

A wide-angle photograph of an Arizona desert landscape at sunset. The sky is a vibrant mix of blue, orange, and yellow, with wispy clouds. The sun is low on the horizon, creating a bright lens flare. In the foreground, there are several cholla cacti (cylindrical, segmented) and a few saguaros (columnar cacti). The ground is covered with sparse green and brown vegetation. In the background, there are more saguaros and distant mountains under the colorful sky.

2019
**Arizona
State
Health
Assessment**

April 2019

Dear Arizonans,

I am very excited to share with you with the 2019 Arizona State Health Assessment! The report is the result of the work of the Arizona Department of Health Services (ADHS) and several community partners to present a snapshot of health issues we are working on in our communities.

ADHS utilizes an evidence-based public health approach to improve the health and wellness of Arizonans. This report is a critical tool for ADHS in our evidence-based approach as it provides an assessment of key data that will help our department set public health priorities in our communities.

The Assessment highlights both successes and challenges in our state with the intent of driving data for action. The Assessment also identifies key social, economic, and environmental factors contributing to the health of Arizonans. We expanded the collaborative process to include a more diverse perspective of the data from our partners. Because of this, the Assessment is a valuable resource that can be utilized not only by health-related stakeholders, but also by partners of all sectors.

ADHS will keep this Assessment as a living document with opportunities to update data, add new, relevant sources, and continue the availability of Assessment findings for the state. This living document can be viewed anytime on our website: azhealth.gov/SHA.

We appreciate the input of those who participated in this process for their commitment to continuing the promotion of health and wellness for individuals and communities of Arizona!

Sincerely,



Cara M. Christ, M.D.
Director



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ARIZONA | By The Numbers

Average
Life
Expectancy
79.5 Years

7,171,646
Residents
in 2018

Executive Summary

As we strive to achieve a healthier Arizona, the Arizona Department of Health Services conducts a statewide “big picture” assessment of the current health status of Arizonans every 5 years. This assessment considers key trends and health issues throughout the lifespan, as well as the health and safety of the communities in which we live.

In short, where you live matters. The design of our communities and factors such as education, poverty, and employment can influence the choices we make and the opportunities we have to achieve optimal health. We envision an Arizona in which everyone has the opportunity to live a healthy, happy life.



| | |
|---|---|
| Arizona continues to grow at a fast pace | With an average annual growth of 1.4% in population, Arizona faces challenges in capacity to address implications of population growth, as well as opportunities to grow a stronger economy. |
| Arizona experiences improvements in health | Arizona has lower mortality rates of heart disease and cancer than the United States. Teen pregnancy rates have declined 60% over the last decade. |
| Arizona faces challenges in health | Deaths due to both unintentional and intentional injury continue to rise. There is a need to address health disparities burdening Arizona populations. |
| Arizona has opportunities to improve communities | With a focus on health equity, communities in Arizona facing social issues such as homelessness and children in poverty can address factors keeping Arizonans from living their full potential. |

Introduction

Arizona has a rich and diverse culture, with unique communities, populations and geography. From urban Phoenix to the bottom of the Grand Canyon, from the United States/Mexico Border Region to tribal lands, the health of Arizona's residents is a priority not only for the Arizona Department of Health Services (ADHS), but for our entire community.

The State Health Assessment is used to examine key health indicators and provide a comprehensive overview of the health of Arizonans. This data-driven approach is designed to produce and evaluate a variety of factors contributing to health outcomes, including direct measures of population health as well as measures of social determinants of health that play a significant role in the overall health of our residents. It uses data and information from a variety of sources and community sectors, considering the unique circumstances of communities and disparities that may exist between populations. This Assessment builds on extensive community engagement and highlights capacity throughout our state, including resources and assets that collaboratively work to improve the health of Arizona residents.

The Assessment examines health across the lifespan, from maternal and infant health to healthy aging, examining how health issues and causes of death differ among individuals throughout their lifetime. It highlights special populations, whose unique needs warrant additional examination. Finally, it outlines factors that contribute to healthy communities, which can inform strategies to support health equity across Arizona.

This Assessment will inform the next phase of the Arizona Health Improvement Plan (AzHIP) by highlighting areas that will assist in continued priority setting and aid in the development of public health policy, programs, and interventions.

What is Accreditation and the State Health Assessment?

ADHS was awarded national accreditation through the [Public Health Accreditation Board \(PHAB\)](#) in September 2017.

The voluntary accreditation process focuses on improving public health services and outcomes by implementing Quality Improvement (QI) practices. In response to the accreditation standards, ADHS formed the Office of Continuous Improvement (OCI) to concentrate on the three accreditation prerequisites: a State Health Assessment, Strategic Planning, and a State Health Improvement Plan. OCI is also responsible for facilitating other PHAB accreditation requirements. All of these efforts are designed to strengthen the infrastructure of ADHS and improve partnerships throughout the state.

The goal of accreditation is to assess the health department's ability to deliver the [Ten Essential Public Health Services](#) manage an effective health department, and maintain strong and effective communications with the governing entity. The steps taken toward accreditation by ADHS were novel and groundbreaking for Arizona, providing a framework to increase quality and effectiveness. The work being done by states is critical to improving public health nationally, as well as continuing to improve PHAB standards.

According to PHAB, initial public health department accreditation is designed to demonstrate that the health department can provide the Ten Essential Public Health Services as identified in the 1994 [Core Public Health Functions Committee](#). Subsequent reaccreditation, however, examines how public health agencies are leveraging those capacities and ensuring continuous quality improvement. As outlined by PHAB, “the requirements and process for reaccreditation were designed to encourage accredited health departments to continue to evolve, improve, and advance, thereby becoming increasingly effective at improving the health of the population they serve.”¹

As part of the reaccreditation process, ADHS must continue to conduct a State Health Assessment (SHA) and State Health Improvement Plan (SHIP) every five (5) years. ADHS released its [first SHA](#) in April 2014 and built off of that assessment to develop the [Arizona Health Improvement Plan \(AzHIP\)](#). Each SHA addresses the following requirements as outlined by PHAB:

The assessment must address the entire population of the jurisdiction that the health department is authorized to serve.

The health assessment must include:

- ◇ Data and information from a variety of sources and community sectors. Data or information must include consideration of the context of the populations, for example, unemployment rates, percent of registered voters, graduation rates and education level attained, transportation, walking/biking access, income, park acreage, housing stock, and home values, etc.
- ◇ Descriptions of health issues and descriptions of specific population groups with greater or particular health issues and health inequities.
- ◇ Description of factors that contribute to specific

populations’ health issues. Include social determinants of health and community factors or contributors, as appropriate. Consider how contributing factors overlap in populations. For example, housing may overlap with asthma and lead levels, which may overlap with success in school. Lack of transportation may overlap with unemployment and insurance, access to care, and chronic disease.

- ◇ Description of community resources or assets that may be employed to improve the community’s health. Categories of community resources or assets include individuals, citizen associations, local institutions, the built environment, the natural environment, businesses, and industries, etc.²

The State Health Assessment process is critical to identify high-priority issues and develop strategies to address crucial public health concerns in the state. While spearheaded by ADHS, it is a statewide effort with input from stakeholders and local public health priorities. The SHA is designed to address a spectrum of issues and focus areas that reflect the entire state. As it informs the corresponding SHIP actionable priorities are identified for both ADHS and community partners across Arizona.

The State Health Assessment process is critical to identify high-priority issues and develop strategies to address crucial public health concerns in the state.

¹ Public Health Accreditation Board, [Guide to National Public Health Department Reaccreditation: Process and Requirements](#).

² Ibid.

State Health Assessment Framework & Health Improvement Plan

After the first 2014 State Health Assessment, ADHS leveraged the comprehensive work conducted by public health system partners, advocates, and stakeholders to develop the [Arizona Health Improvement Plan 2016 - 2020 \(AzHIP\)](#). The AzHIP identifies:

- Community health priorities, objectives, strategies, measures, and time-framed targets
- Policy changes needed to accomplish objectives
- Organizations responsible for implementation
- Measurable health outcomes or indicators
- Alignment with national priorities

Identifying leading public health issues, the 2014 SHA set a framework for the AzHIP, including an analysis of 1) the significance of the issue; 2) the ability to make a difference; and 3) the capacity to address the issue. The AzHIP Steering Committee and participants used this data to direct the development of overall goals, strategies, tactics and action items targeting each of the leading health issues that comprise the AzHIP.



The [first version of the plan](#) was published in March 2016 and includes the following health priorities:

- Cancer
- Chronic Lower Respiratory Disease & Asthma
- Diabetes
- Healthcare-Associated Infections
- Heart Disease & Stroke
- Maternal & Child Health
- Obesity
- Oral Health
- Tobacco
- Unintentional Injury

In May 2017, new segments were added to the AzHIP. The update included two additional health priorities:

- [Substance Abuse](#)
- [Suicide](#)

The update also included the addition of [Cross-Cutting Issues](#). These were issues identified during the development of the AzHIP

- [Access to Care](#)
- [Built Environment](#)
- [School Health](#)
- [Worksite Wellness](#)

The AzHIP set a vision for “Healthy People, Healthy Communities” and outlined a plan for the entire public health system. This plan was designed to align resources and efforts to improve the health of communities and individuals across Arizona.

The 2019 State Health Assessment builds on this methodology, using key indicators and goals set by the AzHIP data across the lifespan to assess health needs and the corresponding capacity to respond to identified needs. ADHS will use this Assessment to set priorities and performance objectives for the next iteration of the AzHIP, which will be released in 2021. Data collected will be used to identify areas for further study and direct strategic planning and resource allocation.

The AzHIP set a vision for “Healthy People, Healthy Communities” and outlined a plan for the entire public health system.

Throughout this Assessment, health issues are outlined by lifespan segments, which will also help inform the development of targeted strategies across the lifespan. The Assessment identifies how community characteristics (e.g., social influences, location of residence, built environment) help shape and impact health outcomes in meaningful ways. Finally, the Assessment outlines target populations whose unique health needs warrant further exploration and focused strategies. A variety of health disparities are identified and explored as ADHS seeks to engage communities and organizations across Arizona about how to advance policies and practices that promote health equity.

This Assessment identifies key indicators and highlights notable disparities across populations, setting criteria of magnitude, severity, quality of data, and available trend and national comparison data. However, it cannot and does not display every single available data source or measure. In addition, because it is designed as an overall comprehensive assessment, the analysis and depth of each indicator is limited. The [ADHS website](#) includes other extensive data and reporting on many of the areas covered in this Assessment.

Stakeholder Engagement

ADHS sought out extensive stakeholder engagement to identify indicators for and to shape the 2019 State Health Assessment. ADHS initially created an internal data group to evaluate all potential data sources available to the Department and to begin comprehensive data analysis on a variety of identified indicators. (See [Appendix A](#) for the list of internal epidemiology data group participants.)

Additionally, ADHS utilized the Arizona Public Health Learning Community, which consists of county and tribal public health employees, to gather input on issues for the Assessment. While the 2014 Assessment built directly from County Health Assessments across the state, counties are now updating their priorities on their own timelines. Because many of these timelines may not align with this Assessment, ADHS collected assessment information from county partners where available but leveraged other engagement opportunities to gather feedback as well.

ADHS leadership developed a snapshot of Arizona's health status using data on key measures and indicators. Over 20 SHA Data Roadshow presentations were conducted around the state, primarily in person by ADHS staff, to various community organizations, coalitions, etc., from October 2018 through March 2019. The presentations led to valuable discussions identifying key takeaways, ideas for additional analysis, and opportunities to take action utilizing the data (see [Appendix B](#) for a list of organizations to which the snapshot was presented).

Included in these presentations was a meeting with the Arizona Local Health Officers Association on October 18, 2018. ADHS also established and met with an AzHIP Tribal Work group to engage tribal leaders and stakeholders in the assessment and overall health improvement process.

The AzHIP Steering Committee members, representing public health leaders from a variety of sectors across Arizona, played a critical role in developing and updating strategies as well as informing content of this Assessment. (See [Appendix C](#) for AzHIP Steering Committee members.) The Steering Committee meetings throughout the year helped inform the direction of the Assessment, and a focused meeting held on October 19, 2018, specifically discussed the data and priorities listed within this Assessment.

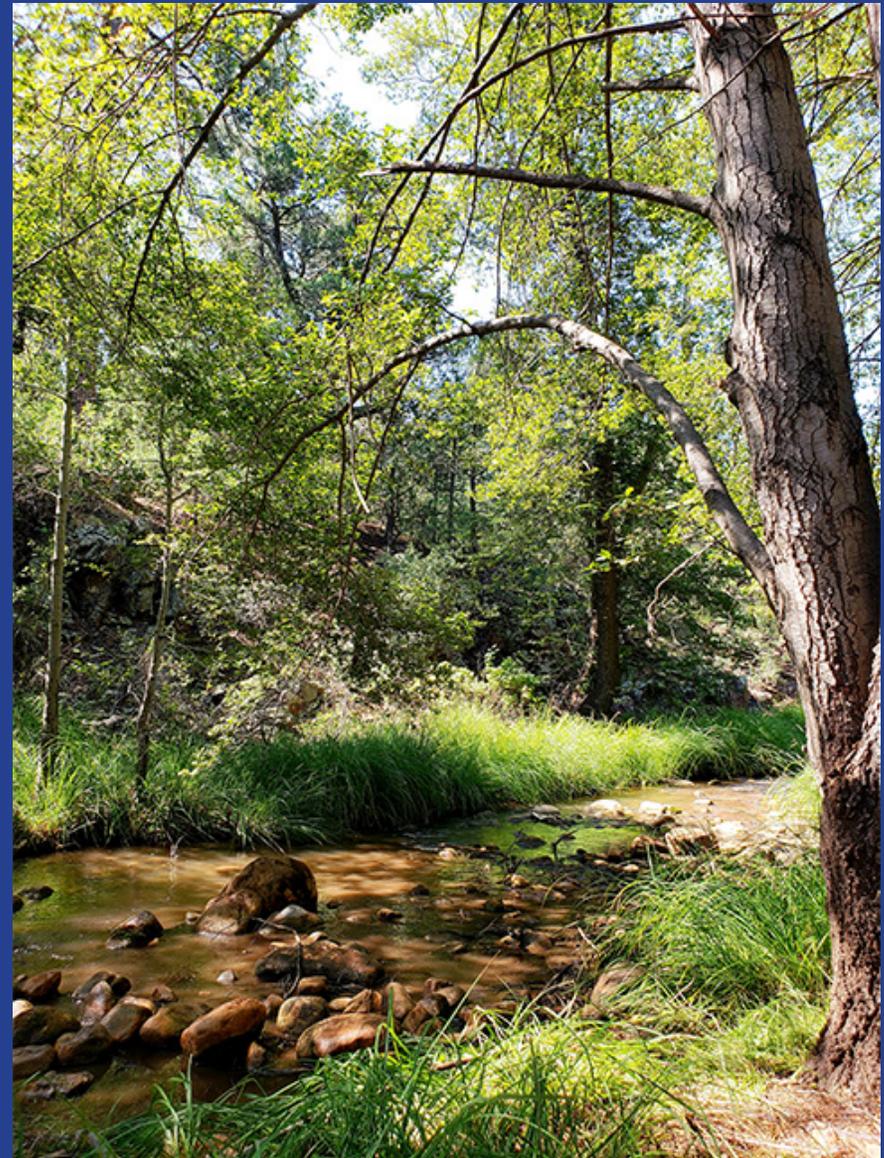
Collecting information from Arizonans was a clear priority in the development of the Assessment. To ensure the public had an opportunity to provide meaningful feedback, the Roadshow data snapshot was presented through a webcast and available via [YouTube](#) for comment. A [survey](#) was available to the public to assess key takeaways from the presentation as well as collect feedback on the top health priorities that statewide partners should address over the next five (5) years. (See [Appendix D](#) for the full content of the survey and a summary of the survey responses.)

ADHS also hosted the AzHIP 2019 Summit on January 31, 2019, with a focused discussion on the 2019 State Health Assessment, including dialogue about how to enhance the implementation of the AzHIP with a health equity focus.

Data Sources

ADHS used a variety of primary and secondary data sources to produce the analysis included in this Assessment. The internal data group reviewed all reliable data sources available to ADHS for each health outcome to ensure the data was accurate, representative, and timely. Data sources and years for each indicator are displayed within the charts and graphs.

For some indicators, data is stratified by race and ethnicity, sex, age group, geographic location, and social demographics to highlight areas of health disparity across populations.



The main data sources employed are:

| Data Source | Description |
|---|--|
| Arizona Department of Health Services Bureau of Vital Records | <p>Birth Certificate: A birth certificate is a legal document attesting birth, paternity, adoption, and official identity. All births to Arizona residents, including those of residents who give birth in other states are included in the birth certificate system maintained by the ADHS Bureau of Vital Records.</p> <p>Death Certificate: Information on deaths is compiled from the original documents filed with the ADHS Bureau of Vital Records and from transcripts of death certificates filed in other states but affecting Arizona residents. Mortality data in this report present death of Arizona residents.</p> |
| Behavioral Health Risk Factor Surveillance Survey (BRFSS) | <p>The Behavioral Risk Factor Surveillance System is a population-based telephone survey conducted annually in all 50 states, the District of Columbia and U.S. territories to collect information on health-related behavioral risk factors, preventable health practices, healthcare access, and chronic conditions among non-institutionalized U.S. adults aged 18 years or older.</p> |
| Youth Risk Behavior Surveillance System (YRBSS) | <p>The Youth Risk Behavior Surveillance System was established in 1991 by the Centers for Disease Control and Prevention (CDC) to monitor six priority health-risk behaviors that contribute to the leading causes of morbidity and mortality among youth and young adults in the United States. One component of the surveillance system is the biennial school-based Youth Risk Behavior Survey (YRBS). Survey results are based on representative samples of high school students in the nation, states, tribes, and select large urban school districts across the country.</p> |
| American Community Survey | <p>The American Community Survey is the largest annual household survey conducted by the Census Bureau to generate period estimates of socioeconomic and housing characteristics for states and communities (counties, zip codes, census tracts, and block groups). The survey is designed to provide estimates that describe the average characteristics of an area over a specific time period, either a calendar year (single-year estimates) or a period of 3 or 5 calendar years (multiyear estimates).</p> |
| Hospital Discharge Data | <p>Hospital Discharge Data are a valuable source of information about the patterns of care, public health, and the burden of chronic disease and injury morbidity. ADHS collects hospital discharge records for inpatient and emergency department visits from all Arizona licensed hospitals. The available data are for state-licensed hospitals including psychiatric facilities. Federal, military, and the Department of Veteran Affairs hospitals are not included.</p> |

ADHS also produces a [Community Profiles Dashboard](#), a standardized and interactive tool that provides locally-relevant data for understanding and benchmarking the health and well-being of communities in Arizona. It presents annual metrics on health behaviors, health outcomes, and key socio-demographic factors that impact health in each of the 126 primary care areas (PCAs) in Arizona. Information from the dashboard is critical to community stakeholders and local health officials in identifying health priorities and developing prevention strategies.

A complete list of data sources can be found in [Appendix E](#). Detailed data tables including all indicators from graphs and charts as well as confidence intervals for BRFSS and YRBSS results can be found at azhealth.gov/SHAdata.

Healthy People, Healthy Communities

The 2019 State Health Assessment is structured around the themes of Healthy People, Healthy Communities. ADHS focused on health outcomes across the lifespan, examining issues in Maternal and Infant Health, Child and Adolescent Health, Healthy Adults, and Healthy Aging. Health issues by lifespan segment vary, and strategies to comprehensively address those issues may differ across the lifespan. This approach allows focus on potential comorbidities and co-stressors that may impact individuals at different times of their lives and breaks down silos that can occur when health issues are viewed solely through a traditional public health disease program lens. Examining both leading causes of death by count and years of potential life lost allow a more comprehensive view of indicators keeping Arizonans from reaching their full life potential.

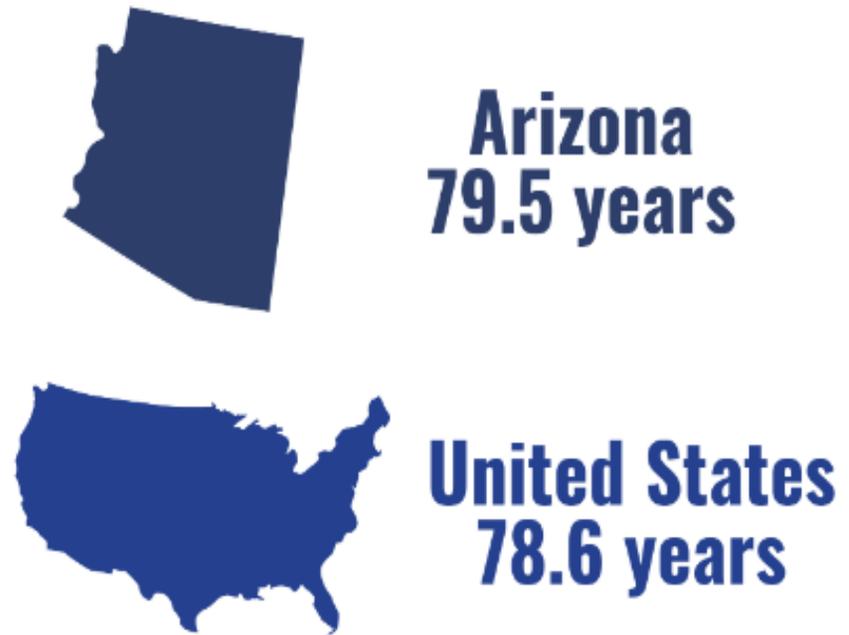
Health Begins in our Communities

Social, economic, and physical conditions in our communities impact the health and wellbeing of all Arizona residents. These factors demonstrate an individual's opportunity for health starts - long before illness - in our homes, schools, and jobs.³ In fact, clinical care provided to individuals to address health conditions and genes/biology each are found to account for only 10% of the factors influencing an individual's health.⁴ Social and economic elements play the largest role, contributing almost 40% of the factors affecting health. Yet, most healthcare spending does not address these critical issues. From this view, opportunities for improving and maintaining health can be focused on environments where people are born, live, learn, work, play, worship, and age.⁵

³ Robert Wood Johnson Foundation, [A New Way to Talk about the Social Determinants of Health](#).

⁴ Determinants of Health Model based on frameworks developed by: Tarlov AR. *Ann N Y Acad Sci* 1999; 896: 281-93; and Kindig D, Asada Y, Booske B. *JAMA* 2008; 299(17): 2081-2083. National Academy for State Health Policy and de Beaumont Foundation 2018.

⁵ Healthy People 2020, 2020 Topics and Objectives, [Social Determinants of Health](#).



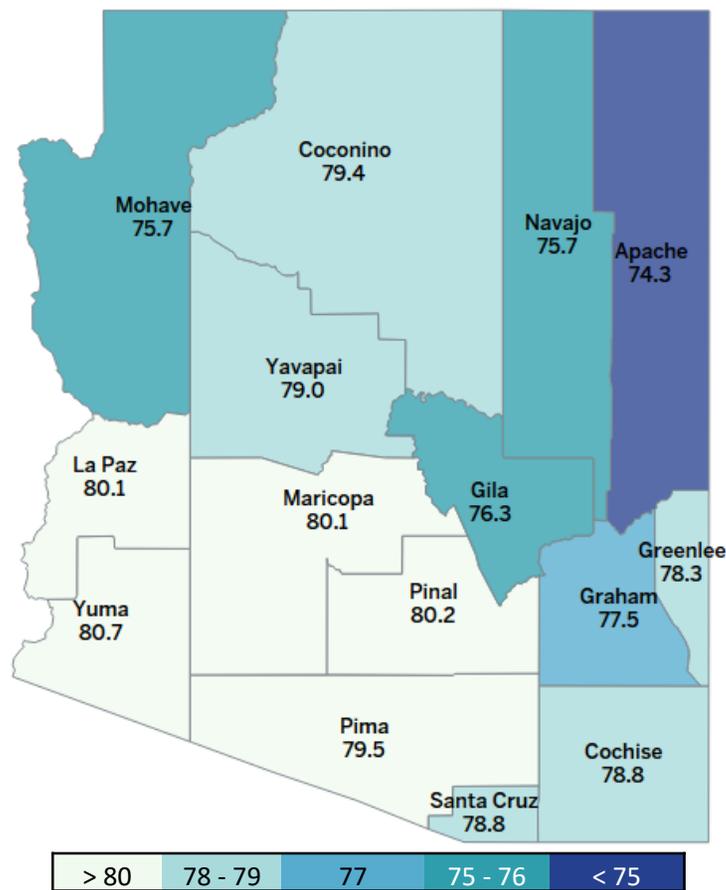
The importance of addressing social factors to improve health outcomes is widely recognized, and stakeholders across the country are engaged in conversations about how to leverage public policy to promote equity. All Americans should have the opportunity to make the choices that allow them to live a long, healthy life, regardless of their income, education, or ethnic background.⁶ The relationship between social factors and health equity is interrelated and complex.

There are a variety of determinants that impact health, and those impacts may vary across the lifespan. For example, individuals that lack access to affordable nutritious food may have challenges managing conditions such as diabetes and hypertension. Children who live in areas of high pollution may experience more difficulty managing asthma and other respiratory diseases. The amount of social cohesion and support available within a community is also important to consider, especially when individuals are confronted with barriers to healthy behaviors.

⁶ Ibid.

Life expectancy - a measure commonly used to assess the overall health of a population - clearly exhibits that where our residents live matters. In 2017, the average life expectancy in Arizona was 79.5 years, slightly higher than the national average of 78.6 years. However, the expected lifespan is not the same for all Arizonans. Residents of Apache County, Navajo County, Mohave County, Gila County, Graham County, and Greenlee County recorded shorter life expectancy than the state average.

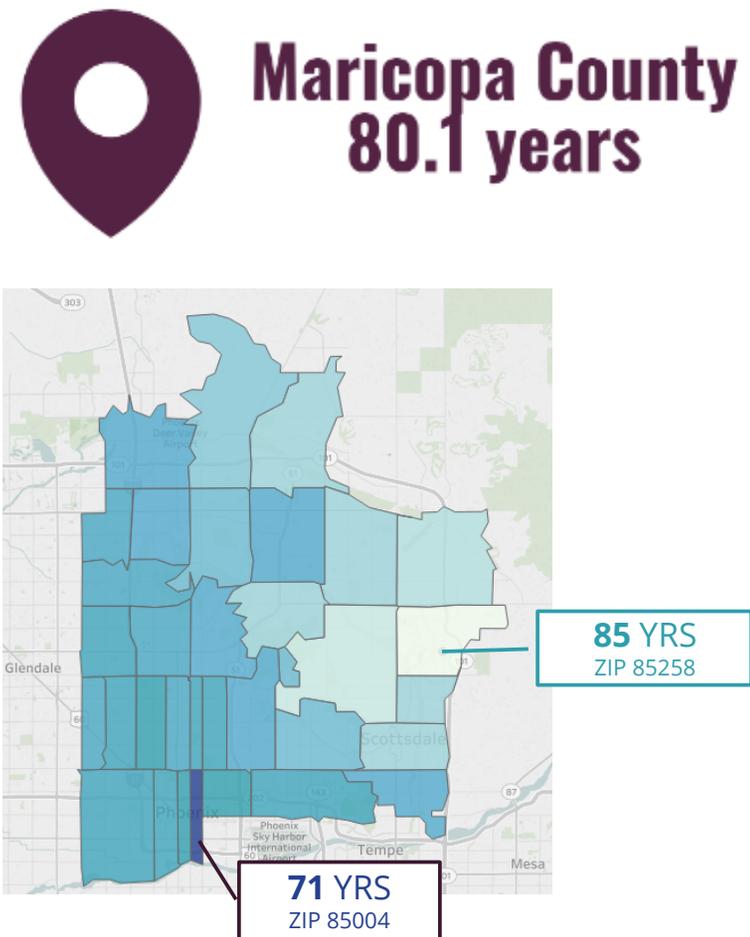
Arizona Life Expectancy at Birth, by County, 2017



Virginia Commonwealth University, Center on Society and Health

Besides county disparities, there are also substantial variations across zip codes, even within the same county. In Maricopa County, for example, the expected length of life was 85 years in ZIP code 85258, while just 13 miles away in ZIP Code 85004, the expected longevity (71 years) was 14 years shorter.

Life expectancy by ZIP Code in Maricopa County, Arizona, 2017



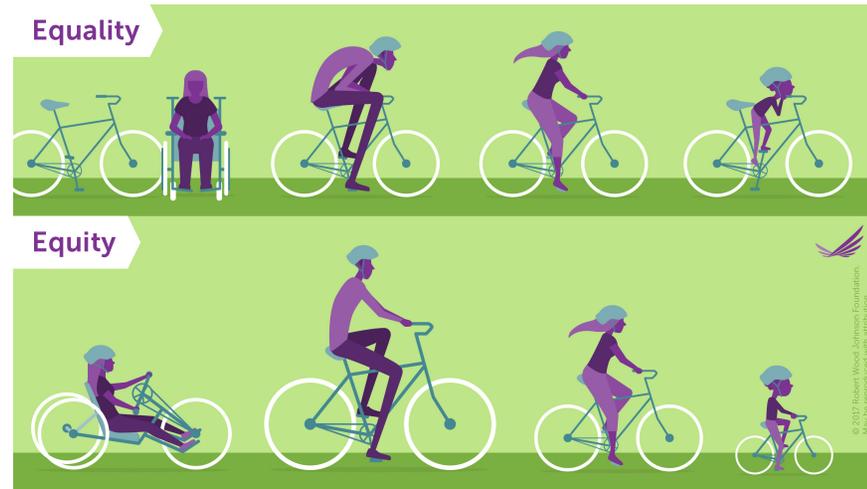
Virginia Commonwealth University, Center on Society and Health

To consider the impact of Social Determinants of Health (SDOH), ADHS includes measures of Healthy Communities (i.e. neighborhood and social influences) in this Assessment. There is also a focused look at populations that commonly experience health disparities such as tribal members, veterans and residents of the United States/Mexico Border Region.

What is Health Equity?

The CDC defines Health Equity as “when everyone has the opportunity to be as healthy as possible.”⁷ Promoting health equity involves evaluating health disparities across populations and developing strategies designed to address the gaps. These targeted strategies are specific to the circumstances and needs of vulnerable populations and should be implemented in a manner that respects the culture and uniqueness of the populations. Equity considers that individuals and communities have diverse needs, and approaches must provide opportunities that will optimize health for everyone.

Healthy People, Healthy Communities: Achieving Health Equity



Robert Wood Johnson Foundation, *Visualizing Health Equity: One Size Does Not Fit All*

It is important to note the difference between equality and equity. The focus of equality is to give everyone a fair and equal chance to live a healthy life. Equity takes this methodology a step further to address each individual’s unique needs. In opportunities for health, one size doesn’t necessarily fit all.

Health equity is strongly tied to SDOH, as these determinants can exacerbate inequity and impact health outcomes for certain populations. Throughout this Assessment, a variety of health disparities are highlighted, including geographic, economic, and racial and ethnic disparities. ADHS is committed to identifying and analyzing these health disparities to inform a community discussion on how to drive toward equity and identify strategies that address inequities across the state.

Arizona Demographics

Based on the latest estimates of the Census Bureau, in addition to being the 6th largest state in the U.S. with 113,594 square miles total area, Arizona is also the 4th fastest growing state with a current estimated population of 7.17 million residents in 2018.⁸ Arizona has fifteen (15) counties, 13 of which are rural counties where approximately 25% of the population reside.⁹ Between 2010 and 2017, the state has gained more than half a million residents, experiencing average annual growth of 1.4% during that period of time.¹⁰

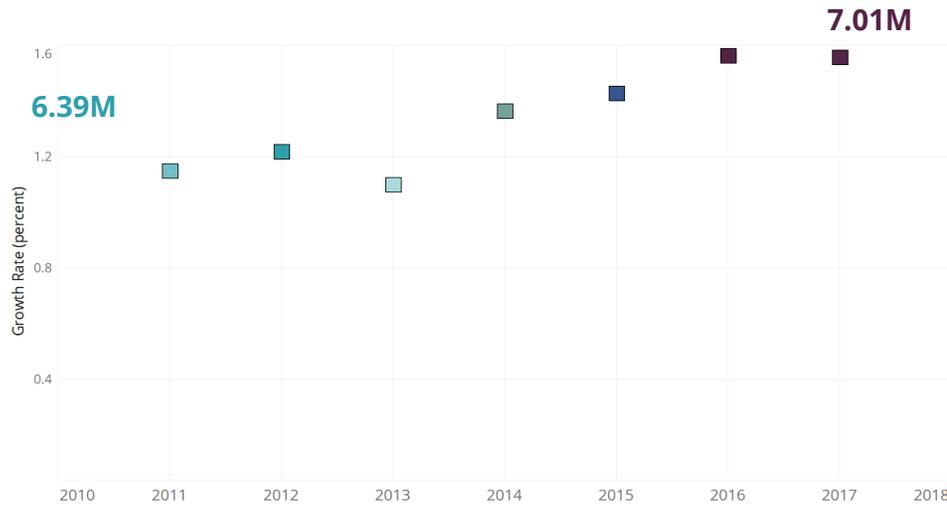
⁸ United State Census Bureau, [Quick Facts Arizona](#). Population Estimates, July 1, 2018.

⁹ [Arizona Rural Health Workforce Trend Analysis](#), 2007-2010.

¹⁰ U.S. Census Bureau, [National Population by Characteristics](#), 2010-2017.

⁷ Centers for Disease Control and Prevention, [Health Equity](#)

Arizona's Population Growth Rate, 2010 - 2017



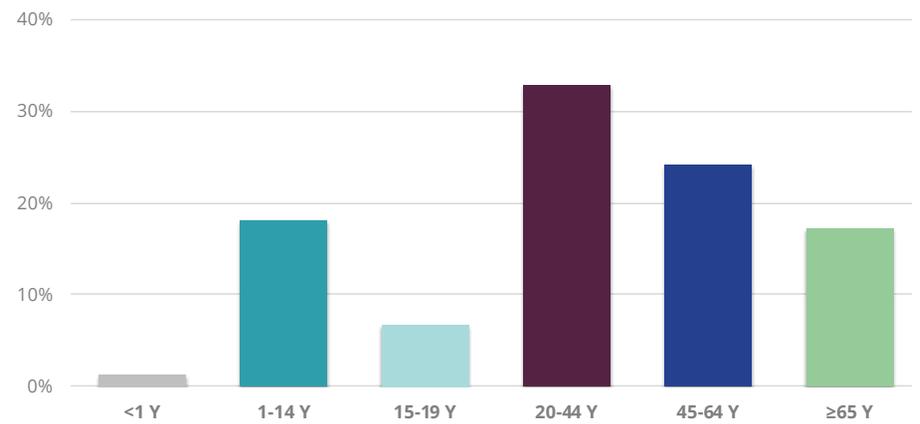
U.S. Census Bureau, National Population by Characteristics

For each year between 2010 and 2017, the Arizona population has been rising at a faster rate than the nation as a whole, increasing by a total of 9.8%, two times greater than the national average of 5.5%.

The proportion of older adults has also increased. In 2017, 17.1% of Arizona residents were aged 65 years and older, compared to 13.8% in 2010. During that same period, the population of individuals less than 1 year of age has declined.

The current population distribution shows almost 57% of Arizonans are between ages 20 and 64, of which 32% were between the ages of 20 and 44. Arizona's age distribution roughly mirrors that of the U.S.; however, adults aged 65 and older account for 17.1% in Arizona and 15.6% nationally.

Arizona Population, by Age, 2010 - 2017



U.S. Census Bureau, National Population by Characteristics

In 2017, more than 85% of Arizonans identified as White non-Hispanic (54.9%) or Hispanic/Latino (31.4%). Other racial groups comprise less than 15% of Arizona's population. Health disparities across these various racial and ethnic groups in Arizona are an important theme of this Assessment.

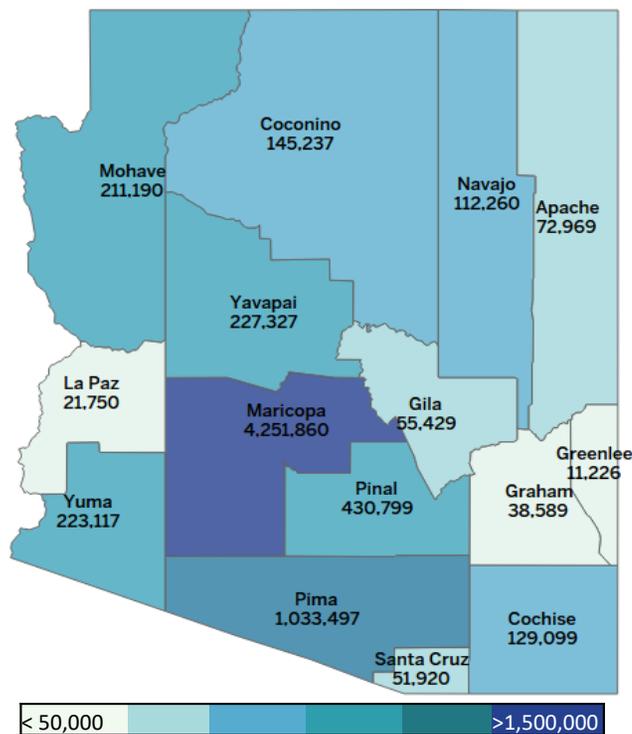
Arizona Population, by Race & Ethnicity, 2010 - 2017



U.S. Census Bureau, National Population by Characteristics

While the population is growing and becoming more racially and ethnically diverse, its geographic distribution is uneven. More than two-thirds of the population (75%) reside in Maricopa and Pima counties, of which 4.2 million reside in Maricopa. Throughout this Assessment, ADHS will highlight areas in which health measures or outcomes differ across the geographic distribution of the state to inform evaluations about how social influences may be impacting these distributions, as well as identify strategies to drive health equity across the state.

Arizona Population, by County of Residence, 2017



Office of Economic Opportunity and U.S. Census Bureau

Outcomes Across the Lifespan

Leading Causes of Death

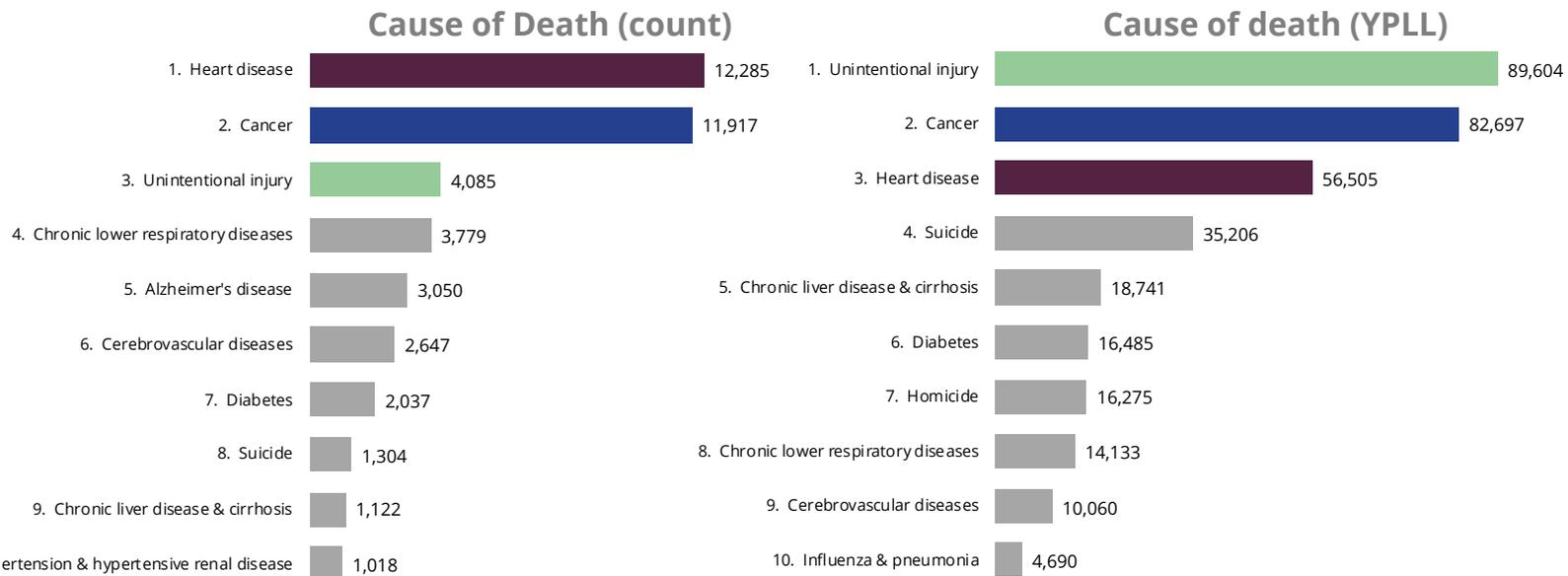
Leading causes of death are those causes that account for the greatest number of deaths (in this case, in Arizona or nationally). Identifying the leading causes of death can inform the development of strategies to reduce deaths and extend years of life. Ranking of cause of death is essential in understanding the magnitude of disease or injury in a population.

Years of potential life lost (YPLL) - a measure of premature mortality - estimates the average years a person would have lived if they had not died prematurely. Reducing YPLL is an important public health goal since it emphasizes preventable death of younger persons. This section includes the leading causes of premature death as measured by years of potential life lost before age 75.

In 2017, 57,261 Arizonans died. For all Arizonans, the leading causes of death were: 1) Heart Disease; 2) Cancer; 3) Unintentional Injury; 4) Chronic Lower Respiratory Disease; and 5) Alzheimer's. These leading causes have remained the same since 2009. Examining the leading causes of death by YPLL, the top 3 remain the same (heart disease, cancer and unintentional injury), but their ranking differs.

Unintentional Injury, which caused the death of 4,085 Arizonans in 2017, resulted in the highest number of YPLL at 89,604. In total, these top 3 causes account for 228,805 YPLL. Suicide, which is the 8th leading cause of death by count (1,034), resulted in the 4th highest YPLL at 35,206 years lost.

Leading Causes of Death, by Count & Years of Potential Life Lost, 2017



ADHS Bureau of Vital Records



The highlighted boxes indicate the total 5 leading causes of death by count, and each box number indicates the count of deaths. However, as the graphic shows, the leading causes varied significantly across the lifespan, and these causes will be explored in more detail throughout the assessment. Of note for younger Arizonans, the leading causes of death involve unintentional and intentional injury.

Leading Causes of Death, by Age Group, 2017

| Rank | <1Y | 1-14Y | 15 - 19Y | 20-44Y | 45-64Y | 65+Y |
|------|-----------------------------------|-----------------------------------|------------------------------------|--------------------------------------|--------------------------------------|---|
| 1 | Congenital Anomalies 92 | Unintentional Injury 76 | Unintentional Injury 107 | Unintentional Injury 1,219 | Cancer 2,727 | Heart Disease 10,171 |
| 2 | Short Gestation 64 | Cancer 30 | Suicide 62 | Suicide 514 | Heart Disease 1,853 | Cancer 8,850 |
| 3 | Maternal Complications 31 | Suicide 16 | Homicide 32 | Cancer 301 | Unintentional Injury 1,175 | Chronic Lower Respiratory Disease 3,293 |
| 4 | Unintentional Injury 23 | Congenital Anomalies 13 | Cancer 8 | Homicide 268 | Liver Disease 591 | Alzheimer's Disease 2,997 |
| 5 | SIDS 14 | Homicide 10 | Heart Disease * | Heart Disease 248 | Diabetes 545 | Cerebrovascular Disease 2,292 |

*Counts less than 6

All age group rank



[America's Health Rankings](#) provides an annual compilation of a variety of health status indicators that include clinical care, behaviors, community and environment, and policy determinants that affect health outcomes. It [develops](#) a state-by-state ranking on individual measures, as well as a composite overall state ranking that aggregates the measures (based on their score and value/weighting). The report is funded by the UnitedHealth Foundation and the analysis is guided by an Advisory Council comprised of health policy experts, academicians, health departments, and trade and advocacy organizations.

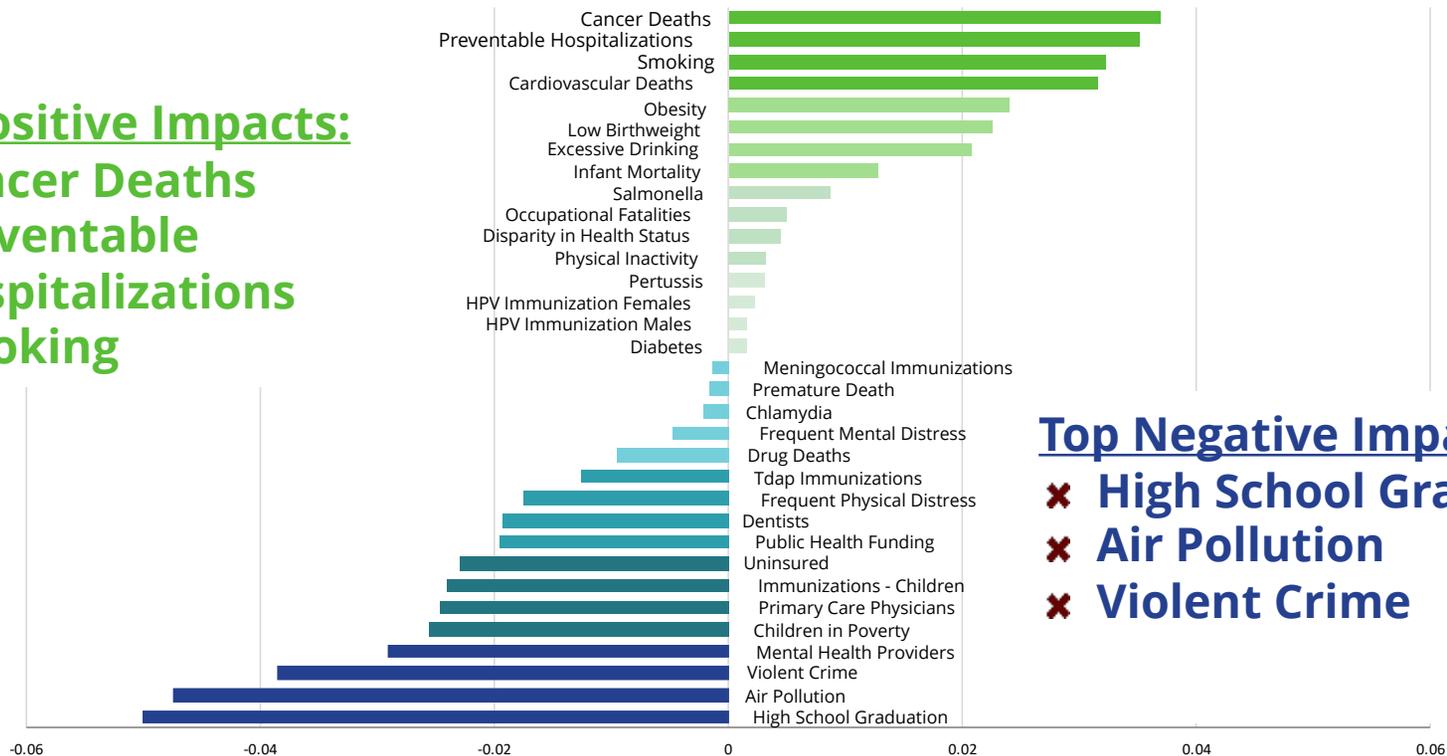
In 2018, Arizona ranked 30th among all states in its overall health status, an improvement from 2017 when the state ranked 31st. Arizona's top positive impacts were in cancer deaths, preventable hospitalizations among Medicare enrollees, and smoking among adults, where the state compares favorably to the national average. Top negative impacts were in areas of social determinants: violent crime, air pollution, and high-school graduation.¹¹ This data highlights why a focused examination of social determinants is critical to assessing the health needs of Arizonans.

¹¹ Violent Crime includes FBI data on number of offenses of murder, rape, robbery, and aggravated assault per 100,000 population.

