforts cross the life course. When appropriate they have been discussed in a specific population domain. This section will discuss nutrition, oral health and tobacco use as they relate to maternal child health prevention efforts. In different of these efforts the Bureau of Women's and Children's Health does not take the lead but is a significant partner.

Nutrition

To meet the wellness needs of early childhood, Arizona supports child care centers through the **Empower Program**. Administered through the Bureau of Nutrition and Physical Activity, the Empower Program supports licensed child care facilities' efforts to empower children to live healthier lives through the incorporation of ten standards that are based on age-appropriate best practices. With over 2,400 licensed child care facilities across the state enrolled in the Empower Program, it has the capacity to reach over 200,000 children from ages of birth to 12 years. The Program started as a pilot in late 2009 and after much success became an official program in 2013. These standards include a series of wellness requirements including reduced screen time, structured physical activity, family styled meals, breastfeeding, tobacco education, sun safety and oral health education. These standards go beyond licensing requirements.

At the Arizona Department of Health Services, the Bureau of Nutrition and Physical Activity, Bureau of Women's and Children's Health and Bureau of Child Care Licensing (BCCL) work collaboratively to implement the Empower Program. Funded in part by Title V, the BCCL is the licensing/certification entity for child care facilities, registering them for the Empower Program, and monitoring compliance with the regulations and rules. The BCCL also surveys the implementation of the Empower standard practices and policies during educational on-site visits.

Growing from the original Empower, and funded by the CDC1305 FOA (School Health) **Empower Schools** works with 9 pilot school districts from around Arizona to incorporate 10 school wellness standards into their local wellness policies. Each district receives stipend funding annually through 2018 to implement programs that will support these wellness policies. Student health is being tracked through school health profiles and a youth risk behavior survey to determine level of success.

Through this effort ADHS is serving as the organizer and lead entity in conjunction with numerous other state organizations and county health departments leveraging their existing work to help the pilot locations. Starting in July 2015, the program is moving forward with implementation in this 5-year project to include a 'Menu of Options' that schools can choose which strategically-aligned partner organizations they would like to work with to help support them in their Empower Schools wellness

policy and programming efforts. The program will be working with partners to determine if this model could be endorsed and expanded across Arizona.

In 2011, the BWCH MIECHV program began supporting a half time position in the Bureau of Nutrition and Physical Activity (BNPA) to develop a manual for home visitors and parents that included a set of guidelines, tools and activities that home visitors and parents could use with children in the home to encourage healthy eating and physical activity called **Empower Home Visiting** Guidelines on Nutrition and Physical Activity and to provide hands-on training to home visitors in locations throughout the state. Over several months, stakeholders developed these 10 "Empower Home Visiting Guidelines":

1. **Infant Feeding (0-6 months)** Support and encourage breastfeeding efforts. Help parents recognize and respond to baby's hunger and fullness cues.
2. **Oral Health** Encourage parents and caregivers to introduce a tooth brushing routine appropriate for every member of the family (parents, infants and children).
3. **Infant Feeding (6-12 months)** Guide parents and caregivers to introduce first foods at a developmentally appropriate time and in appropriate quantities.
4. **Toddler/Child Feeding** Work with families to incorporate healthy eating habits. Highlight opportunities for families to make small changes over time.
5. **Fruit Juice** Recommend parents and caregivers to limit servings of fruit juice to 4-6 ounces per day for children 12 months and older.
6. **Physical Activity** Promote physical activity to all members of the family. Offer ways to include physical activity for a variety of settings and abilities.
7. **Screen Time** Encourage families to modify screen time to include developmentally appropriate content that engages family members in physical activity.
8. **Family-Style Meals** Advise parents and caregivers to serve meals family-style. Provide suggestions with ways to introduce family-style meals over time.
9. **Cooking** Provide resources and tips to help families prepare healthy and affordable meals at home.
10. **Food Safety** Share basic recommendations to help families be food safe.

Oral Health

The second cross cutting topic is **oral** health. The Arizona School-based **Sealant Program** provides dental screenings and referrals to children attending eligible public schools. The sealant program provided services to children in ten of the fifteen Arizona counties. This was an increase from five counties during the 2012-2013 school year. Partnerships with community clinics have provided outreach to these three additional counties.

Through the Sealant Program, students who attend eligible schools, in 2nd or 6th grade, and have informed parental consent were able to receive oral health screenings and referrals for treatment needs. Uninsured children, Medicaid and SCHIP beneficiaries, those covered by Indian Health Services or

by state-funded tobacco tax health care programs were eligible to receive sealants. The Program bills Medicaid for children covered by Medicaid and utilizes Title V funds to pay for the uninsured.

As part of the sealant program, the Office of Oral Health (OOH) collects oral health status information using the Association of State and Territorial Dental Directors' Basic Screening Survey (BSS). This information provides guidance on referrals for care and surveillance on oral health status. In addition, school nurses and parents are notified on the day of the screening if any screened child has urgent or early treatment needs. Data analysis and reporting of program services are generated for the state, county and school levels.

The Office of Oral Health (OOH) continued to work with stakeholders and partners to develop and promote policies for better oral health, establish integrated population-based interventions, set priorities and select appropriate strategies for target populations. The OOH maintained Intergovernmental Agreements with counties to provide school-based dental screenings, referrals and sealants to children in low-income schools. The Office of Oral Health collaborated with First Things First to promote and implement prevention programs for children ages 0-5 including support for establishing a dental home by age 1 and providing technical assistance for oral health initiatives.

The OOH partnered with First Things First to implement the 2015 Healthy Smiles Health Bodies Survey of kindergarten and third grade children. The primary purpose of the survey was to collect essential information necessary to report on the prevalence and severity of tooth decay in elementary school children and provide information to target and expand disease prevention programs. Information collected from the survey will be reported to the National Oral Health Surveillance System.

The OOH continued to administer a state-wide School-based **Fluoride Mouthrinse** Program (FMR) for children attending eligible schools. Schools are eligible if they have a 50% or greater enrollment in the National School Meal Program located in communities with sub-optimal fluoride levels in the community drinking water.