Arizona Core Measure Impact, 2018

Top Positive Impacts:

- ✓ Cancer Deaths
- ✓ Preventable Hospitalizations
- ✓ Smoking

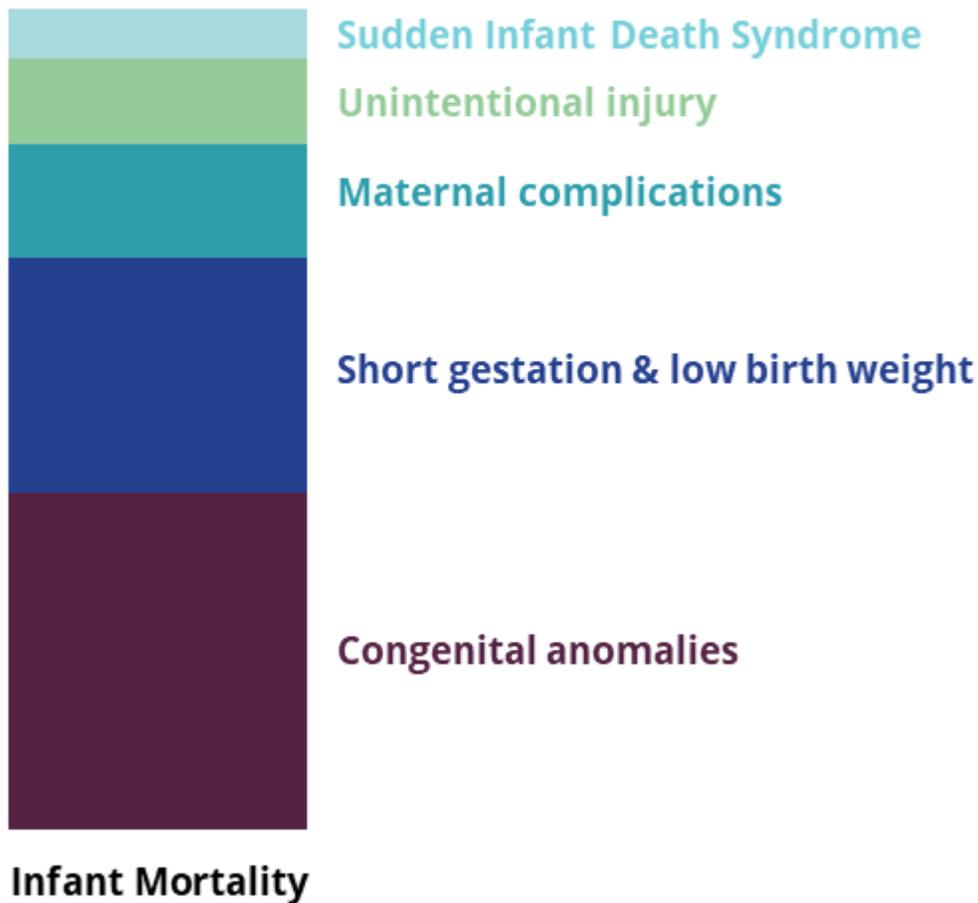


Top Negative Impacts:

- ✗ High School Graduation
- ✗ Air Pollution
- ✗ Violent Crime

✓ Positive impact includes measures where Arizona is standard deviations from the national average.

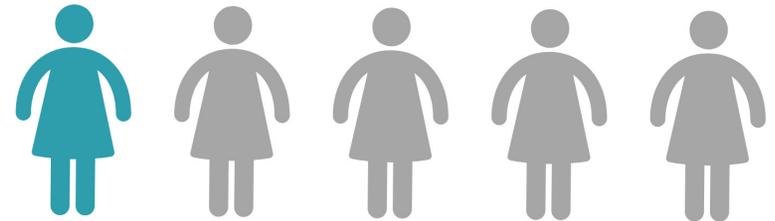
Maternal & Infant Health



In 2017, **congenital malformations, deformations, and chromosomal abnormalities** were the leading cause of infant deaths

20%

Arizona has experienced a **20% decrease** in its birth rate over the past 10 years



Only **1** in **5** women received advice about ways to prepare for a healthy pregnancy



2 in **5** women prepare for a healthy pregnancy with daily folic acid

50

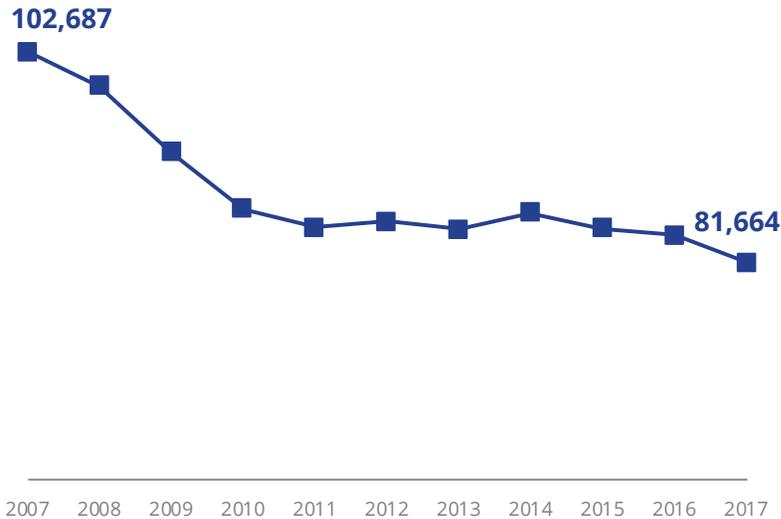
Infants died due to **bed sharing** with adults and/or other children in 2017

Maternal and Infant Health

Births

In 2017, there were 81,664 births in Arizona, representing roughly 2.11% of births nationwide. Arizona has experienced a decrease in its birth rate over the past 10 years, with a 20% decline from 2007 to 2017. Nationally, births are exhibiting a similar decline, with the number of births decreasing every year over the past 10 years with the exception of an increase in 2014.

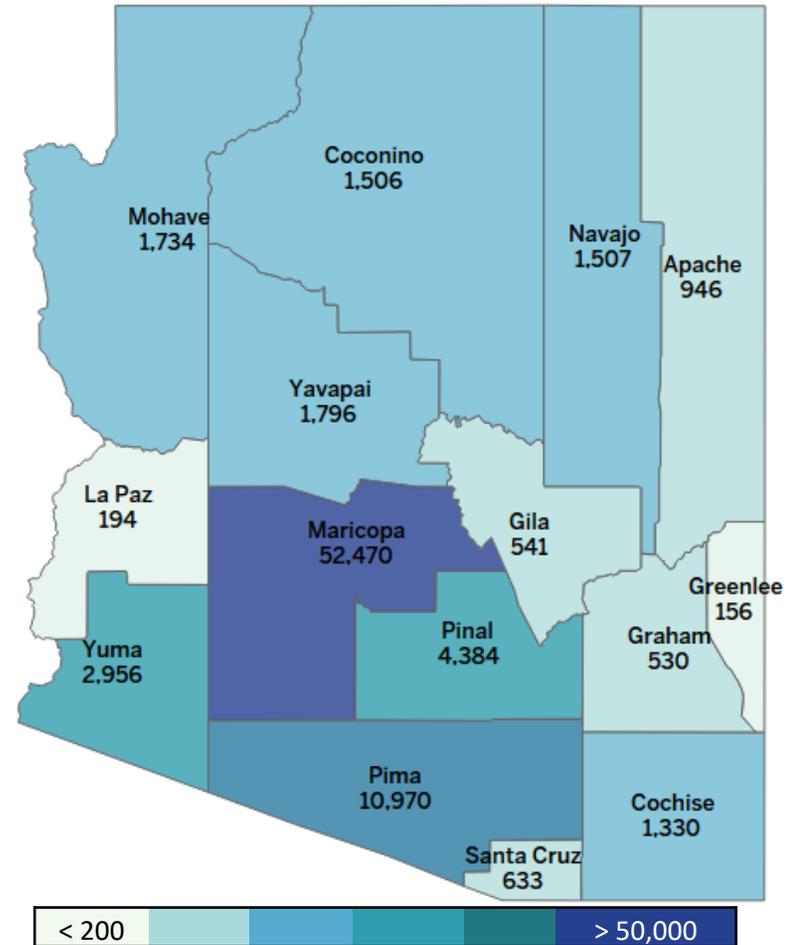
Births, Arizona, 2007 - 2017



ADHS Bureau of Vital Records



Births, by County of Residence, 2017



ADHS Bureau of Vital Records

Preconception Health

The health of women and men prior to pregnancy (preconception health) influences pregnancy and birth outcomes.¹² From a snapshot of preconception health among Arizona women of childbearing age (ages 18 - 44) between 2014 and 2017, less than half received advice about ways to prepare for a healthy Pregnancy. Additionally, only 3 in 10 prepared for a healthy pregnancy by taking folic acid. From this group of women, 67.5% had a previous pregnancy and 15% reported they would like to have a baby in the next 2 to 5 years. Preconception care for men may include recommendations to improve overall health including smoking cessation, maintaining a healthy weight, and improving mental health.¹³

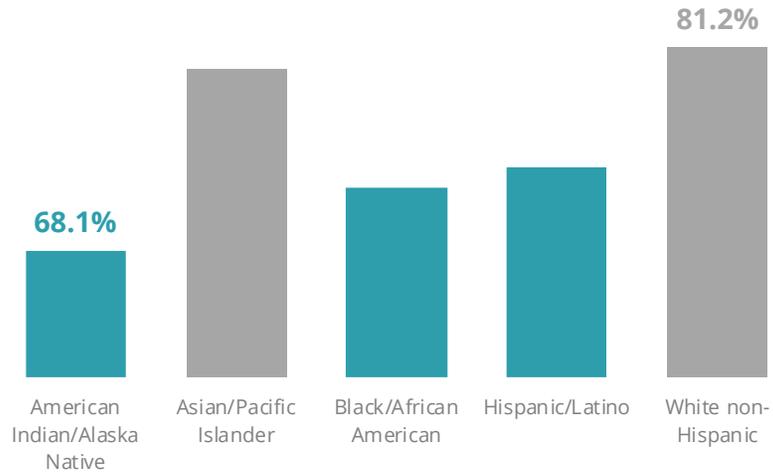
Between 2014 and 2017, 8 in 10 pregnant women in Arizona received intermediate or adequate prenatal care (as defined by prenatal care that begins by the 4th month of pregnancy and includes 50 to 110% of recommended visits received).¹⁴ However, there are disparities in prenatal care by race and ethnicity as well as geographic location. Over this same time period, White non-Hispanic women received intermediate or adequate prenatal care at a rate of 81.2%, while only 68.1% of American Indian/Alaska Native women received intermediate or adequate prenatal care. Four out of 10 pregnant women who received inadequate or no prenatal care identify as Hispanic/Latina. Across the state, access to prenatal care varied significantly. Eighty-five percent of women in Yavapai County received access to intermediate or adequate prenatal care between 2014 and 2017, while only 45.2% of La Paz County women received that level of care (which means more than half of pregnant women in La Paz County received inadequate or no prenatal care).

¹² University of Wisconsin Population Health Institute. County Health Rankings & Roadmaps 2018. [Preconception Education Interventions](#).

¹³ Centers for Disease Control & Prevention, [Preconception Information for Men](#).

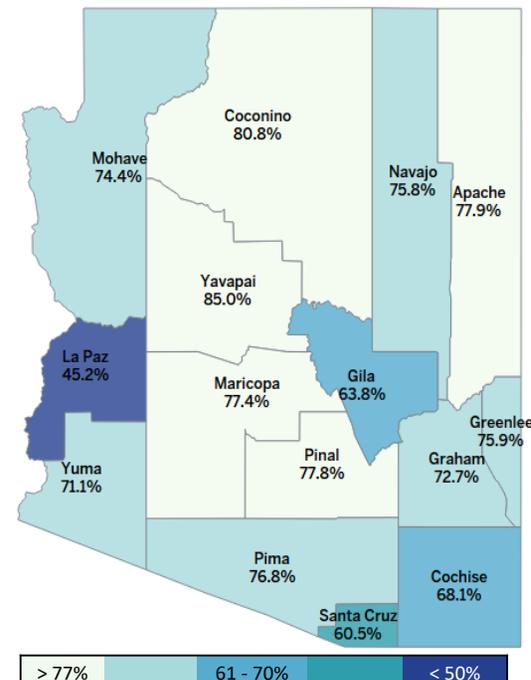
¹⁴ Koroukian, S. M., & Rimm, A. A. (2002). The "Adequacy of Prenatal Care Utilization"(APNCU) index to study low birth weight: is the index biased?. *Journal of clinical epidemiology*, 55(3), 296-305.

Percent of Women Receiving Intermediate or Adequate Prenatal Care, by Race & Ethnicity, 2014 - 2017



ADHS Bureau of Vital Records

Percent of Women Receiving Intermediate or Adequate Prenatal Care, by County, 2014 - 2017



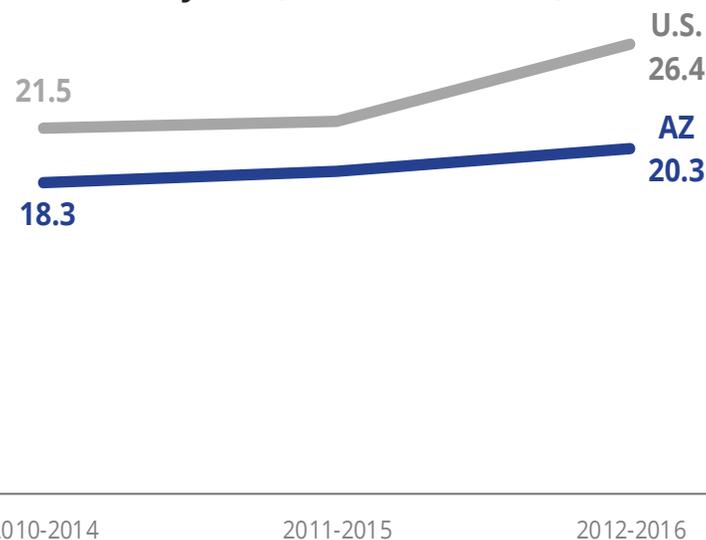
ADHS Bureau of Vital Records

Maternal Mortality and Morbidity

Maternal Mortality is the death of a woman while pregnant or within 42 days of termination of pregnancy from any cause related to, or aggravated by, the pregnancy or its management but not from accidental or incidental causes.¹⁵ According to the CDC, the top leading causes of maternal deaths in the U.S. are: cardiovascular disease; other medical-non cardiovascular conditions; infection/sepsis; and hemorrhages.¹⁶

Maternal deaths related to childbirth in the U.S. have increased steadily since the CDC began tracking pregnancy-related deaths, rising from 7.2 per 100,000 population in 1987 to 18.0 in 2014.¹⁷ While maternal mortality in Arizona remains below the national average (20.3 per 100,000 live births during the period of 2012-2016, compared to 26.4 nationally), Arizona has also seen increasing rates.

Maternal Mortality Rate, Arizona and U.S., 2010 - 2016



ADHS Bureau of Vital Records

¹⁵ World Health Organization. [Maternal mortality ratio](#) (per 100000 live births). WHO. Published 2014.

¹⁶ Centers for Disease Control and Prevention, [Division of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion, Pregnancy Mortality Surveillance System](#).

¹⁷ Centers for Disease Control and Prevention, [Division of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion, Pregnancy Mortality Surveillance System](#), Trends in Pregnancy-Related Deaths.

Using a different measure of maternal mortality (death of a woman while pregnant or within 1 year of termination of pregnancy), it is clear there are significant racial and ethnic disparities in maternal mortality rates in Arizona.¹⁸ Due to low counts, African American, Asian/Pacific Islander women are grouped together in the “Other” category, which exhibits a maternal mortality rate more than 2½ times that of White non-Hispanic women. However, American Indian/Alaska Native women experience the highest rate of maternal mortality in Arizona, with a rate of 284 per 100,000 live births, a rate four times higher than White non-Hispanic women.

Another indicator of women’s health related to labor and delivery is the measure of [Severe Maternal Morbidity \(SMM\)](#).¹⁹ SMM is a continuum from mild adverse effects to life-threatening events or death and includes unexpected outcomes of labor and delivery that lead to significant short- or long-term consequences to a woman’s health. Some of these consequences include unexpected pregnancy, delivery, and postpartum complications like hemorrhage, organ failure, and stroke.²⁰ SMM does not only affect the health of women but also their fetuses/neonates, who may suffer adverse outcomes such as low birth weight, premature birth, or even death. SMM has been steadily increasing in recent years and affected more than 50,000 women in the USA in 2014.²¹ It is not entirely clear why SMM is increasing, but changes in the overall health of the population of women giving birth may be contributing to increases in complications.

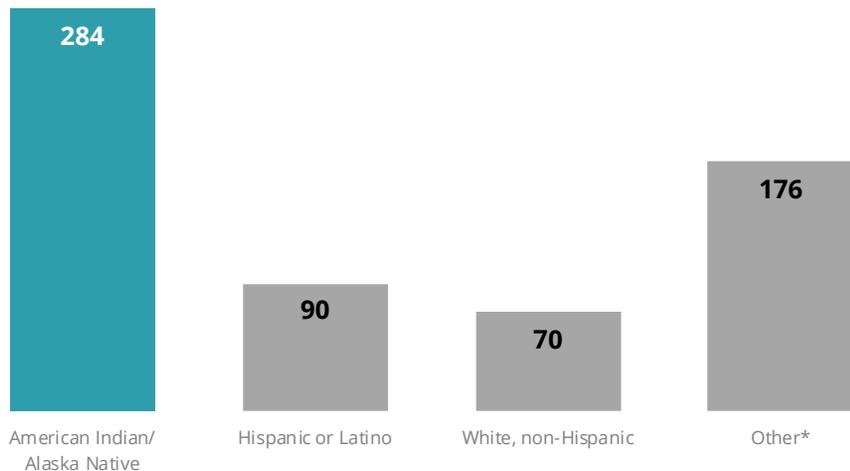
¹⁸ Data sourced from the [Arizona Maternal Mortality Review \(MMR\)](#).

¹⁹ SMM occurs more frequently than maternal mortality. An estimated 50-100 women experience SMM to every maternal death.

²⁰ Geller SE, Koch AR, Garland CE, MacDonald EJ, Storey F, Lawton B. A global view of severe maternal morbidity: Moving beyond maternal mortality. *Reprod Health* . 2018;15(Suppl 1). doi:10.1186/s12978-018-0527-2

²¹ Centers for Disease Control and Prevention. [Pregnancy Mortality Surveillance System](#).

Maternal Mortality Review Rates, by Race & Ethnicity, 2012 - 2015



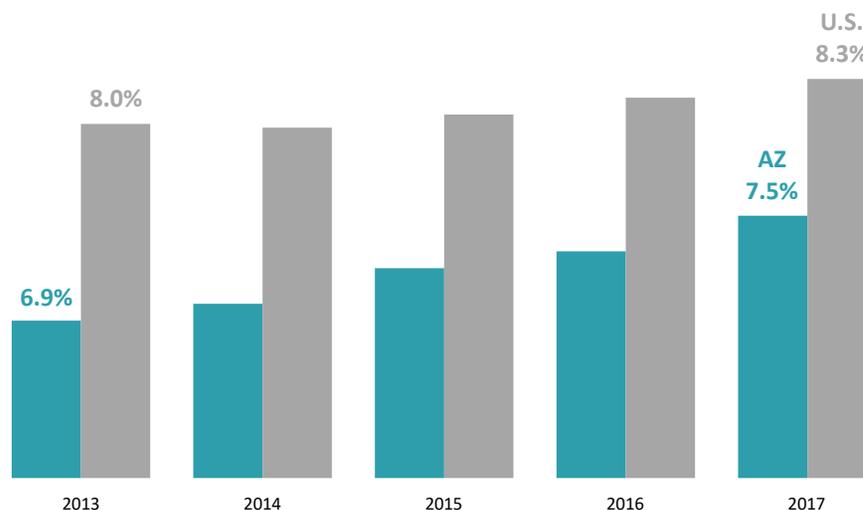
Arizona Maternal Mortality Review Program

Infants

Infants born at a low birthweight (weighing less than 2,500g or 5 lbs. 8 oz) may be at a higher risk for both short- and long-term health conditions.²² Arizona's rate of infants born at a low birthweight is consistently below the national average, ranking Arizona 17th among states for this measure, according to America's Health Rankings.

²² Centers for Disease Control and Prevention, [Reproductive and Birth Outcomes](#).

Percent of Infants at a Low Birthweight, Arizona and U.S., 2013 - 2017



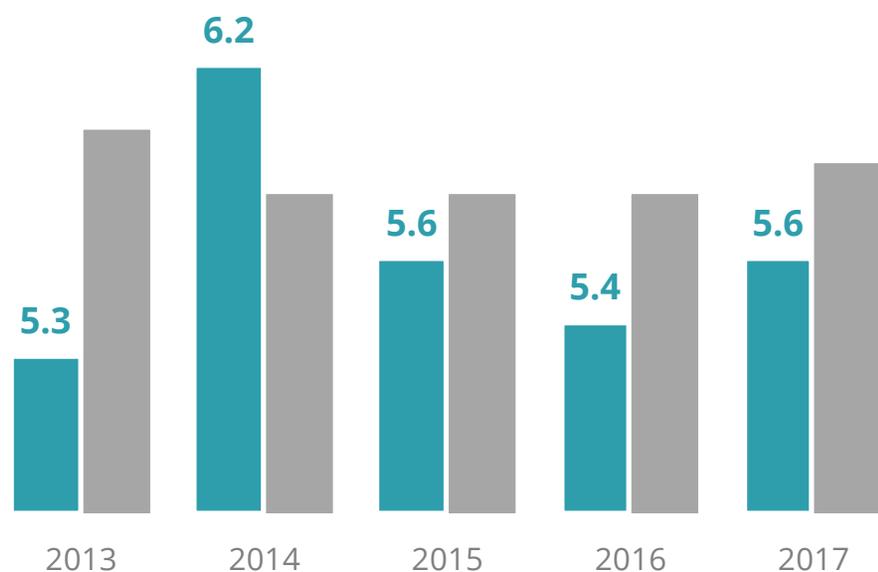
ADHS Bureau of Vital Records

In 2017, the leading causes of infant death were congenital malformations, deformations, and chromosomal abnormalities, followed by short gestation and low birthweight and maternal complications.

Arizona's infant mortality rate is below the national average.²³

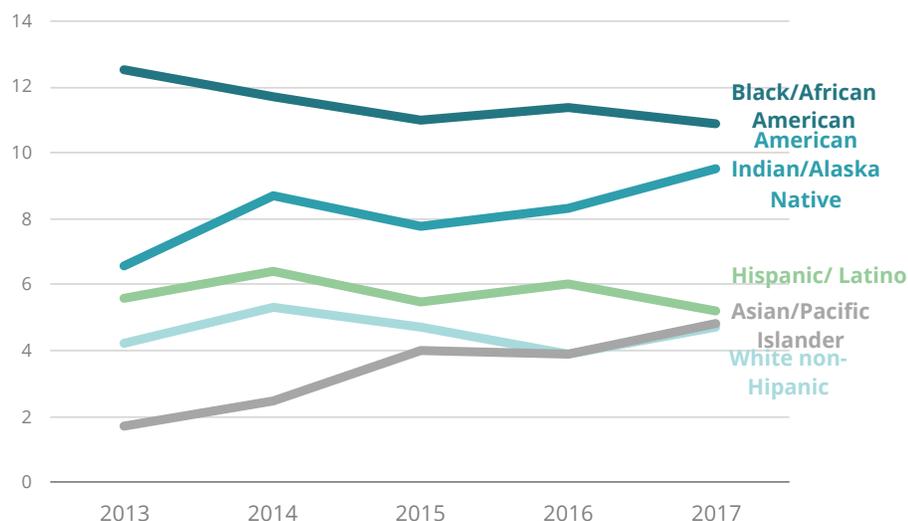
Infant Mortality Rate, Arizona and U.S., 2013 - 2017

Arizona & U.S.



ADHS Bureau of Vital Records

Infant Mortality Rate, by Race & Ethnicity, 2013 - 2017



ADHS Bureau of Vital Records

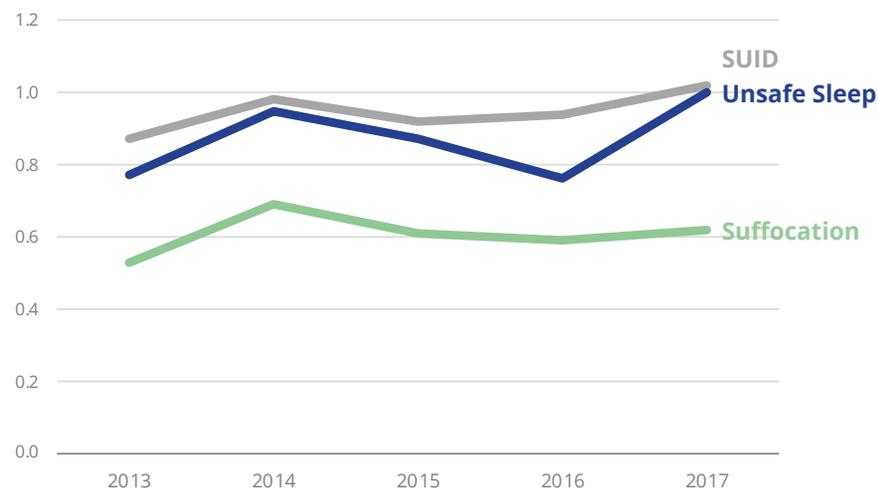
²³ Infant mortality includes infant deaths per 1,000 live births.

During the period of 2013 and 2017, infant mortality in Arizona fluctuated between 5.3 and 6.2 deaths per 1,000 live births. Trends in infant mortality have varied, by race and ethnicity, highlighting potential opportunities for health equity strategies to address these differences. In Arizona, infant mortality among Black/African Americans is decreasing but remains higher than any other group. Infant mortality is increasing among American Indians/Alaska Natives as well as Asians/Pacific Islanders. Rates of infant mortality among Blacks/African Americans and American Indians/Alaska Natives are roughly twice the statewide average, warranting a more focused evaluation of the circumstances impacting infant mortality.



Sudden Unexpected Infant Death (SUID) is defined as the death of a healthy infant who is not initially found to have any underlying medical condition that could have caused his or her death, including deaths that might have previously been categorized as “crib deaths” if the death occurred during sleep. From 2013 to 2017, the SUID mortality rate ranged .87 to 1.02 deaths per 1,000 live births. In 2017, 84 babies died due to SUID in Arizona, a 5% increase from 2016. Many SUID cases are due to suffocation and unsafe sleep environments, but not all SUID cases are unsafe sleep-related. The major risk factors in many SUIDs are situations where an infant is placed to sleep on his/her stomach or side; on an unsafe sleeping surface, such as an adult mattress, couch, or chair; soft objects, pillows, or loose coverings in the sleep environment; in an overheated environment; and co-sleeping with an adult or other child. Fifty infants died due to bed sharing with adults and/or other children in 2017, an increase of 9 deaths over the prior year.

Infant Mortality Rate due to SUID, Unsafe Sleep Environments, and Suffocation, 2013 - 2017

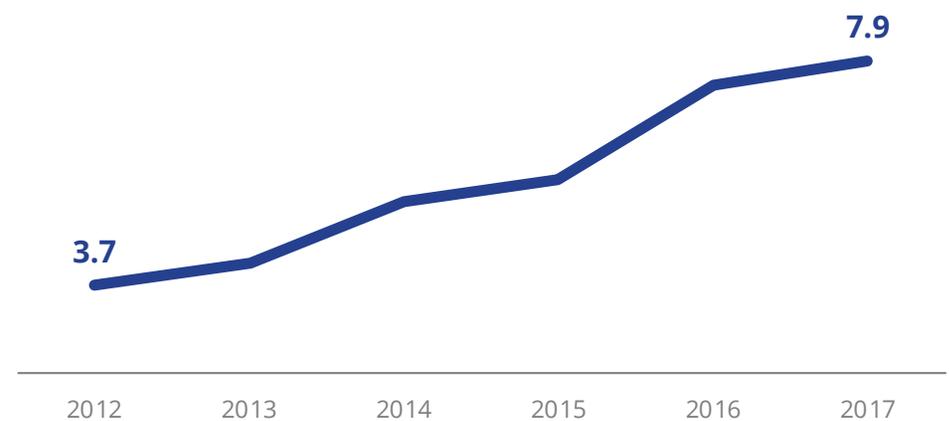


ADHS Bureau of Vital Records

Rising rates of neonatal abstinence syndrome (NAS), which results from prenatal exposure to certain drugs, reflect the impact of the opioid epidemic on Arizona’s youngest residents. NAS rates per 1,000 hospital births have more than doubled since 2012, from 3.7 in that year to 7.9 in 2017.²⁴ The average length of hospital stay for a newborn impacted by NAS is almost 15 days longer and over \$63,000 more expensive on average compared to a newborn not impacted by NAS.

²⁴ This data is sourced from [hospital discharge data](#) (HDD) reported to ADHS. Only hospitals operating under a license issued by ADHS are required to participate in the discharge reporting system. The HDD may be incomplete due to non-inclusion in the data collection of certain facilities.

Neonatal Abstinence Syndrome Rates, 2012 - 2017

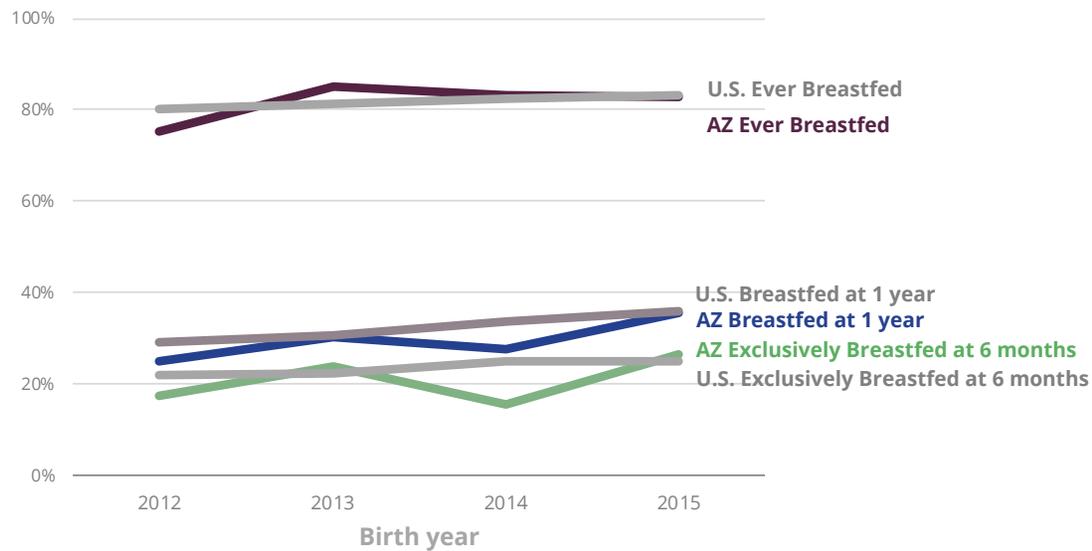


Arizona Hospital Discharge Data

Breastfeeding

Arizona's breastfeeding rates mirror national trends, particularly rates of infants who are ever breastfed. For infants born in 2015, more than 80% of both Arizona infants and infants nationally are ever breastfed. However, those rates drop in the weeks and months postpartum, with less than 30% of infants exclusively breastfed at 6 months and less than 40% of infants breastfed (exclusively or non-exclusively) at 1 year. Breastfeeding support is critical in increasing the duration and exclusivity of breastfeeding.

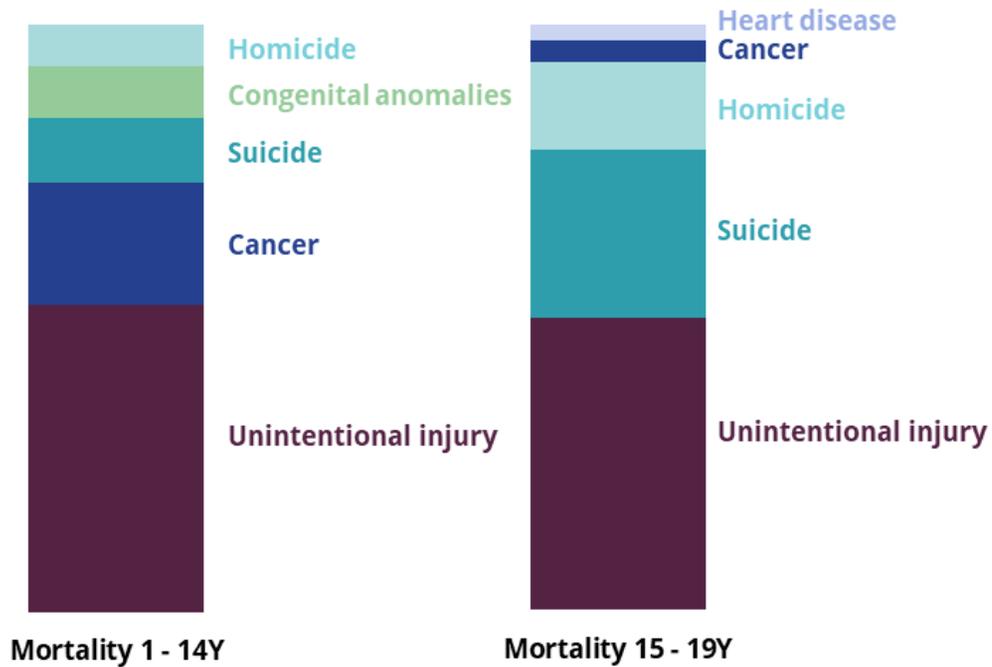
Reported Breastfeeding Trends, by Infant Birth Year, Arizona and U.S., 2013 - 2017



National Immunization Survey

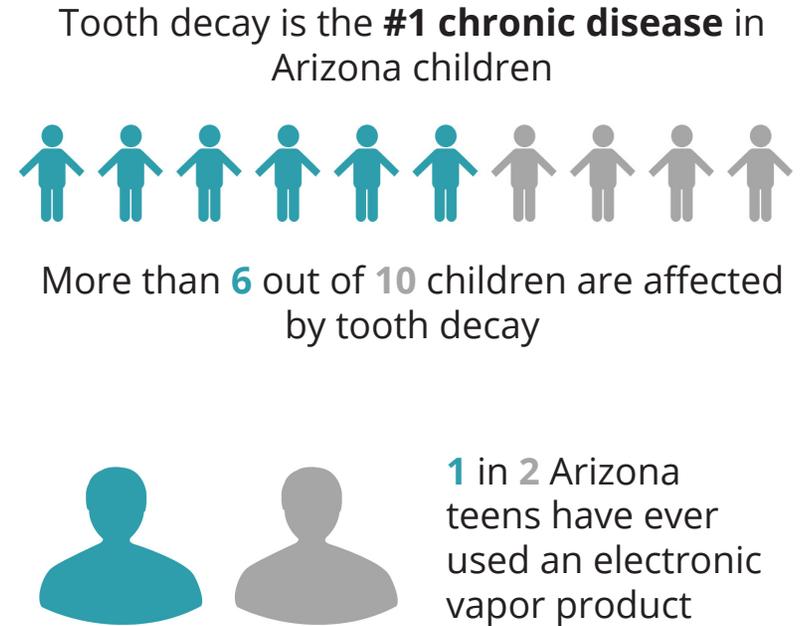


Child & Adolescent Health

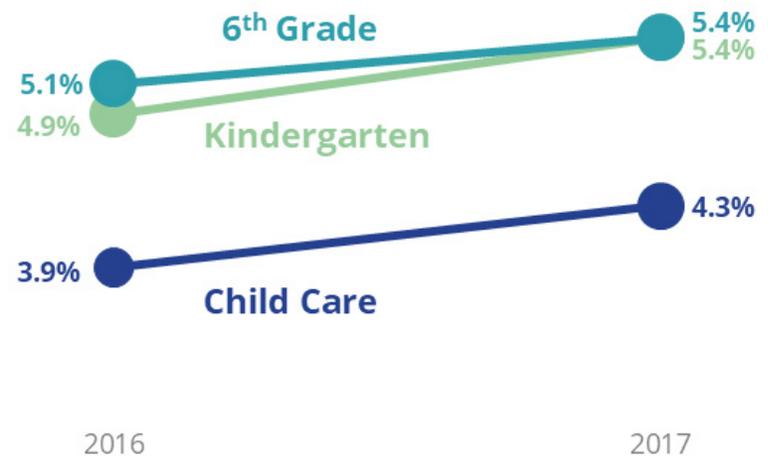


In 2017, **unintentional injury** was the leading cause of deaths among children and adolescents

Arizona ranks **50th** in the country in children ages 0-17 who have experienced **2 or more** ACEs



Non-medical exemption rates for childhood immunizations have **increased**



Child and Adolescent Health

The three leading causes of death for younger children are unintentional injury, cancer, and suicide; the leading causes of death for adolescents are unintentional injury, suicide, and homicide. Among children ages 15 to 19, the unintentional injury rate was 22 per 100,000 adolescents; 12.3 of which was due to motor vehicle injuries.

Oral Health of Children

Tooth decay is the most common chronic disease in Arizona's children, affecting more than 6 in 10 kids.²⁵ Left untreated, tooth decay can have serious consequences, including needless pain and suffering, difficulty chewing (which compromises children's nutrition and can slow their development), difficulty speaking, and lost days in school. In 2015, more than half of Arizona kindergarten children (52%) and almost two out of every three third grade children (64%) had tooth decay. These disease rates are far above the general U.S. population of 36% for five year-olds and 52% for third grade children using comparable oral health indicators.²⁶ Disparities exist for American Indian/Alaska Native (86%) and Hispanic/Latino (69%) third grade children who have a significantly higher prevalence of tooth decay.



3rd grade children in Arizona are affected by tooth decay

²⁵ 2015 Healthy Smiles Healthy Bodies Survey <https://azdhs.gov/prevention/womens-childrens-health/oral-health/index.php#infant-youth-survey>

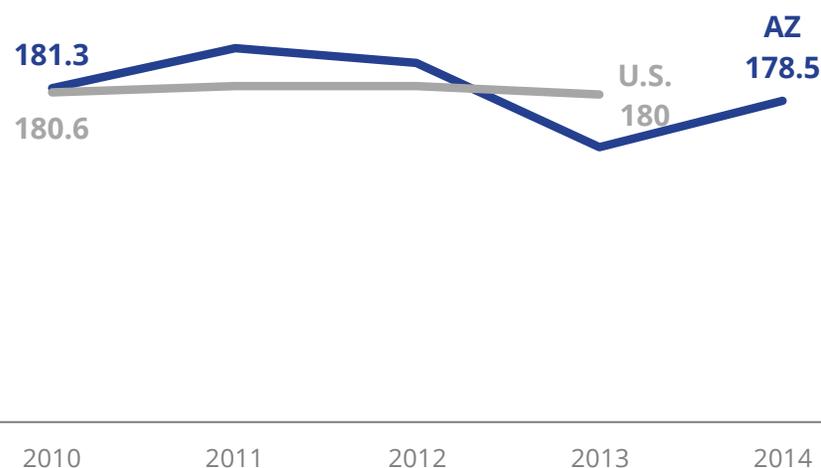
²⁶ National Health and Nutrition Examination Survey (NHANES) 2005 - 2010

Childhood Cancer

In Arizona, the rate of children being diagnosed with cancer has ranged from 167.5 to 191.1 cases for every one million children in the state. Arizona childhood cancer mortality rates from 2010 - 2012 were higher than the U.S.

Nationally, about 83.4% of children and adolescents diagnosed with cancer survived at least 5 years, but almost 1,800 still die of cancer each year across the country.

Childhood Cancer Incidence Rates, by Diagnosis Year, Arizona and U.S., 2010 - 2014



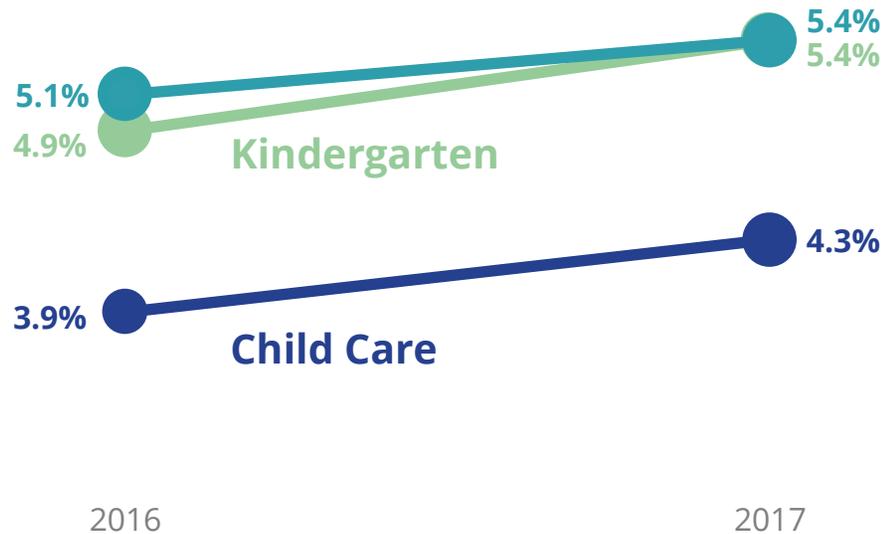
U.S. Cancer Statistics, CDC and National Cancer Institute, ADHS Bureau of Vital Records



Immunization Coverage

Non-medical exemptions for immunization refer to children who are not immunized due to parental religious (child care) or other personal (K-12) beliefs. Compared to 5 years ago, Arizona's children in child care, kindergarten, and 6th grade have lower rates for nearly all immunizations and rates of immunization exemptions across all those grades increased from 2016 to 2017, with more than 5% of school-age children presenting some sort of non-medical exemption. In these surveyed grades, 7,066 children were exempt from every school-required vaccine in 2017, which leaves children at risk in the event of a disease outbreak. For measles alone, over 5,000 Arizona kindergartners are at risk in the case of an outbreak.

Non-medical Exemption Rates for Childhood Immunizations, by School Grade, 2016 - 2017

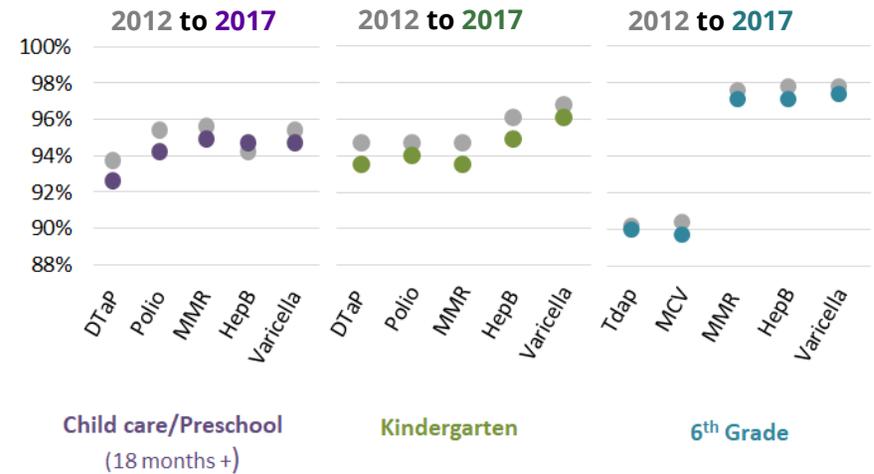


Arizona Immunization Coverage Status Report

Immunization rates for most diseases are decreasing among children in Arizona. DTaP, Polio, MMR, and Varicella immunization rates for children in kindergarten and child care have decreased from 2012 to 2017. For 6th graders,

immunization rates for Tdap, MCV, MMR, HepB, and Varicella have decreased over that same time period. Across all ages, immunization rates increased in only one area: HepB immunization for children in child care, which rose slightly.

Immunization Rates for Childhood Immunizations, by School Grade, 2012 vs. 2017



Arizona Immunization Coverage Status Report

Adverse Childhood Experiences

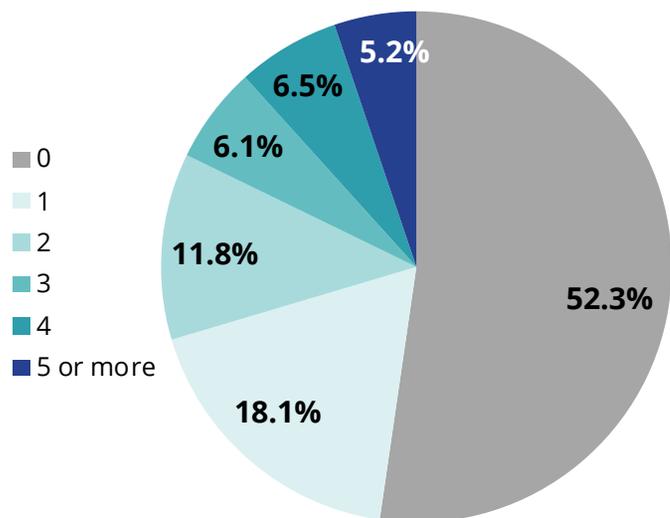
Evidence shows that childhood experiences can profoundly impact health outcomes and well-being across the lifespan. Negative experiences or traumas in childhood, known as Adverse Childhood Experiences (ACEs), are linked to risky health behaviors, health conditions, and early death.²⁷ Children with higher numbers of ACEs are more likely to experience a wide range of health issues as an adult such as substance use disorder, depression, obesity, and heart disease. A higher number of ACEs is correlated with higher risk for associated negative outcomes. The CDC reports safe, stable, nurturing relationships and environments are protective against these negative impacts.²⁸ Arizona ranks last in the country in children ages 0-17 who have

²⁷ Centers for Disease Control and Prevention, [National Center for Injury Prevention and Control, Division of Violence Prevention, About Adverse Childhood Experiences.](#)

²⁸ Ibid.

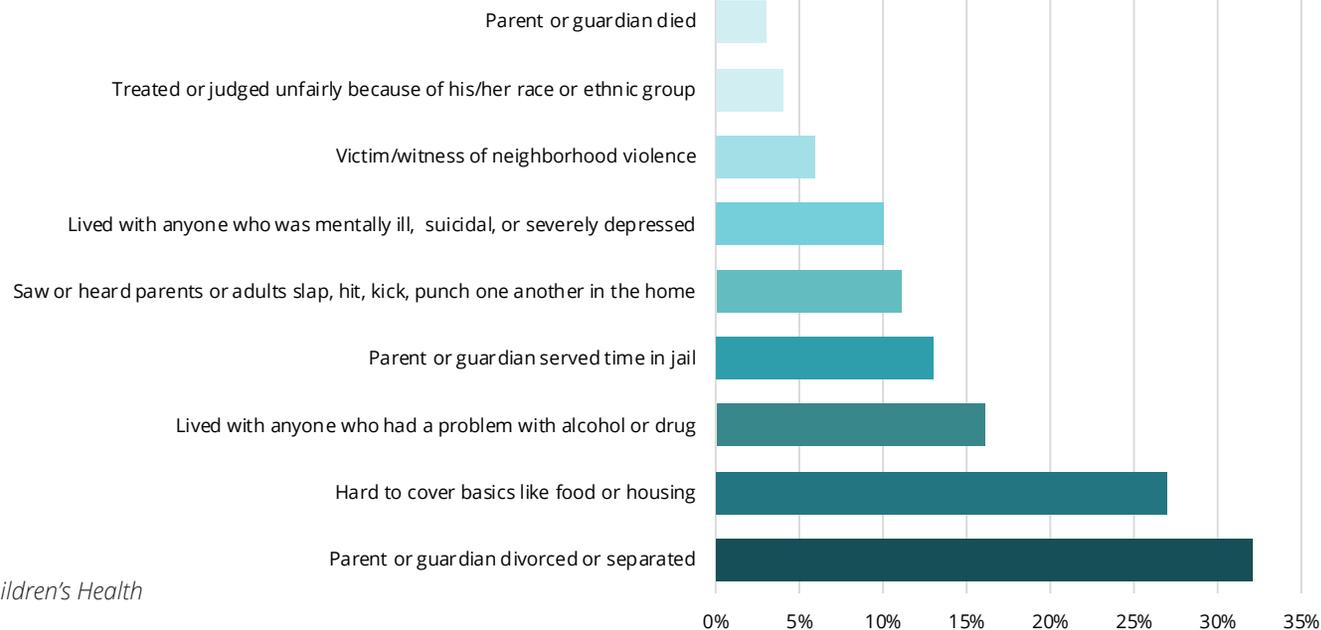
experienced 2 or more ACEs, with a rate of 30%. Parental separation or divorce is the most common ACE experienced by Arizona children, along with economic hardship.

Co-Occurrence of ACEs among Arizona Children Ages 0 - 17, 2016 - 2017



National Survey of Children's Health

Prevalence of ACEs among Arizona Children Ages 0 - 17, 2016 - 2017



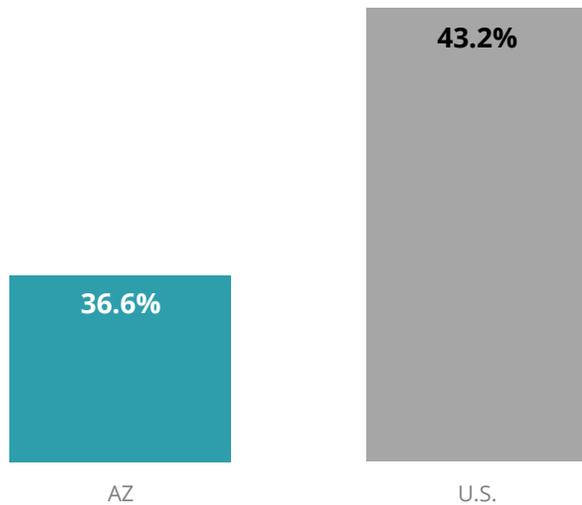
National Survey of Children's Health



Medical Homes and Preventive Visits

Among Arizona children with a special healthcare need, only 36.6% have a medical home, lower than the national average of 43.2%. A medical home is defined in the National Survey of Children's Health as comprehensive preliminary care that facilitates partnerships between patients, clinicians, medical staff, and families.