The OOH, Arizona **Fluoride Varnish** Program continued to provide services in 2014 as part of a grant from the First Things First South Phoenix Regional Partnership Council. Partnering with the Maricopa County Department of Public Health (MCDPH), the application of fluoride varnish, an extremely effective cavity-prevention agent, in combination with dental screenings, referral and other educational services, are the core of the primary prevention program.

The OOH participated in the ADHS Empower Program. As part of the program, OOH provides guidance, training and resources to childcare providers on promoting oral health activities in childcare centers and linking children to dental homes.

The Office of Oral Health partnered with the Arizona Dental Association, Central Arizona Dental Society in the 2014 Dental Mission of Mercy (AZ MOM). This event was held in December of 2014 and with the

help of 1,800 volunteers, more than 2,200 people received about $1.6 million in much needed dental care.

The Office of Oral Health routinely provides continuing education opportunities for dental professionals by offering 36 instructional hours on oral health disease prevention programs. Training focused on the following topics: School-based Sealant Programs, Community Dental Health, Promoting Oral Health Practices in Childcare Setting, Early Childhood Tooth Decay, Oral Observations and Prevention, and Disease Disparities.

Additional professional development provided by OOH included training on implementing anticipatory guidance and utilization of motivational interviewing techniques with clients. Parents/caregivers have participated in oral health education and dental staff located in WIC sites have received training in oral health risk assessment criteria, anticipatory guidance, disease recognition, oral health education messages for parents and caregivers.

Tobacco

Arizona's Title V Program has also chosen to focus on **tobacco** use as it affects infant mortality and morbidity (SUID, prematurity), child health (asthma), preconception and interconception health and transition decision making for teen and CYSHCN. ADHS' tobacco efforts are managed and coordinated out of one of BWCH's sister bureaus, the Bureau of Tobacco and Chronic Disease (BTCD).

BTCD is Arizona's prevention, education and cessation program for both tobacco and chronic disease, partially funded by the voter-approved and voter-protected tax on the sale of tobacco products. BTCD utilizes local, statewide, and federal resources, partners, and evidence-based strategies to reduce the prevalence of tobacco and chronic disease in Arizona. In addition BTCD seeks ways in which systems and policies change can be utilized to drive individual level behavior change.

The BTCD efforts center on youth coalitions, adult prevention and cessation efforts and reducing disparities. One such innovative program is the statewide youth coalition, Students Taking A New Direction or STAND, which is comprised of youth and teens ages 12-19. Established in 2010, STAND engages and empowers youth to speak to their peers and change attitudes and behaviors around tobacco by enabling them to be peer to peer mentors. Additionally, STAND members advocate and pursue policy change regarding tobacco regulation at the local level. There are currently 28 coalitions across the 15 counties of Arizona with approximately 400 members. This coalition fosters youth development through trainings and community work. One of the local coalitions served as an avenue for the Title V Listening Sessions in order to hear from adolescents.

In addition to the tobacco prevention efforts, BTCBTCD launched a two year education campaign to increase awareness of and educate the public about the overall negative health impacts of secondhand smoke, to increase the awareness and educate the public about the negative health impacts of secondhand smoke in vehicles and multi-housing units and to increase volume of calls to ASHLine.

The BWCH home visiting programs will work more intentionally with BTCD and tobacco use will be a topic of professional development for Arizona's home visitors.

While Arizona's Title V program has a great deal of capacity to serve Arizona's women and children including children with special health care needs, the Program will work continually to maintain and increase efficiencies, stay abreast of best practices and partner with the community to meet the needs of the maternal child health population of Arizona.

MCH WORKFORCE DEVELOPMENT AND CAPACITY

Executive leadership for maternal and child health is provided by the Director of ADHS, Dr. Cara Christ and Assistant Director for Public Health Prevention Services, Sheila Sjolander. Dr. Christ also currently serves as the ADHS Chief Medical Officer.

Sheila Sjolander is the Assistant Director of Public Health Prevention Services in the Division of Public Health. Ms. Sjolander served as MCH Director and Bureau Chief of Women's & Children's Health until 2013. She began her service with the Bureau of Women's & Children Health in 2001 as a manager overseeing several programs and leading the bureau's planning functions. She holds a Master's Degree in Social Work with an emphasis on planning and policy.

The state MCH workforce is housed within the Bureau of Women's and Children's Health. While a portion of staff is funded by sources other than Title V, all contribute to the Title V mission and MCH priorities.

The Bureau of Women's and Children's Health employs approximately 40 fulltime staff. All staff is located together in Phoenix. Title V funds are used to support approximately 20 positions in the Bureau and in other parts of the agency. The following are brief biographies of senior level management and key staff involved in the Title V needs assessment and application processes.

Mary Ellen Cunningham has been the MCH Director and Bureau Chief of Women's & Children's Health since 2013. Previously Ms. Cunningham served as the Chief of the Office of Children's Health. Formerly with the U.S. Navy, Ms. Cunningham is a registered nurse with a Master's Degree in Public Administration and serves as the ADHS designee to the Arizona Early Childhood Development and Health Board, consultant to the Arizona Perinatal Trust and on the US Mexico Border Health Commission Reproductive Health Task Force.

Antoinette (Toni) Means serves as the Office Chief of Women's Health. Ms. Means has nearly 20 years of progressively responsible program management experience, and has served in the Bureau of Women's & Children's Health since 1991. She also serves as the State Adolescent Health Coordinator, is a member of CDC's Preconception Health Consumer Workgroup and is the US Mexico Border Health Commission

Reproductive Health Task Force. Ms. Means received a Master's in Business Administration in Health Care Management from the University of Phoenix.

Since 2012, Irene Burton has served as the Chief of the Office of Children's Health. Previously Ms. Burnton was CEO of the O'Connor House, a nonprofit organization begun by retired US Supreme Court Justice Sandra Day O'Connor and as a member of the Governor's Executive staff where she managed the Children's Cabinet and the Office of Children, Youth and Families. She also was Director of the Governor's School Readiness Board where she worked with stakeholders to develop a multi-year state strategic plan that served as a blueprint for action on early childhood health and development.

Julia Wacloff joined the Office of Oral Health as Office Chief on July 6, 2009. Ms. Wacloff previously worked with Office of Oral Health as a consultant for 13 years. She holds a Master's degree in Dental Public Health and is a registered dental hygienist. She most recently served as an epidemiologist with the Centers for Disease Control and Prevention in the Division of Oral Health. In 2015, Ms. Wacloff was appointed to the Board of Directors for the Association of State and Territorial Dental Directors.

Tomi St. Mars serves as the Chief for the Office of Injury Prevention and has led the Department's injury prevention and EMS for Children initiatives since August 2005. Ms. St. Mars is Arizona's representative to Safe States Alliance, an active member of the Emergency Nurses Association (ENA) at the national and state level and is a Certified Emergency Nurse. Ms. St. Mars holds a degree in Master of Science in Nursing.

Debi Morlan has served as the Bureau's Finance Officer since 2001. Ms. Morlan provides financial and contractual oversight to Title V funded programs, as well as the other federal and state programs within the Bureau.

Katharine Levandowsky serves as the Office Chief for the Office for Children with Special Health Care Needs. Ms. Levandowsky has over 16 years of experience working with the community, families, stakeholders and providers to develop services for individuals with disabilities. She spent 7 years administering Arizona's Vocational Rehabilitation, Independent Living and Services for the Blind, Visually Impaired and Deaf programs for both youth and adults.

Rita Aitken serves as the Education and Advocacy Manager as well as Health Program Manager in the Office of Children with Special Health Care Needs. Ms. Aitken has two adult children with special health care needs, and has many years of experience working with families and providers, including trainings on best practices for healthcare professionals. Rita is a member of the Governor's Interagency Coordinating Council for Infants and Toddlers; Newborn Screening, and Medical Home and Consumer Advisory Workgroups with Mountain States Genetics Regional Collaborative.

Katheryne Perez has served as the Maternal and Child Health Epidemiologist for the Bureau since April 2014. She holds a Master's of Public Health in Epidemiology from the University of South Florida and

holds a Public Health Certificate. Ms. Perez provides epidemiological support to various programs in the bureau and has taken the lead role in analyzing and interpreting data for the Title V Needs Assessment.

Pooja Rangan has served as the Bureau's Home Visiting Epidemiologist since November 2014. She practiced as a physician in India with experience in pediatrics and obstetrics and gynecology before receiving her Master of Public Health in Epidemiology and Biostatistics from Drexel University. She has clinical as well as research experience.

Dawn Bailey serves as the MCH/OSCHN Family Advisor. She has a young daughter with complex medical needs and global developmental delays due to a rare genetic condition. For the last two years Dawn has been an active Parent Leader with Raising Special Kids participating in the State's AFN Task Force for Emergency Preparedness, Parent Panels and the Family Faculty program.

Cultural Competency

In building the state's capacity to serve women and children in a culturally competent fashion, Arizona's Title V agency routinely collects and analyzes data by race, ethnicity, geography (rural or urban), and border and non-border. This data is then used to track disparities and inform programs. This is critical as Arizona shares a border with Mexico and is home to twenty one federally recognized American Indian tribes. Additionally, while most of the population resides in two counties, geographically, most of the state is rural if not frontier.

Many Bureau programs embed cultural competence concepts into contract language and training, which go beyond requirements for reading level, interpretation, translation, and alternative formats, and include best practices for family-centered care, including people-first language and disability etiquette. OCSHCN involves families and youth with special health care needs in policy and resource development, and makes translation and interpretation services available to other community partners. Health Start is designed on the principle that workers reflecting the neighborhoods in which they serve will be effective in identifying women in their community who need services. Health Start hires and trains lay health workers from targeted neighborhoods to provide outreach and services to pregnant women and new moms in their community.

The following are just a few examples of how services are linguistically and culturally appropriate, and family centered in Arizona. Arizona Department of Health Services houses the Arizona Health Disparities Center within the Bureau of Health Systems Development. The Arizona Health Disparities Center organizes frequent brown bag speakers that highlight the many cultures present in Arizona. The Arizona Health Disparities Center provides regular updates through email and through its website on news, funding opportunities, publications and events related to health disparities. Subscribers receive links/attachments to the latest resources identified by AHDC on their selected topic by email.

The Arizona Health Disparities Center worked closely with the Arizona WIC program to produce online courses and CD-ROMs on orientation to Culturally and Linguistically Appropriate Services (CLAS)

standards. To better serve our diverse population this past year the Bureau required every employee to complete Culturally and Linguistic Appropriate Standards (CLAS) training as a part of their performance appraisals. Plans are being made to ensure programs that are in direct contact with clients will be required to take this training as well. Additional courses on CLAS standards are in the process of development.

Workforce Development

Arizona's Title V agency is committed to the development of the Maternal Child Health's workforce; in the community, among its contractors and within the agency.

Community: Examples of community MCH Workforce Development include disseminating information about state conferences including the upcoming NAS Conference and the Arizona Perinatal Trust conference. Arizona's Title V agency has a strong web presence including the ADHS Clinician webpage. The agency has developed a webpage to assist clinicians find information about health topics for themselves and for their clients. The page hosts Clinical Guidelines and Recommendations; public health resources; patient resources and training opportunities.

Clinician trainings include ADHS hosted trainings, information about conferences, and links to CMEs and Podcasts. Some examples of ADHS trainings include Infectious Disease training and exercise; Healthcare Associated Infections trainings and Mental Health First Aid. Mental Health First Aid is an 8 hour training to help attendees learn a process to assess a situation, select and implement appropriate interventions to help someone who may be in crisis. This training was adopted from Maryland and Missouri's Departments of Health in the aftermath of the shooting attempt on the life of Congresswoman Gifford and the deaths of the other victims in Tucson. Additionally, the Office of Injury Prevention has financially supported professional development for ED nurses to prepare to sit for certification.