Percent of Children with a Special Healthcare Need Who Have a Medical Home, Arizona & U.S., 2016 - 2017

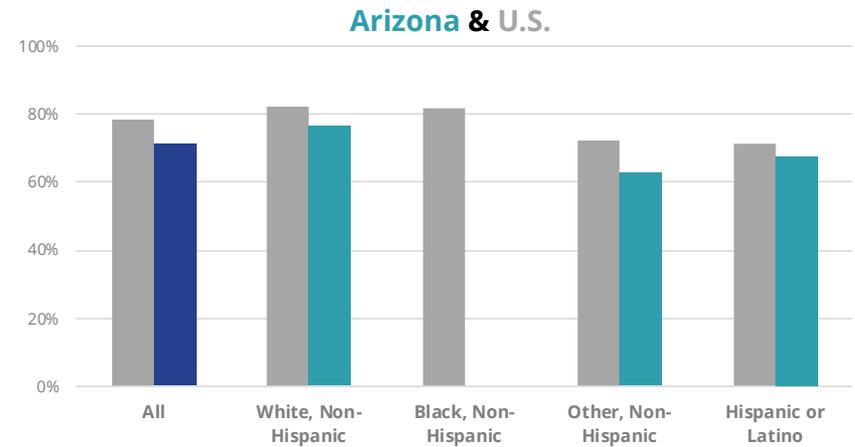


National Survey of Children's Health

Data from the 2016 - 2017 [National Survey for Children's Health](#) shows Arizona's rates of adolescents (ages 12-17) receiving a preventive medical visit were lower than the national average; 71.2% in Arizona compared to 78.7% nationally. More than half of those adolescents who did not receive a preventive medical visit had health insurance, which highlights barriers beyond access to insurance impact access to care. Both in Arizona and nationally, adolescents of color have the lowest utilization of preventive medical visits. This includes Hispanic adolescents (67.5%) and adolescents identifying as non-Hispanic Asian, American Indian/Alaska Native, or multiracial (62.7%).²⁹

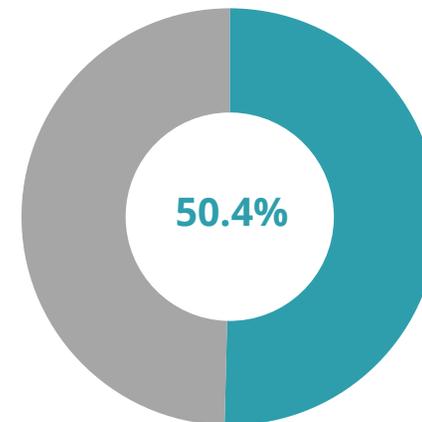
²⁹ In this indicator, "other" refers to the following racial groups combined: non-Hispanic Asian, American Indian, Alaska Native, or multiracial. In Arizona, no parents of Black/African American children (12-17 years) responded to this specific question.

Percent of Adolescents Completing a Preventive Medical Visit in Past Year, Arizona & U.S., 2016 and 2017



National Survey of Children's Health

Percent of Arizona Adolescents Completing a Preventive Medical Visit in Past Year, by Health Insurance, 2016 - 2017



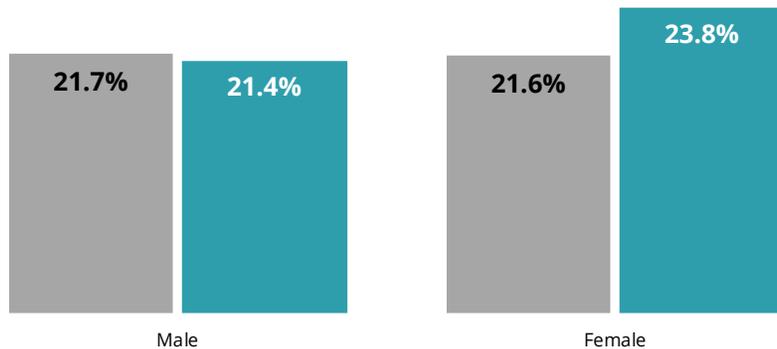
National Survey of Children's Health

Bullying and Violence

In 2017, Arizona's children between ages 6 and 17 reported higher rates of bullying than the national average, both among boys and girls. One in four Arizona children reported they were bullied in 2017, with girls reporting slightly higher rates than boys.

Children Ages 6 - 17 Who Reported Being Bullied, Picked On, or Excluded by Other Children, by Sex, Arizona & U.S., 2016 - 2017

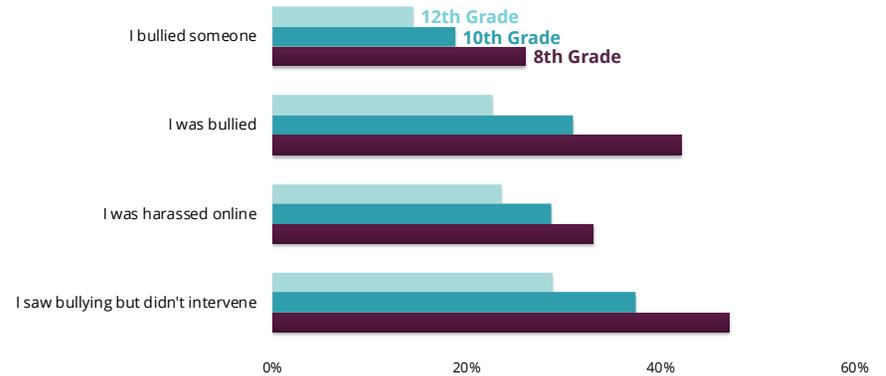
Arizona & U.S.



National Survey of Children's Health

Arizona's high school students reported higher rates of electronic bullying (15.2% compared to a national average of 14.9%), and 10.2% of students did not go to school at least one day in the last month because they felt unsafe at school or on their way to/from school compared to the national average of 6.7%. Among older students, eighth graders report highest rates of experience with bullying, including bullying themselves, being bullied, being harassed online and witnessing bullying but not intervening within the last 12 months. This last category was the most common, with almost 50% of 8th graders reporting they saw bullying but did not intervene. These figures decreased in 10th grade and further in 12th grade.

Percent of Arizona High School Students Who Reported Bullying Experience, by School Grade, 2017

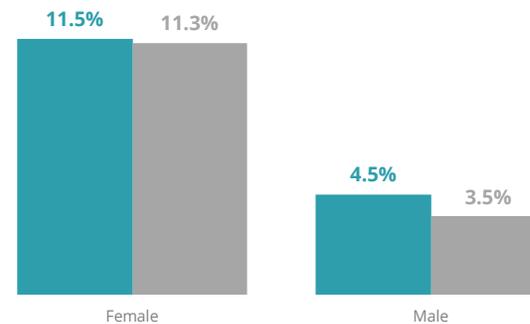


YRBSS

Among Arizona high school students, 8.2% reported being physically forced to have sexual intercourse when they did not want to, compared to 7.4% nationally. Females reported a higher prevalence compared to males in Arizona and the U.S. An additional concern is that of those Arizona high school students who reported being physically forced to have sexual intercourse, 6.1% identified their sexual orientation as heterosexual and 23.4% as gay, lesbian, or bisexual.

Percent of Arizona High School Students Who Reported Being Physically Forced to Have Sexual Intercourse, by Sex, 2017

Arizona & U.S.

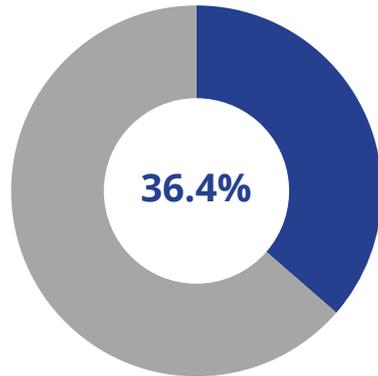


YRBSS

Adolescent Mental Health

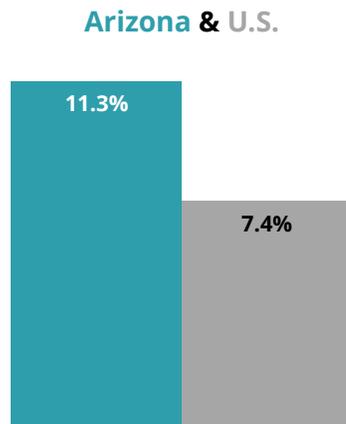
In 2017, 36.4% of high school students reported feeling sad or hopeless almost every day for 2 weeks in a row to the extent that they stopped doing usual activities in the last 12 months. This is higher than the national estimate of 31.5%. In the same year, Arizona high school students reported higher rates of attempted suicide in the last 12 months compared to the national estimate. These are troubling indicators and clearly identify opportunities for focused strategies.

Percent of Arizona Students Who Reported Feeling Sad or Hopeless, 2017



YRBSS

Percent of High School Students Who Reported Suicide Attempts, Arizona & U.S., 2017

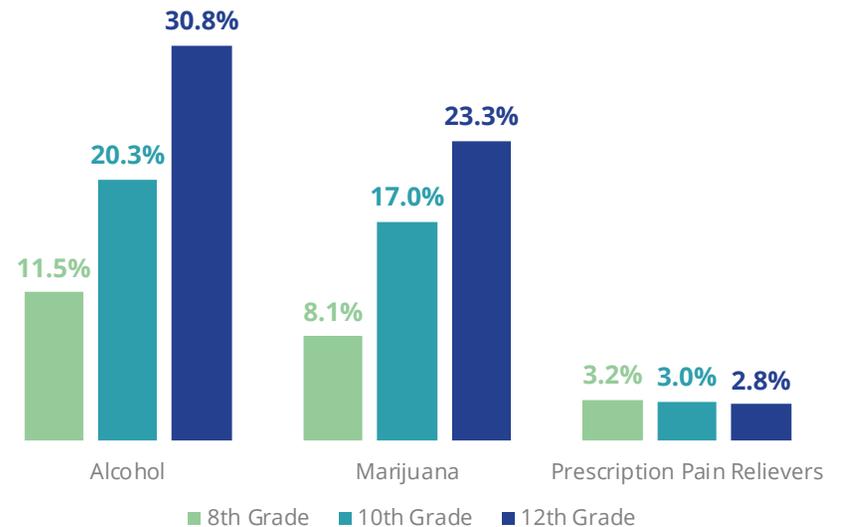


YRBSS

Adolescent Substance Use

According to the 2018 [Arizona Youth Survey](#), Arizona high school students reported higher levels of alcohol and marijuana use as they get older. Alcohol use, drinking more than just a few sips in the past 30 days, remains the most commonly used substance among youth. Among 8th graders, 11.5% report using alcohol in the past 30 days, but this number rises to 20.3% in 10th grade and 30.8% in 12th grade. Marijuana use in the past 30 days also varied by age with 8.1% of 8th graders, 17% of 10th graders and 23.3% of 12th graders reporting marijuana use in the last month. The majority (67.4%) of students obtained marijuana from friends and, troublingly, 9.1% of 12 grade students reported driving while using marijuana in the past 30 days. Using prescription pain relievers without a doctor indicating use in the past 30 days was reported at 3.0% in 2018. Reported prescription pain reliever was highest among 8th graders at 3.2%, followed by 3.0% in 10th grade and 2.8% in 12th grade.

Arizona High School Students Who Reported Substance Use in the Last 30 Days, by Substance Type, 2018

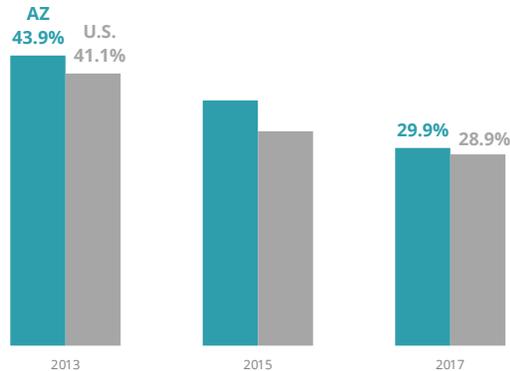


2018 Arizona Youth Survey, Arizona Criminal Justice Commission

Tobacco and Electronic Vapor Product (EVP) Use

Smoking among high school students in Arizona is decreasing, consistent with national trends. The percent of high school students who reported ever trying cigarette smoking has decreased from 43.9% in 2013 to 29.9% in 2017 in Arizona.

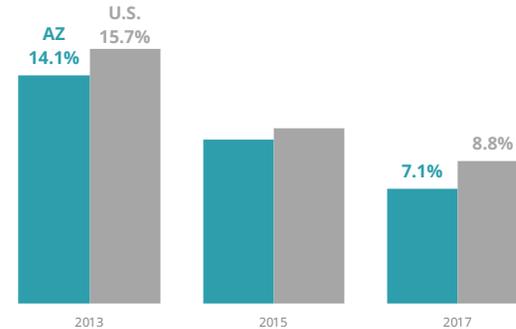
Percent of High School Students Who Reported Ever Trying Cigarette Smoking, Arizona & U.S., 2013 - 2017



YRBSS

In 2017, nearly one in three high school students in Arizona reported having ever tried cigarette smoking. Within the same sample, 7.1% reported they currently smoked cigarettes (at least once in the last 30 days), which is similar to national trends. This measure has improved both in Arizona and nationally. Arizona has seen a 66% reduction from 14.1% of high school students reporting current smoking in 2013.

Percent of High School Students Who Reported Current Cigarette Use, Arizona & U.S., 2013 - 2017



YRBSS

These statistics do not include the use of electronic vapor products (EVP) (including e-cigarettes, e-cigars, e-pipes, vape pipes, vaping pens, e-hookahs, and hookah pens), which youth are asked about in separate questions on the Youth Risk Behavior Surveillance System survey.

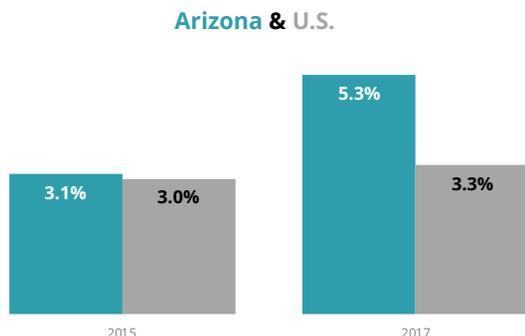
Questions about electronic vapor product use were added to the YRBS in 2015. Since then, the use of electronic vapor products have continued to be an emerging public health concern, particularly for youth.³⁰ Half of Arizona high school students reported ever using an electronic vapor product.³¹ Of concern is the rise in reported frequent and daily use of EVPs. In 2017, 5.3% of high school students in Arizona reported they used an EVP on 20 or more days during the 30 days before the survey. This statistic increased from 3.1% in 2015. Reported daily use nearly doubled from 1.6% in 2015 to 3.7% in 2017. Many electronic vapor products contain nicotine, which is highly addictive, and teens that use them may be more likely to end up smoking.³² Vape liquids may also contain lead and chromium exposing users to toxic metals.

³⁰ Centers for Disease Control and Prevention, [National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, E-Cigarettes and Young People: A Public Health Concern](#)

³¹ Electronic vapor products include e-cigarettes, e-cigars, e-pipes, vape pipes, vaping pens, e-hookahs, and hookah pens.

³² U.S. Department of Health and Human Services, [E-Cigarette Use Among Youth and Young Adults. A Report of the Surgeon General](#). Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2016.

Percent of High School Students Who Reported Frequent Electronic Vapor Product Use, Arizona & U.S., 2015 - 2017



YRBSS

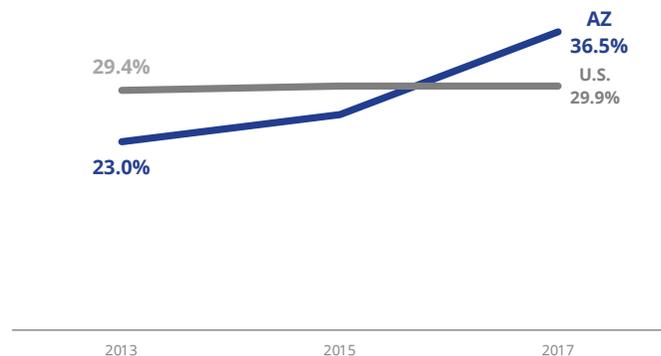
Nutrition and Physical Activity

One quarter of Arizona high school students report being physically active at least 60 minutes per day in the last week. Over the past five years, the percent of Arizona high school students who report they attend daily physical education in school has increased from 23% in 2013 to 36.5% in 2017. Although attendance of physical education appears to be trending up, there is still much work to be done to bring back physical education in schools.

1 in 4 Arizona high school students report being physically active at least 60 minutes per day in the last week.



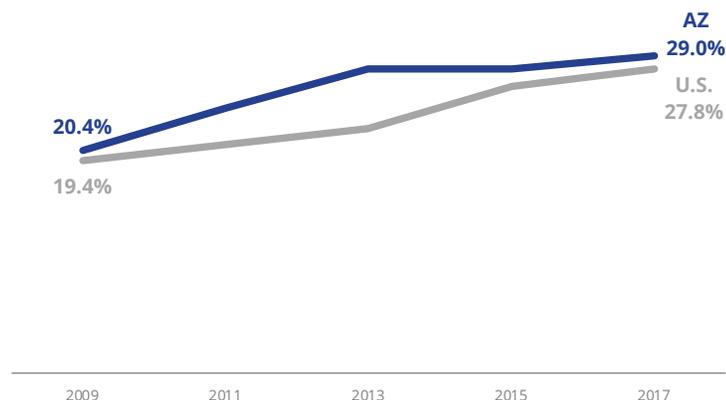
Percent of High School Students Who Reported Attending Physical Education 5 or More Days in One Week, Arizona & U.S., 2013 - 2017



YRBSS

Both in Arizona and nationally, the percentage of high school students reporting they did not drink soda within the last week has increased. Arizona's rates increased from 20.4% in 2009 to 29% in 2017 and remain above the national average. When asked about consumption of fruit in the last week, 8.3% of Arizona high school students reported not eating fruit compared to 5.6% nationally in 2017. In the same year, 6.9% of Arizona high school students and 7.2% nationally reported not eating vegetables in the past week.

Percent of High School Students Who Reported They Did Not Drink Soda in the Last Week, Arizona & U.S., 2009 - 2017

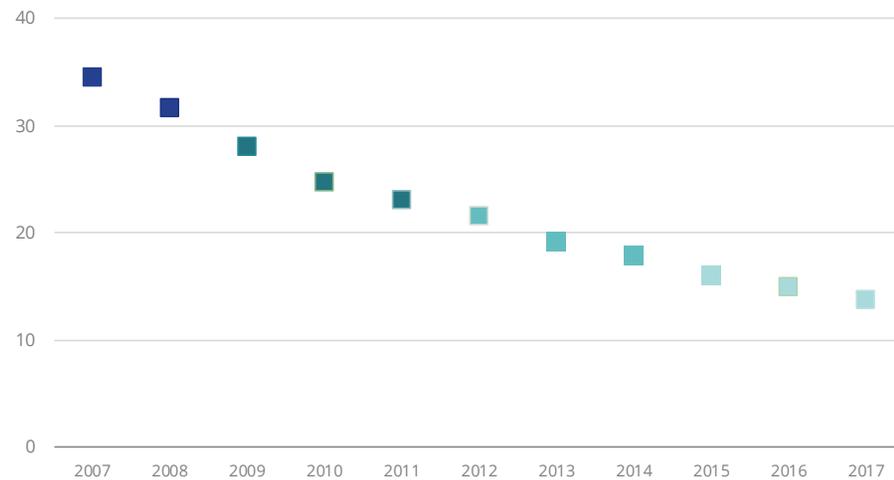


YRBSS

Teen Pregnancy

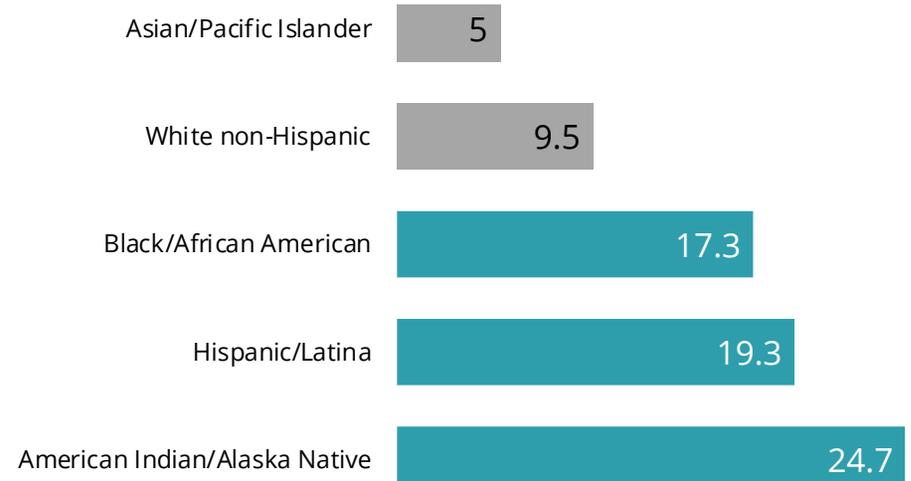
Teen pregnancies accounted for 6.6% of pregnancies in Arizona in 2017, with 6,252 women ages 19 years or younger experiencing a pregnancy in that year. Arizona has seen a significant decrease in teen pregnancy, with rates declining 60% over the past decade to 13.8 per 1,000 females aged 19 years or younger in 2017. However, significant racial and ethnic disparities exist. Overall, the teen pregnancy rate has declined in all racial groups since 2014 with the exception of Black/African American teens. Teen pregnancy rates for American Indian/Alaska Native women were almost 80% above the statewide average, with Hispanic/Latina and African American women also experiencing significantly higher rates than White non-Hispanic women and Asian/Pacific Islander women.

Arizona Teen Pregnancy Rate, 2007 - 2017



ADHS Bureau of Vital Records

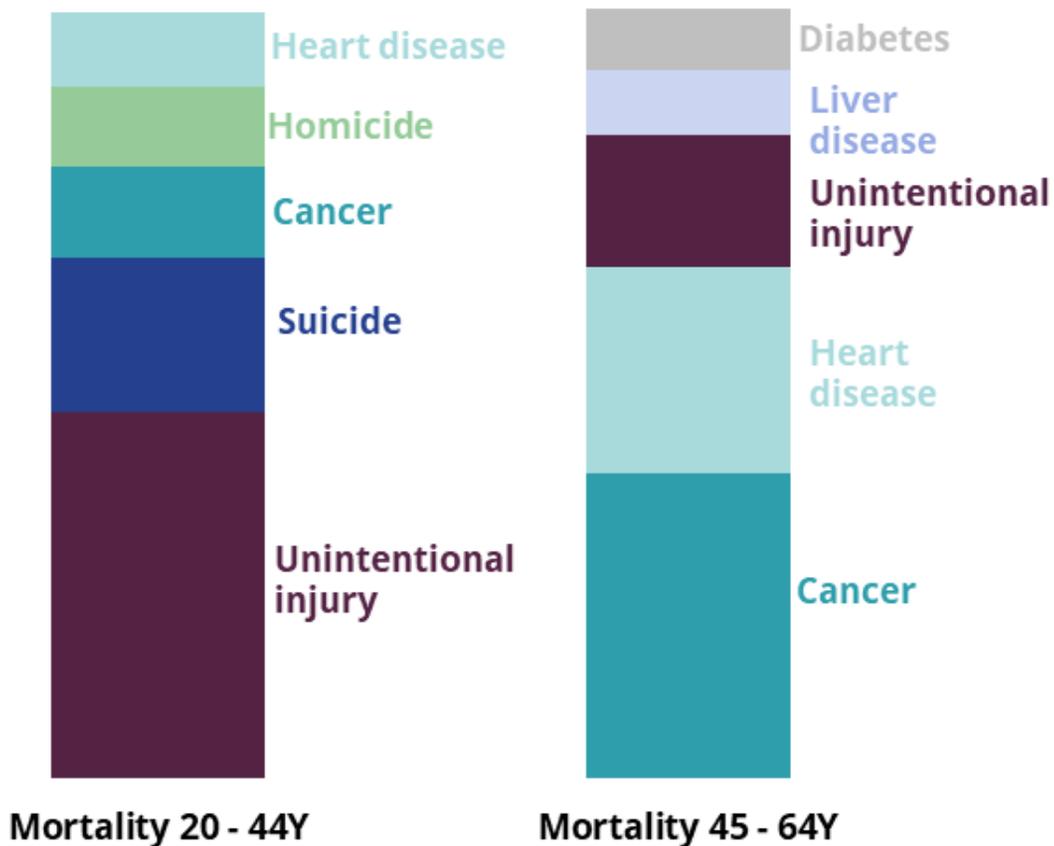
Arizona Teen Pregnancy Rate, by Race & Ethnicity, 2017



ADHS Bureau of Vital Records



Healthy Adults



In 2017, **unintentional injury** was the leading cause of death among adults ages 20 - 44, and **cancer** was the leading cause of death among adults ages 45 - 64



Cancer mortality in Arizona is **below** the national average and decreasing, ranking **6th best** among states

The percentage of adults currently smoking in Arizona has remained **below** the national average over the past **5** years



\$337,120,000

Combined medical and work loss costs of **unrestrained** motor vehicle crash fatalities in Arizona



Arizona experiences **higher** rates of suicide mortality than the country (**14.0**) as a whole

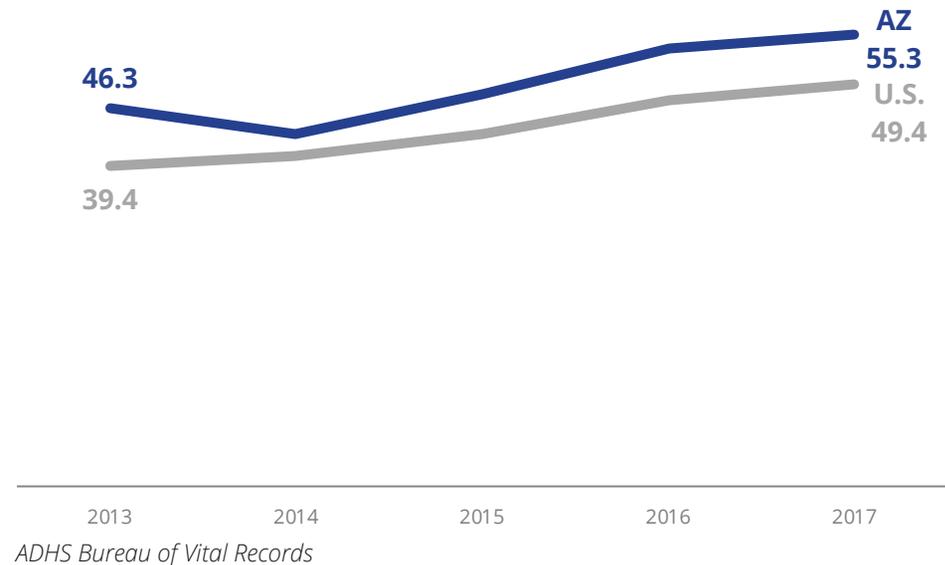
Healthy Adults

As discussed throughout this report, understanding the leading causes of death across the lifespan is helpful in focusing and prioritizing public health strategies. For example, some strategies look at a variety of factors that contribute to preventable causes, while others may focus on the management of chronic diseases. For adults, the leading causes of death vary between age cohorts. In 2017, unintentional injury was the leading cause of death for adults between 20 - 44, followed by suicide and cancer. Cancer was the leading cause of death for adults between 45-64, followed by heart disease and unintentional injury.

Unintentional Injury

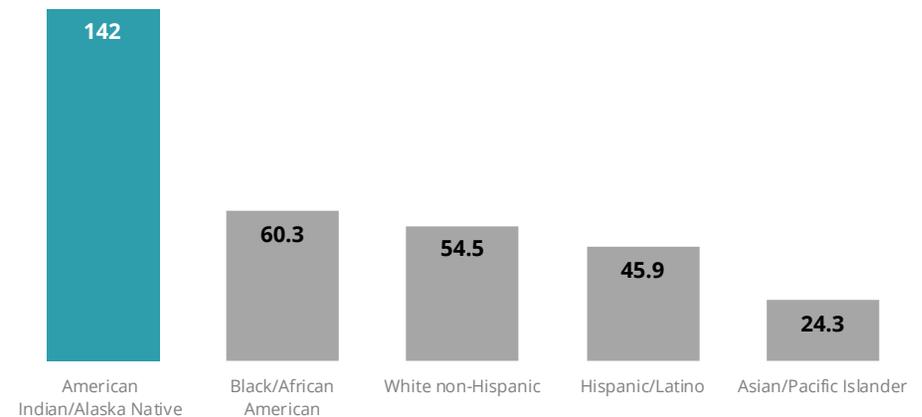
Across Arizona and the nation as a whole, mortality related to unintentional injury has increased from 2013 to 2017, with Arizona's age-adjusted rates remaining above the national average (55.3 compared to 49.4 per 100,000 population). Poisoning and motor vehicle accidents are the 2 leading types of unintentional injuries accounting for the greatest years of potential life lost. There are significant disparities in racial and ethnic mortality rates from unintentional injury, with rates for American Indian/Alaska Native Arizonans more than 2.5 times the average at more than 140 per 100,000.

Unintentional Injury Mortality Rate, Arizona & U.S., 2013 - 2017

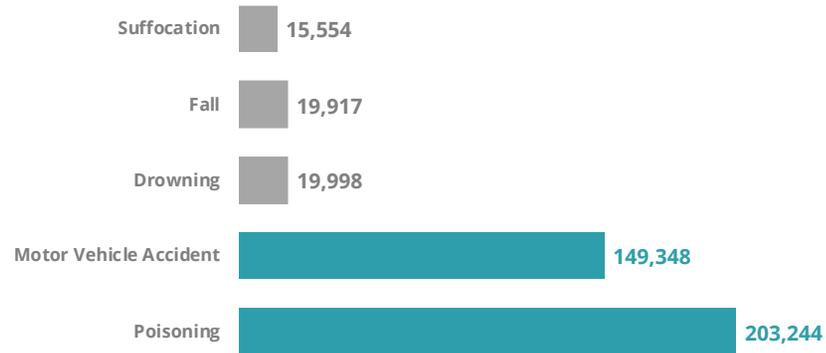


Arizona Unintentional Injury Mortality Rate, by Race & Ethnicity, 2017

ADHS Bureau of Vital Records



Years of Potential Life Lost in Arizona Among Unintentional Injuries, by Injury Type, 2012 - 2017



ADHS Bureau of Vital Records

Poisoning and motor vehicle accidents accounted for the highest years of potential life lost from unintentional injury. These two types of injury accounted for more than 350,000 years of potential life lost between 2012 and 2017. Opioid and other drug deaths are included under “poisoning,” and the increase in opioid deaths is reflected in figures showing an increase in unintentional injury deaths both in Arizona and across the country.

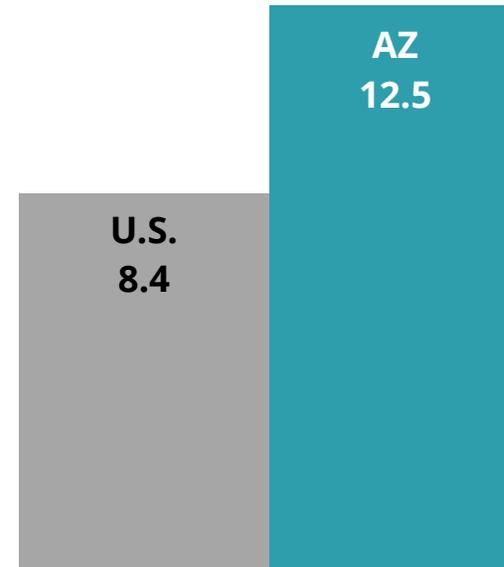
Deaths due to opioids continue to increase, fueled by prescription and synthetic opioids as well as heroin.

In 2015 and 2016, almost 5% of Arizonans used opioids in the past year.³³ When respondents were asked as a part of the National Survey on Drug and Health, Arizonans reported higher rates per 1,000 of both opioid use disorder (OUD) and OUD without treatment than the national estimate.³⁴

³³ [National Survey on Drug Use and Health](#), Annual Averages Based on 2015 and 2016.

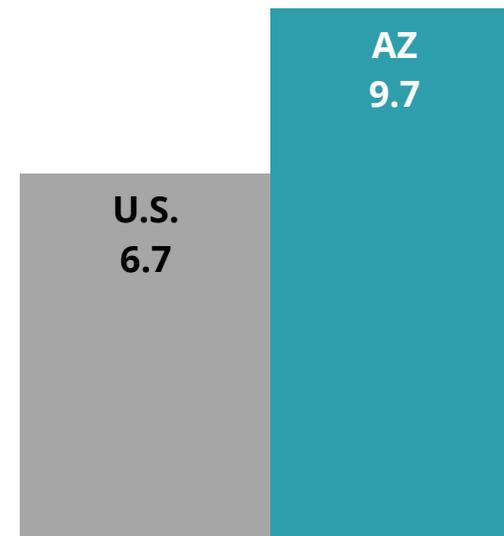
³⁴ Opioids include heroin and pain reliever misuse. Opioid Use Disorder is defined as meeting criteria for opioid dependence or abuse. Dependence or abuse is based on definitions found in the 4th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). Reported Substance Use Treatment at a Specialty Facility refers to treatment received at a hospital (inpatient only), rehabilitation facility (inpatient or outpatient), or mental health center in order to reduce or stop illicit drug use, or for medical problems associated with illicit drug use

Respondent Past Year Opioid Use Disorder Rate, Arizona & U.S., 2015 - 2016



NSDUH

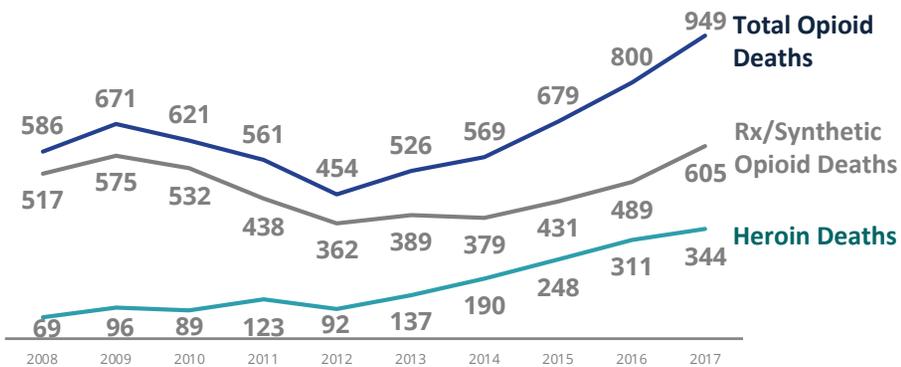
Respondent Past Year Opioid Use Disorder and Did Not Receive Treatment at a Specialty Facility Rate per 1,000, Arizona & U.S., 2015 - 2016



NSDUH

ADHS Vital Statistics and death reports indicate 949 Arizonans died due to opioid use in 2017. This figure includes both intentional and unintentional deaths; however, the majority are due to unintentional overdoses.³⁵ Heroin deaths represent about one-third of total opioid deaths. In response to these continued rising deaths, on June 5, 2017, Governor Doug Ducey declared a [public health emergency](#), which allowed ADHS to implement several public health strategies such as real-time data reporting and law-enforcement naloxone training. ADHS developed a comprehensive [Opioid Action Plan](#) and the legislature passed the [Opioid Epidemic Act](#), both of which put in place policies and procedures designed to formalize Arizona's ongoing commitment to addressing factors contributing to these rising deaths.³⁶

Opioid Deaths in Arizona, 2008 - 2017

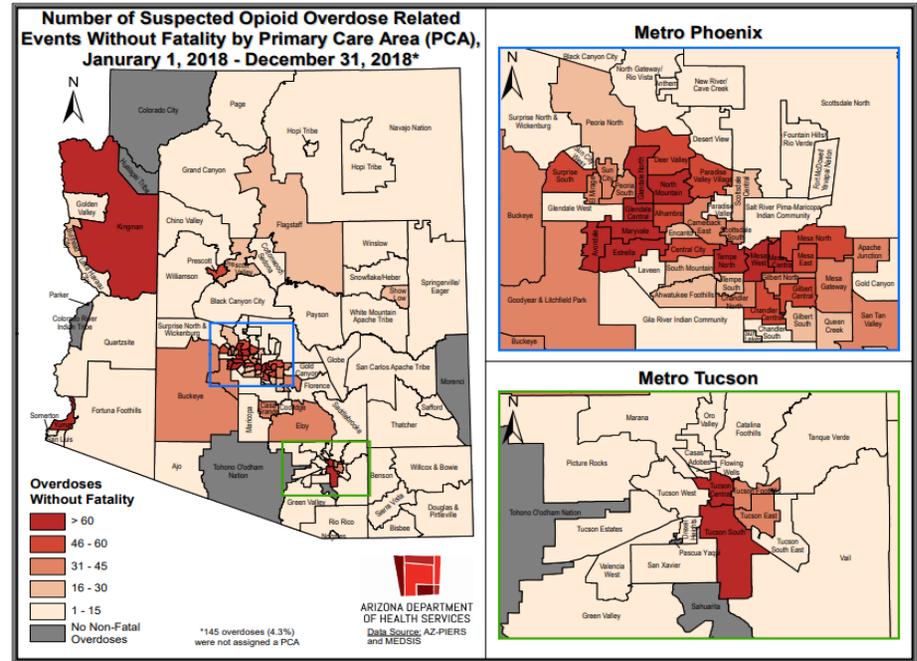


ADHS Bureau of Vital Records

³⁵ Fentanyl deaths are included in the prescription/synthetic category.

³⁶ With the implementation of the Plan and the Act, the Governor [terminated](#) the public health emergency on May 29, 2018.

Suspected Opioid Overdose Related Events Without Fatality, by Primary Care Area, 2018

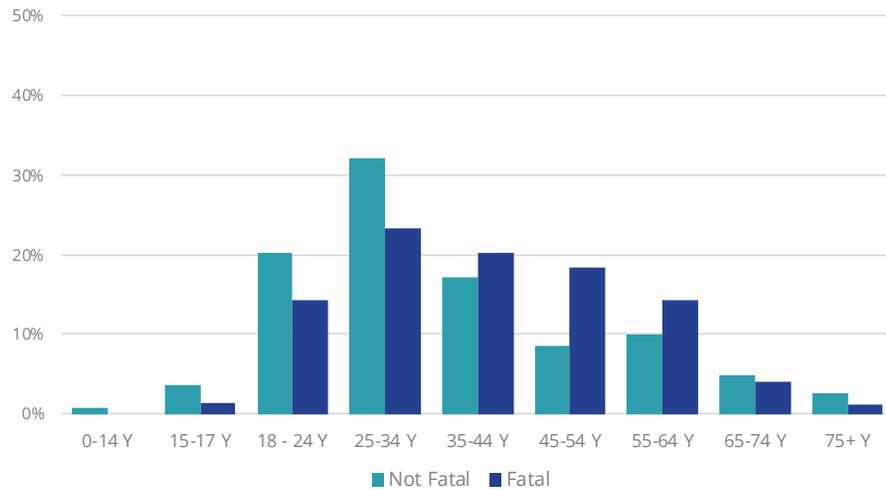


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More than 60% of opioid deaths in Arizona occur in men. In the one-year time period of January 1, 2018, most verified fatal and not fatal overdoses for men occurred in the 25 to 34-year-old age group, representing 29.5% of total male overdoses.³⁷ Men 35 and older are more likely to have an overdose resulting in fatality. Among females, women 34 years old and younger and 65 years and older have more non-fatal verified opioid overdoses than women 35 to 64 years old.

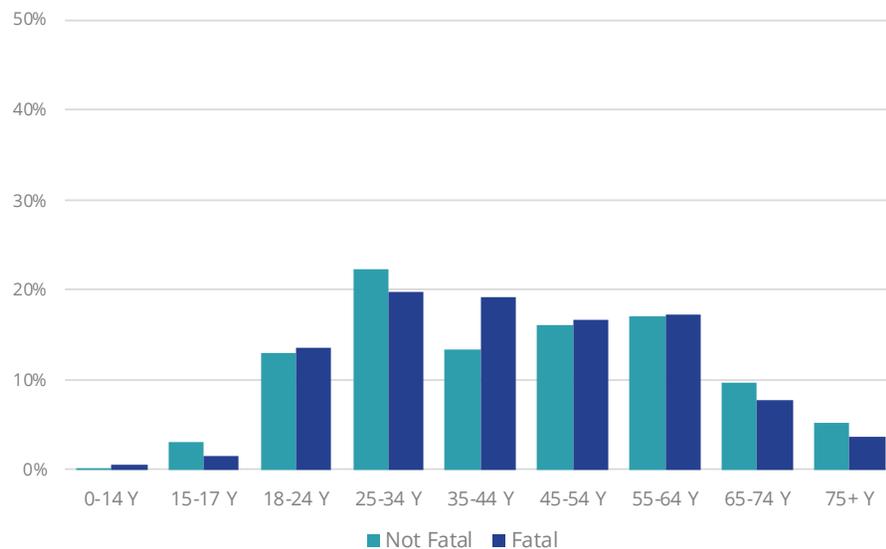
³⁷ A verified opioid overdose is one where the medical records have been reviewed and the cause of the overdose has been determined by ADHS.

Verified Fatal & Not Fatal Opioid Overdoses by Age Among Males, 2018



ADHS 5-day Opioid Surveillance System

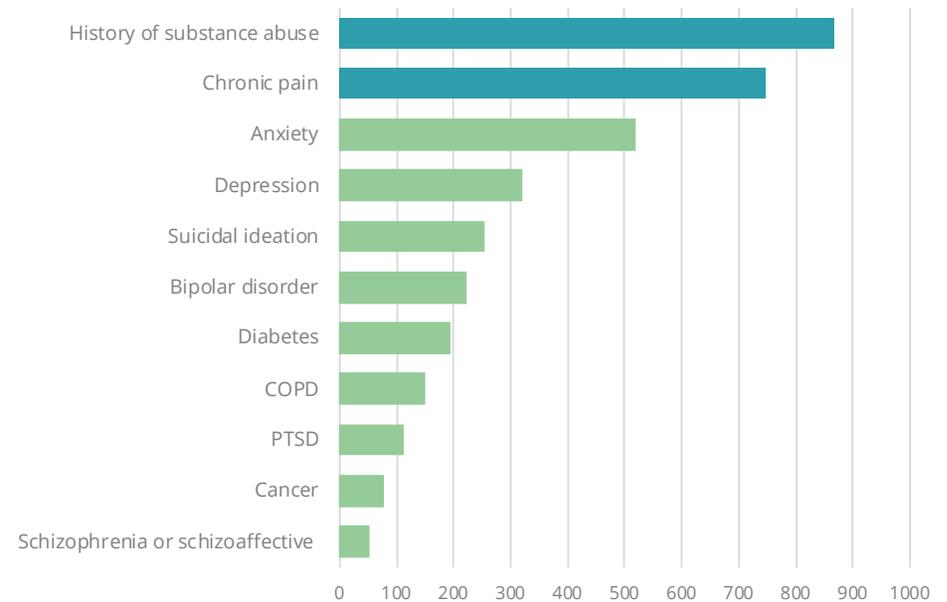
Verified Fatal & Not Fatal Opioid Overdoses by Age Among Females, 2018



ADHS 5-day Opioid Surveillance System

The most common pre-existing condition for individuals who experienced a verified opioid overdose in 2018 was history of substance abuse. The next five most common conditions were chronic pain, followed by mental health related conditions including anxiety, depression, and suicidal ideation.

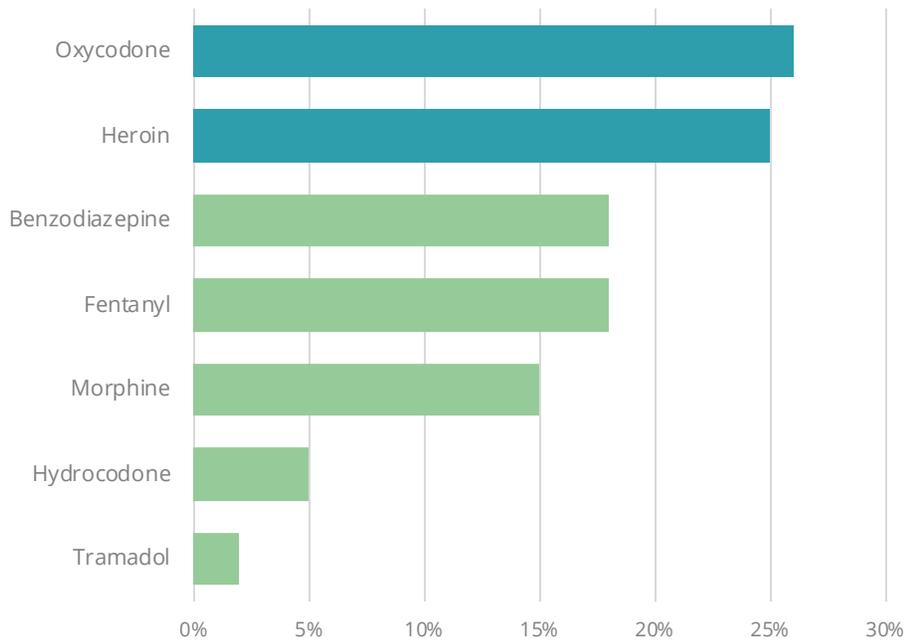
Reported Pre-Existing Conditions for Verified Opioid Overdoses, 2018



ADHS 5-day Opioid Surveillance System

Oxycodone, morphine, and hydrocodone, alone or in combination with other drugs, were involved in 48% of verified opioid overdoses. Heroin, alone or in combination with other drugs, was reported to be involved in 25% of verified opioid overdoses. Fentanyl, alone or in combination with other drugs, was reported to be involved in 18% of verified opioid overdoses.

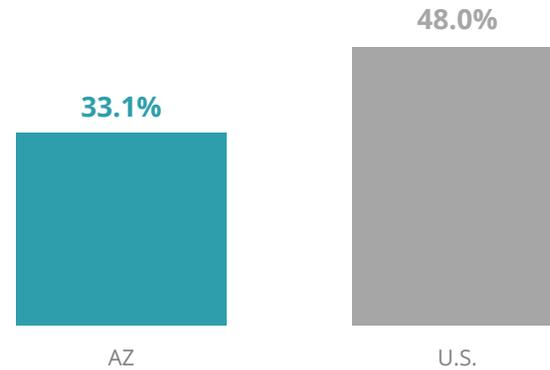
Drug Type Involved in Verified Opioid Overdoses, 2018



ADHS 5-day Opioid Surveillance System

In 2016, there were 744 motor vehicle crash fatalities in Arizona with just over one-third of those due to not using or improperly using restraints. Nationally, that estimate is near one-half. Additionally, unrestrained motor vehicle crash fatalities account for an estimated \$337,120,000 in combined medical and work loss costs. This represents an important area of education and outreach on proper use of seatbelts and car seats for Arizona and many other states.