Conference opportunities vary through the year with the most recent being Arizona's 2015 Immunization Conference. Slides of presentations are available on the web site. The agency links to CDCs Podcast site with a plethora of offerings including but not limited to Cost Effective Chlamydia Vaccination Programs for Young Women; Preventing Melanoma; ACA and Women; Active Living; Adolescent and School Health; Birth Control; Bisexual Health; Bullying; Childhood Diseases and Injury; Healthy Living; Pregnancy and Worksite Wellness.

Office of Oral Health routinely provides continuing education opportunities for dental professionals and offered 36 instructional hours on oral health disease prevention programs. These educational workshops reached a total of 95 participants (including dentists, dental hygienists, dental/dental hygiene students, physicians, nurses, childcare providers and administrators). Training focused on the following topics: School-based Sealant Programs, Community Dental Health, Promoting Oral Health Practices in Childcare Setting, Early Childhood Tooth Decay, Oral Observations and Prevention, and Disease Disparities.

During the summer of 2014, Arizona's Medicaid program began reimbursing qualified medical professionals for performing a number of developmental screenings (PEDS, M-CHAT, ASQ) and fluoride varnish application with proof of completion of training. The link to information about the different trainings is hosted on the ADHS Clinician web page.

The Arizona Health Disparities Center, housed in the Bureau of Health Systems is the federal designee for the Office of Minority Health for Arizona. The Center offers training and brown bag Lunch and Learns throughout the year to ADHS staff and access to online training and reports to the greater community. Examples of educational opportunities include a webinar on Domestic Violence Crime and Trauma; Strong Women, Healthy Families: Asian & Pacific Islander Women's Forum and a webinar called Sexual Violence 101 offered in Spanish.

In the summer of 2014, OCSHCN partnered with United HealthCare Community Plan in the "Opening the Doors to People with Special Needs: Solutions to Prepare Your Practice" Conference, providing training on medical homes for CYSHCN and integrating behavioral health. More than 350 providers participated both in person and via Webex. OCSHCN facilitated and supported two Family Advisors to provide "Coming Home: Welcoming Children with Complex Health Needs into Family Life" training during the 2014 High Risk Perinatal/Newborn Intensive Care Program contractors meeting attended by 150 community health nurses and early interventionists. OCSHCN provided "Supporting Foster Families and Children with Fragile Health" training for 47 early intervention professionals at the "Prevent Child Abuse Arizona" conference and provided resources and information for 945 attendees.

Seventeen school nurses at Glendale Elementary and Peoria High School districts were provided "Navigating the Systems" training. Seventeen transition specialists, with the Sonoran UCEDD's Picture of Life project for transition age young adults in the foster system who have developmental disabilities, were trained as trainers to implement Health Care Organizers as part of transition planning. Additional trainings are scheduled for 2015. Eighty three family members received Health Care Organizer and Navigating the Systems training through presentations at faith-based organizations. Forty two family members received Transition Planning training through presentations for AzAssist, an Autism-specific transition-focused organization.

Contractors: The Bureau of Women's and Children's Health website also offers professional development including information regarding preconception health, links to national trainings like the NICHD SIDS Reduction CEU for nurses and CLAS Standard trainings. The Bureau houses almost 40 different programs and contracts with over 175 organizations throughout the state. Many of the programs host their own contractor meetings quarterly, biannually or annually. Beyond the business aspects of the meetings, each meeting provides professional development on related topics.

In 2014 the Title V Reproductive Health trainings focused on the guidelines for chlamydia testing and information and statistics on prevalence STDs in Arizona, connecting with home visitation resources in

the community and how to talk to teens about reproductive health. The 2015 annual meeting included presentations on the impact of chronic conditions on pregnancies, Arizona Title X activities and training opportunities, STD data and how preconception health can be integrated into a family planning visit.

BWCH requires Domestic Violence Prevention contractors to attend a day long quarterly meeting which always includes presentations on current topics state wide and a training component provided by the Arizona Coalition to End Sexual and Domestic Violence (ACESDV). The trainings provided by ACESDV in 2014 included The Sharing Experience: From Domestic Violence in Our Homes to Peace in Our Communities, Lay Legal Advocacy Training, Health Moms Happy Babies Training, Home Visitation Guidelines on Domestic Violence Trainings, Board Development Training, Be The Change: Using Your Voice to Create Safety and Justice, and Lay Legal Advocacy. The 2015 training topics included; Sexual Violence Core Advocacy, Technology, Advocacy and Victim Safety, Lay Legal Advocacy, Trauma Informed Supervision: Supporting Your Staff, Understanding the Needs of Male Survivors: Providing Support and Empowerment, Prevention: Identifying Our Role in Stopping Violence Before it Begins, Economic Justice, Advocacy and Survivor Empowerment, and Healthy Moms, Happy Babies.

Throughout 2014 and 2015 other presentation and training topics included; DV data management, trauma informed care, human trafficking, advocating for victims over 50, substance abuse, using social media, dual language, relationship and interaction ripple effects, mental health as a public health issue, internet safety, trends in drug use among youth, discussing sensitive subjects with adolescents, preventing pregnancy in younger teens, effects of rape on health, faith based response to abuse and neglect, understanding historical trauma and victims services in Native American communities.

The Arizona Health Start Program offered training during calendar year 2014 on Preventing Exposure to Alcohol and Other Drugs and the Effects on Newborns and Infants at two conference workshops and on a Health Start specific program I-linc training. Other trainings offered to Health Start home visitors include Healthy @ Home Assessment, Screening, Brief Intervention, Referral to Treatment of prenatal clients and Basic Health Start Policies, Procedures and Forms. Training was provided to home visitors through topic specific expert speakers on the Life Course Theory – Interconception and Preconception Health, Arizona Early Intervention Program, Promoting Physical Activity with Women and Toddlers, Arizona Cord Blood Program and the Ready Arizona Emergency Preparedness Program. Trainings that the Health Start Program Manager has attended include the Adverse Childhood Experiences Training of Trainers, CDC Fetal Alcohol Spectrum Disorders (FASD) Training of Trainers, Motivational Interviewing, C.L.A.S. and Building Resiliency Strategies for Promoting Well Being.

The Sexual Violence and Prevention Program (SVPEP) and Sexual Assault Services Program (SASP) contractors' trainings topics in 2014 and 2015 include: How to develop curricula; AZ Address Confidentiality Program and Statistics and Accuracy.

Teen Pregnancy Prevention (TPP) contractor topics have included information on long-acting reversible contraception for youth, parent recruitment strategies and evaluation. Biennially during the summer,

TPP provides either curricula trainings or a conference. In 2014, the program offered a 2-day conference tailored to program managers, health educators and foster care case managers covering a variety of topics such as stress relievers, building youth/adult partnerships, addressing sensitive subjects with youth, and many more. Program managers also offered Teen Outreach Program® Certified facilitator trainings to Arizona and out-of-state providers interested in delivering the program. ADHS program staff attended federally offered national conferences and trainings to enhance skills and gain an understanding of strategies to enhance programs for youth.

For 2015, the program will continue to hold quarterly meetings for contractors and provide valuable skill-building topics of need for program sub-awardees. Summer trainings include providing a variety of curriculum trainings to assist health educators to understand delivery of program models with fidelity.

Arizona's MIECHV program has developed a comprehensive professional development system for home visitors in Arizona which includes online classes, in-person training, a community of practice, participatory webinars, and to ensure a strong enduring system, Train the Trainer sessions. New for 2015 are the Domestic Guidelines for Home Visitors. The guidelines were developed by a subcommittee of the Professional Development Workgroup in conjunction with statewide home visitors and domestic violence programs. Training was provided on the new guidelines and demand for the Guidelines booklet has prompted a second printing.

To develop workforce infrastructure and sustainability, the MIECHV program brought the Strengthening Families, protective factors framework training to Arizona in May, 2015. Strengthening Families is a research-informed approach to increase family strengths, enhance child development and reduce the likelihood of child abuse and neglect. It is based on engaging families, programs, and communities in building five protective factors: Parental resilience; Social connections; Knowledge of parenting and child development, Concrete support in times of need and Social and emotional competence of children. Home visiting coordinators across the state as well as representatives from the evidence based home visiting programs received training and in exchange, agreed to provide training to home visitors.

The MIECHV program continues to provide ongoing training based on the MIECHV Benchmarks. Topics include caregiver depression, Empower Early Childhood Nutrition and Physical Activity Guidelines, Early Childhood Collaboration Events featuring information on the Arizona Early Intervention Program, Ages and Stages, a selection of breastfeeding topics, infant mental health, domestic violence and Family Planning/Well Woman training.

2014 Benchmark Institutes covered a variety of topics such as caregiver depression, Empower Early Childhood Nutrition and Physical Activity Guidelines, Early Childhood Collaboration events featuring information on the Arizona Early Intervention Program, Ages and Stages, a selection of breastfeeding topics, infant mental health, domestic violence and Family Planning/Well Woman training.

OCSHCN contracts with Raising Special Kids, the state Family to Family Health Information Center, to recruit, train, support and reimburse Family and Young Adult Advisors to participate in ADHS projects. Each Advisor participates in leadership development training as part of preparation in the Advisor program. IN 2014 a new contract was established to take effect 1/1/15 which increases leadership training opportunities and requirements for Family and Young Adult Advisors working with OCSHCN.

During 2014, fifteen Family Advisors participated in providing in-home experiences for thirty three resident/intern health care professionals. Two Family Advisors and one Young Adult Advisor provided family perspectives in a panel discussion at the University of Arizona, School of Medicine, for 123 medical students and faculty. One Family Advisor and one Young Adult Advisor provided Health Care Organizer training for 28 transition-age youth during the 2014 Statewide Independent Living Centers Youth Leadership Summit. Another Family Advisor provided family perspectives for professionals during quarterly Statewide, and City of Phoenix, Emergency Planning Committee meetings. Ten Family Advisors participated in monthly Maricopa County Department of Public Health CYSHCN Coalition meetings, creating an organizational structure aimed at ensuring that family advisors are available to the county department of public health. Four Family Advisors and one Young Adult Advisor have been elected to the CYSCHN Coalition steering committee to serve along with 5 professionals. Two Family Advisors participated in providing consumer perspectives during quarterly Maricopa County Health and Training Committee meetings. One Family Advisor participated in quarterly ADHS Zero to Five Workgroup meetings, providing family perspectives. The Flagstaff Medical Center Advisory Council benefits from one Family Advisor supported through OCSHCN.

BWCH: The Bureau, as the Title V program, offers various avenues to access professional development internally in order to maintain best practices and as a method of preparing the next generation of Maternal Child Health worker. Employees are encouraged to attend conferences, brown bag lunches, and online trainings. Program Managers who attend a conference are expected to present any new information at the next monthly Program Managers' meeting. New employees are given a copy of the BWCH MCH 101 which borrows strongly from and links to the MCH Navigator website. Program and Project staff are required to take the Self-Assessment and to begin a personalized learning plan as a part of employee goals. Employees are advised that this can be done during work hours in agreement with their supervisor.

OCSHCN AMCHP advisors participated in multiple projects with OCSHCN including Care Coordination revision, webpage review and revision, AZ newborn screening rules review, outreach materials development, contract development and evaluation, OCSHCN staff hiring, ADHS Prevention events and internal committees and projects.

The Office of Injury Prevention (OIP) requires program staff to complete the self-study modules on Injury Prevention that is housed on the Safe States Alliance webpage. OIP staff maintains child passenger safety certification, this allows staff to support the ADHS "baby to work" program by ensuring that department parents are installing the child safety seat correctly. Each Injury Prevention Advisory

Council meeting has presentations on the latest data or information from other community injury programs.

In January 2015, the Governor Ducey authorized a hiring freeze among state agencies. There are provisions for positions considered "Mission Critical" including epidemiologists and licensing surveyors. It will be the work of the Title V administrator and Bureau management to support the current workforce as positions are vacated and not filled.