Motor Vehicle Crash Fatalities Unrestrained or Improperly Restrained, Arizona & U.S., 2016



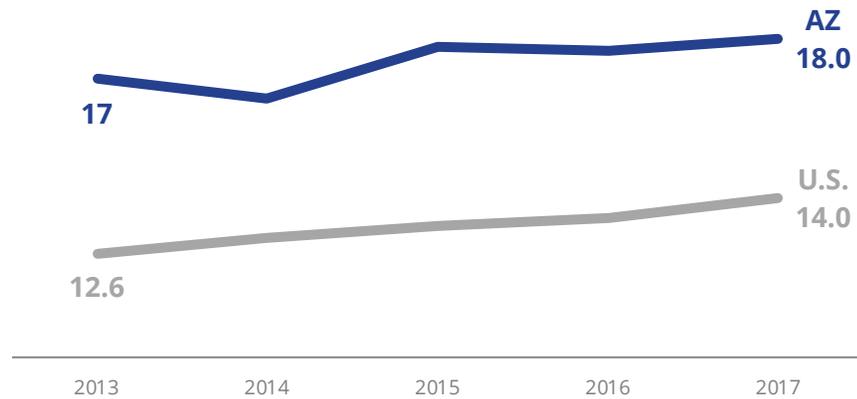
U.S. Department of Transportation, National Highway Traffic Safety Administration



Suicide

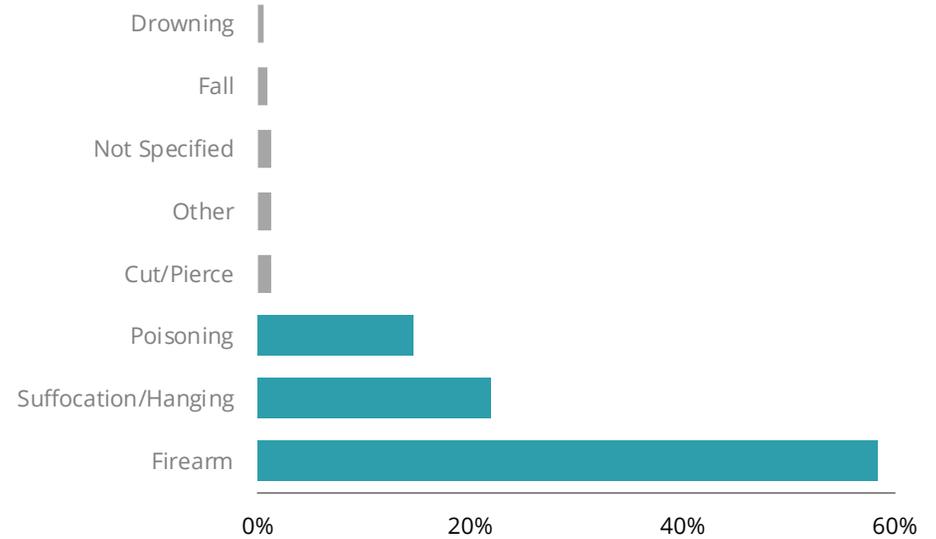
Suicide is the 2nd leading cause of death among adults ages 20 to 44. Arizona experiences higher rates of suicide mortality (18.0 per 100,000) than the country as a whole (14.0 per 100,000), but the rate of growth from 2013 to 2017 is roughly half the national growth rate. More than 1,300 Arizonans died by suicide in 2017; firearms were the most common mechanism of suicide, representing more than 58% of suicides from 2013 - 2017.

Suicide Age-Adjusted Mortality Rate, Arizona & U.S., 2013 - 2017



ADHS Bureau of Vital Records

Suicide Mortality, by Mechanism, 2013 - 2017



ADHS Bureau of Vital Records

More than 75% of suicide deaths in 2017 were males, with men ages 55 to 64 and 75 and older accounting for the highest rates.

Arizona Suicide Mortality Rate, by Age Group & Sex, 2017

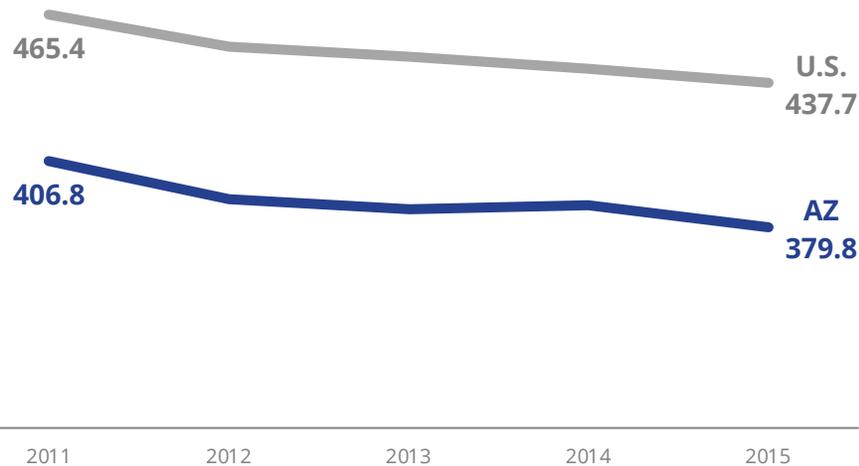


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Cancer

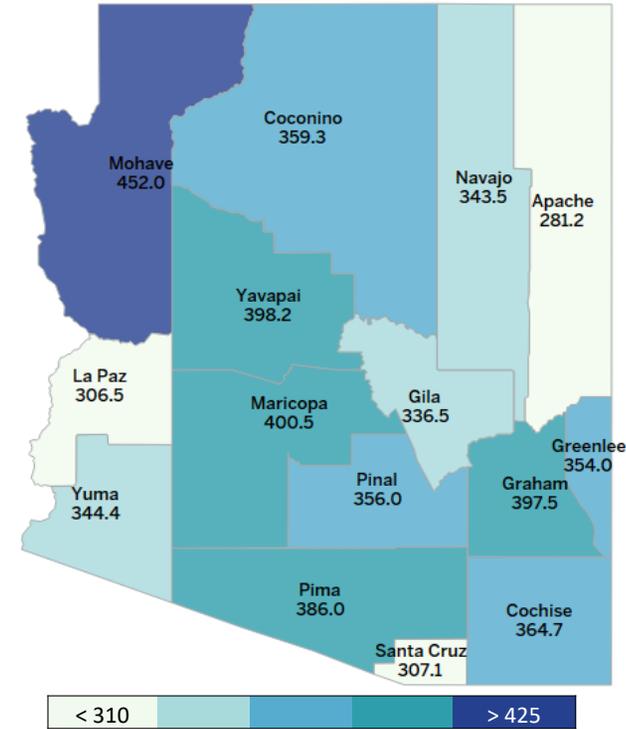
Invasive cancer is a cancer that has spread beyond the tissues where it started. Arizona's invasive cancer rates decreased from 2011 to 2015 and remain below the national average. In 2015, the age-adjusted mortality rate per 100,000 population was 379.8 in Arizona compared to 437.7 in the U.S. However, significant disparities exist across counties. In Mohave County, the invasive cancer incidence rate is higher than the national average, while Apache County's rate is 35% below the national average. The Arizona Cancer Registry works to improve the reporting rate of cancer in Arizona; however, this work is ongoing and not all cancer cases in Arizona are reported. This may complicate any disparities analysis. Adult cancer is a disease that can, but does not always, reflect lifestyle choices. Mohave County has the highest smoking rate in the state, and this could impact its higher rate of cancer incidence. Other risk factors include occupational and environmental exposures, genetics, and age.

Invasive Cancer Incidence Rate, Arizona & U.S., 2011 - 2015



U.S. Cancer Statistics, CDC and National Cancer Institute

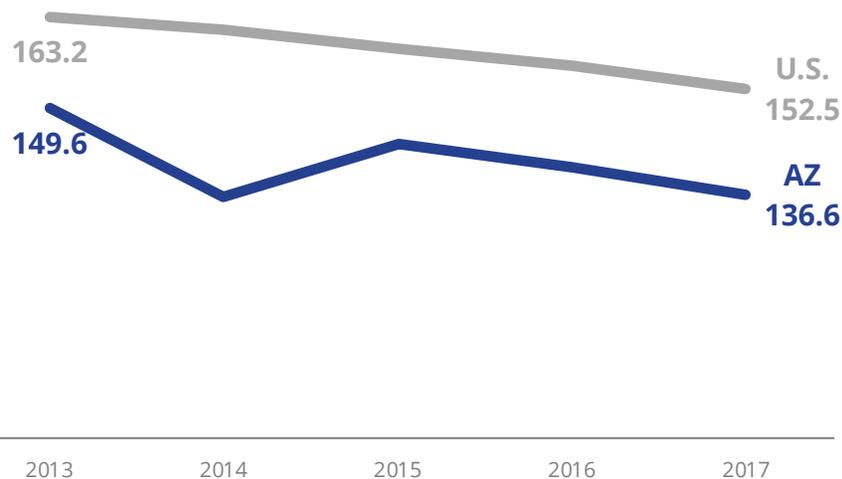
Arizona Invasive Cancer Incidence Rate, by County, 2011 - 2015



U.S. Cancer Statistics, CDC and National Cancer Institute

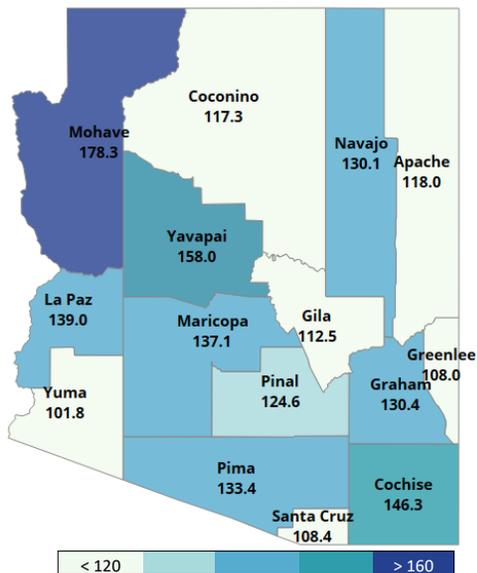
The age-adjusted cancer mortality per 100,000 population in Arizona is also below the national average and decreasing, ranking 6th best among states in cancer mortality.

Cancer Mortality Rate, Arizona & U.S., 2013 - 2017



ADHS Bureau of Vital Records

Arizona Cancer Mortality Rate Per 100,000 Population, by County, 2017

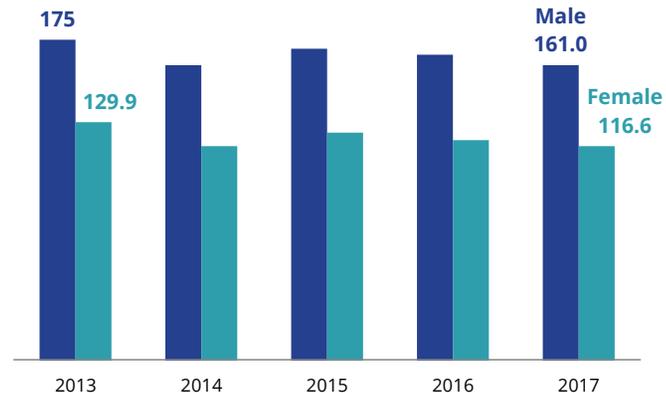


ADHS Bureau of Vital Records

In addition to having the highest rate of invasive cancer incidence, Mohave County also has the highest number of people dying of cancer. There are also gender and racial

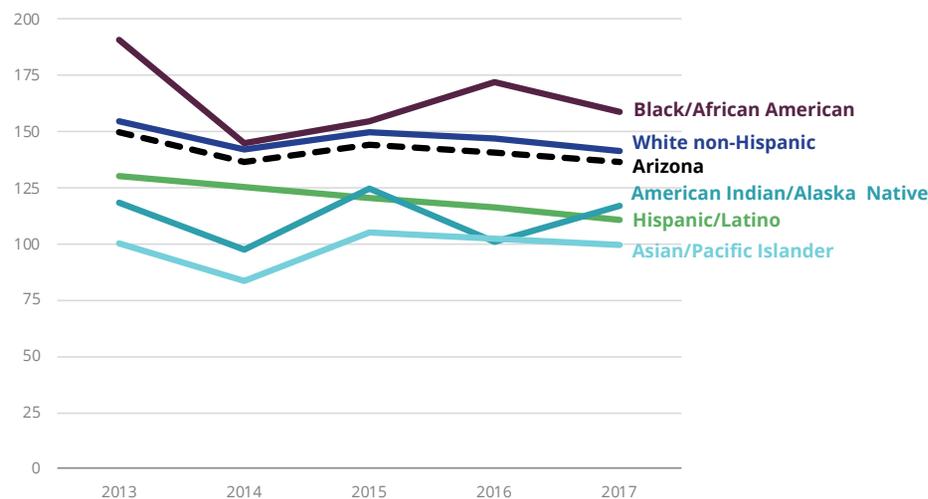
disparities. Cancer mortality rates are almost 32% higher among males compared to females. Black/African American and White non-Hispanic Arizonans have the highest cancer mortality rates.

Arizona Cancer Mortality Rate, by Sex, 2013 - 2017



ADHS Bureau of Vital Records

Arizona Cancer Mortality Rate, by Race & Ethnicity, 2013 - 2017



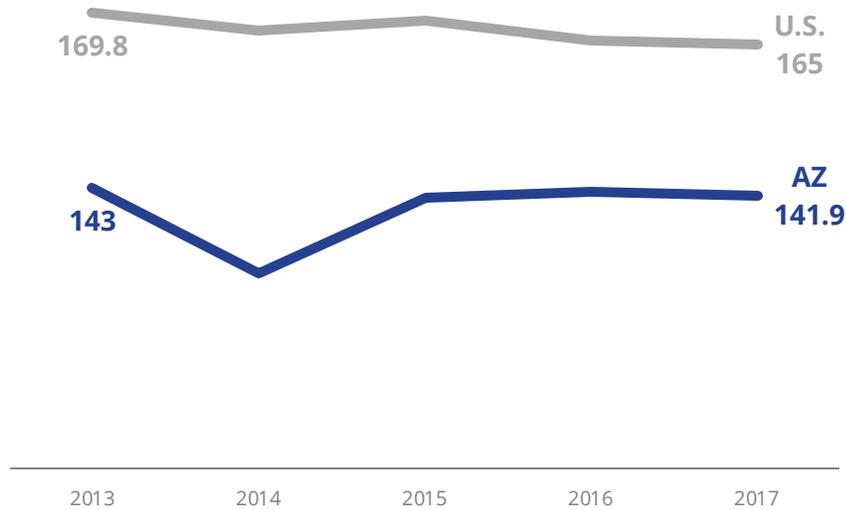
ADHS Bureau of Vital Records

Arizona continues to focus on opportunities to improve screening for screenable cancers and early diagnosis.

Heart Disease

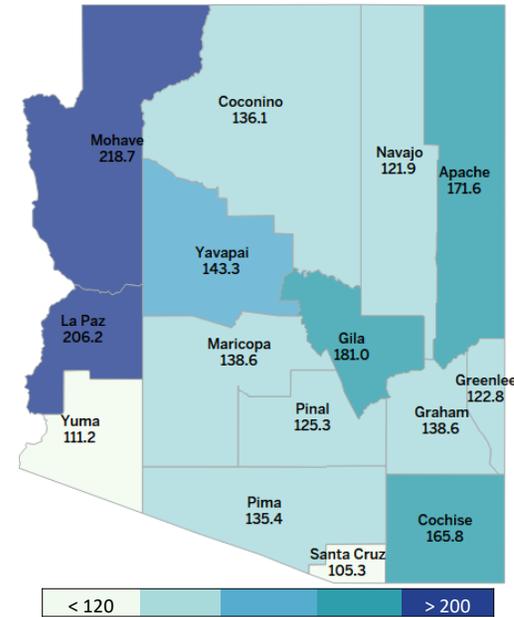
Heart disease is the leading cause of death both in the state and nationally, causing the deaths of 12,285 Arizonans in 2017. It is the 2nd leading cause of death among adults between ages 45 - 64. Arizona's age-adjusted heart disease mortality rate has consistently remained below the national rate from 2013 through 2017. As with cancer, there are geographic disparities among counties with Mohave County having the highest mortality rate at 218.6 per 100,000 population. Santa Cruz has a heart disease mortality less than half of Mohave County's (and 35% below the national average) at a rate of 105.3.

Heart Disease Mortality Rate, Arizona & U.S., 2013 - 2017



ADHS Bureau of Vital Records

Arizona Heart Disease Mortality Rate, by County, 2017

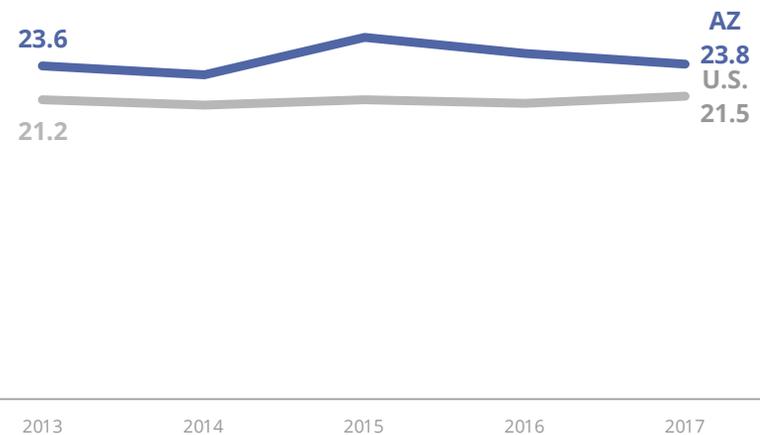


ADHS Bureau of Vital Records

Diabetes

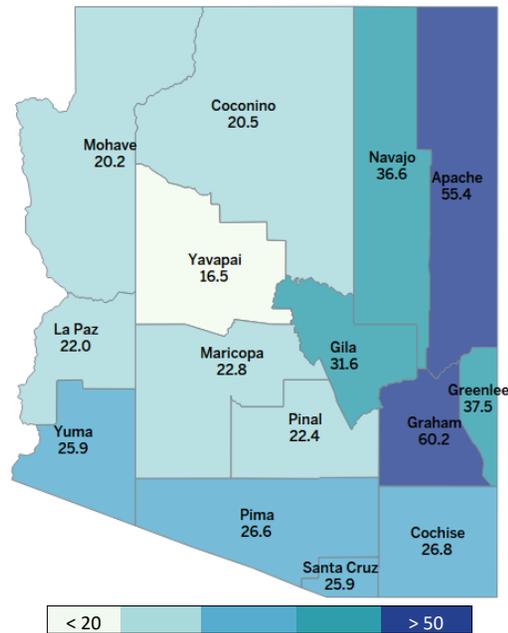
Unlike cancer and heart disease, Arizona's age-adjusted diabetes mortality rate per 100,000 is higher than the average, remaining relatively steady over the past 5 years.

Diabetes Mortality Rate, Arizona & U.S., 2013 - 2017



ADHS Bureau of Vital Records

Arizona Diabetes Mortality Rate, by County, 2017



ADHS Bureau of Vital Records

There are also geographic disparities in diabetes mortality. Compared to the age-adjusted state rate of 23.8 deaths per 100,000 population, Graham and Apache had almost triple the rate of deaths due to diabetes, while Yavapai experienced the lowest rate at 16.5.

Across chronic diseases in Arizona, diabetes accounted for the largest leading expenditure of inpatient and emergency department discharges. In 2016, first-listed diabetes diagnosis accounted for nearly \$1.5 billion in inpatient and emergency department costs, followed by coronary heart disease at more than \$1.2 billion.

| 2016 Arizona Disease Burden Inpatient & Emergency Department Hospital Discharges | |
|--|------------------------|
| Disease | Estimated Costs |
| Diabetes | \$1,483,405,555 |
| Coronary Heart Disease | \$1,249,432,652 |
| Lung Disease | \$921,817,249 |
| Stroke | \$450,433,544 |
| Total | \$4,105,089,000 |

In 2016, the hospital encounters, both inpatient and emergency department, contained the following ICD-10 codes for Coronary Heart Disease: I20.0, I20.8-I20.9, I25-I25.9; Diabetes: E10-E11.9; Lung Disease: J20-J21.9, J40-J44.9; Stroke: G45-G45.9, I60-I69.



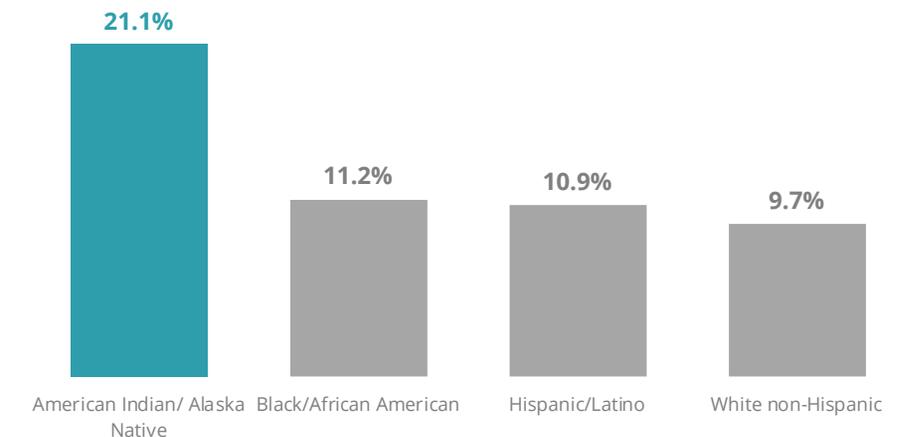
When examining all diagnoses related to diabetes (not solely the first-listed diagnosis), Medicare was the largest payer of diabetes-related inpatient and emergency department discharges, accounting for roughly 65% of total discharges and expenditures. Private insurers represented about 18% of discharge and expenditures, while Medicaid was about 12%. The average length of stay (ALOS) for diabetes-related inpatient and emergency department discharges also varied by payer, with individuals funded through charity care having the highest ALOS of 6.8 days, and those paid by private insurance having the lowest ALOS at 5.1 days.

| 2016 Arizona Diabetes Related Inpatient & Emergency Department Hospital Discharges | | | |
|--|----------------------|------------------------|-------------------------------|
| Payer Type | Number of Discharges | Estimated Costs | Average Length of Stay (Days) |
| Medicare | 124,292 | \$1,947,035,088 | 5.6 |
| Private Insurance | 35,384 | \$561,049,135 | 5.1 |
| Medicaid | 23,246 | \$328,916,536 | 5.6 |
| Other | 4,994 | \$87,580,067 | 5.3 |
| Self-Pay | 3,976 | \$42,040,185 | 6.0 |
| Charity | 118 | \$1,754,403 | 6.8 |
| Total | 192,000 | \$2,968,675,414 | |

In 2016, the hospital encounters, both inpatient and emergency department, contained the following ICD-10 codes for Diabetes: E10-E10.9 and E11-E11.9.

Compared to other racial and ethnic groups, diabetes was highest among American Indians/Alaska Natives. Over 1 in 5 American Indians/Alaska Natives are living with diabetes, almost twice the rate of other racial and ethnic groups.

Percent of Arizona Adults Who Reported Ever Having Diabetes, by Race & Ethnicity, 2017

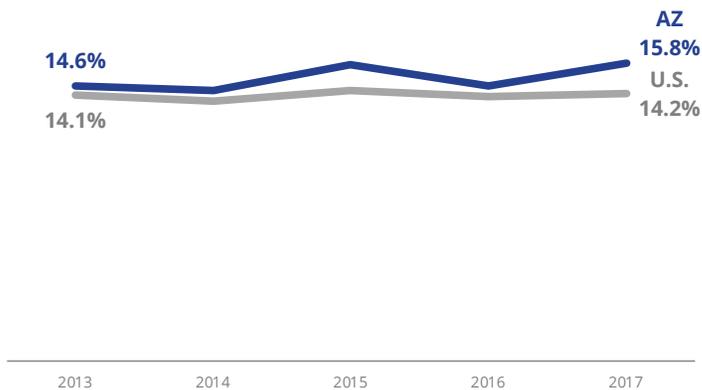


BRFSS

Asthma

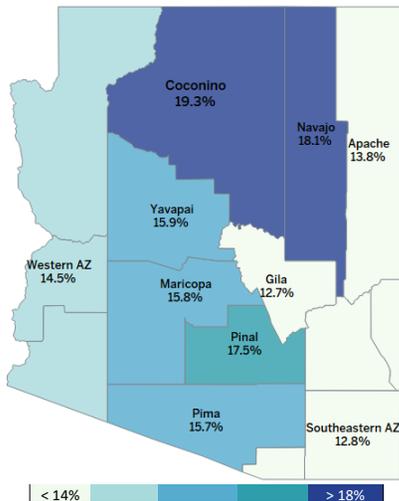
Arizona's prevalence of asthma was slightly above the national average from 2013 through 2017.

Percent of Adults Who Reported Ever Having Asthma, Arizona & U.S., 2013 - 2017



BRFSS

Percent of Arizona Adults Who Reported Ever Having Asthma, by County, 2017



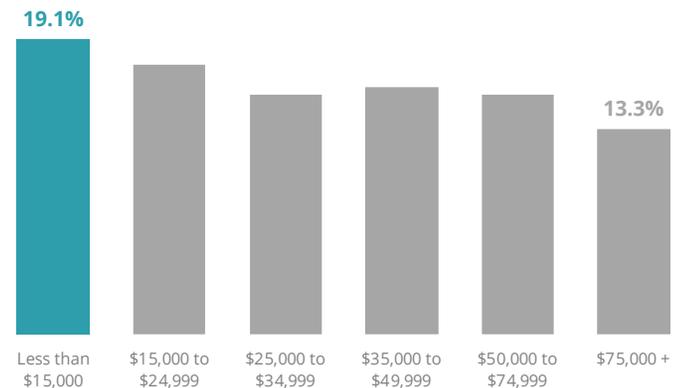
BRFSS

In the last five years, the prevalence of asthma in Arizona ranged from 14.6% in 2013 to 15.8% in 2017. There continues to be counties disproportionately impacted by asthma, with

Navajo and Pinal Counties having the largest percent of adults living with asthma.³⁸

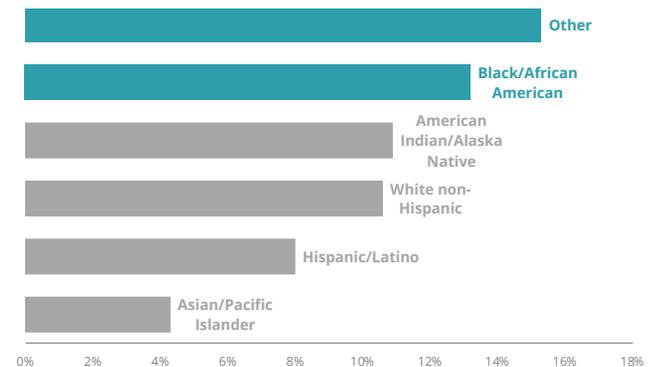
Among Arizona adults, the prevalence of asthma is highest among individuals with an income less than \$15,000 per year and generally trends downward as income increases. There are also asthma disparities across racial and ethnic groups. Compared to other racial and ethnic groups, Black/African American adults had the highest prevalence of asthma in 2017.

Percent of Arizona Adults Who Reported Ever Having Asthma, by Income, 2017



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Percent of Arizona Adults Who Reported Ever Having Asthma, by Race & Ethnicity, 2017



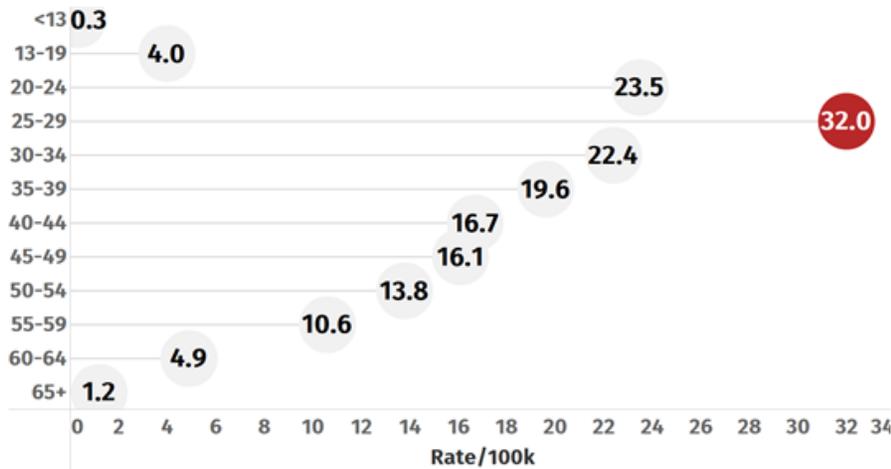
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³⁸ Counties were grouped for Southeastern and Western AZ due to the small number of responses in these counties.

HIV/AIDS

Deaths related to HIV/AIDS have been decreasing in Arizona and nationally since the introduction of anti-retroviral therapy (ART). People living with HIV/AIDS taking recommended medications are living longer, and this trend is expected to continue. An estimated 18,190 Arizonans are living with HIV/AIDS. Arizonans between the ages of 25 and 29 years old accounted for the highest incidence rates of HIV at 32.0 per 100,000. In 2017, 768 Arizonans were newly infected with HIV. Hispanic/Latino and White non-Hispanic males carried the largest burden of new HIV/AIDS cases in 2017. For females, the African American and White non-Hispanic populations had the most new cases in 2017. Along the HIV continuum, approximately 44% of individuals diagnosed with HIV in AZ have an undetectable viral load.

Arizona HIV Incidence Rates, by Age, 2017



ADHS, HIV/AIDS Surveillance Update

Behavioral Risk Factors

Health behaviors account for 30% of the various factors that contribute to an individual's health.³⁹ Certain indicators

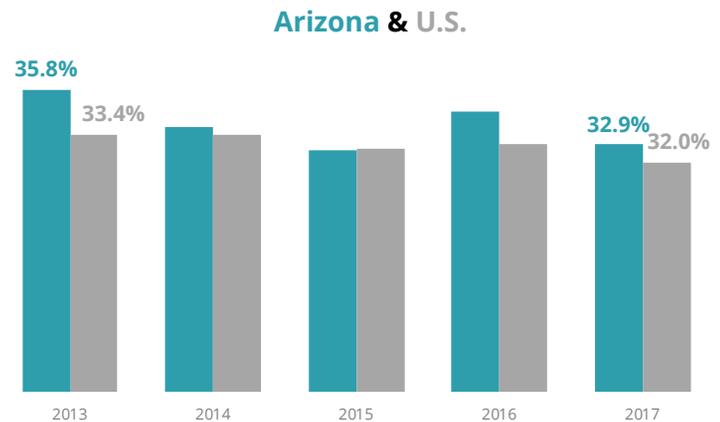
³⁹ Determinants of Health Model based on frameworks developed by: Tarlov AR. Ann N Y Acad Sci 1999; 896: 281-93; and Kindig D, Asada Y, Booske B. JAMA 2008; 299(17): 2081-2083. National Academy for State Health Policy and de Beaumont Foundation 2018.

demonstrate behavioral risk factors that contribute to common chronic conditions and leading causes of death. Understanding how these behaviors impact health, as well as inequities across populations within Arizona, helps inform strategies that address the underlying behavioral risk factors rather than simply providing clinical care that treats the subsequent health conditions stemming from those behaviors.

Healthy Weight

Obesity increases the risk of a variety of health conditions such as diabetes, heart disease, stroke, and hypertension.⁴⁰ Arizona continues to be close to the national average for individuals who report being healthy weight, overweight and obese, ranking 21st in this measure in America's Health Rankings.⁴¹ In 2017, 32.9% of Arizonans reported being at a healthy weight, 34.3% were overweight, and 29.5% were obese.

Percent of Arizona Adults Who Reported a Healthy Weight, Arizona & U.S., 2013 - 2017



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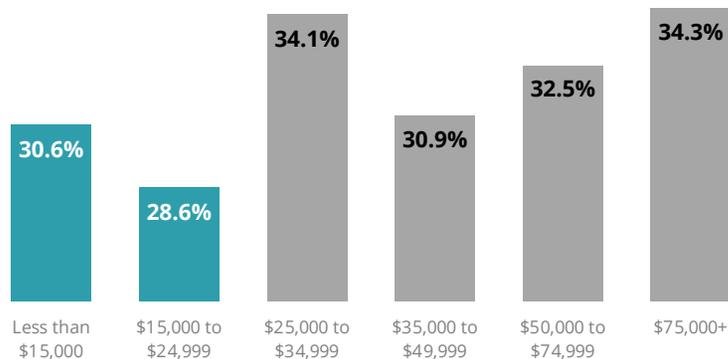
⁴⁰ Centers for Disease Control, [Division of Nutrition, Physical Activity, and Obesity, National Center for Chronic Disease Prevention and Health Promotion, The Health Effects of Overweight and Obesity.](#)

⁴¹ As measured by Body Mass Index based on self-reported weight.

The prevalence of overweight and obesity varies among racial and ethnic groups, with more than 3 in 4 (77.5%) American Indians/Alaska Natives and more than 2 in 3 (71.8%) Hispanics reporting the highest prevalence of overweight and obesity.

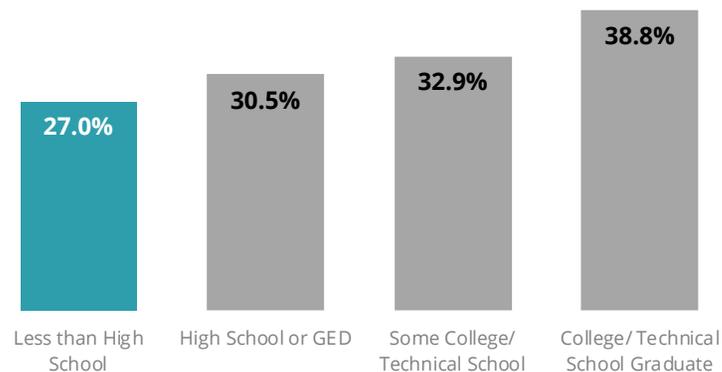
Social factors may additionally impact opportunities to be at a healthy weight. Among Arizona adults with a household income less than \$25,000, fewer reported being at a healthy weight when compared to those with higher income levels. Arizona adults with less than a high school degree also had a lower prevalence of healthy weight compared to those with at least a high school degree.

Percent of Arizona Adults Who Reported a Healthy Weight, by Income, 2017



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Percent of Arizona Adults Who Reported a Healthy Weight, by Educational Attainment, 2017



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In 2017, 22.1% of Arizona adults reported participating in enough aerobic and muscle strengthening exercises to meet physical activity guidelines compared to 20.3% nationally. When asked about fruit and vegetable consumption, Arizona adults reported similarly to the U.S. In 2017, 37% of adults in Arizona consumed fruit less than one time per day and 20.6% consumed vegetables less than one time per day.

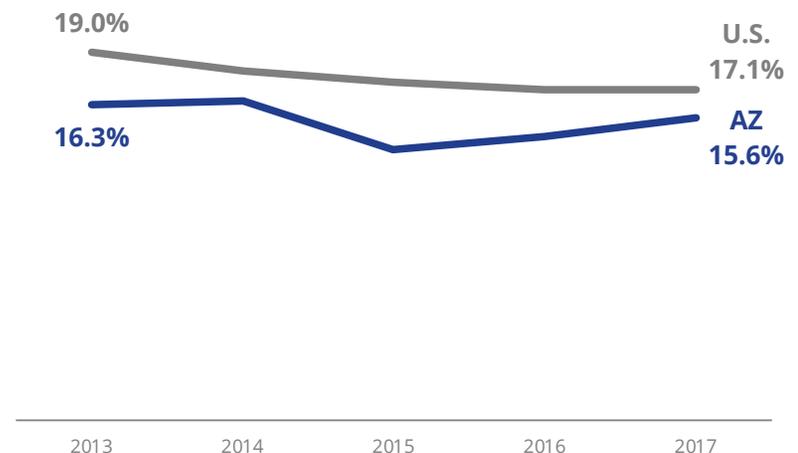
1 in 4 adults meet physical activity guidelines



Tobacco and Electronic Vapor Product Use

The negative health effects of tobacco use are well documented and include cancer, heart and lung diseases, and stroke.⁴² The percentage of adults currently smoking in Arizona has remained below the national average over the past five years.

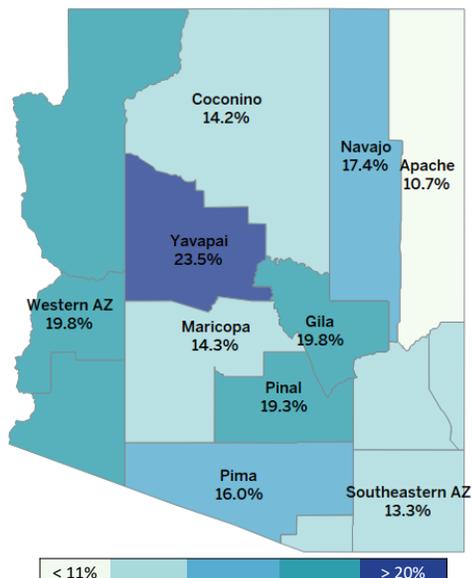
Percent of Adults Who Reported Current Smoking, Arizona & U.S., 2013 - 2017



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⁴² [Health.People 2020. Topics and Objectives. Tobacco Use](#)

Percent of Arizona Adults Who Reported Current Smoking, by County, 2017



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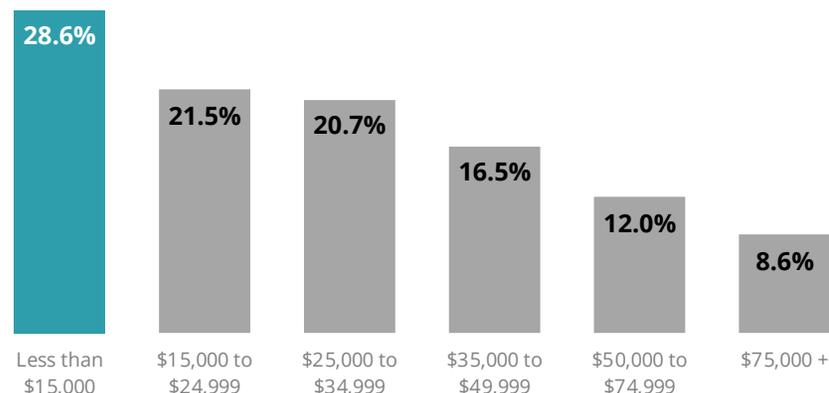
In Arizona, 15.6% of the adult population identified as current smokers in 2017. Prevalence of smoking in Arizona has increased incrementally since 2015, when it was 14.0%. Smoking prevalence varies across Arizona counties. Yavapai has the highest reported prevalence of smoking at 23.5%, which is higher compared to the statewide prevalence. Apache County reported the lowest prevalence of smoking at 10.7%, approximately 30% below the statewide average.⁴³ In America's Health Rankings, Arizona ranks favorably in the smoking measure, placing 16th nationally in 2018 when compared to other states.

Certain segments of the population are more likely to smoke. Black/African Americans, veterans, individuals between the ages of 45-64, and adults with less than a high school education have the highest rates of smoking. Smoking prevalence also varies by income, with prevalence decreasing as income increases. Individuals earning an

⁴³ Counties in the Southeastern and Western parts of AZ were grouped due to the small number of responses in these counties.

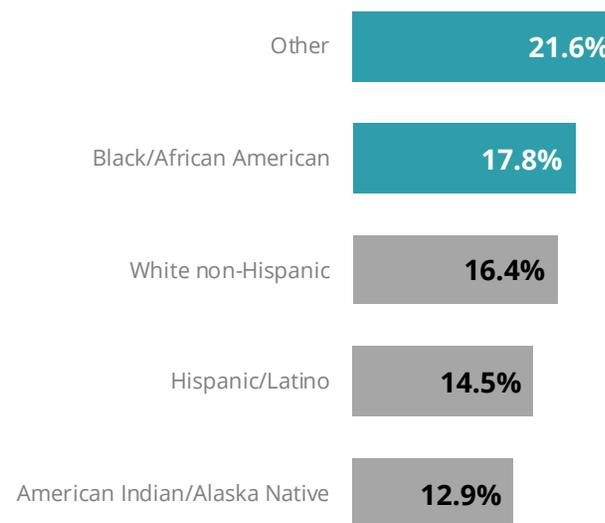
annual income below \$15,000 had the highest reports of smoking, approximately 30%; whereas, individuals earning incomes above \$75,000 had the lowest reported percentage of smoking, less than 10%.

Percent of Arizona Adults Who Reported Current Smoking, by Income, 2017



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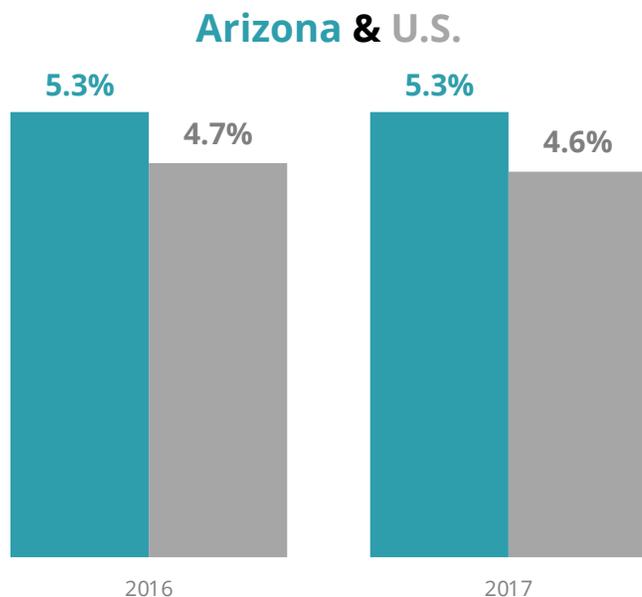
Percent of Arizona Adults Who Reported Current Smoking, by Race & Ethnicity, 2017



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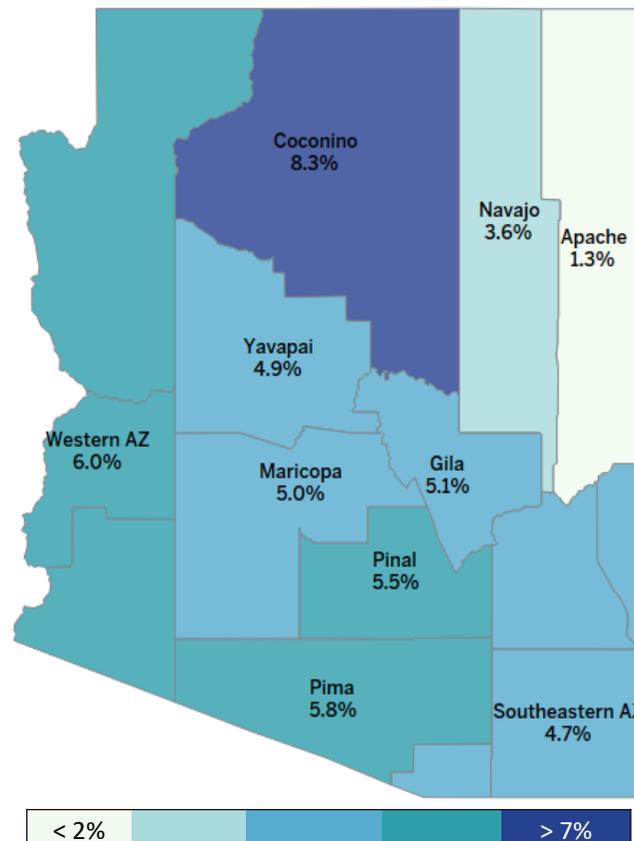
In Arizona, current use of electronic cigarettes is slightly above the national average, remaining constant from 2016 to 2017 at 5.3%. Adults in Coconino County had the highest prevalence of electronic cigarette use at 8.3%, while Navajo and Apache Counties had the lowest reported prevalence at 3.6% and 1.3%, respectively.⁴⁴

Percent of Adults Who Reported Current Electronic Cigarette Use, Arizona & U.S., 2016 - 2017



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Percent of Arizona Adults Who Reported Current Electronic Cigarette Use, by County, 2017



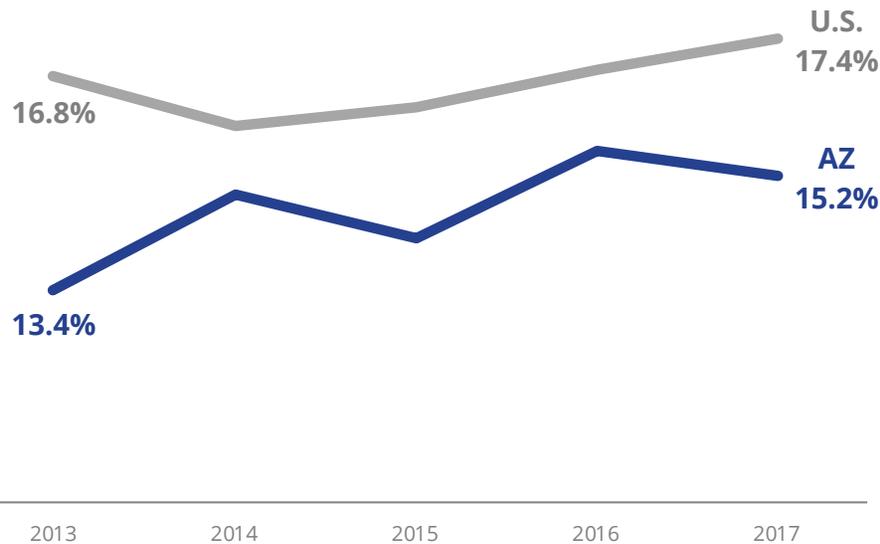
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⁴⁴ Counties in the Southeastern and Western parts of AZ were grouped due to the small number of responses in these counties.

Substance Use

Binge drinking is defined as having 5 or more drinks on one occasion in the last 12 months for males, 4 or more for females. Although binge drinking in Arizona is lower than the national estimate, it has been increasing from 2013 to 2017, with a slight decrease in the last year (15.2%). Binge drinking varied across the state, with Yuma County adults reporting the highest percentage at 17.0%. Apache adults reported the lowest prevalence of binge drinking at 5.7%, 60% below the statewide average.⁴⁵ Additionally, 5.5% of Arizonans reported heavy drinking in 2017. Heavy drinking is defined as more than 14 drinks per week for men and more than 7 drinks per week for women.

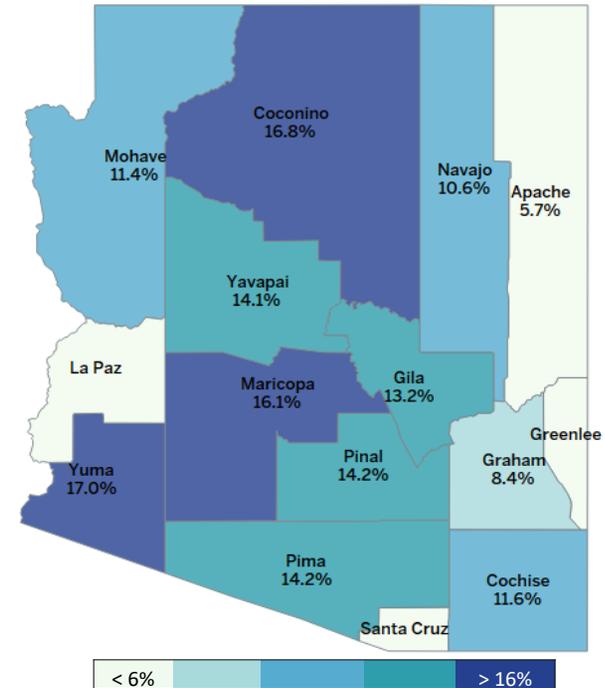
Percent of Arizona Adults Who Reported Binge Drinking, Arizona & U.S., 2013 - 2017



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⁴⁵ La Paz, Santa Cruz and Greenlee all had fewer than 50 responses and thus were unable to report on this indicator.

Percent of Arizona Adults Who Reported Binge Drinking, by County, 2017

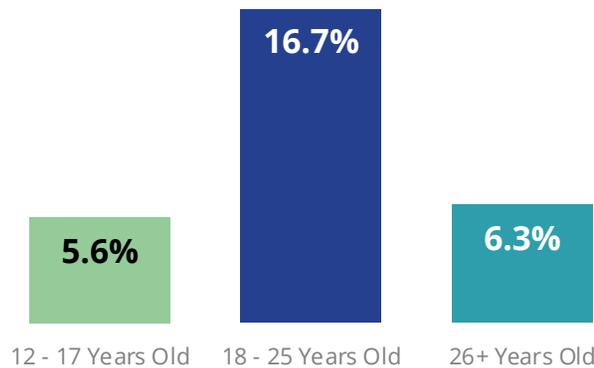


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Access to timely treatment is important to provide a path for individuals who want help for their substance use disorder. Arizona's rates of substance use disorder match national estimates, with a higher proportion of individuals 18 to 25 years of age experiencing substance use disorder (16.7%, compared to 5% to 6% for other ages).⁴⁶

⁴⁶ Substance Use Disorder is defined as meeting criteria for illicit drug or alcohol use dependence or abuse. Dependence or abuse is based on definitions found in the 4th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV).

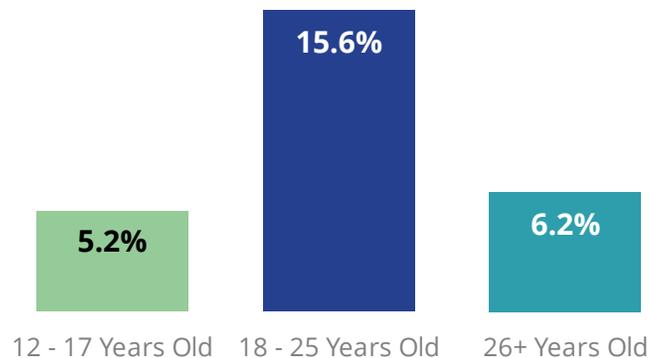
Percent of Respondents in Arizona with Past Year Substance Use Disorder, by Age, 2015 - 2016



NSDUH

Rates of individuals who need treatment but do not receive it are similarly distributed across ages. Among respondents between the ages of 18 and 25, 15.6% were classified as needing treatment for a substance use problem but not receiving it. This gap in treatment was seen in 6.2% of adults 25 years and older and 5.2% of adolescents between the ages of 12 and 17.⁴⁷

Percent of Respondents in Arizona Classified as Needing Treatment for a Substance Use Problem But Not Receiving Treatment, by Age, 2015 - 2016



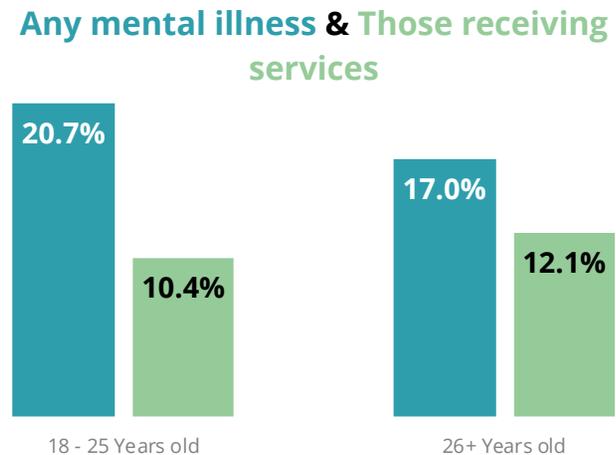
NSDUH

⁴⁷ Respondents were classified as needing treatment for an alcohol problem if they met the criteria for an alcohol use disorder as defined in the 4th edition of the DSM-IV or received treatment for alcohol use at a specialty facility (i.e. drug and alcohol rehabilitation facility [inpatient or outpatient], hospital [inpatient only], or mental health center).