PARTNERSHIPS, COLLABORATION AND COORDINATION

In order to better serve Arizona's women and children, and to contribute to and expand the capacity and reach of Arizona's Title V program, the Bureau of Women's and Children's Health works with partners both internally and externally in every aspect of our work. While most of this document has used the foundation of the six priority populations, because of the intertwining of efforts among populations this section discusses internal and then external partnership efforts.

Within ADHS, there is substantial collaboration among program areas. The Office of Children's Health coordinates an agency wide Zero to Five Workgroup that meets monthly to keep each other apprised of efforts for infants and young children and their families. Activities are shared and opportunities for collaboration are identified. Participants include but are not limited to Behavioral Health, Nutrition and Physical Activity, Tobacco and Chronic Disease, Health Systems, Environmental Health, Immunizations, Midwives, Child Care Licensing, Emergency Services and Preparedness and Newborn Screening.

The Office for Children with Special Health Care Needs (OCSHCN) works closely with Newborn Screening, participating in the monthly Newborn Screening Partners meetings that include the Early Hearing Detection Coordinator, Arizona Chapter of the Academy of Pediatrics representative for hearing and pediatric sub-specialists in genetics, endocrinology and pulmonology.

BWCH and OCSHCN staff work closely with Newborn Screening, Genetics Services Advisory Committee, the Arizona Chapter of the AAP, Community Health Centers, Community Health Nurses, and AzEIP to identify resources to ensure that children and youth receive Early and Periodic Diagnosis and Treatment (EPSDT) services for children and youth.

BWCH collaborates with Bureau of Nutrition and Physical Activity (BNPA) to coordinate services on an ongoing basis. The Offices of Children's Health, Oral Health and CSHCN work with BNPA on home visiting standards and guidelines including breastfeeding, inclusion of children with special needs and oral health.

The Public Health Prevention Division works collaboratively on several projects including HAPI, a grant to the counties to support wellness, the CDC 1305 grant, and most recently has developed an integrated Intergovernmental Agreement with the county health departments that will serve to coordinate efforts.

The Bureau holds many federal grants that serve the maternal child health population including Emergency Medical Services for Children; Title V Abstinence Education; Core Violence and Injury Prevention grant; PREP; Domestic Violence funded through ACF; Sexual Violence Prevention Education Program; Sexual Assault Services Program; Maternal, Infant, Early Childhood Home Visiting; and Sudden Unexpected Infant Death Registry. The SSDI grant is managed through the Bureau of Vital Statistics.

Externally, Maternal and Child Health staff and leadership participate on committees or groups of many partner agencies, including March of Dimes, Arizona Family Planning Council, Arizona Coalition to End Sexual and Domestic Violence, the Early Childhood Development and Health Board (First Things First), Arizona Perinatal Trust, School Based Health Care Council, and Children's Action Alliance. Staff participate on committees or workgroups and collaborate on projects with many child-serving community organizations including, Raising Special Kids, Arizona's Family to Family Health Information Center, Special Olympics Arizona, United Cerebral Palsy of Central Arizona, Arizona Chapter of Academy of Pediatrics, and Ronald McDonald House among others.

Participation in coalitions, networks, and associations has been a critical strategy in partnership development. Staff actively participates in groups such as the Arizona Public Health Association, Arizona Rural Women's Health Network, Arizona Asthma Coalition, Taskforce on Alcohol and Drug-Exposed Infants, Arizona School Nurse Consortium, Rocky Mountain Public Health Education Consortium, the Arizona Association of Community Health Centers, the Arizona Developmental Disabilities Network (consisting of the Institute for Human Development University Center of Excellence for Developmental Disabilities (UCEDD), Sonoran UCEDD, Arizona Developmental Disabilities Planning Council, Arizona Center for Disability Law, local oral health coalitions, and the Arizona chapters of the Dental Association and Dental Hygiene Association.

ADHS also leads collaborative efforts to address specific public health issues. For example, ADHS coordinates the Injury Prevention Advisory Council that works on development and implementation of the state injury prevention plan. ADHS also coordinates the Pediatric Advisory Committee for Emergency Services, which helps facilitate accomplishment of performance objectives of the HRSA Emergency Medical Services for Children Program. The Unexplained Infant Death Council and State Child Fatality Review Teams address deaths of infants and children and strategize around areas of preventability. The Office of Oral Health has established regional oral health workgroups to facilitate strategic planning for the state oral health workforce plan.

ADHS staff participates in a monthly meeting with EAR Foundation of Arizona, and pediatric genetics services providers to discuss emerging practice around newborn screening, diagnosis and provision of care to children with heritable disorders. Additionally, ADHS staff takes part in Mountain States Genetics Regional Collaborative Center's (MSRGCC) annual meeting which includes professionals and consumers from Texas, New Mexico, Arizona, Utah, Colorado, Wyoming, Nevada and Montana. Staff participate in

the Arizona Telemedicine Council to explore innovative ways to expand the reach of heath care providers to underserved areas of the state.

ADHS has multiple partnerships in place with higher institutes of learning that provide education for the health professions. BWCH staff participates on advisory boards, provides technical assistance and consultation on public health curricula, and mentors students.

Arizona has a critical need to increase the number of family-centered, culturally competent interdisciplinary providers to improve screening, early diagnosis and intervention services, and access to a medical home for children with special health care needs and their families. In support of the University of Arizona's LEND, OCSHCN staff participates as a member of their advisory board, and in collaboration with United HealthCare hosted the “Opening Doors” Conference providing professional development in family-centered care for 350 healthcare providers.

The Office of Oral Health (OOH) collaborated with the Arizona School of Dentistry and Oral Health and Oral Health America to continue and expand a school-based sealant program in Pinal County. OOH supplied the technical assistance for program implementation, data gathering and program reporting.

The OOH conducted four professional development events for dental hygiene programs in one state university and three community colleges across Arizona. These events provided instructional hours on oral health disease prevention programs and public health infrastructure for oral health.