Mental Health

Mental health can affect a person's quality of life and overall health outcomes. In 2015 and 2016, more than 20% of Arizonans ages 18 to 25 reported having a mental illness in the past year, slightly below the national average of 22%.⁴⁸ However, only about half of those individuals received mental health services during that period, which is below the national average of 12%.⁴⁹ Among those age 26 and older, the percent with any mental illness was slightly lower at 17%, which is consistent with the national average.

Percent of Arizonans Reporting Any Mental Illness and Percent Receiving Services, by Age, 2015 and 2016



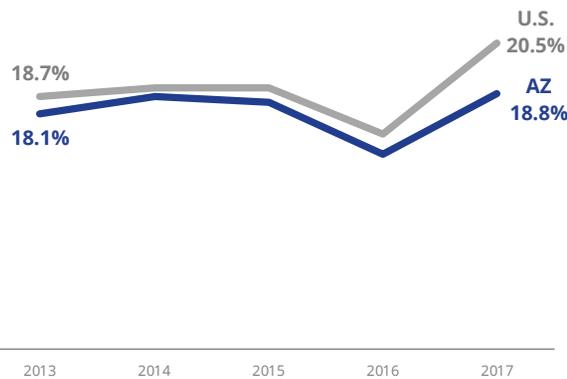
NSDUH

⁴⁸ Any mental illness (AMI) is defined as having a diagnosable mental, behavioral, or emotional disorder, other than a developmental or substance use disorder, assessed by the Mental Health Surveillance Study (MHSS) Structured Clinical Interview for the Diagnostic and Statistical Manual of Mental Disorders—Fourth Edition—Research Version—Axis I Disorders (MHSS-SCID), which is based on the DSM-IV.

⁴⁹ Mental Health Services are defined as having received inpatient treatment/counseling or outpatient treatment/counseling or having used prescription medication for problems with emotions, nerves, or mental health. Respondents were not to include treatment for drug or alcohol use.

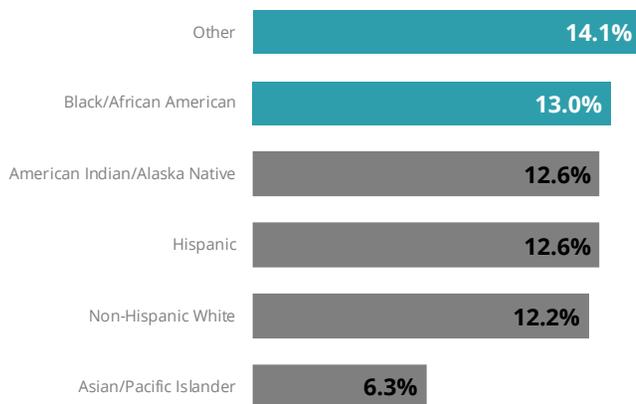
Prevalence of depression among Arizona adults have tracked slightly below national estimates over the past five years. In 2017, reported depression among Arizonans increased to 18.8% from 18.1% in 2013. National estimates also increased in 2017 to 20.5% from 18.7% in 2013. Compared to other racial and ethnic groups, Black/African American Arizonans and those identifying as other race reported the highest rates of frequent mental health distress.^{50, 51}

Percent of Adults Who Reported Ever Being Told They Have a Form of Depression, Arizona & U.S., 2013 - 2017



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Percent of Arizona Adults Who Reported Frequent Mental Health Distress, by Race & Ethnicity, 2017



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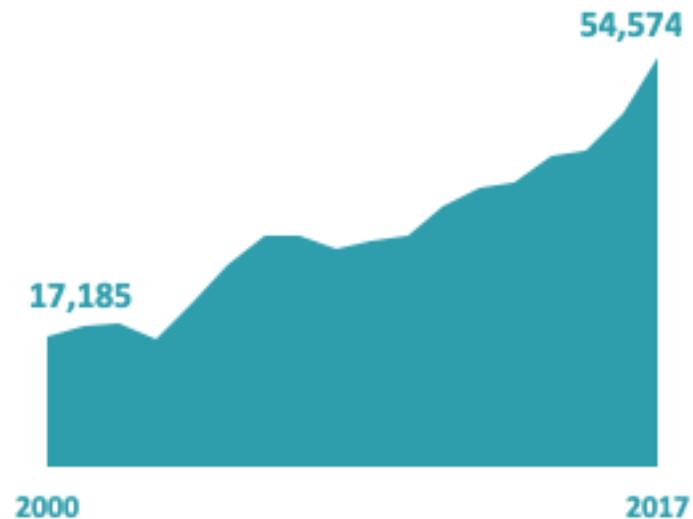
50 Frequent Mental Health Distress is defined as having 14 or more days with stress, depression and problems with emotions in the last 30 days.

51 For this indicator, "Other" race includes more than one race, mixed race (or simply mixed), multiracial, and biracial.

Sexually Transmitted Diseases

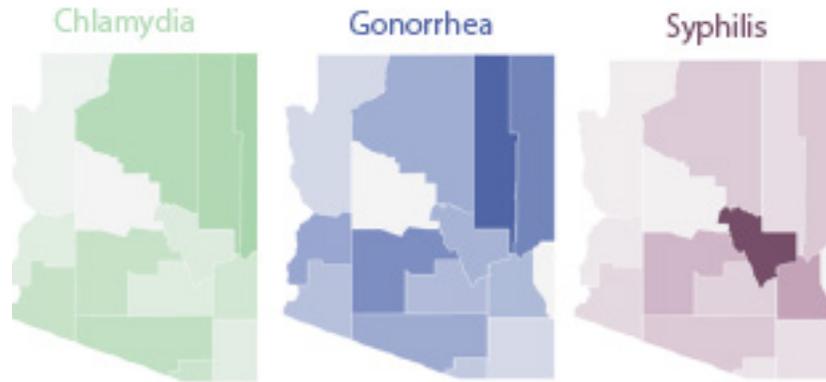
Another indicator exhibiting increased trends is cases of Sexually Transmitted Diseases (STDs). Since 2000, STD cases have tripled. The geographic distribution of three common diseases, chlamydia, gonorrhea, and early syphilis, vary in rates across Arizona counties with higher rates in northeast and southwest counties. While syphilis is not as commonly reported as chlamydia and gonorrhea, 50% of cases reported are among adults between the ages of 25 and 39. One in four syphilis cases are female, but among American Indians/Alaska Natives, females represent one in two cases. Between 2016 and 2017, cases of congenital syphilis (babies exposed and infected in utero) have almost doubled (from 16 to 30) indicating a need for greater emphasis on prevention and treatment, especially during pregnancy.

Arizona STD Cases, 2000 - 2017



ADHS STD Surveillance Data

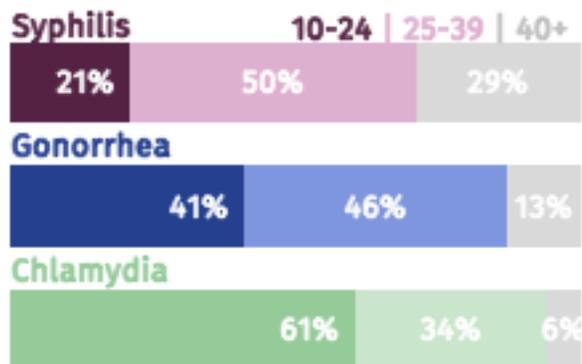
Arizona STD Rates, by Disease and County, 2017



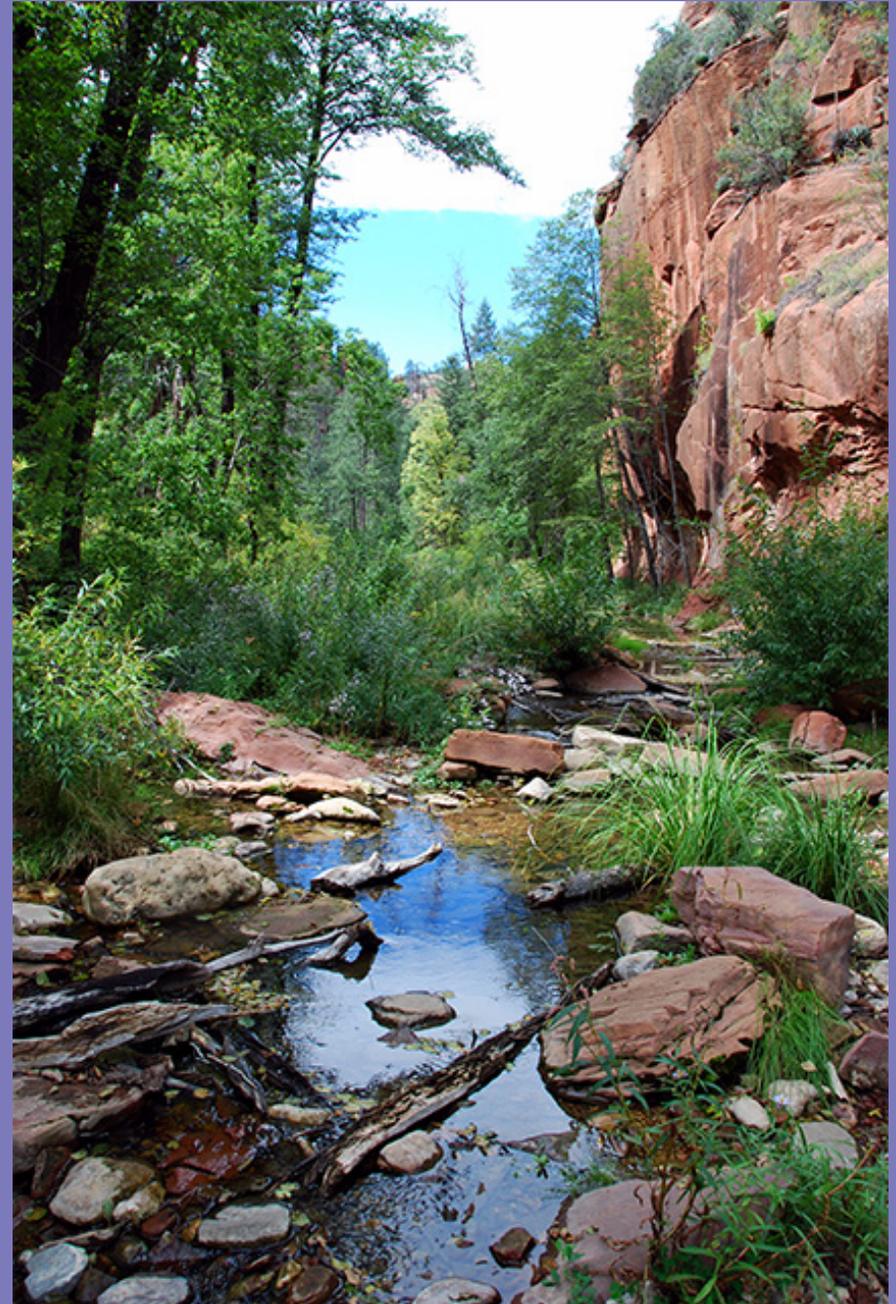
ADHS STD Surveillance Data

Adolescents and young adults represent an important population as case counts and rates for STDs among those aged 10-24 are the highest of all age groups in Arizona (41% of gonorrhea cases and 61% of chlamydia cases).

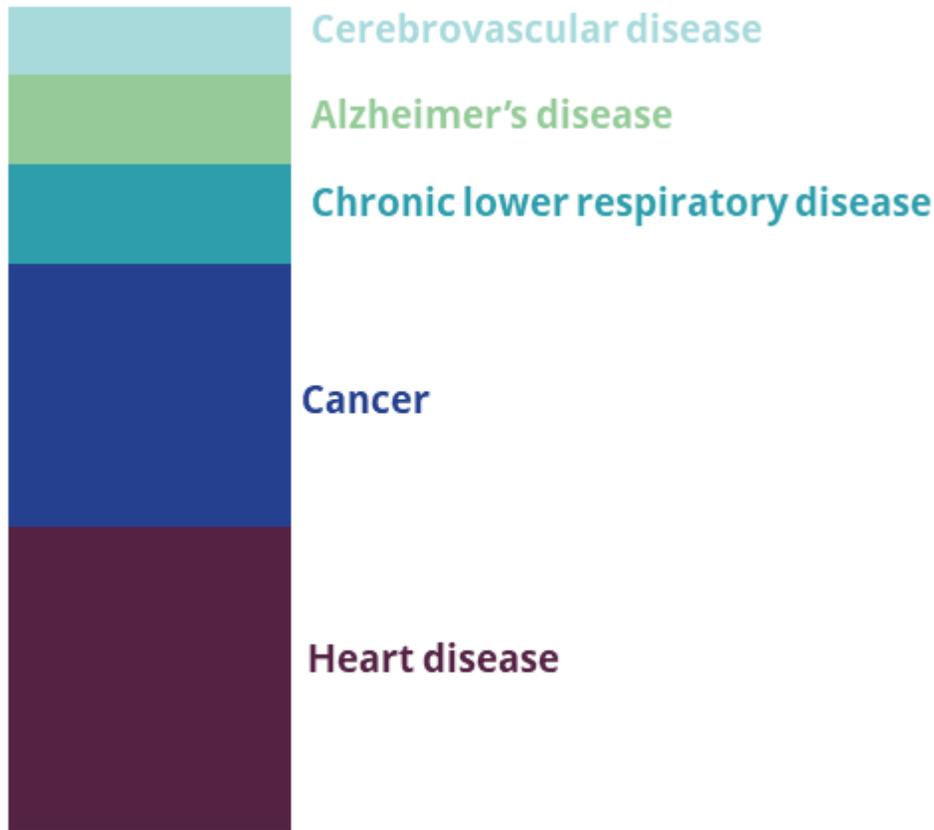
Percent of STD Reported by Age Groups, 2017



ADHS STD Surveillance Data



Healthy Aging



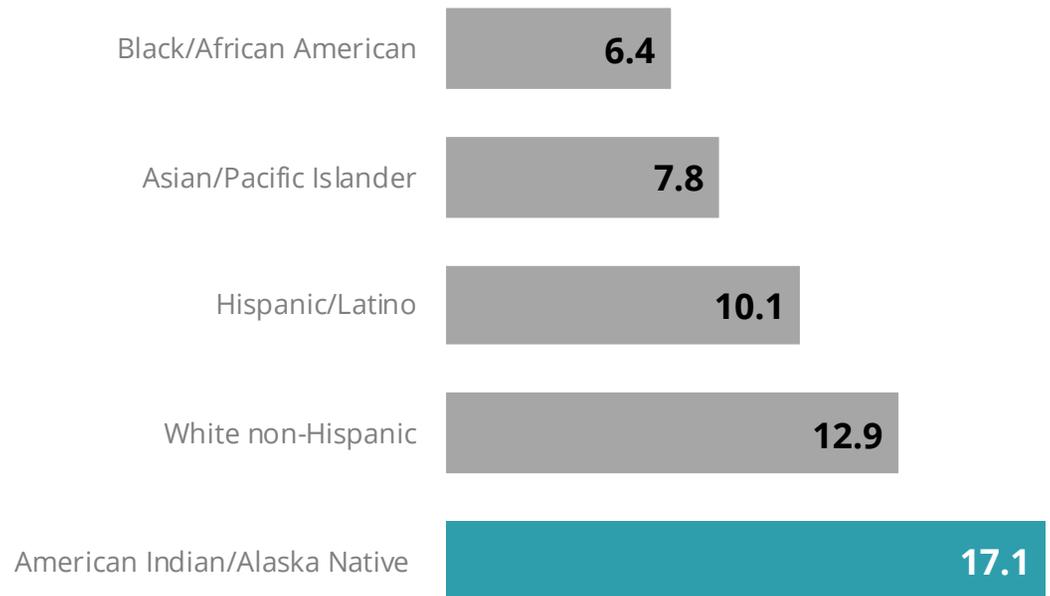
Mortality 65+

In 2017, **heart disease** was the leading cause of death among Arizonans ages 65 and older



Alzheimer's mortality rates in Arizona remain **above** the national rate, slightly increasing to **35.2** per 100,000 over the past 5 years

The **highest** rates of fall injury-related mortality rates are seen among **American Indian/Alaska Native** Arizonans



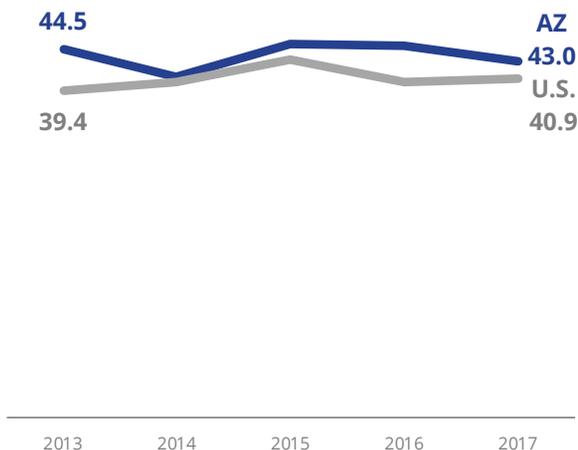
Healthy Aging

The aging population experiences different rates and incidence of disease and disability than younger populations. In Arizona, the leading causes of death for individuals ages 65 and older were heart disease, cancer, chronic lower respiratory disease, Alzheimer’s disease, and cerebrovascular diseases.

Chronic Lower Respiratory Disease

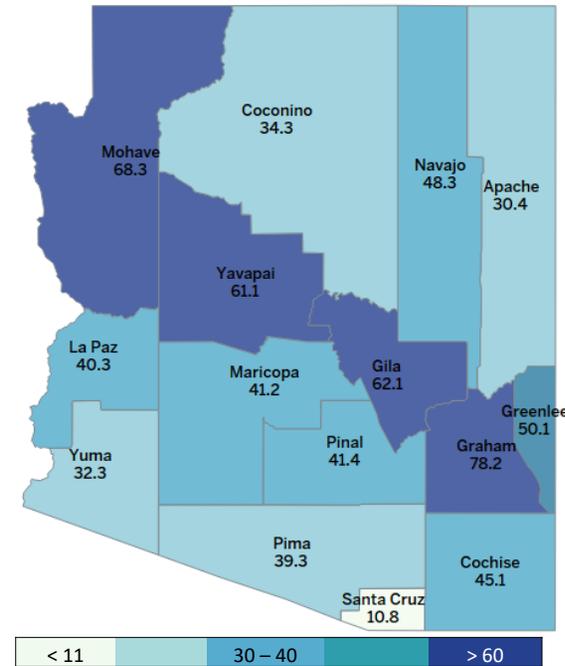
Chronic Lower Respiratory Disease (CLRD) is the 3rd leading cause of death among Arizonans age 65 and older. CLRD is used to describe a group of diseases generally consisting of chronic bronchitis, emphysema, and asthma. CLRD mortality has declined slightly over the last five years in contrast to national rates, which are rising. In 2016, Arizona’s age-adjusted CLRD mortality rate dropped below the national rate of 47.4 per 100,000 residents and in Arizona the rate dropped even lower to 43.0 in 2017. CLRD mortality varies across the state with counties in the northwest and center of the state having the highest rates. Graham County had the highest rate of CLRD mortality at 78.2, while Santa Cruz reported a rate of 10.8.

Chronic Lower Respiratory Disease Mortality Rate, Arizona & U.S., 2013 - 2017



ADHS Bureau of Vital Records

Arizona Chronic Lower Respiratory Disease Mortality Rate, by County, 2017



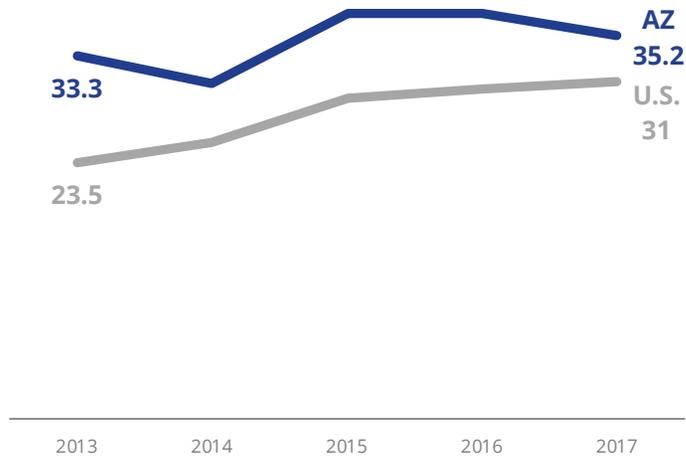
ADHS Bureau of Vital Records



Alzheimer's Disease

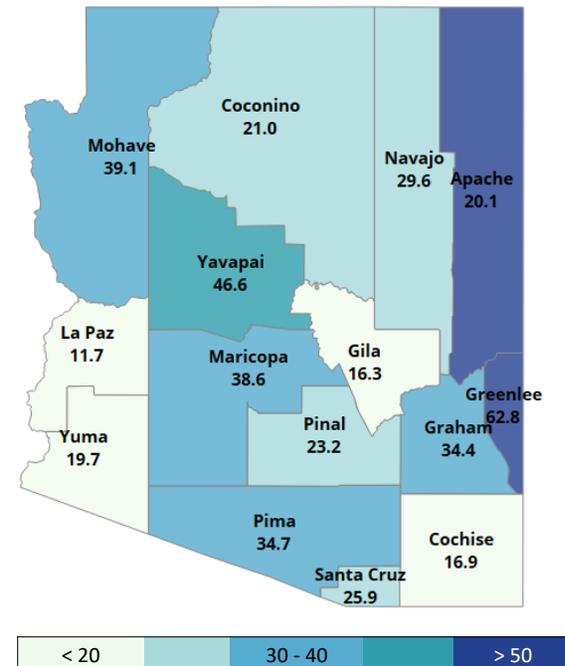
Alzheimer's disease is the 5th leading cause of death among Arizonans, and the 4th among those 65 years of age and older. More than 3,000 Arizonans lost their lives to Alzheimer's disease in 2017. Rates of Alzheimer's mortality among Arizonans remain above the national rate, slightly increasing over the past 5 years to 35.2 per 100,000. The age-adjusted mortality rate is higher among females (41.1) than males (31.1), and there is variation across Arizona counties. Greenlee County exhibited the highest rates of Alzheimer's disease mortality at 62.8, while La Paz County was the lowest at 11.7.

Alzheimer's Mortality Rate, Arizona & U.S., 2013 - 2017



ADHS Bureau of Vital Records

Arizona Alzheimer's Mortality Rate, by County, 2017

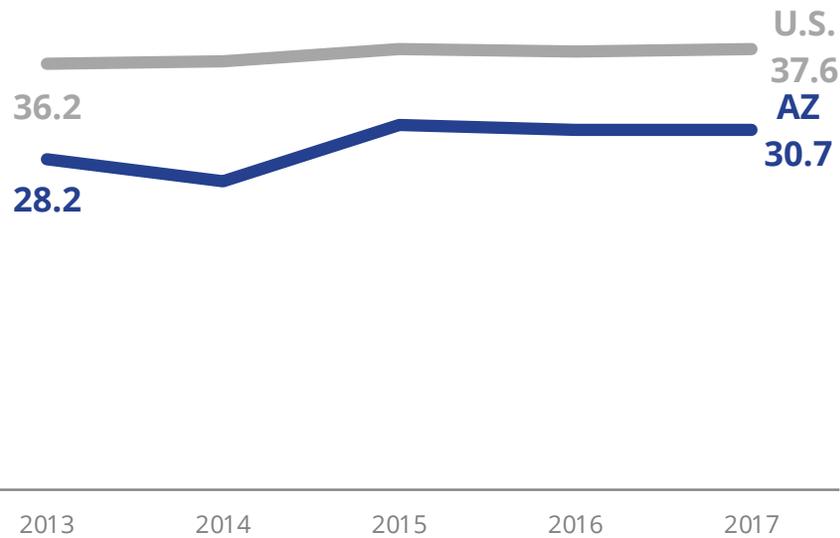


ADHS Bureau of Vital Records

Cerebrovascular Disease

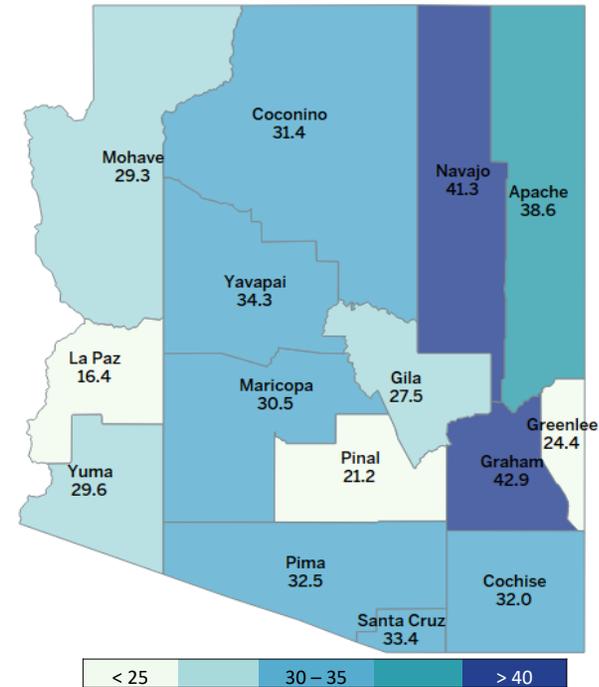
Historically, Arizona's rates of cerebrovascular disease mortality have remained below the national average. Over the last five years, cerebrovascular disease mortality has remained stable in Arizona with 2017 age-adjusted rates (30.7) remaining below the national average of 37.6 per 100,000 population. Cerebrovascular disease mortality varied across Arizona counties, with higher age-adjusted rates in the eastern-half of the state per 100,000 population, particularly Navajo (41.3) and Graham (42.9) Counties. La Paz County exhibited the lowest mortality rates at 16.4.

Cerebrovascular Disease Mortality Rate, Arizona & U.S., 2013 - 2017



ADHS Bureau of Vital Records

Arizona Cerebrovascular Disease Mortality Rate, by County, 2017

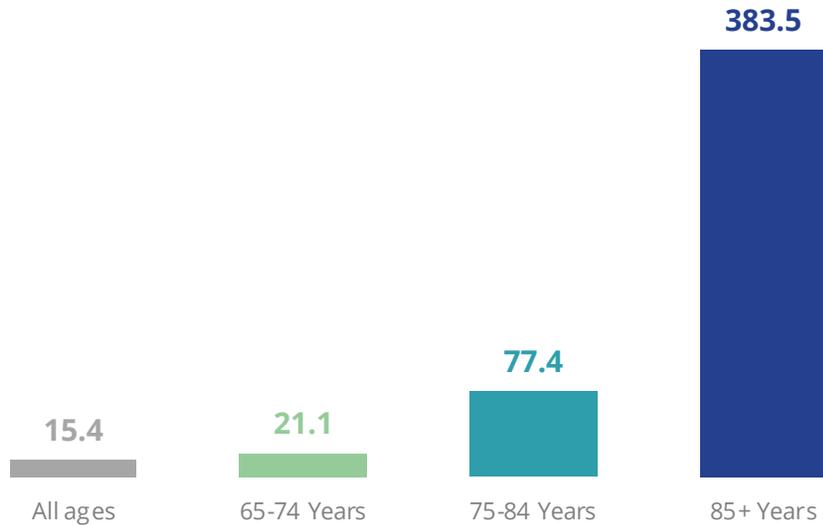


ADHS Bureau of Vital Records

Unintentional Injury

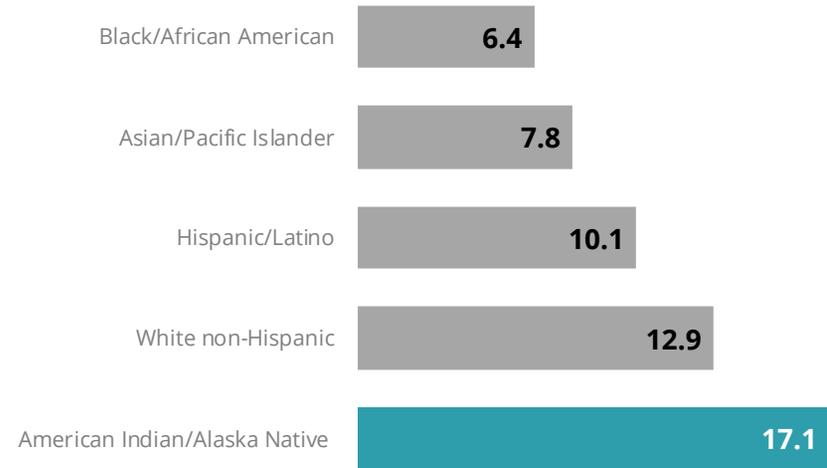
In older adults, unintentional injuries are commonly due to fall injuries. In 2017, 947 Arizonans age 65 and older died due to fall injuries, with the greatest impact in individuals age 85 and older. In this older group, the fall mortality rate is 18 times higher than those age 65-74. Fall injury-related mortality rates also exhibit racial and ethnic disparities. American Indian/Alaska Native individuals have the highest age adjusted fall injury-related mortality rates per 100,000 (17.1), followed by White non-Hispanic individuals (12.9). African American individuals experienced the lowest rate of fall injury-related mortality at 6.7.

Arizona Fall- Related Injury Mortality Rate, by Age, 2017



ADHS Bureau of Vital Records

Arizona Fall-Related Injury Mortality Rate, by Race & Ethnicity, 2017



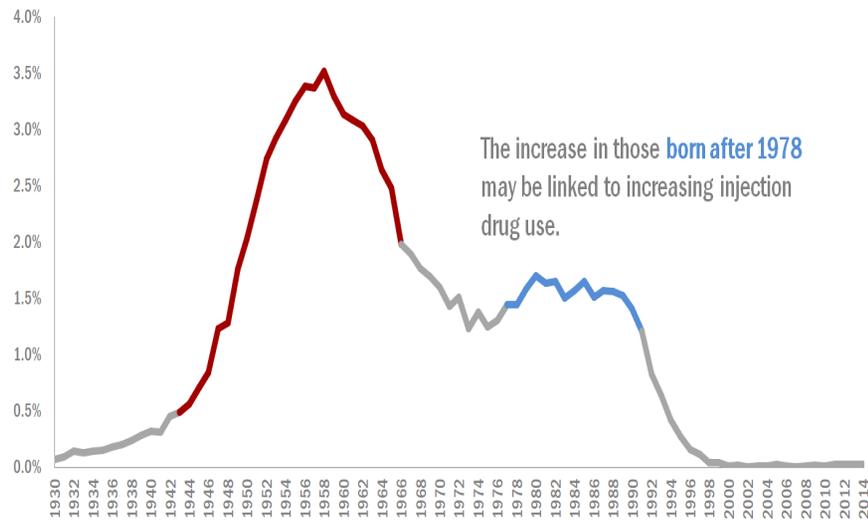
ADHS Bureau of Vital Records



Hepatitis C

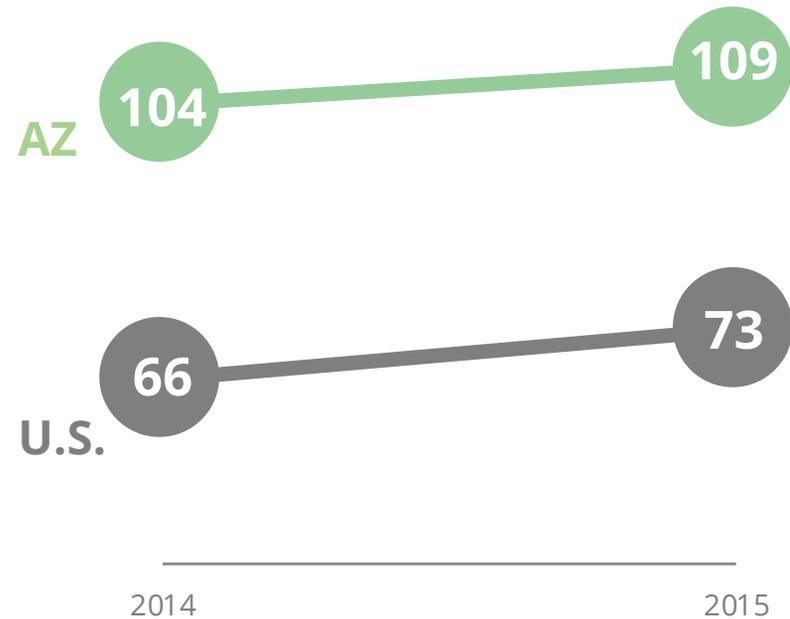
The percent of total cases of Hepatitis C diagnosed in the state by year of birth is highest among baby boomers. A cohort of individuals born after 1978 also shows higher rates of infection, which may be linked to increasing injection drug use. Rates of Hepatitis C are increasing nationally and in Arizona, with Arizona's rates consistently higher than the national rate.

Arizona Percent of Total Cases of Hepatitis C Diagnosed, by Year of Birth, 1998 - 2015



ADHS Epidemiology and Disease Surveillance

Hepatitis C Rate, Arizona & U.S., 2014 - 2015



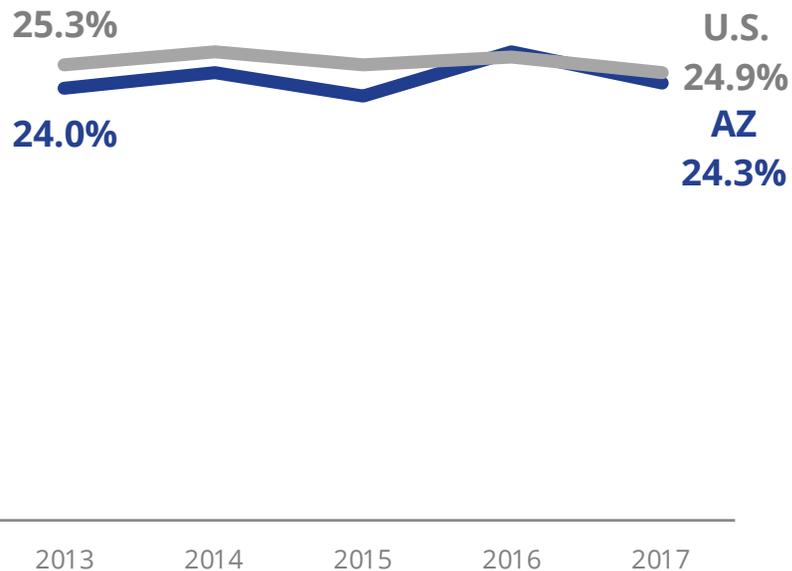
ADHS Epidemiology and Disease Surveillance



Arthritis

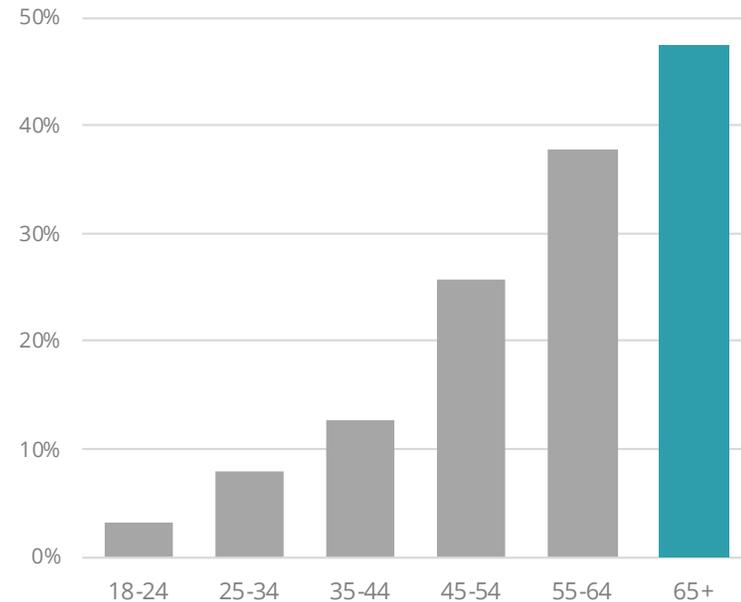
While arthritis can affect individuals of any age, its incidence rises with age and is more common among older adults. Almost 1 in 4 Arizonans reported living with arthritis in 2017. Among adults age 65 and older, this figure is almost 1 in 2. In 2017, the prevalence of arthritis was slightly lower in Arizona compared to the U.S.

Percent of Adults Who Reported Being Told They Have Arthritis, Arizona & U.S., 2013 - 2017



BRFSS

Percent of Arizona Adults Who Reported Being Told They Have Arthritis, by Age Group, 2017



BRFSS

Care Planning

In addition to healthy aging, the Assessment examines considerations of advance care planning. According to a 2018 statewide survey of 900 adults by phone on advance care planning, 92% of baby boomers indicated it is important to write down their wishes for medical care but only 45% replaced having completed a living will.⁵² A physician survey completed by the Arizona Medical Association and Arizona Osteopathic Association in 2017 found 37% of physicians routinely have discussions about end of life wishes for medical treatment with their elderly patients.⁵³

⁵² Arizona Statewide Survey, Public Opinion Strategies, August 2018.

⁵³ ArMA/AOMA Joint Physician Task Force, [End of Life Data, 2018 Physician Survey](#)

Arizona Populations

In Arizona, on average, **mortality** due to all causes for American Indians/Alaska Natives was **16 years younger** than the state

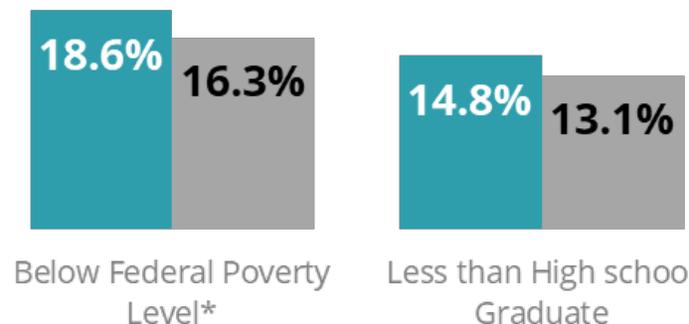
35.7%

of American Indians/Alaska Natives in Arizona live **below** the poverty level

93%

In 2017, the veteran suicide rate was 93% **higher** than that of the state's rate

The **Border Region** has a **higher** percentage of individuals living below the FPL and with less than a high school degree than the **Non-Border Region**



Arizona Populations

ADHS has identified several populations for which unique circumstances and health disparities warrant a more focused examination. These populations, tribal members, veterans, and those residing in the United States /Mexico Border Region, exhibit performance on a variety of health indicators that suggest there are opportunities to improve health outcomes through strategies that focus on health equity and address the particular needs of each population.

Tribal Health

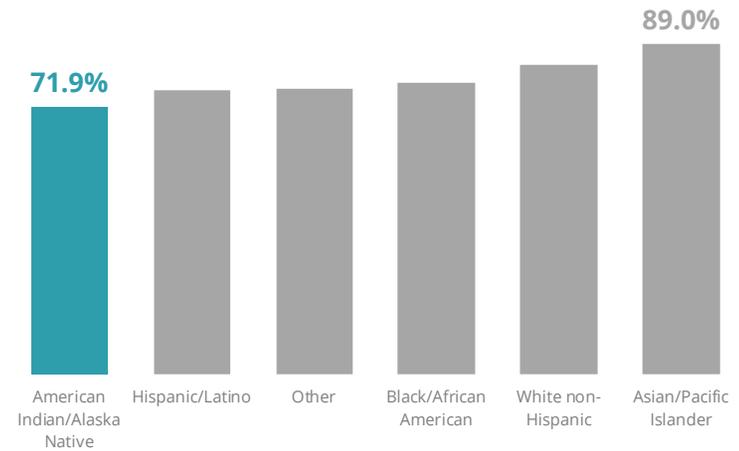
Arizona is home to 22 sovereign American Indian Tribes with [tribal land](#) comprising 28% of Arizona's land base. American Indian/Alaska Native Arizonans, accounting for 4% of the state's population, experience worse health outcomes than the rest of the population. Health department collaboration with tribal health offices, Indian Health Service area offices, the Inter Tribal Council of Arizona, and other agencies and entities providing direct or indirect public health services to American Indian/Alaska Native communities is vital to addressing disparities.

In Arizona, on average, mortality due to all causes for American Indians/Alaska Natives was 16 years younger than the state average. There are a variety of factors that contribute to this higher risk of early death, including social determinants of health, location of residence, and higher rates of chronic health conditions. Throughout this Assessment, ADHS has highlighted health disparities and their contributing factors for the American Indian/Alaska Native population.

The percent of American Indian/Alaska Native Arizonans who live below the Federal Poverty Level (35.7%) is more than twice that of all Arizonans (17%), which further exacerbates health disparities. When asked for their health status, American Indians/Alaska Natives were less likely to report being in very good or excellent health (71.9%), compared to other racial or ethnic groups.

Percent of Arizona Adults Who Reported Being in Very

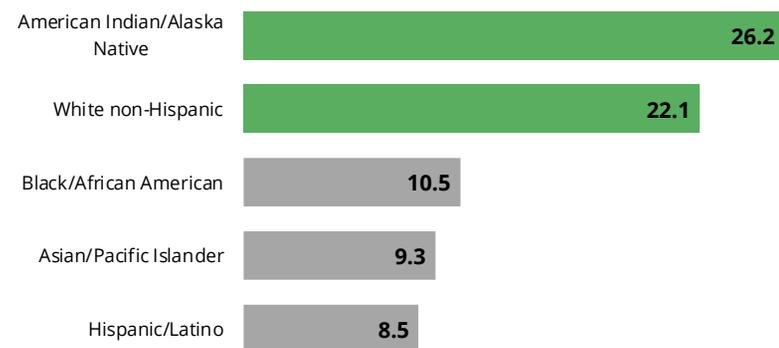
Good or Excellent Health, by Race & Ethnicity, 2017



BRFSS

A significant contributor to an individual's perception and report of overall health is their mental health and wellbeing. American Indian/Alaska Native individuals reported higher rates of frequent mental health distress (12.6%) than White non-Hispanic (12.2%) and Asians/Pacific Islanders (6.3%). In addition, American Indians/Alaska Natives had the highest age-adjusted rates of suicide in Arizona, at 26.2 deaths per 100,000 population, compared to a statewide average of 18.0.

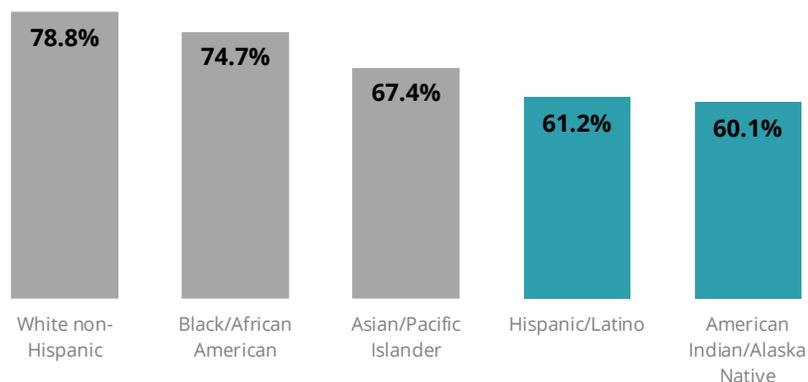
Arizona Suicide Mortality Rates, by Race & Ethnicity, 2017



ADHS Bureau of Vital Records

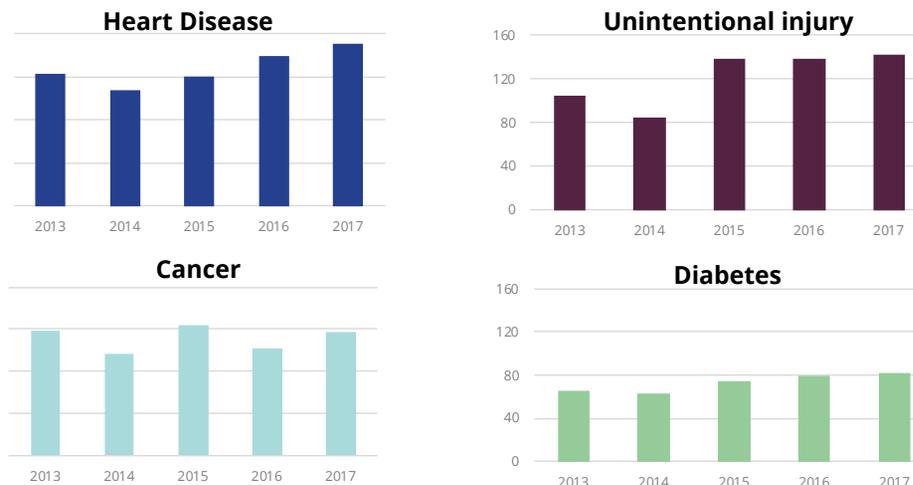
Across Arizona, having a usual source of care varies by race and ethnicity. White non-Hispanic Arizonans reported highest rates at 78.8%; among Hispanics and American Indians/Alaska Natives only about 60% report a usual source of care. This highlights that even availability of services such as those offered through Indian Health Services and tribally-operated facilities does not guarantee access to a usual source of care. In addition, as more American Indians/Alaska Natives reside in urban areas, access to these facilities is limited.⁵⁴ Other identified barriers include travel time to available facilities, lack of transportation, lack of access to culturally and linguistically appropriate providers, long wait times and limited access to preventive care, screening, and early treatment for health conditions.

Percent of Arizona Adults Who Reported Having a Usual Source of Care, by Race & Ethnicity, 2017



BRFSS

Leading Cause of Death Mortality Rates Among Arizona American Indians/Alaska Natives, 2013 - 2017



ADHS Bureau of Vital Records

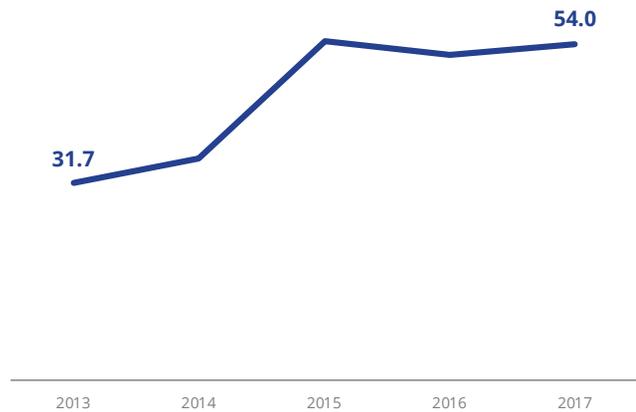
The leading causes of death for American Indians/Alaska Natives of all ages in Arizona include heart disease, unintentional injury, cancer, and diabetes. Mortality from heart disease exhibited a slight decrease from 2013 to 2014 but has risen each year since then. Unintentional injury mortality also decreased from 2013 to 2014 but then increased 66.3% from 2014 to 2017. Cancer mortality rates have fluctuated between 2013 to 2017, with rates remaining between 97 and 124.4 per 100,000 population in those 5 years. Finally, deaths due to diabetes have demonstrated a slight increase from 2013 to 2017 by approximately 24%.

Unintentional injury is the second leading cause of death among American Indians/Alaska Natives in Arizona with a mortality rate of 142 per 100,000 population in 2017. Motor-vehicle injury mortality makes up a significant portion of those deaths. The age-adjusted motor-vehicle mortality rate increased from 31.7 in 2013 to 54.0 in 2017.

54 Adakai M, Sandoval-Rosario M, Xu F, et al. Health Disparities Among American Indians/Alaska Natives — Arizona, 2017. MMWR Morb Mortal Wkly Rep 2018;67:1314–1318. DOI: <http://dx.doi.org/10.15585/mmwr.mm6747a4>

<https://www.cdc.gov/mmwr/volumes/67/wr/mm6747a4.htm#suggestedcitation>

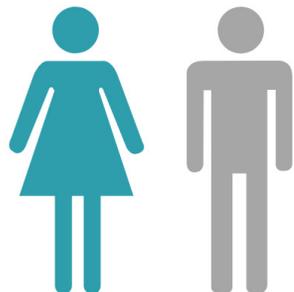
Motor-Vehicle Injury Mortality Rates Among Arizona American Indians/Alaska Natives, 2013 - 2017



ADHS Bureau of Vital Records

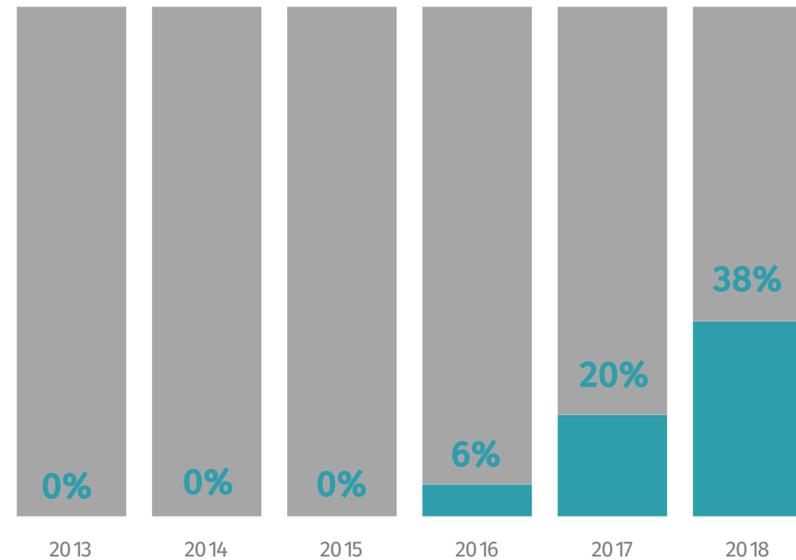
As prevention plays a key role in motor-vehicle injury, it is also vital in controlling sexually transmitted diseases. While STDs in Arizona have been increasing for years, syphilis rates are on the rise impacting American Indian/Alaska Native and Black/African American populations. There has been an astonishing 1,066% increase in female syphilis, and a corresponding increase in congenital syphilis cases who are American Indian/Alaska Native, rising from 0% to 38% in just three years.⁵⁵

Whereas 1 in 4 syphilis cases statewide are female, 1 in 2 American Indian/Alaska Native syphilis cases are female.



55 Preliminary 2018 data.

Percent of Total Arizona Congenital Syphilis Cases Among American Indians/Alaska Natives, 2018



ADHS STD Surveillance, 2018

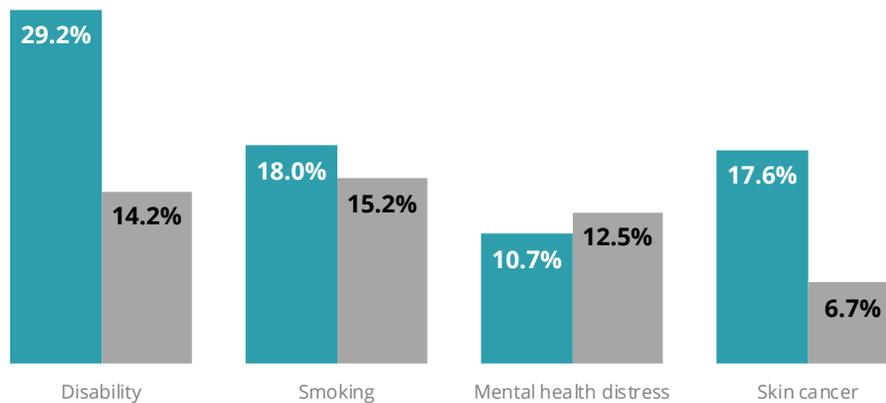


Veterans

Almost half a million veterans reside in Arizona, with the largest percentage (37%) from the Vietnam War era. Veterans across the country exhibit higher rates of many common conditions including disability and skin cancer, as well as reporting higher rates of smoking. These indicators demonstrate clear opportunities to improve health outcomes in veterans, but that targeted efforts may be needed to address the unique needs of this population.

Percent of Arizona Adults Who Reported Having a Disability, Current Smoking, Mental Health Distress, and Skin Cancer, Veterans & Non-Veterans, 2013 - 2017, 2017

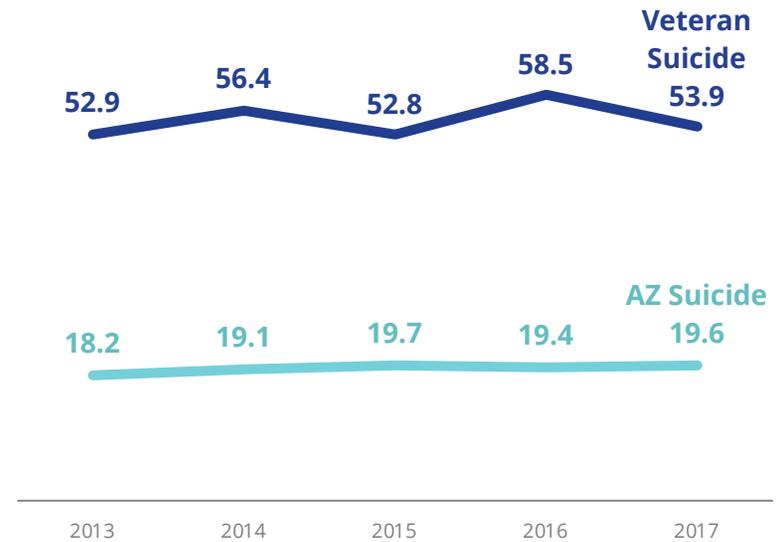
Veterans & Non-Veterans



U.S. Census Bureau, American Community Survey 5-year period estimates and BRFSS

Veteran suicide rates per 100,000 population in Arizona (including both residents and non-residents who died by suicide in Arizona) are elevated when compared with those in the Arizona general population. In 2017, the veteran suicide rate was 93% higher than that of the state suicide rate.

Arizona Suicide Rate, Veteran & Arizona, 2013 - 2017



ADHS Bureau of Vital Records

Border Health

The United States/Mexico border is comprised of the four U.S. states of Arizona, California, New Mexico, and Texas. In Mexico, it is comprised of the six states that include Baja California, Sonora, Chihuahua, Coahuila, Nuevo Leon, and Tamaulipas. The U.S./Mexico border spans almost 2,000 miles from the Pacific Ocean in the west to the Gulf of Mexico to the east. U.S. Public Law 103-400, the act cited as the "United States/Mexico Border Health Commission Act," defines the U.S./Mexico Border Area as "the area located in the United States and Mexico within 100 kilometers of the border between the United States and Mexico."⁵⁶ The Border Area has a majority Hispanic/Latino population and faces unique socioeconomic challenges affecting access to care and health disparities.⁵⁷ The Border Area is characterized by high unemployment, high poverty rates,

⁵⁶ United States/Mexico Border Health Commission, [Access to Health Care in the U.S.-Mexico Border Region: Challenges and Opportunities A White Paper](#). November 2014.

⁵⁷ Ibid.

and lack of insurance.⁵⁸ Chronic diseases such as diabetes and obesity, maternal and child health outcomes, and infectious diseases are significant public health concerns in this region. The prevalence for diabetes along the border region is nearly 50% higher than the rest of the U.S.⁵⁹ With the greatest majority of Hispanics residing on the border, Hispanics are more vulnerable to suffering the burden of diabetes and other chronic conditions.⁶⁰

Arizona is one of the four United States/Mexico border states, sharing its southern border with the state of Sonora, Mexico. The southern area of Arizona is comprised of four border counties (Cochise, Pima, Santa Cruz, and Yuma), and there are six ports of entry along the 378-mile border.⁶¹ All four counties are predominantly considered medically underserved and health provider shortage areas.⁶² The Arizona section of the United States-Mexico border is also home to federally recognized tribes, such as the Cocopah, Tohono O’odham Nation, Pascua Yaqui, and the Quechan.⁶³

To characterize border health indicators in Arizona, we compared two regions: the 4-county Arizona Border Region, as outlined above, and the remaining 11 counties, which are considered the Non-Border Region.

When comparing selected demographics and socio-demographic characteristics across regions, the Border Region had a higher percent of Hispanics (25.0% vs. 41.9%) and individuals who spoke a language other than Spanish (33.9% vs. 25.2%), compared to the Non-Border Region. In addition, the Border Region had a higher percent of individuals living below the Federal Poverty Level (FPL) (18.6% vs. 16.3%) and individuals with less than a high school degree

58 Ibid.

59 Robinson KL, Ernst KC, Johnson BL, Rosales C. Health status of southern Arizona border counties: A healthy border 2010 midterm review. *Revista Panamericana de Salud Publica*. 2010;28(5):344-352.

60 Ibid.

61 Ibid.

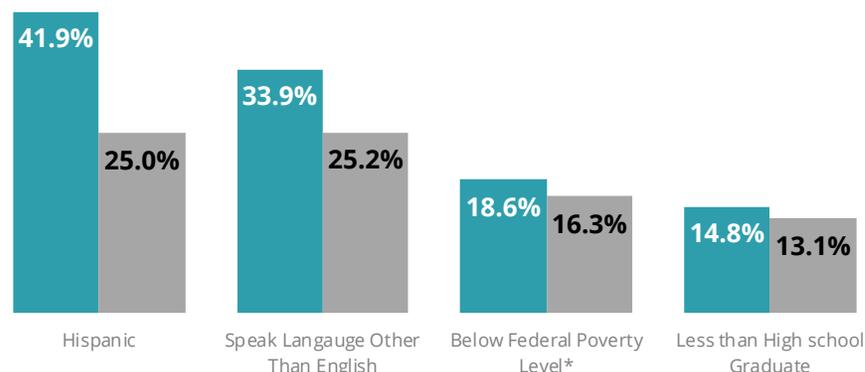
62 United States-México Border Health Commission, [Access to Health Care in the U.S.-México Border Region: Challenges and Opportunities A White Paper](#). November 2014.

63 Ibid.

(18.6% vs. 14.8%), compared to the Non-Border Region.

Percent of Arizonans with Selected Characteristics: Ethnicity, Language Spoken, Poverty, Educational Attainment, by Regions, 2013 - 2017

Border Region & Non-Border Region



U.S. Census Bureau, American Community Survey 5-year period estimates

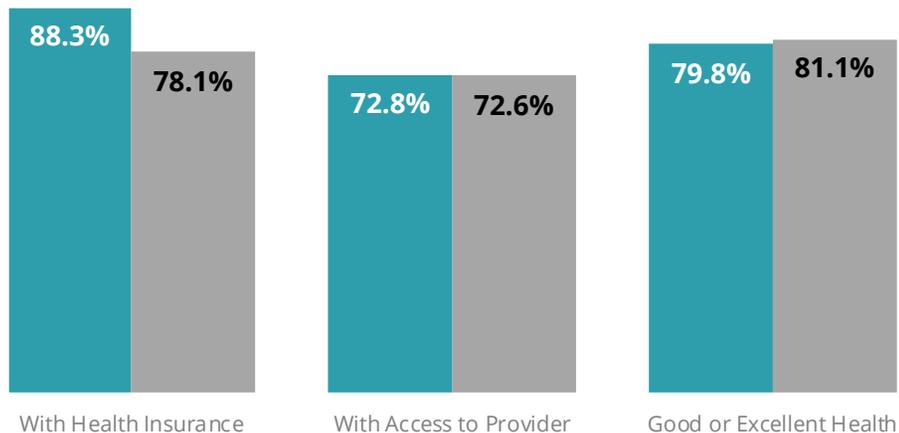
In 2017, the percent of Arizona adults who reported having health insurance (88.3% vs 78.1%) and access to a healthcare provider (72.8% vs. 72.6%) was greater among the Border Region, compared to the Non-Border Region. Although having health insurance and access to a provider was greater among the Border Region, there were differences across border counties, with Yuma County reporting the lowest prevalence of health insurance (79.1%) and access to a healthcare provider (65.9%).

Self-assessed health status has been validated as a useful indicator of health among different populations and allows for broad comparisons across a variety of health conditions.⁶⁴ In 2017, the percent of individuals reporting their health as good or excellent was lower among the Border Region (79.8%) compared to the Non-Border region (81.1%), with Yuma County reporting the lowest prevalence (76.6%).

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

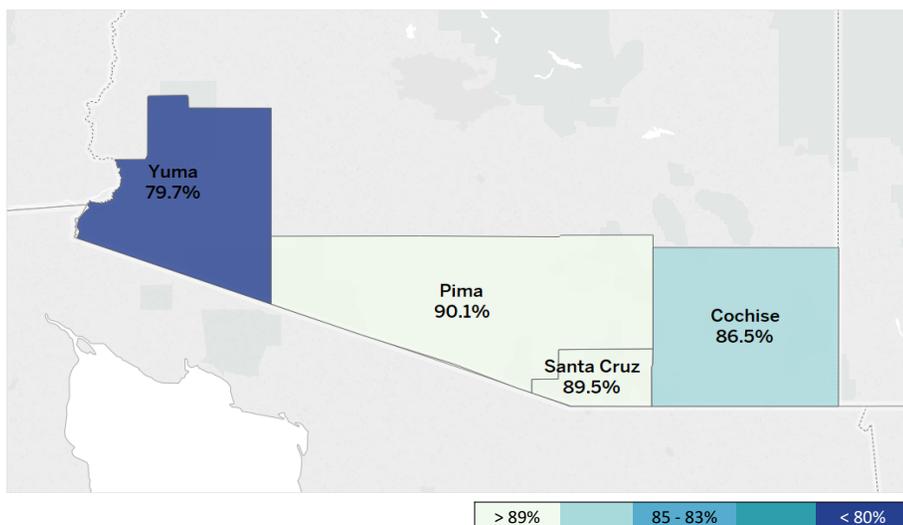
Percent of Arizona Adults Who Reported Having Health Insurance, Access to a Healthcare Provider, Being in Good or Excellent, by Region, Arizona, 2017

Border Region & Non-Border Region



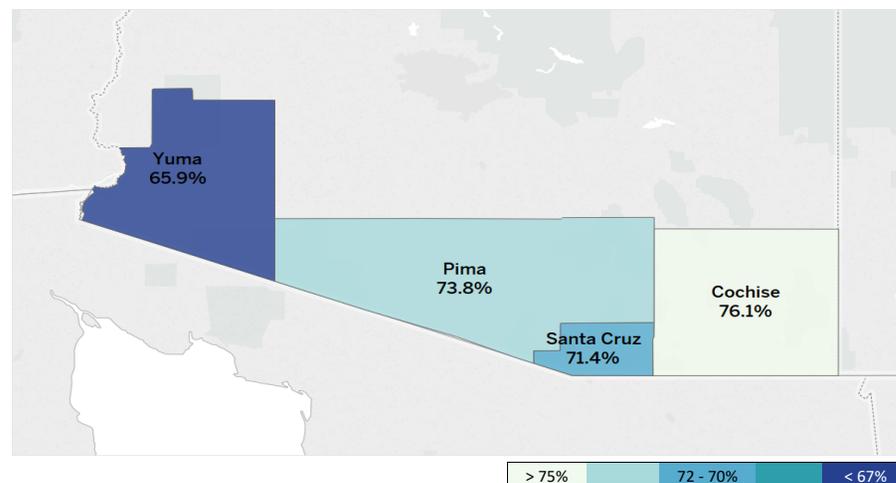
BRFSS

Percent of Arizona Adults Who Reported Having Health Insurance, by Border County, Arizona 2017



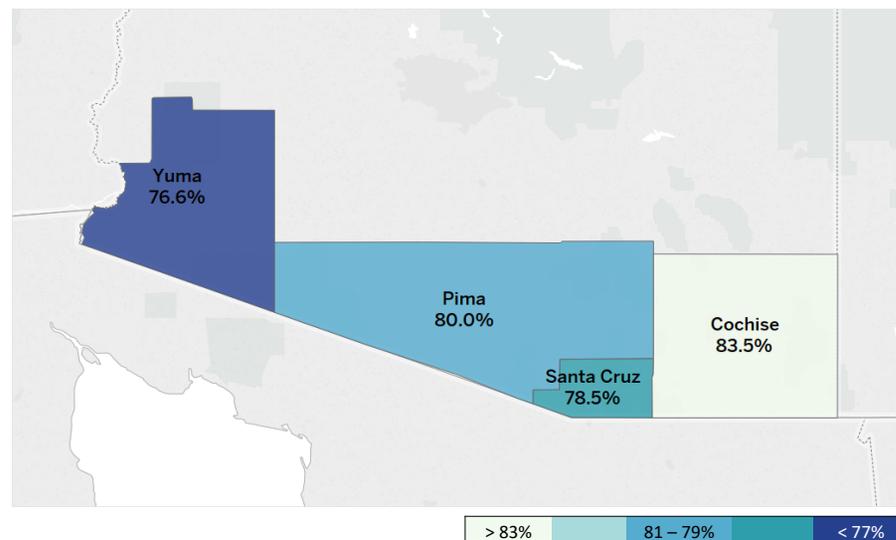
BRFSS

Percent of Arizona Adults Who Reported Having Access to a Healthcare Provider, by Border County, Arizona 2017



BRFSS

Percent of Arizona Adults Who Reported Being in Good or Excellent Health, by Border County, Arizona 2017

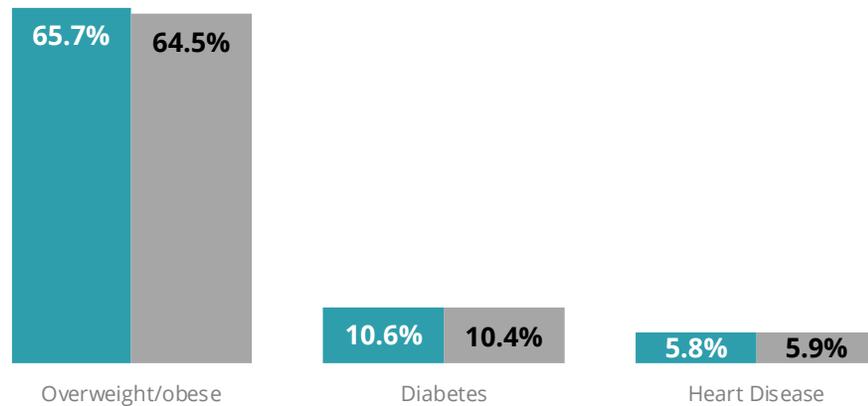


BRFSS

In 2017, the prevalence of individuals reporting being overweight/obese (65.7% vs. 64.5%) and having diabetes (10.6% vs. 10.4%) was greater among the Border Region, compared to the Non-Border Region. The prevalence of heart disease, those individuals who reported they had been diagnosed with coronary heart disease or myocardial infarction, was slightly higher within the Non-Border Region.

Percent of Arizona Adults Who Reported Being Overweight/Obese, Having Diabetes, or Having Heart Disease, by Region, Arizona, 2017

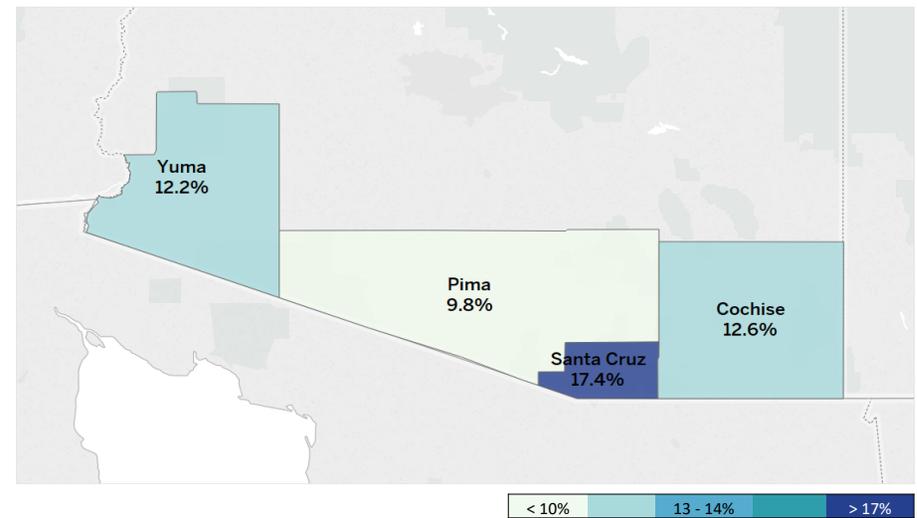
Border Region & Non-Border Region



BRFSS

Diabetes is a significant public health problem on the border. When examining the percent of Arizona adults who reported having diabetes across border counties, Santa Cruz (17.4%), Cochise (12.6%) and Yuma (12.2%) counties reported a higher prevalence of diabetes, compared to the Border and Non-Border Regions (10.5%).

Percent of Arizona Adults Who Reported Having Diabetes, by Border County, Arizona 2017



BRFSS

When examining the causes of death among regions, the top four causes of death for both regions remained the same in 2017. However, cerebrovascular disease ranked as the fifth leading cause of death for the Border Region, while Alzheimer's disease ranked the fifth leading cause of death for the Non-Border Region. Diabetes remained the seventh leading cause of death for both regions.

Leading Causes of Death by Region, Arizona, 2017

| Rank | Border Region | Non-Border Region |
|------|-----------------------------------|---|
| 1 | Heart Disease | Heart Disease |
| 2 | Cancer | Cancer |
| 3 | Unintentional Injury | Unintentional Injury |
| 4 | Chronic Lower Respiratory Disease | Chronic Lower Respiratory Disease |
| 5 | Cerebrovascular Disease | Alzheimer's Disease |
| 6 | Alzheimer's Disease | Cerebrovascular Disease |
| 7 | Diabetes | Diabetes |
| 8 | Suicide | Suicide |
| 9 | Liver Disease | Liver Disease |
| 10 | Influenza & Pneumonia | Essential (Primary) Hypertension & Hypertensive Renal Disease |

All age group rank 1 2 3 4 5

ADHS Bureau of Vital Records



Healthy Communities

Providers **needed** to eliminate Arizona HPSAs



605 Physicians
456 Dentists
233 Psychiatrists

The ratio of population to PCPs in **urban** areas is

2,407:1

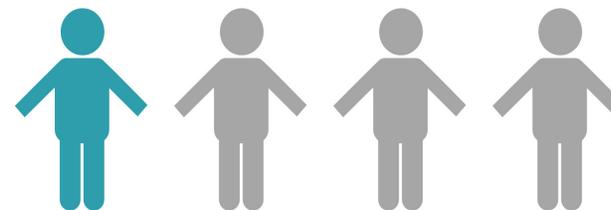
compared to

3,896:1

in **rural** Arizona



Only **2%** of Arizonans use public transportation, and **77%** drive to work alone



Almost **1** in **4** of Arizona's children are living below the federal poverty level



Homelessness in Arizona increased almost **10%** from 2017 to 2018

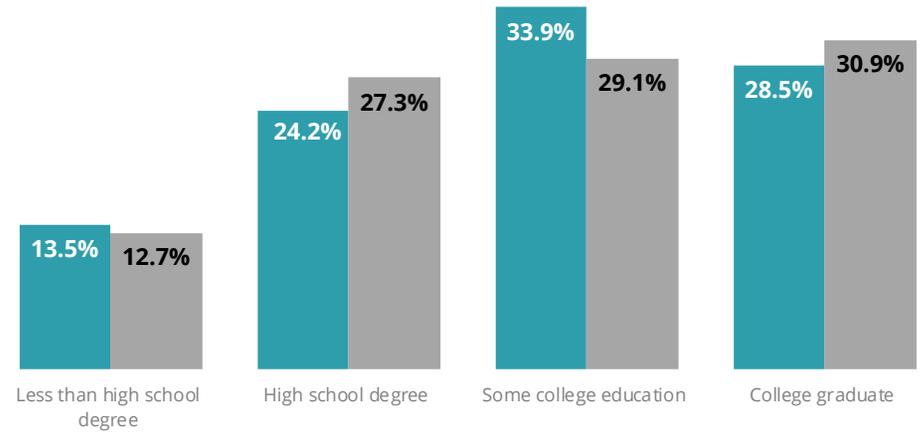
Healthy Communities

As previously mentioned, social factors play a critical role in influencing health outcomes, life expectancy, and Years of Potential Life Lost (YPLL). Returning to the leading causes of death by age group, particularly for Arizonans between the ages of 1 and 44, social factors are a significant contributor to early death. For these age groups, unintentional injury, suicide and homicide are in the top 5 causes of death and are largely preventable. Addressing social determinants such as unemployment, economic and neighborhood instability, food and housing insecurity, and the built environment can add years to the lives of Arizonans.

Economic Security

In 2013 - 2017, Arizona had a higher proportion of both lower and higher educated residents than the nation as a whole. A higher portion of Arizona's population reports an education level less than a high school degree than the national average (13.5% compared to 12.7%) but the percentage of those who are college graduates is also higher than the national average. Among those who identify as Hispanic, the percent of those without a high-school degree is almost twice the statewide average at 34%. American Indians/Alaska Natives also have a higher percentage of those without a high-school degree at 23%. Yuma County reports the highest percentage of residents with less than a high-school degree at 28.4%.

Percent of Adults, by Educational Attainment, Arizona & U.S., 2013 - 2017

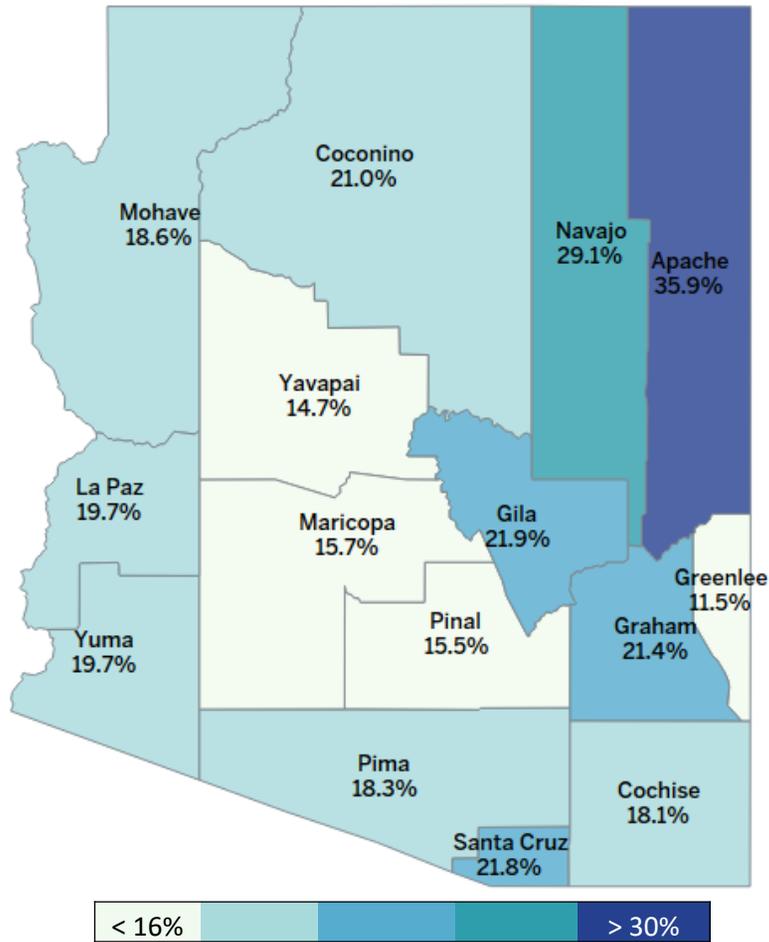


U.S. Census Bureau, American Community Survey 5-year period estimates

A high proportion of Arizona residents were living in poverty. Statewide, in 2013 - 2017, 17% of Arizonans are living below the Federal Poverty Level, which is higher than the national estimate of 15.1%. This figure also varies widely across the state. County rates range from 11.5% in Greenlee County to 35.9% in Apache County.



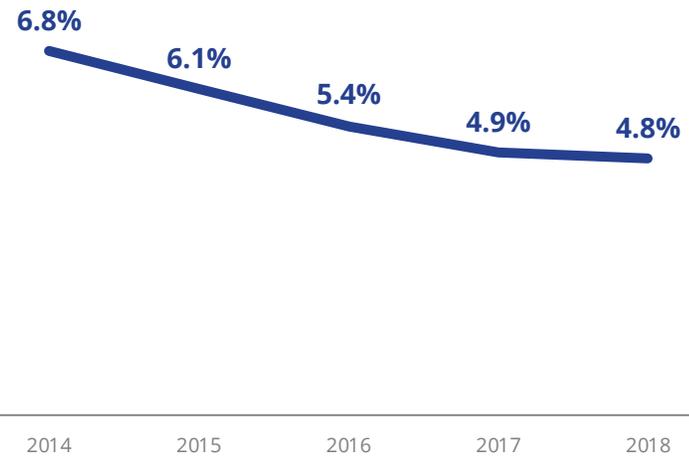
Percent of Arizona Adults Living Below the Federal Poverty Level, by County, 2013 - 2017



U.S. Census Bureau, American Community Survey 5-year estimates

Arizona has experienced a sharp decline in unemployment since reaching a high of over 10% in 2010. When comparing unemployment annual estimates, Arizona's rate has declined from 6.8% in 2014 to 4.8% in 2018.

Arizona Unemployment Rate, 2014 - 2018

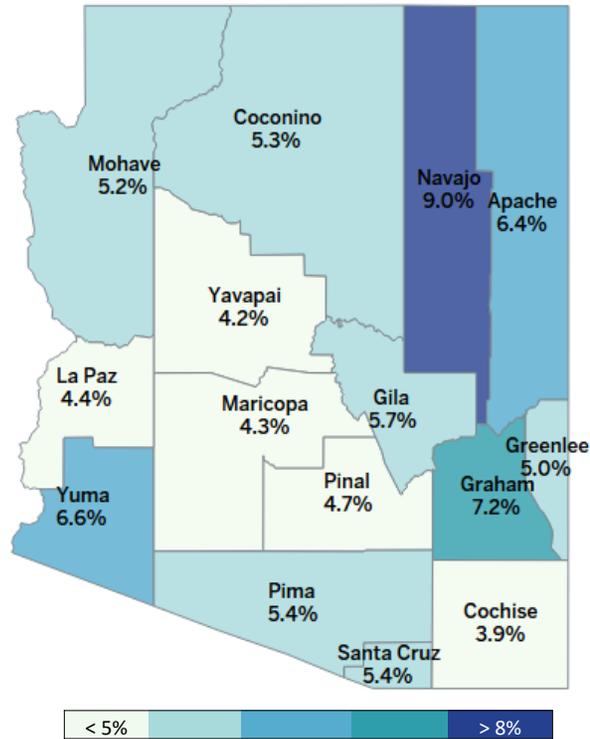


U.S. Bureau of Labor Statistics

As of January 2019, the seasonally-adjusted unemployment rate in the U.S. was 4.0% and 5.1% in Arizona. In January 2019, the Arizona unemployment, not seasonally adjusted, was 5.7%. As with poverty, the unemployment rate also differs across the state. County rates, not seasonally-adjusted, ranged from 4.9% in Maricopa County to more than triple that in Yuma County (15.3%).



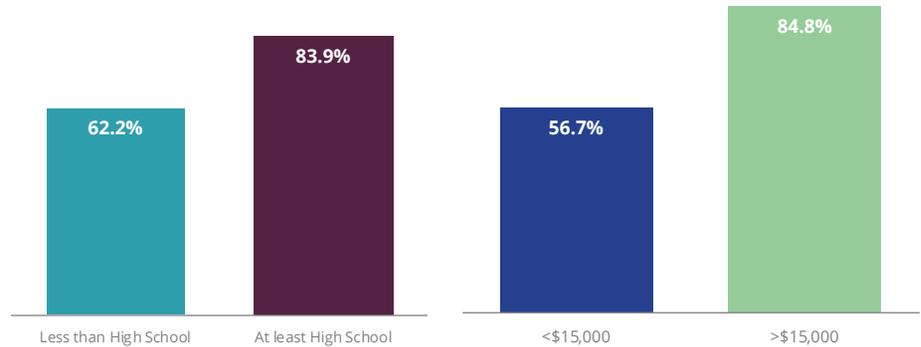
Percent of Arizona Adults Who Are Unemployed, by County, January 2019



U.S. Department of Labor, Bureau of Labor Statistics

Employment status and education level correlate to health status. Arizonans with at least a high school degree reported good health status at significantly higher rates than those with less than a high school education (83.9% compared to 62.2%, respectively). Individuals with incomes greater than \$15,000 reported good health status at an almost 50% higher rate than those with incomes below that level.⁶⁵

Percent of Arizona Adults Reporting Overall Good Health Status, by Educational Attainment and Income, 2017



BRFSS

Almost one in four (24%) Arizona children live below the Federal Poverty Level, compared to one in five nationally. This varies across the state, with the highest rates of child poverty in Apache County (45.3%) and Navajo County (38.6%). Almost one-third (30.3%) of Arizona’s children live in households that are receiving Supplemental Security Income (SSI), cash public assistance or Food Stamp/SNAP benefits.

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) provides nutrition education, breastfeeding support, and supplemental foods to low-income pregnant and postpartum women, infants, and children under the age of 5. In 2017, the Arizona WIC Program served 136,852 women, infants, and children of an estimated 280,829 that were eligible. The penetration rate (percent of eligible served) has been steadily declining since 2011, with a high of 62% to a current low of 49% in 2017. Navajo Nation WIC and the Inter Tribal Council of Arizona WIC, serve an estimated 8% of the eligible population in Arizona.

⁶⁵ This income figure, \$15,000 represents total household income, regardless of family size. On an individual level, this figure would equate to respondents who make less than 138% of the Federal Poverty Level, which is the eligibility level for the state’s Medicaid program.

Food Insecurity

The U.S. Department of Agriculture defines food insecurity as reports of reduced quality, variety, or desirability of diet. Very low food insecurity is characterized by “multiple indications of disrupted eating patterns and reduced food intake.”⁶⁶ From 2015-2017, food insecurity in Arizona averaged 13.1% compared to 12.3% nationally. Arizona consistently has a higher percentage of households reporting food insecurity than the national average. According to the American Academy of Pediatrics, children who live in food insecure households are “likely to be sick more often, recover from illness more slowly, and be hospitalized more frequently.”⁶⁷

Prevalence of Household-Level Food Insecurity, Arizona & U.S., 2007 - 2017



2007-2009 2010-2012 2013-2015 2015-2017

USDA, Economic Research Service

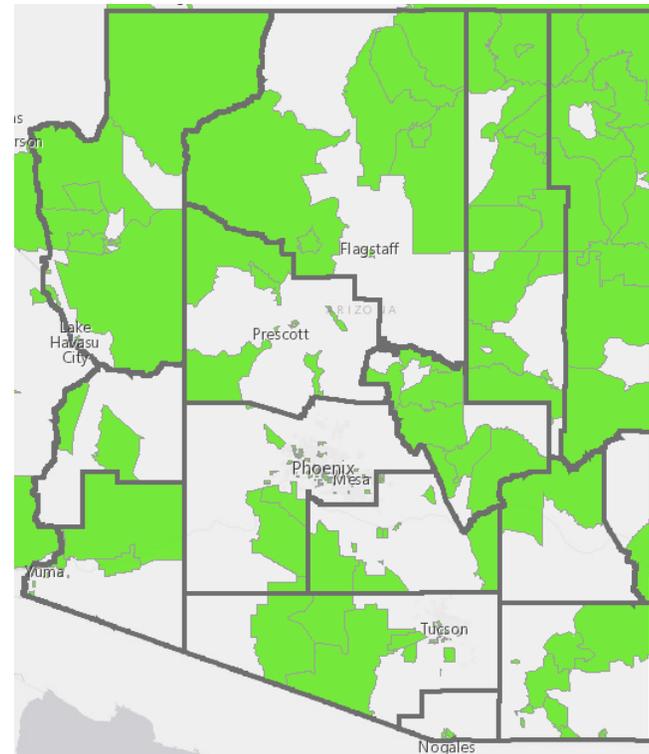
There are a variety of indicators that impact food insecurity, including family, poverty, and access to healthy food and fresh produce. A lack of access to healthy food and fresh produce negatively impact low-income individuals who do not have the means to travel to access those foods. The aging population is impacted by food insecurity and a lack

⁶⁶ United States Department of Agriculture, Economic Research Service, Definitions of Food Security. x

⁶⁷ American Academy of Pediatrics, Council on Community Pediatrics, Committee on Nutrition, Policy Statement. [Promoting Food Security for All Children](#). Volume 136, Issue 5, November 2015.

of transportation to access healthy foods can contribute to this.

Low Income and Low Food Access, by Census Tract



USDA, Economic Research Service, using data from the December 2015, 2016, and 2017 Current Population Survey Food Security Supplements. USDA ERS Food access by census tract, 2015

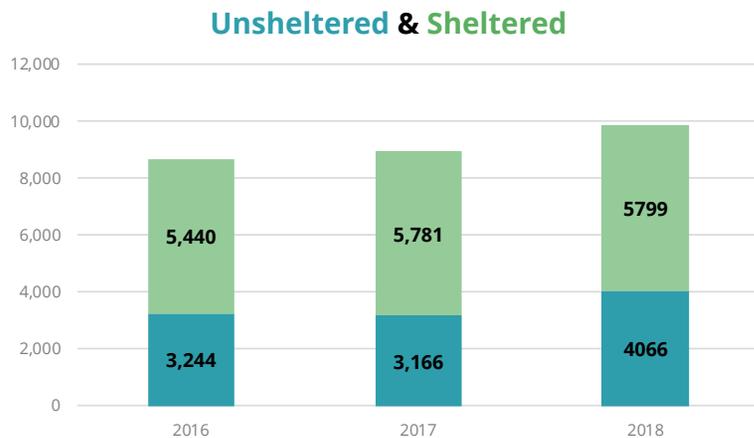


Housing, Neighborhoods, and Social Cohesion

Lack of access to safe, stable and affordable housing and safe and secure neighborhoods are other contributing factors to poor health outcomes.^{68,69}

Homelessness is one indicator demonstrating a lack of available and affordable housing, although the contributing factors to individuals experiencing homelessness are myriad and complex. The Arizona Point in Time (PIT) survey is a one-night snapshot of homelessness in Arizona. In 2018, the PIT survey identified almost 10,000 sheltered and unsheltered individuals experiencing homelessness, an increase of almost 10% from the prior year. Across Arizona, single, male individuals represent the largest group of individuals experiencing homelessness, but families represented 27% of the total individuals counted. There were 786 veterans identified as homeless.

Estimated Homeless Individuals in Arizona, Sheltered and Unsheltered, 2016 - 2018



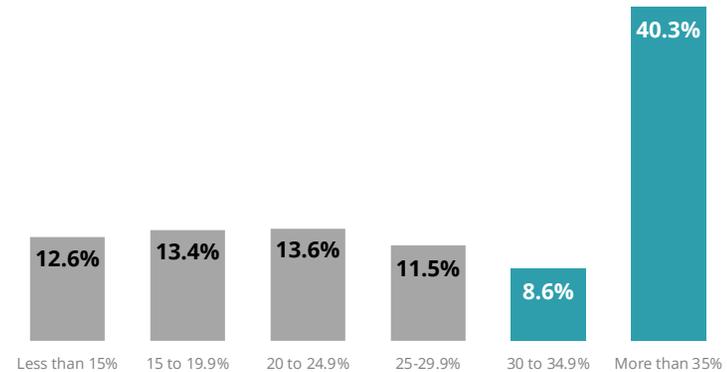
Arizona Department of Economic Security Annual Report on Homelessness

68 Braveman P, Cubbin C, Egerter S, and Pedregon V. Robert Wood Johnson Foundation, Exploring the Social Determinants of Health, *Neighborhoods and Health*, May 1, 2011.

69 ASTHOR report, *Cross-Sector Partnerships to Improve Health and Housing Outcomes*, Resource Guide. October 2018.

Affordable housing is also a significant issue in Arizona and across the nation. Housing expenditures measured as exceeding 30% have historically been viewed as an indicator of a lack of housing affordability.⁷⁰ In 2013 - 2017, one in two Arizonans paid gross rent of 30% or more of their household income, with 40.8% paying 35% or more. Currently, 225,000 low-income households pay more than half their income for housing, which is 27% more than in 2007.⁷¹

Gross Rent as a Percentage of Household Income, Arizona 2013 - 2017



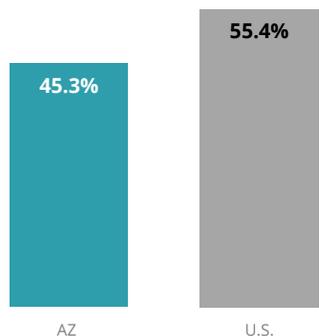
U.S. Census Bureau, American Community Survey 5-year period estimates

How residents view their neighborhood is an important indicator of social cohesion. The 2016-2017 Combined National Survey of Children's Health examined parents' views of whether they believe their children live in supportive neighborhoods, measured by views of whether neighbors help each other out, watch each other for each other's children and have community resources in times of need. Only 45.3% of Arizona's adults believe their children live in a supportive neighborhood, compared to 55.4% nationally. Almost 60% definitely agree their neighborhood is safe, and another 32.4% somewhat agree.

70 Housing Affordability: Myth or Reality? Wharton Real Estate Center Working Paper, Wharton Real Estate Center, University of Pennsylvania, 1992

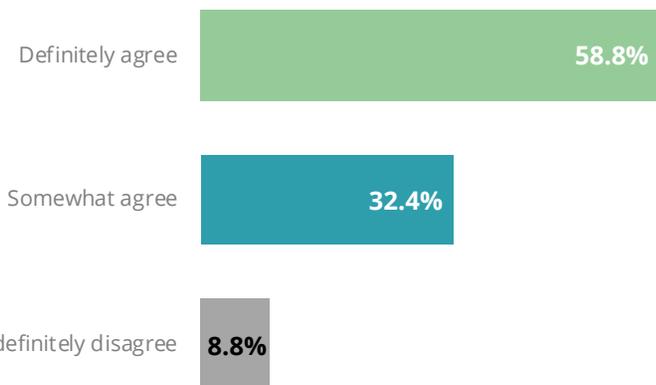
71 Center on Budget and Policy Priorities, *Arizona Fact Sheet: Federal Rental Assistance*.

Percent of Adults Who Believe Their Children Live in a Supportive Neighborhood, Arizona & U.S. 2016 and 2017



National Survey of Children's Health

Percent of Arizona Adults Who Believe Their Children Live in a Safe Neighborhood, 2016 and 2017



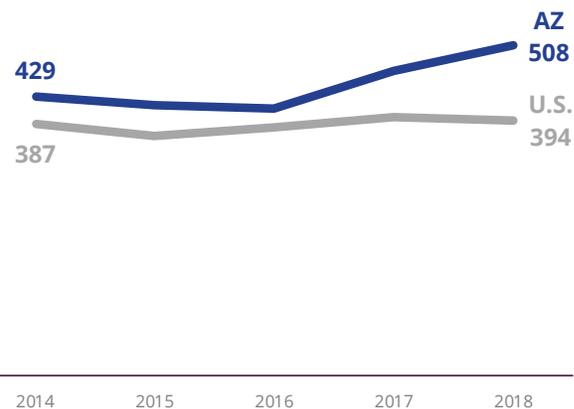
National Survey of Children's Health

Arizona is in the top 10 states with the highest rates of violent crime, with a rate of 508 per 100,000 population, compared to the national average of 395.⁷² These crime rates include murder, rape, robbery, and aggravated assault offenses. Violent crime impacts families, neighborhoods and communities and can cause both physical harm and social and emotional distress. At least 1,087 residents sought treatment for sexual assault and violence-related injury in 2017. Examining rates of hospital discharges for

⁷² [America's Health Rankings](#) analysis of U.S. Department of Justice, Federal Bureau of Investigation, United Health Foundation, Accessed 2019.

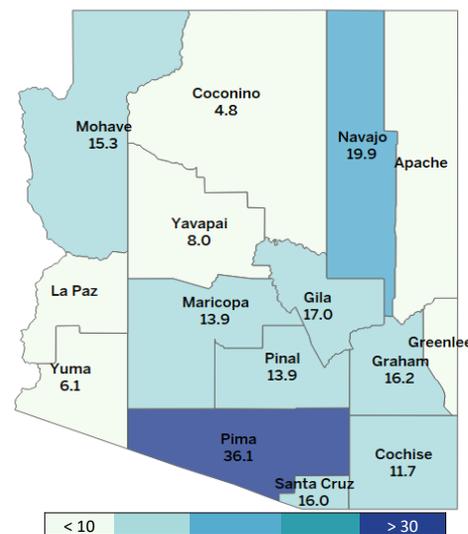
sexual assault and violence-related injury show significant geographic distribution in those rates across the state. Pima County exhibited the highest hospital discharge rates at 36.1. Across racial groups, Black/African American Arizonans exhibited the highest rates at 30.2 discharges per 100,000.

Violent Crime Rate, Arizona & U.S. 2014 - 2018



US Department of Justice, Federal Bureau of Investigation

Arizona Sexual Assault and Violence Related Injury Hospital Discharge Rates, by County, 2017

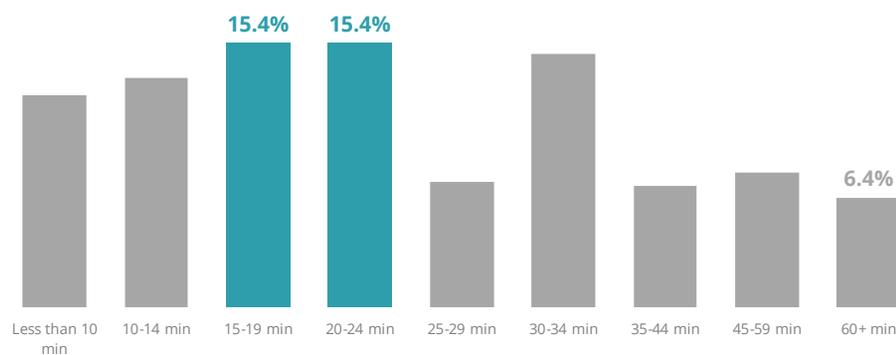


Arizona Hospital Discharge Data

Transportation issues have a variety of impacts on the health outcomes of Arizonans. Individuals who have long commutes to work have more sedentary car time, while those who use public transportation tend to get more physical activity. More cars on the road lead to congestion, stress, and worse air quality. Communities that are walkable, bikeable, and transit-oriented have healthier populations.⁷³ In Arizona, only 10% of all trips over 10 minutes are made by foot or bicycle.⁷⁴

For Arizonans, travel time to work is widely distributed, with mean travel time being 25 minutes. Only 2% use public transportation and 77% drive to work alone.

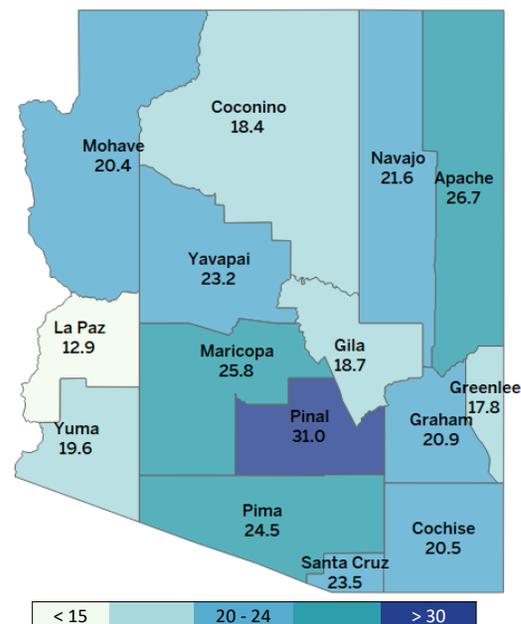
Mean Travel Time to Work Among Arizona Adults, 2013 - 2017



U.S. Census Bureau, American Community Survey 5-year period estimates

Commute times vary across the state. Pinal County reports the average commute time at 31.0 minutes, while La Paz commuters only travel 12.9 minutes on average.

Mean Travel Time to Work Among Arizona Adults, by County, 2013 - 2017



U.S. Census Bureau, American Community Survey 5-year period estimates

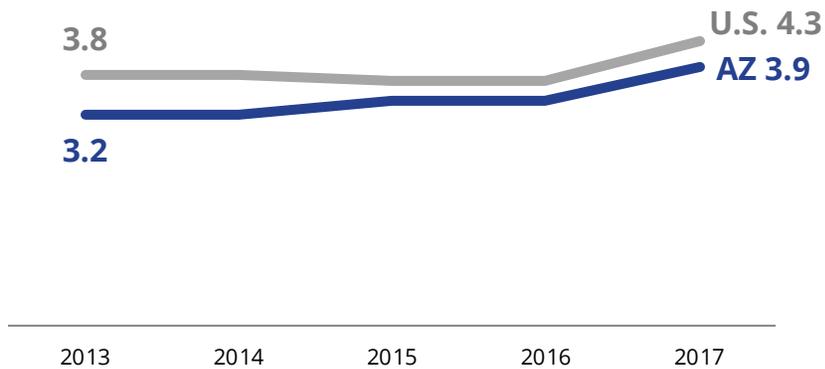
Occupational fatalities, the number of fatal occupational injuries in construction, manufacturing, trade, transportation, utilities, and professional and business services per 100,000 workers, are an important indicator of worksite safety and health. The highest rates of fatal work injury are reported in the occupations of farming, fishing, and forestry, followed by transportation and moving material.⁷⁵ Arizona ranks 10th in America's Health Rankings on this indicator with the rate of occupational fatalities continuing to fall below the national average, increasing slightly from 2013 to 2017.