The MIECHV program is partnering with Arizona State University (ASU) Morrison Institute for Public Policy for home visiting evaluation, home visiting index, cost-benefit analysis of home visiting and evaluation of the professional development component of the program.

The Sexual Violence Prevention Education Program (SVPEP) contracts with Arizona State University and the University of Arizona to develop and conduct online and in-person educational sessions on consent, the link between alcohol and sexual violence, bystander intervention strategies and resources for victims.

The Domestic Violence Program contracted with the Morrison Institute (ASU) to conduct a survey of domestic violence survivors, advocates, and shelter directors in rural communities to identify the most pressing needs of domestic violence survivors. The results indicated that while shelter services are important, there is a greater need for supportive services for individuals who for a number of reasons have decided not to leave the perpetrator. The survey results will serve as a foundation for discussions regarding future allocation of funding to domestic violence agencies.

Collaboration with other state agencies occurs on a regular basis. The Governor’s Office for Youth, Faith and Family facilitates monthly meetings of the State Agency Coordination Team, comprised of all state agencies providing any kind of services related to domestic violence and sexual violence. The State

Interagency Coordinating Council for Infants and Toddlers, including Department of Economic Security (DES)/Arizona Early Intervention Program (AzEIP), Division of Developmental Disabilities (DDD), Arizona Schools for the Deaf and Blind, families of young children and ADHS/OCSHCN, meets regularly to advise and assist with the development and implementation of the statewide system of early intervention services.

ADHS also works with the DES Family Assistance Administration that provides families with nutrition assistance, cash assistance, emergency food assistance and applications for AHCCCS health insurance. The agencies strategize ways to include the nutritional needs of CSHCN in FAA policy and programs allowing for better planning and access to resources to meet the needs of all children and families who require nutrition assistance.

ADHS works with the Social Security Administration' Disability Determination Administration to review Social Security Income applications, and informs families of potential services.
Maternal and child health staff also participate in meetings of Governor's commissions or councils, such as the Council on Spinal and Head Injuries, the Arizona Traumatic Brain Injury Project, Council on Aging, and the Commission to Prevent Violence Against Women.

In 2015, the ADHS began working closely with the Arizona Criminal Justice Commission and other state agencies to pilot the Arizona Rx Drug Reduction Initiative. This includes adoption of Emergency Department Prescribing Guidelines in participating hospitals, improving utilization of the Prescription Drug Monitoring Program (PDMP), identifying "above average" prescribers and improving accessibility of drug drop boxes in participating counties. Additionally, the group drafted voluntary, consensus Guidelines that promote best practices for prescribing opioids for acute and chronic pain for public review.

From the onset, major decisions for Arizona's Maternal Infant and Early Childhood Home Visiting grant have been made by an Inter-Agency Team consisting of First Things First, the state's Head Start Collaboration Director from the Arizona Department of Education (ADE), a representative from the state's Title IV agency, Department of Child Safety (DCS), which serves as the state's child welfare agency and the state coordinator of Healthy Families Arizona, and a representative from the Inter Tribal Council of Arizona. Arizona's Title V Program partners with First Things First on the development and implementation of the ECCS grant and the Title V Administrator serves as the ADHR representative on the First Things First Board.

ADHS works particularly closely with the state's Medicaid agency, AHCCCS, participating in many AHCCCS Health Plan meetings. Health Start, all BWCH home visiting programs and Hotline staff facilitate families' enrollment in both Medicaid. OCSHCN staff assists families in understanding eligibility requirements and helps with application processes for various programs that serve CSHCN. AHCCCS staff participates as a part of the Safe Sleep and Preconception Health CoIIN initiatives.

Baby Arizona was a program to help pregnant women begin prenatal care while waiting for AHCCCS eligibility. Providers would help women apply for AHCCCS and pre-enroll them into a health plan, and women could begin prenatal care at no cost while their eligibility is processed. If a woman was determined to be ineligible for AHCCCS, she and her Baby Arizona doctor worked out a reasonable payment plan and continued care. While the Baby Arizona program formally ended January 2014 with the restoration of Medicaid expansion, BWCH has worked with AHCCCS to develop a list of physicians kept by the Hotline, who would continue an informal Baby Arizona. The informal arrangement is for women who would not be eligible for Medicaid.

The Teen Pregnancy Prevention Program, collaborating with the Arizona Department of Economic Security (DES) Teen Pregnancy Prevention Task Force, has developed a Tool Kit for foster case managers that will serve as a guide for initiating and conducting discussions with youth 12 years and older on sensitive subjects related to physical development and sexual health.

The Arizona Community of Practice on Transition (AzCoPT) offers additional opportunities for cooperation among Department of Education (ADE), Vocational Rehabilitation, Southwest Institute for Families and Children with Special Health Care Needs, DDD, BHS, and young adults. This partnership of stakeholders promotes collaboration and coordination for transition planning, professional development and youth involvement. At the annual ADE Transition conference, partners will co-present Partnering for Transition, describing the role of each agency in coordinating transition for young adults with disabilities and special health care needs. This presentation will be available online to Vocational Rehabilitation, Behavioral Health, and DDD case managers, as well as special educators, reinforcing collaboration across agencies, inclusive of health care, for successful transition.

Methods for partnering with tribal and Native American organizations are also in place. ADHS leadership has quarterly meetings with the Indian Health Services directors located in Arizona. Maternal and child health program have agreements in place with Indian Health Services for sharing of injury data as well as delivery of oral health services. ADHS also has in place a tribal consultation policy that was utilized as part of the public input process for this year's Title V needs assessment and application. ADHS/OCSHCN staff participates in planning the annual Native American Disability Summit. The BWCH has added a Tribal Liaison position, funded through the Maternal, Infant and Early Childhood Home Visiting grant to support BWCH efforts of collaboration and partnering with the tribes in a culturally appropriate fashion. The Arizona MIECHV Program was awarded competitive funds to expand home visiting services into tribal communities. On June 24, 2015, the MIECHV Program held its Tribal Consultations with Arizona's Tribal Leaders. The purpose of the meeting was to guide the work and interaction with federally recognized Tribes in Arizona in expanding the Parents as Teachers Home Visiting Model into six tribal communities.