73 Centers for Disease Control and Prevention, [More People Walk to Better Health](#)

74 U.S. Department of Transportation, [Health Tool Indicators](#)

75 U.S. Bureau of Labor Statistics, Census of Fatal Occupational Injuries (CFOI) - Current and Revised Data <https://www.bls.gov/iif/oshcfoi1.htm>

Occupational Fatality Rate, Arizona & U.S., 2013 - 2017



BLS, Census of Fatal Occupational Injuries & Bureau of Economic Analysis

Breathing in unhealthy air has been linked to a wide range of health effects including increased emergency room visits, respiratory diseases (e.g., asthma and changes in lung function), cardiovascular diseases, adverse pregnancy outcome (e.g., preterm birth), and even death.⁷⁶

In Arizona, air quality is monitored and regulated by local, state, and federal government agencies. The historical monitoring results indicates that ozone, PM (particulate matter), and sulfur dioxide (SO₂) are the primary pollutants causing poor air quality in Arizona. The most affected areas are concentrated in urbanized parts of Arizona such as [Maricopa County and Pinal County](#). The Phoenix-Mesa-Scottsdale metropolitan statistical area had 95 days not meeting federal health standards in 2017. The counts for not meeting federal health standards include air pollution at or above the “unhealthy for sensitive groups” level of [EPA’s Air Quality Index](#).

Particulate Matter is made up of a mixture of fine solids and liquid droplets, containing acids, organic chemicals, metals, and soil and dust particles, suspended in air. Arizona has a unique mixture of urban and agriculture sources of PM, such as combustion from motor vehicles, industries, and wood burning. Ozone is formed near ground level when other air pollutants (such as volatile organic compounds and

nitrogen oxides) react in the presence of sunlight. Arizona’s physical geography and population behavior complement the formation of ground level ozone.

Sulfur Dioxide in the air mainly comes from burning of fossil fuels in power plants and smelting of mineral ores containing sulfur. This concern is mostly observed in parts of [southern Gila County](#) with most of the emissions traced to one or two smelting operations. Carbon Monoxide (CO) is formed when carbon in the fuel is not burned completely. The major contribution is from vehicle exhaust.

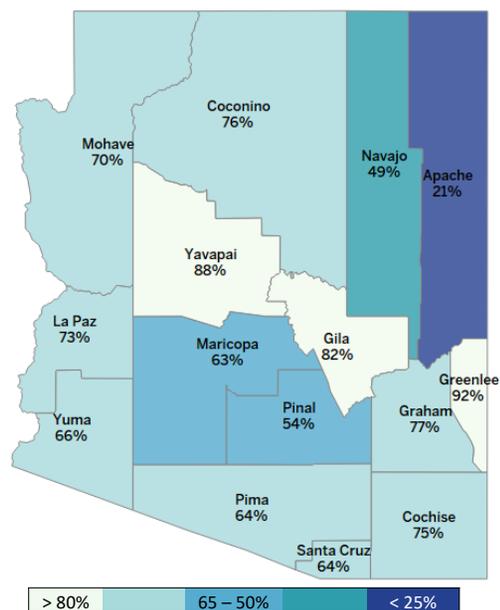
Short-term exposures to unhealthy air can irritate respiratory systems and aggravate [lung and cardiovascular diseases](#). These may lead to increased absences at schools and work, use of medications, and visits to doctors or emergency rooms. Long-term exposures to unhealthy air can decrease lung functions, make lungs more susceptible to infections, cause cardiovascular problems, and cancer. The [Arizona Environmental Public Health Tracking Program](#) monitors air pollution trends and health effects to help people understand how often they are exposed to unhealthy air.



In addition to the impact of air on health, community water plays a role with fluoridation strengthening teeth and supporting tooth enamel. Approximately 74% of the country's population is served by community water systems (CWS) receiving fluoridated water. While CWS fluoridation is the number one way to prevent tooth decay, only 57.8% of Arizonans receive optimally fluoridated drinking water; Arizona is ranked in the bottom 15 states (38th worst) nationally.⁷⁶

Across the state, 64% of the population lives within half a mile of a park, an estimated increase from 38% in 2010. Greenlee, Yavapai, and Gila counties provide the most access to parks with over 80% of residents being able to access a park within a half mile of their residence.

Percent of Population Living Within Half a Mile of a Park, by County, 2015

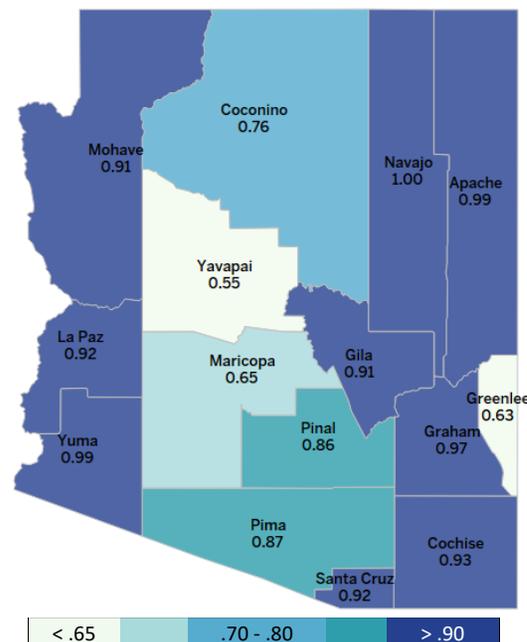


ESRI StreetMap Premium/HERE data

⁷⁶ Centers for Disease Control and Prevention, Water Fluoridation Reporting System December 31, 2014 and U.S. Census Bureau estimates July 2014, revised July 2016. The PEW Charitable Trust (2014). [Community Water Fluoridation: the top 10 and bottom 10.](#)

Another important indicator is the CDC's Agency for Toxic Substances and Disease Registry (ATSDR) Social Vulnerability Index, which ranks communities by an aggregation of a variety of social factors to estimate risk of vulnerability in an emergency (on a scale of 0 to 1 with 1 as the highest risk).⁷⁷ These factors include socioeconomic status, household composition and disability, minority status and language, and housing and transportation. There was a wide distribution in risk assessment across Arizona's counties. Yavapai County had the lowest risk of vulnerability (and highest readiness) with an SVI of 0.55. Alarming, 9 out of Arizona's 15 counties had an SVI greater than 0.9, with Navajo having an SVI of 1.

Arizona Social Vulnerability Index, by County, 2016



CDC ATSDR Geospatial Research, Analysis, and Services Program

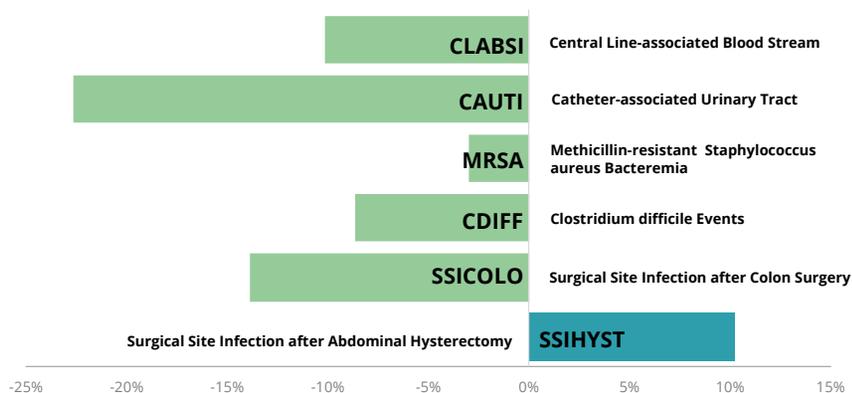
⁷⁷ https://svi.cdc.gov/Documents/Data/2014_SVI_Data/SVI2014Documentation.pdf

Healthcare Delivery

The performance of the healthcare delivery system is important to ensuring the availability of high-quality care for Arizona residents. Two indicators that illustrate efficient performance of the delivery system are rates of Healthcare Associated Infections (HAIs) and preventable hospitalizations.

Rates of HAIs, infections that may occur while receiving certain types of healthcare treatment, are an important indicator of patient safety. From 2015 to 2016, HAIs in Arizona decreased for 5 out of 6 types measured.

Arizona HAI Progress Report, by Infection, 2016



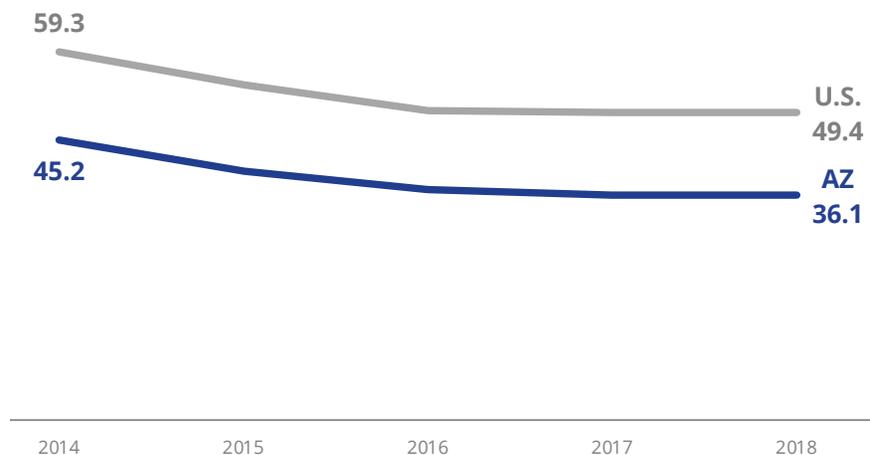
CDC HAI Progress Report

Catheter-associated urinary tract infections decreased by more than 20%, and surgical site infection after colon surgery and central line-associated blood stream infections decreased by more than 10%. Only surgical site infections after abdominal hysterectomy increased over this time period. Arizona is currently below the 2020 goal for two types of HAIs: central line-associated blood stream infections and catheter-associated urinary tract infections.

Among Arizona Medicare enrollees, rates of preventable hospitalizations were consistently below the national

average from 2013 to 2017.⁷⁸ Rates per 1,000 Medicare enrollees both nationally and in Arizona decreased over this time period, with Arizona rates exhibiting a slightly higher rate of decrease. Arizona performs well on this indicator compared to other states, ranking 8th in America's Health Rankings.

Preventable Hospitalization Rate, Arizona & U.S., 2014 - 2018



America's Health Rankings analysis of The Dartmouth Atlas of Health Care, United Health Foundation, AmericasHealthRankings.org, Accessed 2019

Access to Care

[Healthy People 2020](#) identifies access to healthcare as a key social determinant of health. One measure of access is the availability of healthcare professionals within a given geographic area. The US Department of Health and Human Services, Health Resources and Services Administration (HRSA) provides guidelines regarding the level of health services support needed in communities. Communities that do not have an appropriate level of healthcare services are

⁷⁸ Dartmouth Atlas data: Preventable hospitalizations are the hospital admissions that could have been prevented if a chronic or acute condition had been successfully managed in a primary care setting. Ambulatory care sensitive conditions such as diabetes, infectious disease, hypertension, chronic obstructive pulmonary disorder, and asthma can usually be managed outside of a hospital. The counts of discharges (numerators) for medical conditions are determined from the Medicare Provider Analysis and Review (MedPAR) file. Discharges are classified as medical or surgical using the Medicare diagnosis-related group (DRG) system. Enrollee counts were obtained from the Medicare Denominator file.

considered “medically underserved” either geographically and/or for certain population groups. Additionally, HRSA provides designations of areas and populations that have specific health professional shortages of primary care providers/services, mental health professionals and dental professionals.

Medically Underserved Areas (MUA) and Medically Underserved Populations (MUP) Overview

Arizona has high numbers of geographic areas or populations having a need for medical services on the basis of demographic data. The federal [MUA/MUP](#) designation identifies areas or populations as having a need for medical services on the basis of demographic data:

- Ratio of primary care physicians per 1,000 population
- Infant mortality rate
- Percentage of population below the federal poverty level
- Percentage of the population 65 years and older

Population groups designated as underserved include those with economic barriers (low-income or Medicaid-eligible populations) or cultural and/or linguistic access barriers to primary care services. [Arizona has 37 MUAs](#) and 10 MUPs, with each of Arizona’s 15 counties having some areas designated as medically underserved areas or populations.

Health Professional Shortage Areas Overview

Health Professional Shortage Areas (HPSAs) are federal designations that apply to areas, population groups, or facilities in which there are unmet healthcare needs. Designations help prioritize limited federal resources to the areas that need them most. The criteria and guidelines are determined by HRSA. Every county in Arizona includes some Health Professional Shortage Areas.

There are four types of HPSA designations:

- **[Geographic](#)**: This designation is based on the ratio between the number of FTE and clinical providers and the patient population within a given area. This designation indicates that all individuals who are not living in a detention facility in the area of designation have insufficient access to care.
- **[Population](#)**: This designation indicates that a subpopulation of individuals living in the area of designation has insufficient access to care. Population groups include those below 200% of FPL, groups on Medicaid, migrant farm workers, tribal or homeless populations, etc.
- **[Facility](#)**: This designation indicates that individuals served by a specific health facility have insufficient access to care. The types of facilities that can be designated include federal and state correctional institutions, public and nonprofit healthcare facilities, and state and county mental hospitals.
- **[Automatic HPSA](#)**: Certain types of facilities (Indian Health Services/Tribal facilities, Community Health Centers, FQHC Look-Alikes and Rural Health Clinics) and population groups receive an automatic HPSA designation from HRSA.

Overall, Arizona has a total of 546 federally designated Health Professional Shortage Areas (HPSAs), across primary care, dental and mental health HPSAs. For Arizonans living in communities designated as HPSAs, access to comprehensive, quality healthcare is limited. Finding a primary care practitioner, being able to access the services from a cost perspective, and/or needing to travel long distances to medical services make routine check-ups and ongoing care difficult to obtain and can negatively impact the quality of life of individuals in these areas.

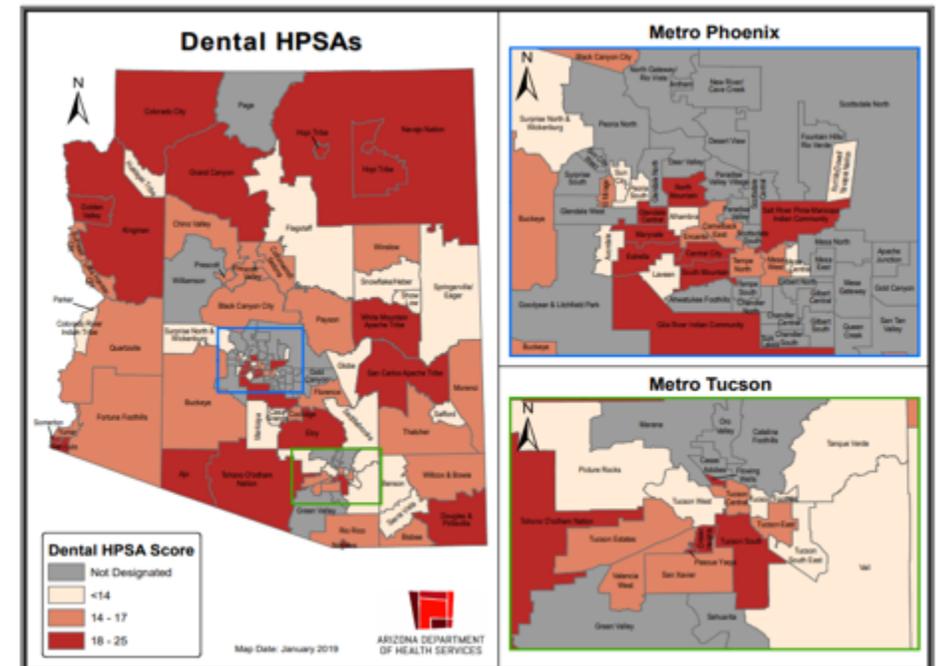
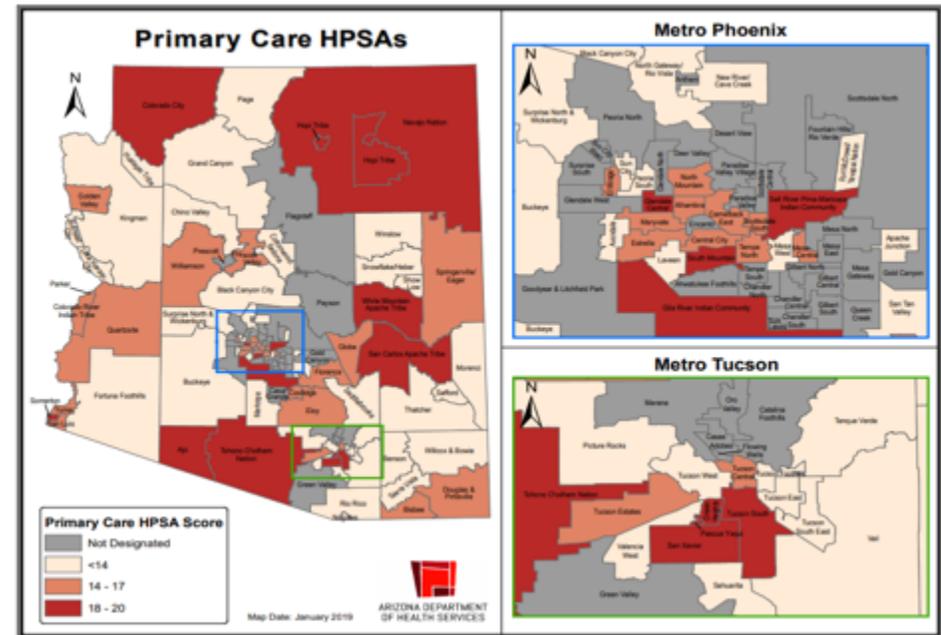
Workforce Shortages

Arizona has a disproportionate distribution and availability of providers. As of January 2019, Arizona has a total of:

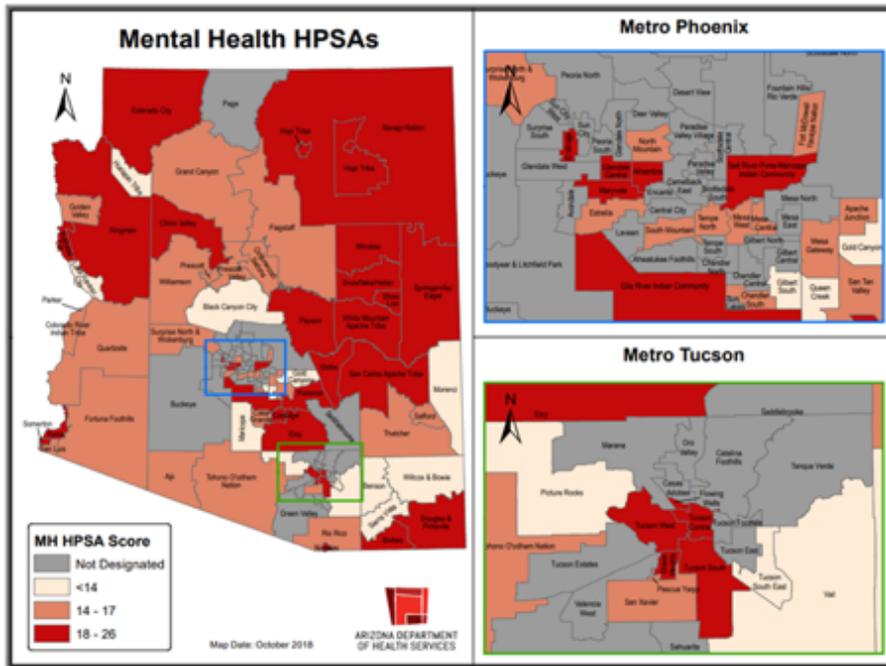
- 37 Medically Underserved Areas
 - 10 Medically Underserved Population areas
 - 196 Primary Care HPSAs*
 - 184 Dental HPSAs*
 - 177 Mental Health HPSAs*
- *Includes facility designations

To eliminate existing HPSA designations, Arizona would need an additional 605 primary care physicians, 456 dentists, and 233 psychiatrists.

With the current shortages, Arizona's population to provider ratios are 126.1 primary care physicians per 100,000 population, 54.1 dentists per 100,000 population, and 129.3 mental health providers per 100,000 population. In 2018, Arizona ranked 38th in the nation in the number of primary care providers per 100,000 population and 28th in number of dentists.⁷⁹ The designation of Primary Care HPSAs and Dental HPSAs encompass most of the state.



⁷⁹ [America's Health Rankings](#) analysis of Special data request for information on active state licensed physicians provided by Redi-Data, Inc., Sept 28, 2018; U.S. Census Bureau Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2017, United Health Foundation, [AmericasHealthRankings.org](#). Accessed 2019. America's Health Rankings analysis of American Dental Association, United Health Foundation, [AmericasHealthRankings.org](#). Accessed 2019.



ADHS Primary Care Office, Health Resources and Services Administration

One area of particular shortage is among mental health providers, where Arizona ranks 47th out of all states.

This ranking is consistent with findings from the 2014 State Health Assessment indicating behavioral health services as the second highest public health priority among county health departments.

In order to better identify gaps in inpatient and outpatient substance use disorder treatment (SUDT) in the state, ADHS coordinates a quarterly [Arizona Substance Use Disorder Treatment Capacity Survey](#) with the first survey completed between July 1 and September 30, 2018. Facilities that provide SUDT are required to report information, including the number of days in the quarter the facility was at capacity and unable to accept referrals for treatment. Analysis of the first survey identified opportunities to address unmet needs, including lack of treatment availability for those less than 18 years of age, limited acceptance of public insurance, and limited acceptance of referrals and programs for individuals being released from correctional facilities. Additionally, an

estimated 5.2% of inpatient and 6.6% of outpatient services indicated having a waitlist. Survey methods will continue to improve in the future to reach a wider audience and obtain a higher response rate.

In response to the state's healthcare workforce shortage, a local charitable organization, Vitalyst Health Foundation with the support from the City of Phoenix, commissioned "[talent assessments](#)" for a variety of healthcare sectors in 2015. Respondents included hospitals, long-term care facilities, and home health agencies. The assessments produced a variety of similar findings across sectors. Priority areas included a high demand for professionals in both patient care and administrative functions, expansion of job classifications, and high vacancy rates.

Healthcare employers reported evolving workforce needs in conjunction with changes in healthcare delivery such as a focus on population health and integrated care, increased use of technology, and community wellness and prevention. Top priorities for workforce development were 1) better use of technology, 2) training and education, and 3) recruitment and retention.

Geographic Variation in Access

There is variation in provider to population ratios between rural and urban areas. The bulk of Arizona's population lives in urban metro areas of Phoenix and Tucson, and the majority of primary care physicians practice in these areas as well. Of Arizonans living in current HPSAs, 4,699,828 reside in urban areas and 1,692,189 reside in rural/frontier or tribal lands. The ratio of population to primary care physicians in Arizona's urban areas is 2,407:1. While even that is considered overutilized according to the Health Resources & Services Administration (HRSA) definition, the state's rural, frontier and Native American communities face even greater provider shortages with a population-to-provider ratio of 3,896:1.⁸⁰

⁸⁰ HRSA considers an area to be overutilized if it has a population to primary care physician ratio of 2000:1 or greater.

For dental care, the provider to population ratio in the urban area is 3,022:1 versus 5,305:1 in rural areas. For mental health, the provider to population ratio in the urban area is 18,769:1 versus 57,362.1 in rural areas. Provider resources in rural areas are evidently more over-utilized than urban areas. In order to eliminate the HPSAs in the rural areas and bring the population to provider ratios below over-utilized levels, Arizona would need an additional 412 primary care physicians, 245 dentists, and 140 psychiatrists.

Resources to Address Workforce Shortages

Arizona has employed a variety of strategies designed to recruit and retain healthcare professionals, including evidence-based workforce programs and nationally to address access to primary care, dental and behavioral health services. [Appendix H](#) includes details on the [Arizona State Loan Repayment Program \(SLRP\)](#), [National Health Service Corps](#), [NHSC Substance Use Disorder Workforce Loan Repayment Program](#) (SUD Workforce LRP), [Nurse Corps](#), [J-1 Visa Waiver Program](#), [National Interest Waiver Program](#) (NIW), and safety net providers, including [Community Health Centers](#) ([Federally Qualified Health Centers](#) – FQHCs) and [Rural Health Clinics](#).

Access to Acute Care, Pre-Hospital Services, and Trauma System

In addition to primary care and preventative services, acute medical and trauma services are needed for when patients are ill or injured. Community-based services, emergency medical services, 9-1-1 centers, emergency departments, trauma centers, and inpatient hospitals and facilities make up the acute care system. Rapidly responding, pre-hospital emergency medical services (EMS) are often the critical link between the event and definitive care at a trauma center or hospital. Reducing death and disability due to illness or injury is the measure of success of an EMS and trauma system. EMS has come to be recognized as the pre-hospital care component of the larger emergency healthcare system.

It is a complex system that not only transports patients but also includes public access to the healthcare system, communications with waiting hospital personnel, and triage, treatment, and stabilization of acute health conditions.

There are 7,014 state certified paramedics and 12,214 emergency medical technicians (EMTs) providing services to the residents of Arizona. While exact numbers are not available, the best estimate is that emergency medical care technicians respond to over 500,000 9-1-1 calls each year or 1,370 calls each day. Using a 2017 population estimate, there are 101 paramedics per 100,000 residents and 175 EMTs per 100,000 residents.



Arizona has 95 certified ground ambulance providers regulated through a certificate of necessity (CON) system. The CON system provides ambulance operators with the authority to operate based upon a determination of public need, specific geographic boundaries, level of service, and response time requirements.

There are 19 Arizona, certified air ambulance providers using a total of 116 registered aircraft (44 fixed-wings and 72 rotor-wings). There is not a certificate-of-need process for air ambulance in Arizona.

Arizona's trauma system provides definitive care to the entire spectrum of patients with traumatic injuries and includes such services as mental health, social services, child protective services, and public safety. Injured patients are

triaged to the appropriate facility based on their needs and the facility's available resources. To achieve the best possible outcomes, the system must ensure that the right patient is transported to the right facility at the right time.

Trauma hospitals can also be designated as a Level II, III or IV, each with less resources with which to care for trauma patients. Though the Level III and IV trauma centers have fewer resources, they are essential to an effective trauma system. Arizona is divided into four trauma regions and has 13 Level I, 7 Level III, and 26 Level IV trauma centers throughout the state. The majority of Level I trauma centers are located in the metropolitan areas of Maricopa and Pima counties. The outlying rural areas have mostly Level III and IV trauma centers.

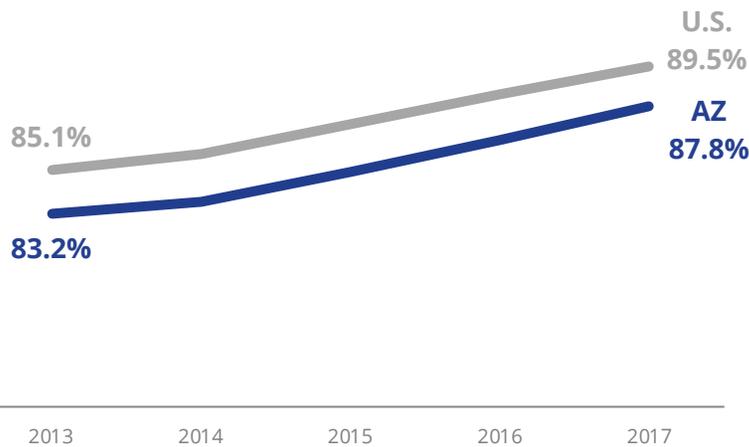


Health Insurance Coverage

Although health insurance does not guarantee access to healthcare services, it can play an important role in whether individuals can access healthcare services and may determine where they seek treatment.

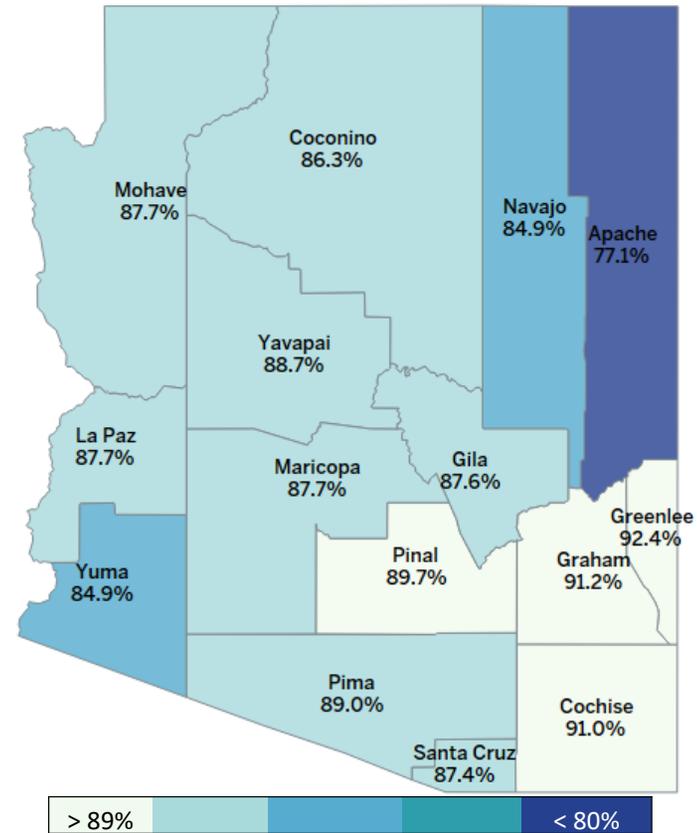
Consistent with national trends, health insurance rates have risen since 2012, with 87.8% of Arizonans having health insurance. However, Arizona remains below the national average. These trends also vary by county, with the northeastern and southwestern counties having lower rates of insurance. Greenlee County has the highest level of insured residents (92.4%), while only 77.1% of Apache County residents have health insurance.

Percent of Adults With Health Insurance, Arizona & U.S., 2013 - 2017



U.S. Census Bureau, American Community Survey 5-year period estimates

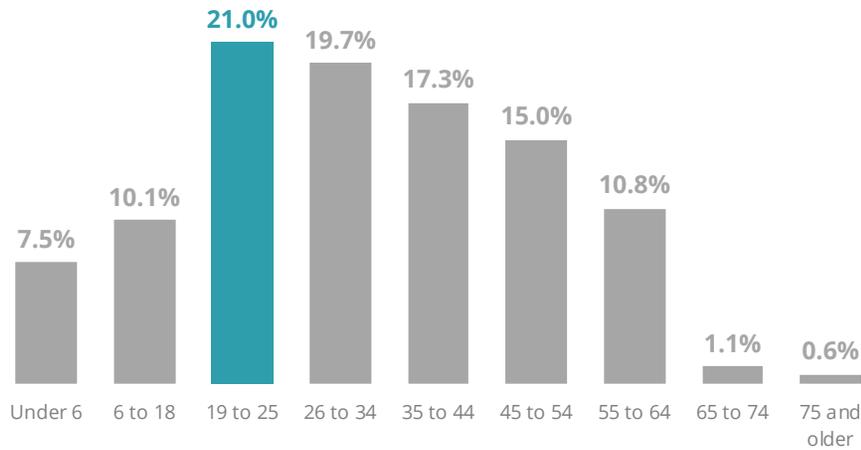
Percent of Arizona Adults With Health Insurance, by County, 2013 - 2017



U.S. Census Bureau, American Community Survey 5-year period estimates

Individuals ages 19 to 25 have the highest rates of being uninsured at 21%, followed by 19.7% of those ages 26 to 34. Among adults, the percent of the population that is uninsured declines among older age groups, down to a low of only 0.6% of those 75 and older who are without health insurance.

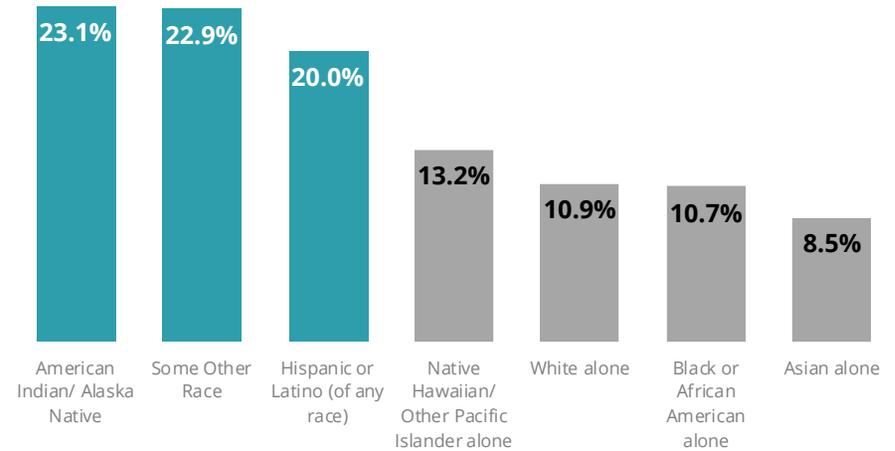
Percent of Arizona Adults Who Are Uninsured, by Age Group, 2013 - 2017



U.S. Census Bureau, American Community Survey 5-year period estimates

There are racial and ethnic disparities in health insurance coverage rates. Twenty percent of Hispanic/Latino Arizonans and 23% of American Indian/Alaska Native Arizonans are without health insurance, while among White non-Hispanics, African Americans and Asians/Pacific Islanders, the rates are less than 11%.

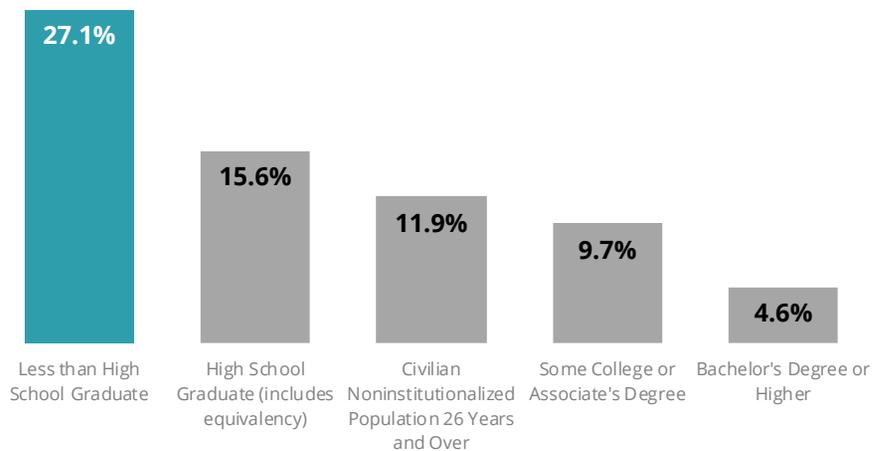
Percent of Arizona Adults Who Are Uninsured, by Race & Ethnicity, 2013 - 2017



U.S. Census Bureau, American Community Survey 5-year period estimates

Individuals whose educational attainment is less than a high school degree exhibit the highest rates of being uninsured at 27%. Rates of insurance rise with educational attainment, with individuals with a Bachelor's Degree or higher exhibit an uninsurance rate of only 4.6%.

Percent of Arizona Adults Who Are Uninsured, by Educational Attainment, 2013 - 2017



U.S. Census Bureau, American Community Survey 5-year period estimates

Arizona has lower rates of employer-sponsored insurance than the U.S. as a whole (41.4% compared to 49%) and higher rates of individuals without insurance, particularly among children. An estimated 8% of children are uninsured in Arizona compared to 5% nationally. Rates of other types of insurance (individual, Medicaid, Medicare, and other public) are relatively comparable to national figures.⁸¹



⁸¹ All figures sourced from Henry J. Kaiser Family Foundation, State Health Facts, [Health Coverage & Uninsured](#). These figures used the [one-year American Community Survey estimates](#) for 2017, while the other health insurance estimates provided in this report use the 5-year estimates. As a result of this different estimate methodology, there are slight differences shown in the estimate of the total uninsured population for 2017.

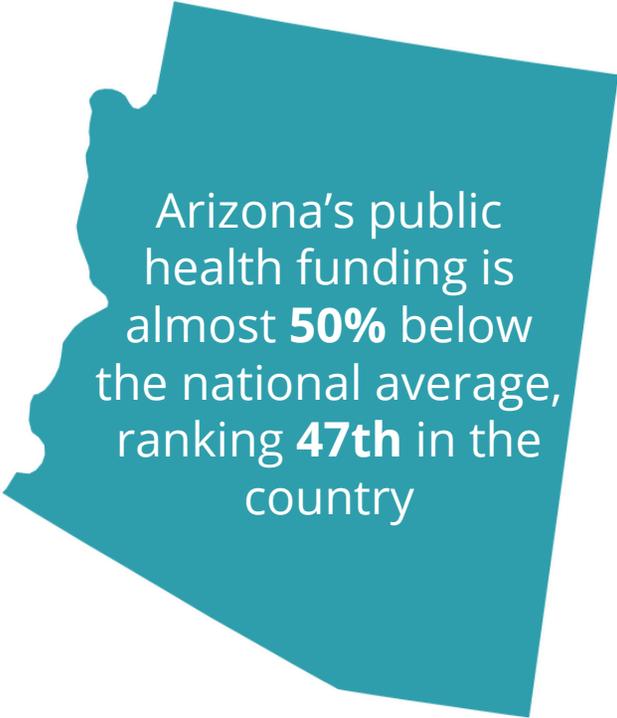
Capacity to Address Health Issues

Nearly

HALF



of the nation's public health workforce is considering **leaving** their organization in the next **5 years**



Arizona's public health funding is almost **50%** below the national average, ranking **47th** in the country

The **top 3 health priorities** across all Arizona counties are

Obesity
Mental Health
Chronic Disease

Capacity to Address Health Issues

Arizona's public health system is composed of health professionals, public health workers, advocates, and stakeholders at the state, county, and community levels. The critical role that public health plays in helping communities and individuals thrive is essential to the overall quality of life of Arizonans.

The 2014, State Health Assessment included detailed data on Arizona's healthcare workforce, clinical delivery system, and select individual programs available to address leading public health issues. This 2019 Assessment examines capacity through the lens of ADHS programs along with community partnership and engagement in efforts to address the priority areas outlined in the AzHIP.

While the 2014 Assessment specifically acknowledged the need to involve a broader set of private sector entities such as child care providers, hospitals, and corporations as important components in the future of public health, these efforts will be expanded through the next AzHIP update to reflect priorities identified through this Assessment. Arizona recognizes the need to broaden its base of partners to include those whose work is focused on addressing key social determinants of health.

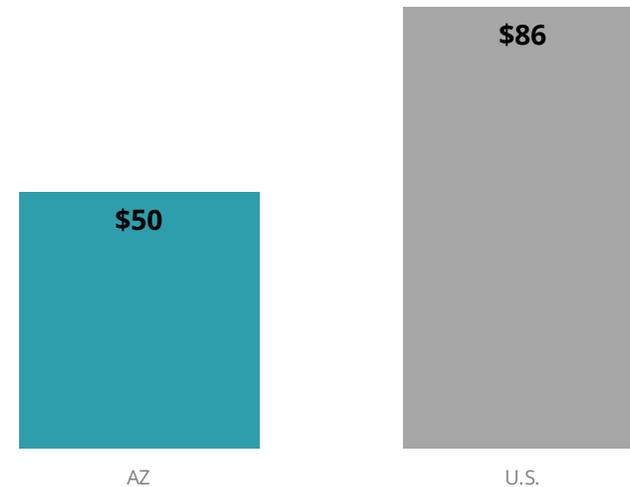
Public Health Capacity

While the availability of healthcare professionals who deliver clinical care directly to Arizona residents is critical to ensure access to needed healthcare services, public health programs provide the framework for effective prevention, treatment and response to health issues.

Public Health Funding and Workforce

An important indicator of capacity is the amount of funding available to address health issues in the community. Arizona's public health funding is almost 50% below the national average, ranking of 47th in the country.

Dollars Dedicated for Public Health Per Person from State and Federal Dollars Directed by the CDC and HRSA, 2016 - 2017



Trust For America's Health, U.S. Department of Health and Human Services (HHS), U.S. Census Bureau, Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2017, 2016-2017

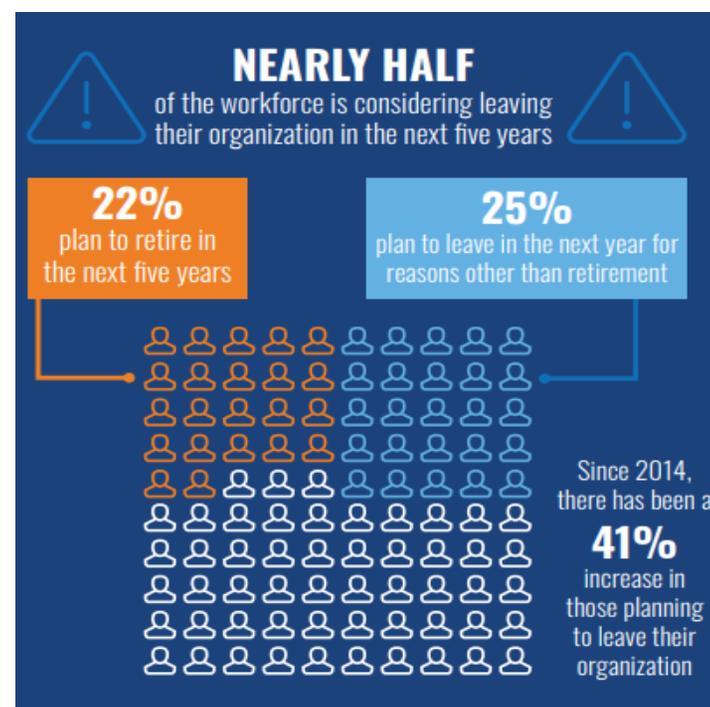
America's Health Rankings estimate an investment of \$10 per person per year in evidence-based community programs proven to increase physical activity, improve nutrition, and prevent smoking or other tobacco use could save the country more than [\\$16 billion](#) annually within five years. This is a return of \$5.60 for every \$1 invested.

However, a dedicated and committed public health workforce is critical to generating that return on investment. The de Beaumont Foundation and the Association of State and Territorial Health Officials (ASTHO) conducted the first Public Health Workforce Interests and Needs Survey (PH WINS) in 2014 and again in an expanded format in 2017. The 2017 survey included representation from 47 state health agencies and 25 large-city agencies as well as local health departments. Arizona representation included ADHS and 4 county health departments.

The 2017 report assesses the public health professional workforce, identifying strengths, gaps and opportunities for improvement. The public health workforce across the country is aging, with 37% in the baby boomer generation, higher than the average for the U.S. workforce as a whole (25%). Millennials, which represent 35% of the average U.S. workforce, account for only 22% of the public health workforce. Women are overrepresented in the public health workforce, comprising almost 80% of public health workers (compared to 51% of the U.S. workforce). However, women are underrepresented in executive public health positions, with only 2 out of 100 female workers reaching the highest levels of leadership compared to 4 in 100 men.

Public health workers have high job satisfaction and are highly engaged, but nearly half of the nation's public health workforce is considering leaving their organization in the next 5 years (22% due to retirement and 25% for reasons other than retirement), which represents a 41% increase since 2014.

Percent of Employees Who Are Considering Leaving Their Organization Within the Next Five Years, 2017

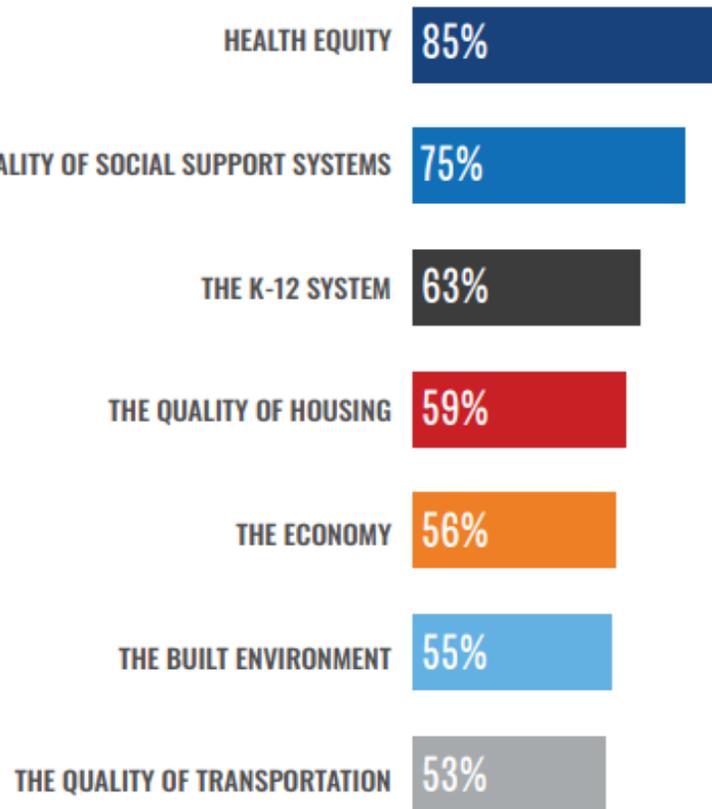


Public Health Workforce Interests and Needs Survey (PHWINS)

Common reasons for potential departure include pay and lack of opportunities for advancement. Most public health workers believe their agencies should be engaged in efforts around a wide variety of social determinants of health: 85% of employees believe their organization should be involved in health equity issues and 75% believe they should be involved in affecting the quality of social support systems.

This emphasis on social determinants and health equity mirrors ADHS' focus and highlights the importance of collaborative efforts from non-traditional partners in improving health outcomes across the country.

Percent of Employees Who Believe Their Agency Should Be Involved in Affecting, 2017



Public Health Workforce Interests and Needs Survey (PHWINS)

ADHS Programs and Initiatives

[ADHS](#) is the statewide public health agency and has a variety of programs that contribute to the state's public health capacity, as well as partnerships that engage community resources to support state efforts. These efforts impact Arizonans throughout their lifespan and include:

- Controlling epidemics;
- Educating people on healthy habits, such as nutritious eating and getting physical activity;
- Assisting people with tobacco cessation and disease self-management;
- Ensuring safe food and water;
- Testing virtually all newborns for metabolic disorders;
- Improving access to physical and behavioral health;
- Responding to public health emergencies;
- Monitoring hospitals, nursing homes, assisted living centers, ambulances, child care centers, & other licensed facilities and professionals; and
- Documenting every vital event in Arizona, including all births, deaths, and adoptions.

ADHS also operates the Arizona State Hospital (ASH), which provides high acuity, inpatient psychiatric services to Arizona's most vulnerable residents. Three distinct facilities are operated on ASH's campus: civil, forensic, and the Arizona Community Protection and Treatment Center (ACPTC).

The [ADHS Annual Report](#) outlines in extensive detail the resources and capacity ADHS employs as well as its efforts for community involvement in advancing the health and wellness of Arizonans.

The [ADHS Strategic Plan](#), updated each fiscal year, also identifies strategies and the capacity to implement priorities and monitor improvement in these areas:

- Improve Health Outcomes;
- Promote and Support Public Health and Safety;
- Improve the Public Health Infrastructure;
- Maximize Agency Effectiveness; and
- Implement the AzHIP.

ADHS also has numerous [other reports](#) that outline the Department's extensive capacity and program initiatives.

Medicaid, State Programs, and the Marketplace

In addition to the comprehensive public health programs administered through ADHS, several programs within Arizona play a significant role in improving the health of Arizona's residents by serving low-to-moderate income residents who might otherwise have limited access to clinical care needed to prevent or treat their health conditions.

Arizona's Medicaid program is administered by the [Arizona Health Care Cost Containment System](#) (AHCCCS). AHCCCS provides coverage for almost 1.9 million Arizonans and is the largest health insurer in the state, covering Arizona residents with incomes up to 133% of the FPL.⁸² In addition to Medicaid, AHCCCS also administers the state's Children's Health Insurance Program, known as KidsCare, which covers children up to 200% of the FPL whose households have incomes too high to qualify for Medicaid. For both Medicaid and KidsCare, services are primarily administered through private managed care contractors.

Since the 2014 State Health Assessment, Arizona implemented the Medicaid expansion under the Affordable Care Act. Enrollment in AHCCCS grew from 1,298,209 in

January 2014 to 1,873,502 in January 2019. Arizona also lifted its freeze on KidsCare enrollment in July 2016, and program enrollment grew to 32,522 in January 2019.