The Bureau works closely with the county health departments in planning and developing maternal child health programs and initiatives by providing updates to the monthly Arizona Local Health Officer Association meetings, by including county health departments in program planning and by including

county health departments in initiatives like CoIIN.

Family partnership is integral to how the Bureau works with the CSHCN community. The Bureau of Women's and Children's Health involves parents of children and youth with special health care needs in program development and decision making. While the Bureau utilizes the knowledge and experience of some of their full time staff who are parents of children with special health care needs, it isn't enough to fill the need for parent involvement in the numerous agencies, local communities, private projects, committees, workgroups, and other decision making bodies. As a result, OCSHCN has contracted with Raising Special Kids (RSK) the designated Arizona Family-to-Family Health Information Center, to create a Family Advisor Registry of young adults and family advisors, to be used as paid consultants to fulfill the need for parent involvement.

RSK identifies, recruits, trains, and reimburses individuals and family members of CYSCHN to participate in the Bureau's policy, program development, implementation and evaluation committees, and as a resource regarding children and youth with special health care needs. In 2015, a new contract was established which increased leadership training opportunities and requirements for Family and Young Adult Advisors working with OCSHCN. RSK's contract requires delivery by year end, of a cadre of 80 - 100 Parent Advisors and 20 -25 Young Adult Advisors, who have received over 15 hours of training in policy development, leadership development, communication with professionals.

As a result of new contract requirements with RSK related to young adults, four Young Adult Advisors have been identified and are working with the Maricopa County CYSHCN Coalition and the Arizona Community of Practice on Transition. Family Advisors have provided Family-Centered Medical Home training and "Day in the Life", in home experiences for healthcare professionals. A new initiative has prepared ten Family Advisors to deliver Health Care Organizer Training for families, with seventeen family members having received the training in a tri-lingual class including English, Spanish and ASL, with the Phoenix Early Head Start Program.

Family members are a part of other programs as well. The MIECHV program seeks to use nine Family Advisors to participate in local coalitions across the state; four Family Advisors are currently active and recruitment efforts are ongoing. The Maricopa County CYSHCN Coalition, part of the ADHS Health in Arizona Policy Initiative (HAPI), has five Family Advisors and two Young Adult Advisors participating on the Steering Committee, along with ten representatives from agencies and organizations serving CYSHCN. Family Advisors either speak at or are part of the workgroups for the Fragile Infant Training, the American Indian Disability Summit, Medicaid Infrastructure Grant Workgroup, Arizona Employment and Disability Partnership, Arizona State University's Person Centered Accessible Tech (APAcT) workgroup, and the Pima County Emergency Preparedness Summit.

Family advisors participated in multiple projects with OCSHCN including Care Coordination revision, webpage review and revision, AZ newborn screening rules review, outreach materials development,

contract development and evaluation, OCSHCN staff hiring, ADHS Prevention events and internal committees and projects.

The BWCH/OCSHCN AMCHP Family Advisor sits on several workgroups such as the Phoenix Children's Hospital Stakeholder Advisory Council, the state Emergency Preparedness Team. Additionally, a family member serves on the Safe Sleep Task Force and CoIIN effort. She will be going to Boston to the CoIIN meeting in July 2015.

Title V Abstinence Education sub-awardees organize Youth Advisory Groups (YAG), consisting of youth in the funded communities who have participated in Teen Pregnancy Prevention programming. The YAGs meet with the sub-awardee program staff at least once a quarter to offer input regarding strategies for addressing barriers and effective implementation of the abstinence education program in their community. ADHS meets with YAGs at least once per year to provide teen pregnancy statistical information, identify barriers and solicit suggestions for improvement in state policies and local programming.

It is BWCH's intent to promote and increase the number of Young Adult and Family Advisors participation and involvement in this agency and other community partner's workgroups, committees, task forces, trainings and presentations.

The bureau will continue to build on the established partnerships with the various agencies, networks, coalitions, families and consumers described above, in addition to reaching out to new partners. The bureau's programs and initiatives are richer and more impactful as a result of the collective knowledge, resources and skills each of our partner agencies, family members and consumers contribute to improving the health of women and children in Arizona.

CONCLUSION

In 2014, the management team of the Bureau of Women's and Children's Health met to plan for the Five Year Needs Assessment. The process began with a list of guiding principles: listen to those who are not traditionally involved; learn from community members as well as the Maternal Child Health Community; and honor and respect the work that others in the community and state had done in the previous year to assess the well-being of Arizona's people. The goal was to determine the strengths and challenges related to women's and children's health across Arizona.

The Maternal Child Health program of Arizona listened and reviewed the data over the past year to assess both the health status of Arizona's women and children and the capacity of the program, agency and state to care for the needs identified. In all, BWCH staff traveled over 2,200 miles and heard from over 1,500 people to gather stakeholder input and support the involvement of communities in the needs assessment and priority processes.

From here the Bureau will go on, with the help of the community, to develop evidence based strategies and measurements of the strategies to address the identified priorities:

Arizona's Title V Maternal Child Health Priorities 2016-2020

- Improve the health of women before and between pregnancies
- Reduce infant mortality and morbidity
- Decrease the incidence of childhood injury
- Increase early identification and treatment of developmental delays
- Promote a smooth transition through the lifespan for children and youth with special healthcare needs
- Support adolescents to make healthy decisions as they transition to adulthood
- Reduce the use of tobacco and other substances across the lifespan
- Improve the oral health of Arizona's children
- Increase the percentage of women and children who are physically active
- Strengthen the ability of Arizona families to raise emotionally and physically healthy children

These priorities will form the basis of Arizona's Maternal Child Health Action Plan. As the needs assessment process is an ongoing part of public health surveillance, the Bureau will continue to reach out to our partners, stakeholders and the larger community for support and guidance as it continues to work every day to improve the health and wellbeing of every woman and child in Arizona, including children with special health care needs.