AHCCCS managed care contractors provide access to the comprehensive Medicaid benefit package in the state. Over the past five years, AHCCCS has moved from a fragmented contracting structure in which physical health and behavioral health were delivered by separate contractors to integrated physical and behavioral health contractors for most populations. In addition, direct administration for behavioral health (mental health and substance use disorder) services was moved from ADHS to AHCCCS as of July 1, 2016. This includes oversight of services not covered by Medicaid and services to individuals who do not qualify for Medicaid such as the roughly \$100 million in state appropriations for individuals with Serious Mental Illness and \$10 million for opioid use disorder. AHCCCS also oversees federal grants from the Substance Abuse and Mental Health Services Administration that provide access to treatment for uninsured or underinsured Arizona residents.

Individuals who purchase non-group coverage may do so through the Health Insurance Marketplace, and individuals with incomes up to 400% of FPL may be eligible to receive government subsidies to offset costs associated with that coverage. In Arizona, the Marketplace is operated by the federal government. There have been a variety of changes in the Marketplace since its inception. In 2018, each area of the state had only one plan option. However, in 2019, Maricopa and Pima counties saw an increased choice of plans, with 5 Marketplace plans in total operating in areas across the state.⁸³

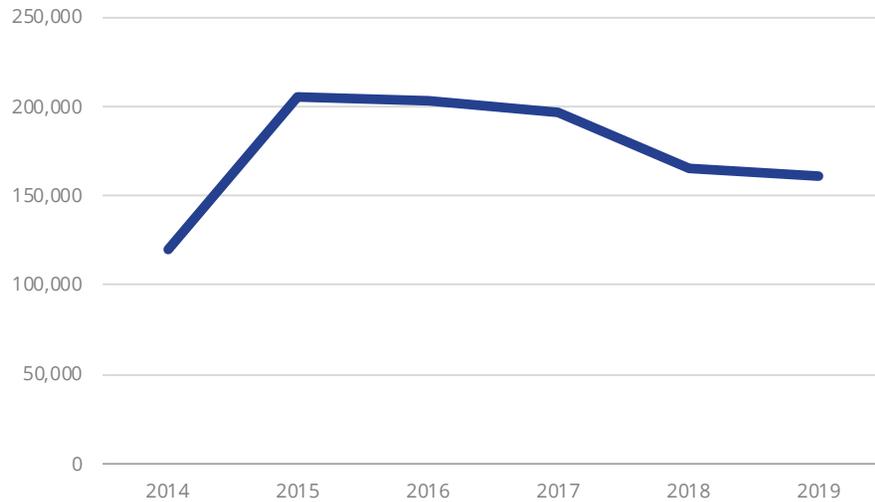
Enrollment in the Marketplace has also fluctuated, from a high of 205,666 in 2015 down to 160,456 in 2019.⁸⁴

⁸² Several other eligibility categories such as pregnant women, infants and those receiving long-term services and supports, have higher income eligibility.

⁸³ Arizona Department of Insurance, Consumer Protection Division, [Insurers Offering Individual/Family Health Insurance in Arizona as of October 16, 2018](#).

⁸⁴ Henry J. Kaiser Family Foundation, State Health Facts, [Marketplace Enrollment, 2014-2019](#).

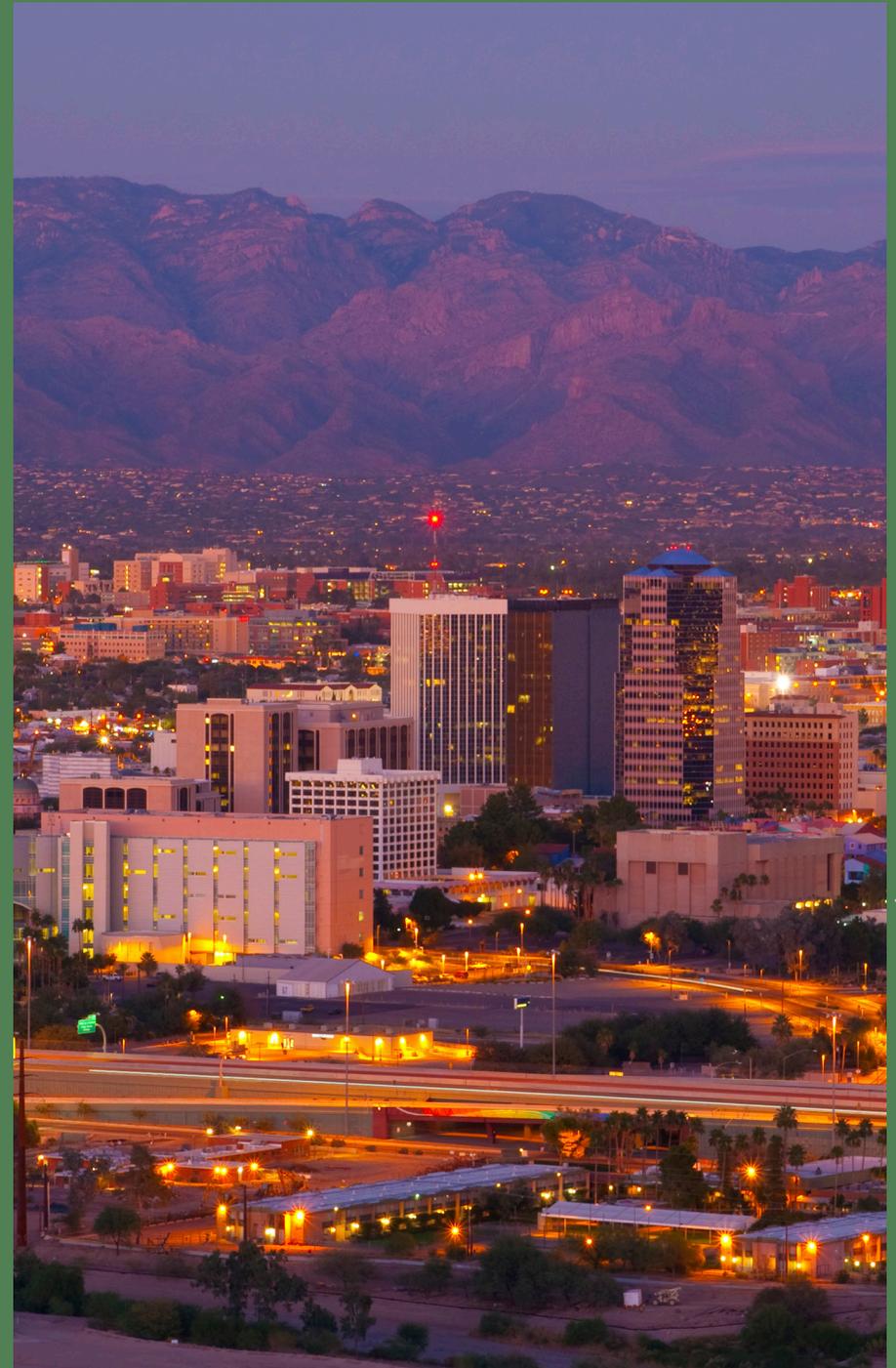
Arizona Health Insurance Marketplace Enrollment, 2014-2019



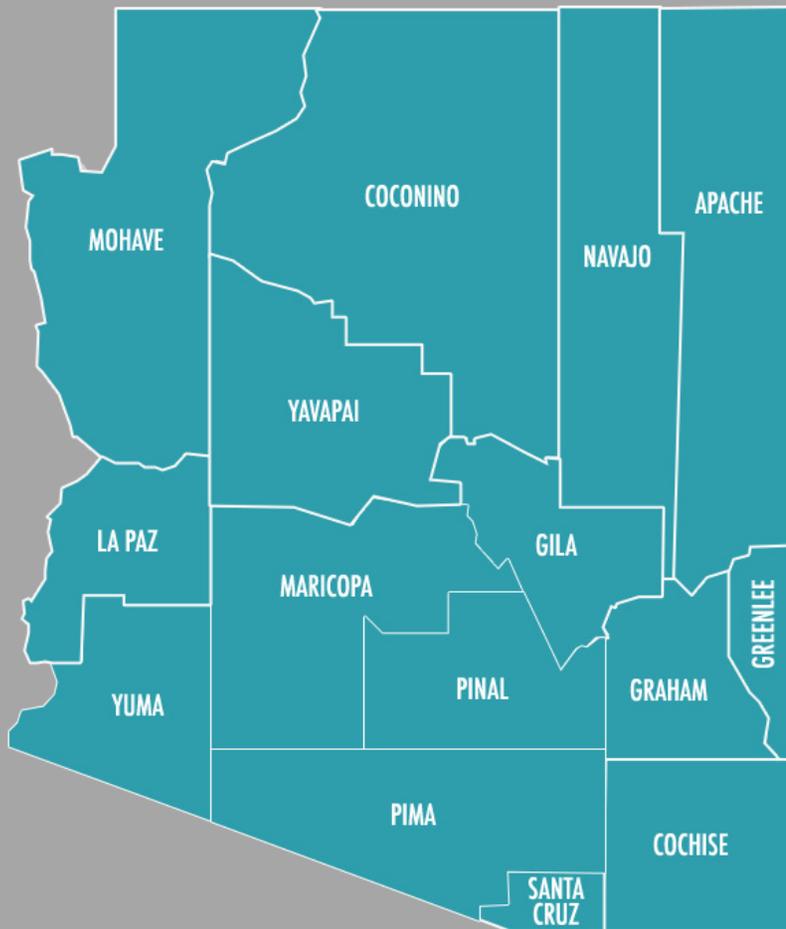
Henry J. Kaiser Family Foundation, *State Health Facts*

Local Health Departments

In addition, Arizona's 15 counties each operate public health departments who work collaboratively with ADHS to advance public health priorities. Statutes (A.R.S. §§ 36-181 through 36-191) provide that local county health departments are responsible for "essential public health services." ADHS delegates, contracts, and provides limited fiscal support to county health departments, who are on the frontline of public health in Arizona's local communities.



County Health Profiles



Each of the 15 counties in Arizona conducted a Community Health Assessment (CHA) and Community Health Improvement Plan (CHIP) to serve as the basis for the first SHA. Since many counties have chosen to align their CHAs with local hospital systems, the methodology for this Assessment evolved but still includes primary and secondary data collection from across the state. Highlights of each county's Assessment and Improvement Plan, including successes, priorities, and community involvement, have been captured in the following pages.

Health priorities established by the counties reflect an array of health issues based on data unique to each community. Some health challenges, such as chronic disease and access to care, were identified by multiple counties while others were identified by only 1 or 2 counties.

In addition to the county priorities, the Arizona Local Health Officers Association (ALHOA) identified a representative set of 3 priorities for the state. ALHOA is comprised of the local health officers from each of Arizona's 15 counties and works collaboratively with ADHS on challenging public health issues and governance.

ALHOA Priorities

- Immunization Rates
- Sexually Transmitted Diseases
- Suicide

The county and ALHOA priorities will serve as a starting point for establishing the priorities in the next AzHIP for 2021-2025. All information included in this section was provided by the counties, and links to their most recent reports are embedded where available.

Apache County

Vision

Healthy People, Healthy Environment.

Mission

Provide public health services in the areas of Health Education, Health Promotion, Preparation for Public Health Emergencies, Immunizations, Personal Wellness, and Environmental Health.

Community Profile

- Population: 71, 606
- Geography (square miles): 11,218
- Median age: 33.5 years
- Median household income: \$32,460

CHIP Priorities

- Promoting Healthy Lifestyles
- Reduction in Obesity
- Diabetes Education
- Heart Disease

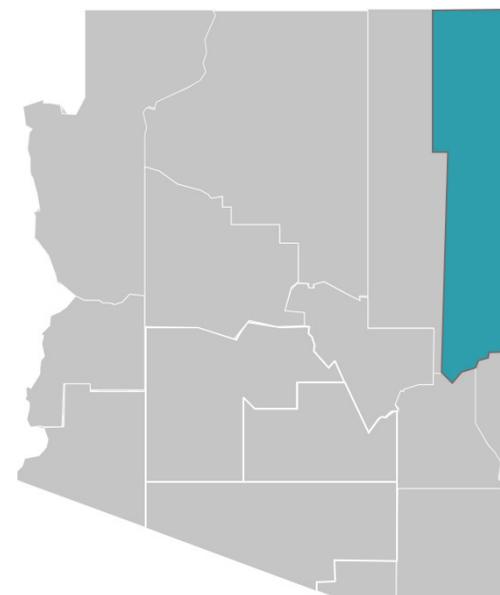
Major Public Health Successes

1. Celebrated one year of eWIC program to improve ease of benefit use for women, infants, and children determined to be at nutritional risk.
2. Improved completion rate of workshop program to 90% encouraging healthy diet and regular exercise.
3. Provided nutrition classes at 6 schools teaching skills to promote healthy lifestyles.

[Community Health Assessment - 2013](#)

[Community Health Improvement Plan - 2015](#)

www.co.apache.az.us



Community Involvement

- To assemble a collaborative group with wide representation from the community, the health department and White Mountain Regional Medical Center included community leaders, faith-based leaders, service organizations, school administrators, business people, businesses, police, physicians, and first responders in the development of the CHA/CHIP.

Cochise County

Vision

Cochise County: Healthy people, healthy families, healthy communities, for life, work, and play.

Mission

Fostering an exceptional quality of life by advocating for a community-centered culture of health through unparalleled public health services.

Community Profile

- Population: 131,873
- Geography (square miles): 6,243
- Median age: 39.0 years
- Median household income: \$47,847

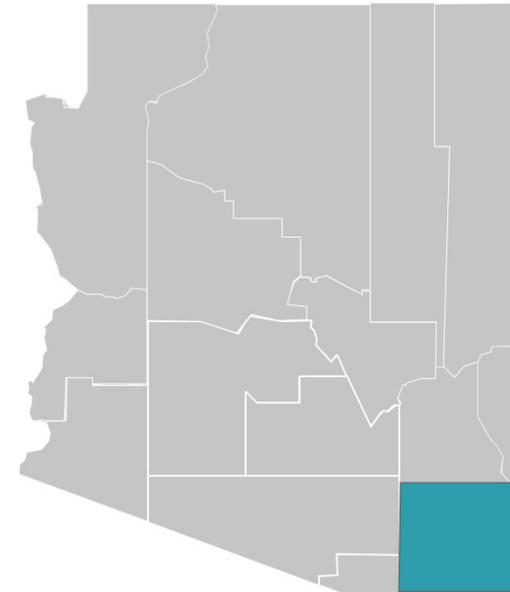
CHIP Priorities

- Mental Health & Substance Use Disorder
- Good Jobs & Healthy Economy
- Healthy Eating: Access to Healthy Food

Major Public Health Successes

[Community Health Assessment - 2017](#)
[Community Health Improvement Plan - 2017](#)

www.cochise.az.gov



Community Involvement

- Over 2,400 Cochise County residents completed the CHA community survey, including over 300 surveys in Spanish. Additionally, over 80 individuals participated in focus groups throughout the county. The community continues to actively participate as we update data in 2019 and carry out work around the identified focus areas.

Coconino County

Vision

Coconino County – where every resident achieves their fullest health potential.

Mission

Empowering people, confronting inequities, influencing policy, and bettering lives. Always improving.

Community Profile

- Population: 140,776
- Geography (square miles): 18,619
- Median age: 31.6 years
- Median household income: \$53,523

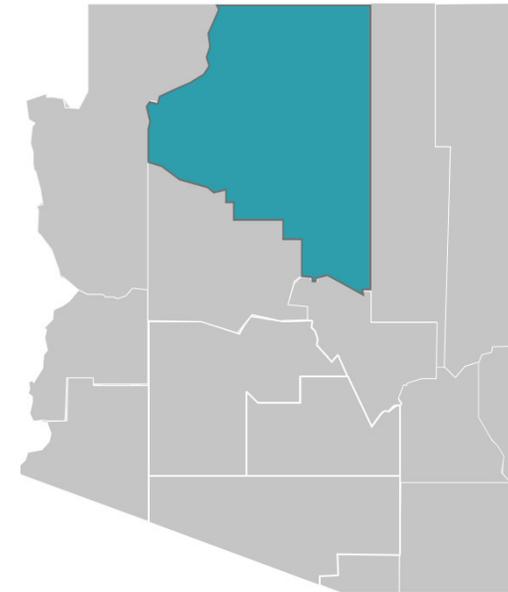
CHIP Priorities

- Access to Care
- Chronic Disease
- Injury Prevention

Major Public Health Successes

1. Developed in partnership with the community, CCPHSD Prescription Drug Overdose Prevention program began in 2018.
2. CCPHSD was an active participant in the 2018 Tinder Fire. Staff provided education, support to re-entry, post incident crisis counseling, conducted environmental health assessments, and supported families with food delivery and well water testing.
3. Because community members had difficulty accessing services during traditional hours, the Agency launched Super Service Saturday - an event offered to the public to provide enhanced customer experience.

www.coconino.az.gov



Community Involvement

- Conducted a community survey for CHA with 205 responses
- Held CHIP meetings with over 35 organizations actively participating
- Facilitated focus groups with the community for CHIP priorities

[Community Health Assessment - 2016](#)
[Community Health Improvement Plan - 2016](#)

Gila County

Vision

To sustain a culture of excellence that promotes health, safety, and well-being for all Gila County residents.

Mission

The Gila County Division of Health and Emergency Management strives to advocate, educate, improve, and monitor the public health and safety in Gila County by providing the highest level of quality, integrity, and respect to those we serve.

Community Profile

- Population: 53,500
- Geography (square miles): 4,796
- Median age: 48.9 years
- Median household income: \$39,954

CHIP Priorities

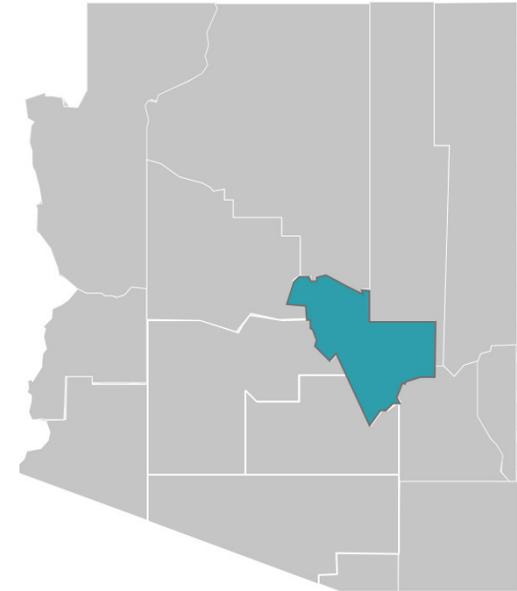
- Obesity
- Substance Abuse
- Access to Care
- Sexual Health

Major Public Health Successes

1. Over 90% increase in local physicians utilizing prescription database.
2. Created digital food safety inspection process.

[Community Health Assessment - 2015](#)
[Community Health Improvement Plan - 2016](#)

www.gilacountyaz.gov



Community Involvement

- 15 Key Informant Interviews, 637 Surveys, and 6 focus groups were conducted with Gila County residents for the latest CHA.

Graham County

Vision

To promote health and quality of life for all Graham County residents through education, service & leadership.

Mission

We seek to create and maintain an environment that is clean, safe, healthy and an educated community in which all individuals can achieve their optimum physical, cultural, social, economic, mental and spiritual wellbeing today and in the future.

Community Profile

- Population: 38,589
- Geography (square miles): 4,641
- Median age: 32.4 years
- Median household income: \$47,422

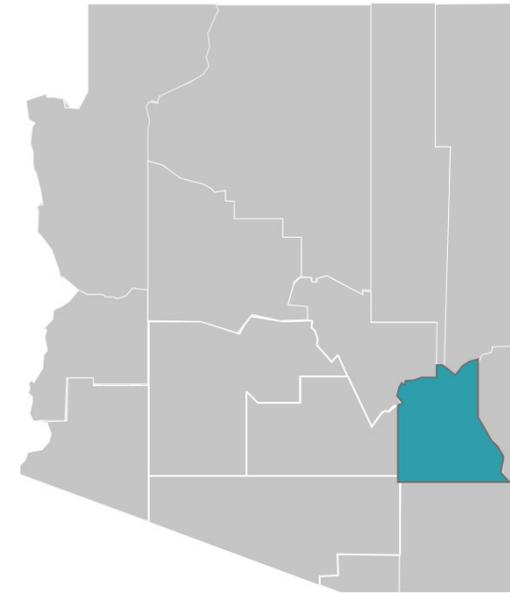
CHIP Priorities

- Bullying
- Suicide
- Alcohol Abuse
- Mental Health Services
- Illegal & Prescription Drug Abuse

Major Public Health Successes

1. Outreach in our communities for immunization and flu shot clinics established at schools and community events.
2. Initialized sustainable programs then passed to community stakeholders.
3. Ability to respond quickly to public health outbreaks through collaboration, outreach, testing, treatment and counseling of individuals affected.

www.graham.az.gov



Community Involvement

- Collaboration and partnership with stakeholders has been ongoing. Educational and informational opportunities are shared at community events, coalitions, civic groups, schools, county meetings, etc.
- CHA was conducted in 2017; the complete report will be ready by June 2019.
- The last CHIP completed was 2013, and small staff conducts quarterly meetings to discuss the next update.

[Community Health Assessment - 2013](#)
[Community Health Improvement Plan - 2013](#)

Greenlee County

Vision

A Vision for a Safe and Healthy Community.

Mission

The Mission of the Greenlee County Health Department is to promote the health of the residents of Greenlee County and the quality of our environment through leadership, service and community participation.

Community Profile

- Population: 9,613
- Geography (square miles): 1,838
- Median age: 34.8 years
- Median household income: \$51,628

CHIP Priorities

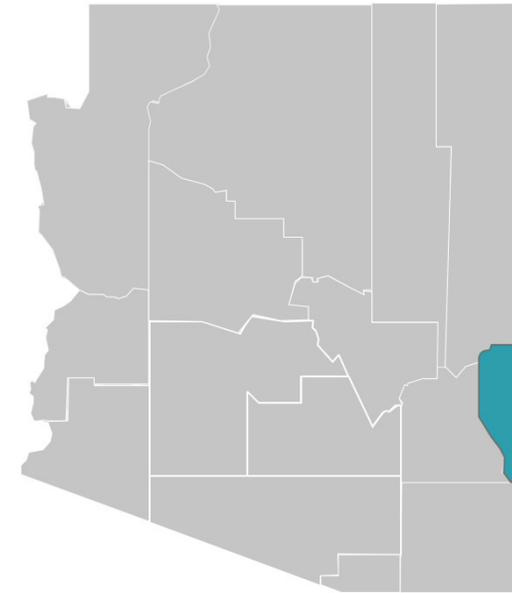
- Nutrition & Physical Activity
- Alcohol & Drug Abuse
- Mental Health

Major Public Health Successes

1. Safe, Happy and Healthy Environment for our Community.
2. Collaborative Working Climate.
3. Knowledgeable and Engaged Community.

[Community Health Assessment - 2012](#)
[Community Health Improvement Plan - 2013](#)

www.greenlee.az.gov



Community Involvement

- Greenlee County Health Department held a Community Health Forum at the Morenci Community Center on May 10, 2017. There were 28 attendees from the community, and the Health Department staff were on site to discuss issues. During this Community Health Forum, a poster event was featured where participants were invited to review related data, vote on the issue most important to them, and provide anecdotes on why.

La Paz County

Vision

Inspiring healthy choices by nurturing community involvement & striving towards a better health system.

Mission

Promote, protect, preserve, and enhance the health & wellness of La Paz County.

Community Profile

- Population: 20,489
- Geography (square miles): 4,514
- Median age: 56.1 years
- Median household income: \$34,321

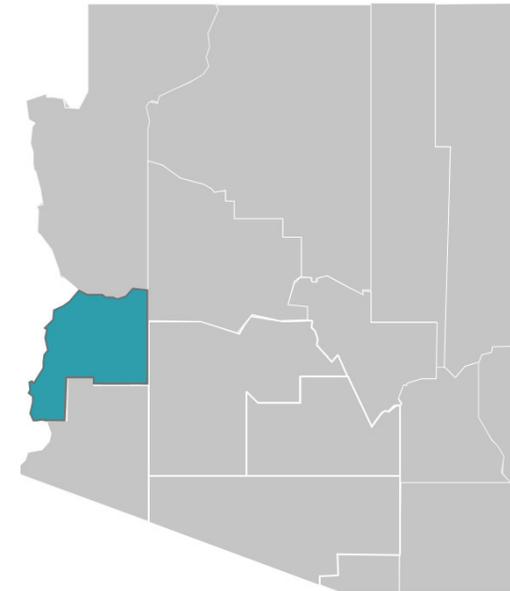
CHIP Priorities

- Safe Neighborhoods
- Chronic Disease
- Infrastructure Development

Major Public Health Successes

1. La Paz County's Nursing Division continues a tradition of excellence after receiving the Daniel T. Cloud Outstanding Practice award for the 13th time.
2. CASPER Assessment was completed in collaboration with the CDC and epidemiologists from ADHS and other counties.
3. The county has had a lot of success forming community partnerships to implement CHIP strategies - Colorado River Crisis Center (domestic violence), PAACE (substance abuse), WAGOG (broadband task force).

www.lpchd.com



Community Involvement

- Conducted a Community Quality of Life Survey with 246 responses
- Held CHA/CHIP meetings with 27 community partners
- Convened the CHA/CHIP Steering Committee with 15 community members representing multiple sectors

[Community Health Assessment - 2017](#)
[Community Health Improvement Plan - 2013](#)

Maricopa County

Vision

A healthy, safe, and thriving community.

Mission

To make healthy lives possible.

Community Profile

- Population: 4,410,824
- Geography (square miles): 9,200
- Median age: 36.0 years
- Median household income: \$58,580

CHIP Priorities

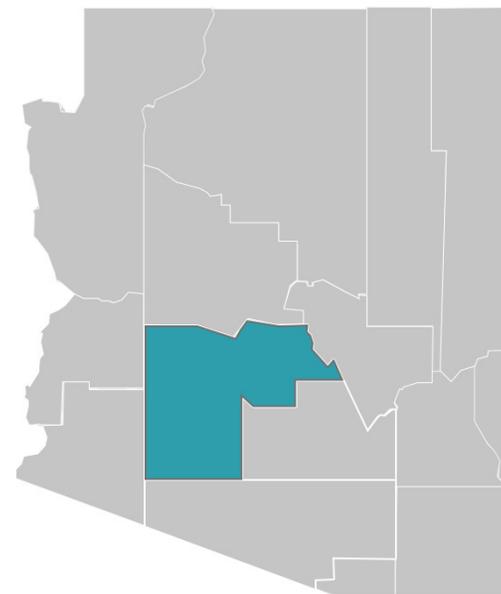
- Access to Care
- Access to Healthy Food
- Early Childhood Development

Major Public Health Successes

1. Received PHAB accreditation in 2015.
2. Trained 700+ students and parents to be community health advocates.
3. Developed public/private coalition planning for public health & climate.

[Community Health Assessment - 2017](#)
[Community Health Improvement Plan - 2017](#)

www.maricopa.gov



Community Involvement

- A total of 16 key informant interviews were conducted to gather expert opinions from professionals in the local public health community for the latest CHA.
- Nearly 5,000 Maricopa County residents responded to the 2015 community health survey.
- A total of 367 individuals were interviewed through 36 focus groups targeting demographics who are frequently underserved.
- Forged new partnerships with community agencies and community members to implement pilot projects to test and adapt interventions tied to the CHIP priorities.

Mohave County

Vision

Healthy People in Healthy Communities.

Mission

To promote, protect, and improve the health of our communities.

Community Profile

- Population: 204,737
- Geography (square miles): 13,311
- Median age: 50.4 years
- Median household income: \$38,456

CHIP Priorities

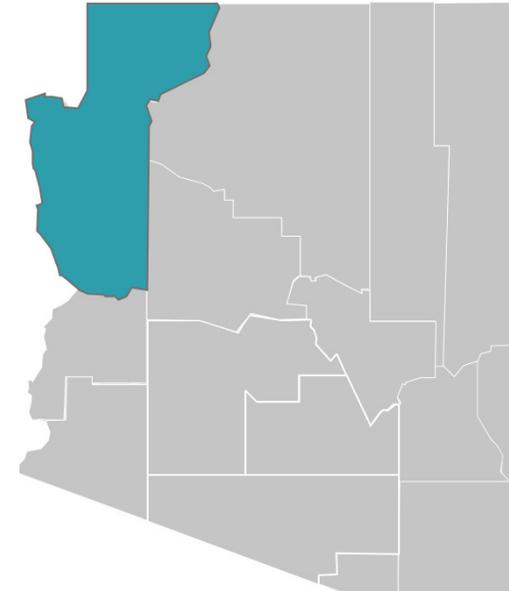
- Substance Abuse
- Mental Health
- Access to Care
- Obesity
- Teen Pregnancy

Major Public Health Successes

1. Adoption of Ordinance preventing individuals from smoking in vehicles when children under 18 are present.
2. Increased number of drug disposal sites in Mohave County by 50%.
3. Formation of community committees to address obesity and mental health.

[Community Health Assessment - 2016](#)
[Community Health Improvement Plan - 2018](#)

www.mohavecounty.us



Community Involvement

- The Mohave County Health Assessment Survey is currently underway using classic media, social media, and hard/paper copies to reach citizens. Six focus groups were conducted in communities, and the Department is currently in the process of identifying key informants that are representative of the different communities.

Navajo County

Vision

Navajo County Public Health Services District is pioneering the way to ensure a healthier community.

Mission

Our mission is to promote and protect public health through education, prevention, & partnerships.

Community Profile

- Population: 108,956
- Geography (square miles): 9,960
- Median age: 35.8 years
- Median household income: \$39,774

CHIP Priorities

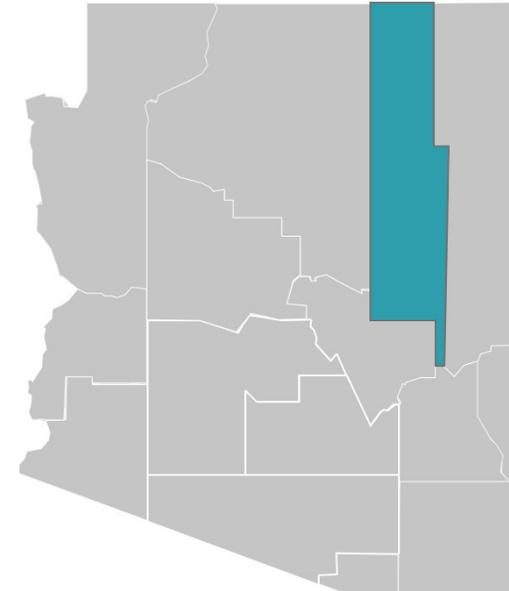
- Substance Abuse
- Chronic Disease
- Poverty
- Mental/Behavioral Health
- Sexually Transmitted Diseases

Major Public Health Successes

1. "The 2018 Navajo County Health Assessment & Community Health Improvement Plan is the most comprehensive our community has ever had."
Ron McArthur,
Chief Executive Officer Summit Healthcare

[Community Health Assessment - 2018](#)
[Community Health Improvement Plan - 2018](#)

www.navajocountyaz.gov



Community Involvement

- Public engagement & education with CHIP Dashboard.
- Engaged with 53 public health system partners to develop 1 CHA & 1 CHIP for all to use.

Pima County

Vision

A Healthy Pima County - Everyone, Everywhere, Every day.

Mission

To ensure the health, well-being, and safety of our community through leadership, collaboration, and education.

Community Profile

- Population: 1,000,000
- Geography (square miles): 10,000
- Median age: 38.2 years
- Median household income: \$48,676

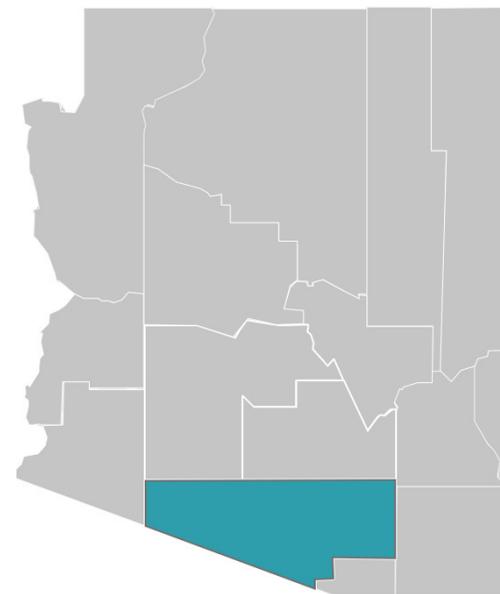
CHIP Priorities

- Access to Services
- Behavioral Health
- Obesity & Related Chronic Disease

Major Public Health Successes

1. Pima County has very successful school immunization rates with more than 94 percent of all children in child care receiving the recommended immunizations, meeting and exceeding the Healthy People 2020 objective for immunizations for 19-35 month olds.
2. Pima County's percent of obese adults is at 25%, lower than Maricopa County and Arizona as a whole, meeting the Healthy People 2020 target of 30%.
3. Pima County has a higher access to primary care providers than the rest of the state. Arizona's ratio of population to provider is 424 for every 1 provider; Pima County's ratio is 373:1.

www.pima.gov



Community Involvement

- Healthy Pima, Pima County's Health Improvement Planning Initiative, consists of over 550 individuals representing more than 120 organizations across government, for-profit, and not-for-profit organizations.
- Pima County's 2018 Community Health Needs Assessment, released in March 2019, is the product of collaboration across healthcare providers, public health advocates, and community stakeholders. Secondary and primary data was collected from local, state, and national datasets as well as key informant interviews and focus groups.

[Community Health Assessment - 2018](#)
[Community Health Improvement Plan - 2018](#)

Pinal County

Vision

Bringing Health Equity Home.

Mission

Cultivating a healthy community where everyone has the opportunity to reach their full potential.

Community Profile

- Population: 430,237
- Geography (square miles): 5,366
- Median age: 38.5 years
- Median household income: \$52,628

CHIP Priorities

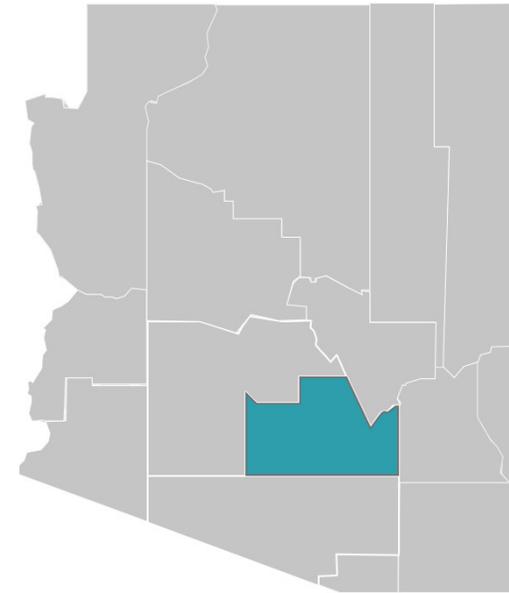
- Obesity & Chronic Disease
- Substance Use & Dependency
- Mental Health

Major Public Health Successes

1. Immunization rates above 80% for toddlers.
2. Implemented heat-related illness and opioid overdose surveillance.
3. 100% congenital syphilis cases treated within CDC recommended timeframe.

[Community Health Assessment - 2018](#)
[Community Health Improvement Plan - 2018](#)

www.pinalcountyz.gov



Community Involvement

- In 2017, Pinal County Public Health Services District signed a charter with Banner Health and Sun Life Family Health Center to conduct a joint community health needs assessment and develop a community health improvement plan. Over 300 residents participated in focus group surveys, and over 20 organizations participated in a 2017 joint priority setting meeting.

Santa Cruz County

Vision

Optimal Health, Wellness, and Safety for all Santa Cruz County residents.

Mission

Using the most effective and efficient means available, including education and prevention services, promote individual and group actions and choices that produce the highest possible level of public and environmental health.

Community Profile

- Population: 46,212
- Geography (square miles): 1,238
- Median age: 36.4 years
- Median household income: \$38,802

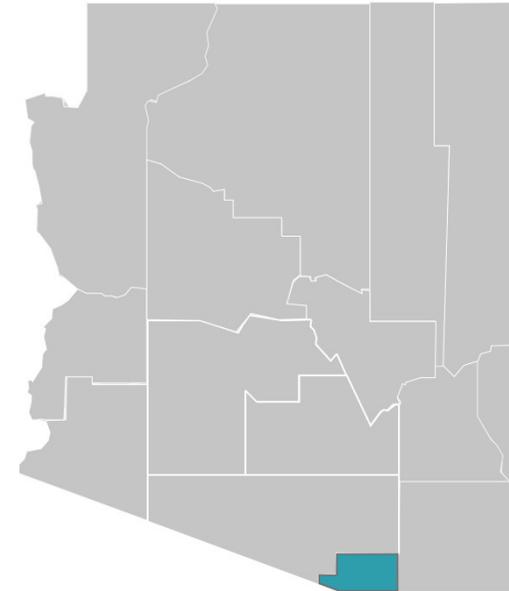
CHIP Priorities

- Access to Healthcare
- Healthy Weight & Diabetes
- Adolescent Pregnancy

Major Public Health Successes

1. In November 2017, Nogales Housing Authority passed a Tobacco-Free Campus policy across all sites.
2. The Arizona Attorney General Office and the FDA Counter Strike Tobacco Inspection Program, in collaboration with Mariposa Youth Coalition members, conducted 3 inspections for sales to minors. All stores within Santa Cruz County are in compliance.
3. During the 2017-2018 and 2018-2019 school years, 1,068 middle school students attended the Speak Up! assembly. The program focuses on mental health and reducing risk behaviors.

www.santacruzcountyz.gov



Community Involvement

- Series of focus groups with various target populations.
- 2 community forums conducted in Nogales and Rio Rico.
- Countywide CHA survey with results presented for public input.

[Community Health Assessment - 2012](#)
[Community Health Improvement Plan - 2013](#)

Yavapai County

Vision

Yavapai County residents will have the opportunity to optimize their health & well-being.

Mission

Yavapai Community Health Services will provide leadership, information, & services that contribute to improving the health & well-being of Yavapai County.

Community Profile

- Population: 228,168
- Geography (square miles): 8,127
- Median age: 51.9 years
- Median household income: \$48,259

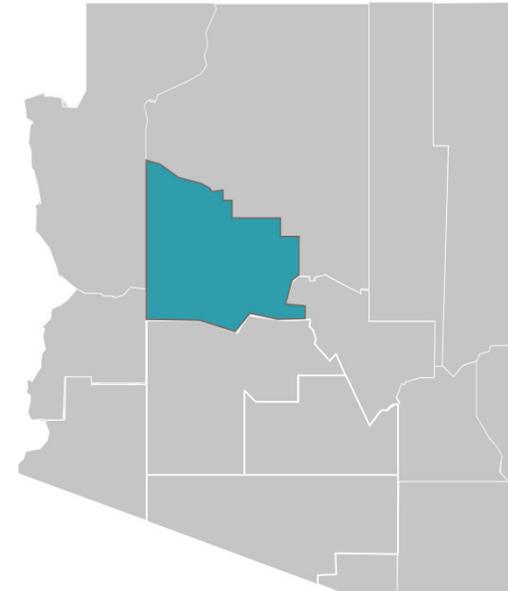
CHIP Priorities

- Mental Health
- Substance Use Disorders
- Access to Care
- Access to Healthy Food

Major Public Health Successes

1. Trauma Lens Care (TLC) program has received national attention. TLC connects children who have experienced trauma where law enforcement is involved with additional attention and counseling services in school.
2. A major collaborative event, "Connecting Communities Symposium," was held and had over 275 attendees with 22 speakers. Data from the CHA was highlighted.
3. The Local Health Officer has presented YCCHS programs, services and community issues at many rural town hall meetings, community forums, and panel discussions. YCCHS was involved at 4 Opioid Epidemic forums.

www.yavapai.us



Community Involvement

- At our March 7th Quad-Cities CHIP meeting, two speakers presented: Jessi Hans with the Coalition for Compassion & Justice & Nancy DeVine with the Veterans Affairs.
- The February 27th meeting for the Verde Valley CHIP had the Economic Development Manager for the City of Cottonwood speak, which led to a great discussion about the needs of the community's economic health.

[Community Health Assessment - 2017](#)
[Community Health Improvement Plan - 2016](#)

Yuma County

Vision

A healthy community that is engaged, empowered and informed.

Mission

To provide services that prevent epidemics and the spread of disease, protect against environmental hazards, promote and encourage healthy behaviors and assure accessibility of health services.

Community Profile

- Population: 207,534
- Geography (square miles): 5,514
- Median age: 34.1 years
- Median household income: \$43,253

CHIP Priorities

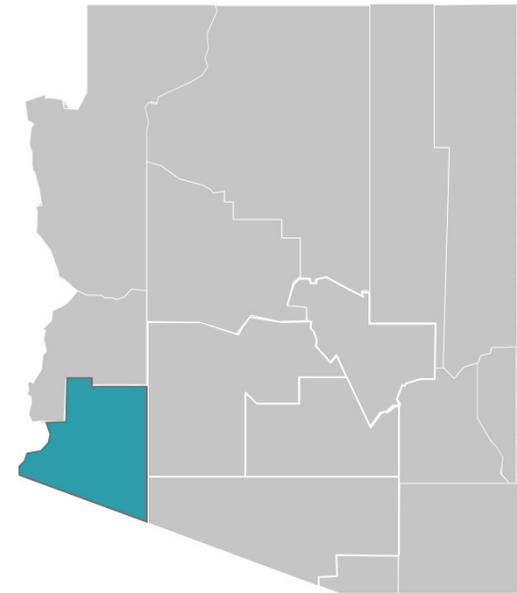
- Chronic Disease
- Obesity
- Sexually Transmitted Diseases
- Access to Care

Major Public Health Successes

1. Increased immunization rates/low rates of vaccine preventable disease.
2. Lower smoking rate prevalence.
3. Worksite Wellness Initiative received the Platinum Award for the 3rd year in a row.

[Community Health Assessment - 2016](#)
[Community Health Improvement Plan - 2016](#)

www.yumacountyaz.gov



Community Involvement

- Engaged community partners through a series of 4 informational data sharing sessions.
- Shared information and engaged partners through Yuma County Health & Wellness Coalition Meetings.
- Conducted County Wide Resident Survey with 250 responses.
- Conducted key stakeholder interviews with 10 key community partners.
- Facilitated 4 community roundtable discussions with 200 participants.

Capacity Through Engagement and Partnerships

The true capacity within the state to improve the health of Arizonans is far beyond ADHS alone. The AzHIP employed a strategy of addressing each of the priority issues in collaboration with community partners. This broad participation, through the Steering Committee and multiple work groups, is key to leveraging community resources and assets, including individuals, associations, and organizations influencing social determinants of health.

The below organizations were represented in the Steering Committee (see [Appendix C](#) for a list of Steering Committee members). These organizations represent a cross-section of key community partners dedicated to aligning efforts and harnessing their capacity to address shared health priorities and improve the health of communities.



| Participating Organization | Description |
|---|---|
| Arizona Department of Health Services | Statewide public health agency with the mission “To promote, protect, and improve the health and wellness of individuals and communities in Arizona.” |
| Arizona Alliance for Community Health Centers | The Primary Care Association for the State of Arizona, designated to advance the expansion of the Health Center Program and advocate for the healthcare interests of the medically underserved and uninsured. Assists member community health centers and the disadvantaged populations they serve. |
| Arizona Association of Health Plans | Association of private managed care companies that serve as contractors to provide services to the state’s Medicaid enrollees. |
| Arizona Chamber of Commerce and Industry | The Arizona Chamber of Commerce and Industry is the leading statewide business advocate at the Arizona Capitol and with the Arizona congressional delegation. Its diverse membership employs 250,000 Arizonans in all business sectors and includes small, medium, and large employers. |
| Arizona Council of Human Service Providers | Trade association representing the interests of behavioral health, substance abuse, child welfare and juvenile justice service agencies. The Council is a 501 (c) (6) whose primary function is legislative and administrative advocacy and business operations. |
| Arizona Department of Economic Security | Arizona’s umbrella human services agency, providing services to more than 2.9 million Arizonans including: the administration of SNAP, TANF, unemployment and child care benefits; employment and rehabilitation services; services for persons with developmental disabilities; and programs for individuals experiencing homelessness, hunger and domestic violence. |
| Arizona Department of Transportation | Arizona’s multimodal transportation agency, responsible for transportation policy expertise, planning, building, and operating a complex highway system in addition to building and maintaining bridges and the Grand Canyon Airport. Providing title, registration and driver-license services to the general public throughout the state of Arizona. |
| Arizona Department of Veterans’ Services | Provides direct services to veterans through the administration of 19 Veterans Benefits Offices throughout Arizona, which help veterans connect with their VA benefits, two skilled-nursing Veterans’ Home facilities in Phoenix and Tucson that provide short and long-term care, and veterans’ cemeteries. Also provides state-wide coordination and technical assistance to services and organizations serving veterans. |
| Arizona Health Care Cost Containment System | Arizona’s Medicaid and Children’s Health Insurance Program agency. The single state agency for substance use services and state mental health, providing coverage for 1.9 million Arizonans. |
| Arizona Hospital and Healthcare Association | Association of hospital and healthcare leaders. |
| Arizona Housing Coalition | Collaborative association focused on efforts to end homelessness and advocate for safe, affordable homes for all Arizonans. |
| Arizona Local Health Officers Association (ALHOA) | Comprised of the state’s 15 county health officers, ALHOA is an association that serves as a venue for local health officers to network, discuss, and plan public health activities in Arizona. The ADHS Local Health Liaison serves to strengthen coordination and collaboration. |
| Arizona Medical Association | Voluntary membership organization for all Arizona medical and osteopathic physicians, focused on legislative advocacy, professional leadership and community relationships. |
| Arizona Office of the Governor | Office of Arizona Governor Doug Ducey. |

| Participating Organization | Description |
|--|---|
| <u>Arizona State University Center for Mindfulness, Compassion, & Resilience</u> | University Center established to create mindfulness and compassion practices at ASU and the community to nurture purpose, focus, resilience and connection. Connects global researchers, scholars, teachers, practitioners, and learners around the concepts of mindfulness, compassion and well-being. |
| <u>Blue Cross Blue Shield of Arizona</u> | Not-for-profit commercial health insurer offering health insurance and related services to nearly 1.5 million customers. |
| <u>Chicanos Por La Causa</u> | Nonprofit community development organization dedicated to promoting stronger and healthier communities. Provides comprehensive culturally and linguistically competent services, with a focus on individuals with low-to-moderate income levels, in areas such as health and human services, housing, education, and economic development. |
| <u>Inter Tribal Council of Arizona</u> | Council of tribal leaders, including tribal chairpersons, presidents, and governors, established to provide a united voice for tribal governments located in Arizona to address common issues of concern and promote Indian self-reliance through public policy development. ITCA also provides technical assistance and training to tribal governments in program planning and development, research, and data collection, resource development, management, and evaluation. The goal of ITCA and its commitment to the member tribes is to ensure the self-determination of Indian tribal governments through their participation in the development of the policies and programs which affect their lives. |
| <u>Mayo Clinic Office for Community Affairs</u> | Nonprofit healthcare provider committed to clinical practice, education and research. |
| <u>Phoenix Area Indian Health Services</u> | An area office of the Indian Health Service (IHS), an agency within the Department of Health and Human Services, which is responsible for providing federal health services to American Indians and Alaska Natives. The Phoenix Area Indian Health Service Office oversees the delivery of healthcare in Arizona, Nevada, and Utah. |
| <u>Stanfield Elementary School</u> | Elementary school in Stanfield, Arizona. Winner of the U.S. Healthier Schools Challenge Gold Award of Distinction and Bronze National Healthy Schools Award from the Alliance for a Healthier Generation. |
| <u>University of Arizona Center for Rural Health</u> | Arizona's federally-designated State Office of Rural Health (SORH), which helps rural communities build and sustain health services and address rural health needs. SORHs serve as neutral conveners of state partners, health providers, and community members and coordinate efforts in health sector economic development and innovation in rural hospitals, outpatient clinics, and emergency departments. The Center has a core mission to improve the health and wellness of Arizona's rural and underserved populations. |
| <u>Vitalyst Health Foundation</u> | Independent public health foundation focused on improving access to care and coverage, promoting healthy communities, increasing community capacity, cultivating collaboration, and advancing health equity. |

The AzHIP utilized work groups to develop focused strategies for each of its health priorities. Community partners were leveraged to serve as co-chairs alongside ADHS staff on each of the AzHIP work groups. In addition to the organizations described above, the below organizations were represented as co-chairs on the work groups.

A full co-chair list can be found in [Appendix G](#).

- American Cancer Society
- Arizona Asthma Coalition
- American Lung Association
- American Heart Association
- Arizona Dental Association
- National Institutes of Health
- HonorHealth
- Pima County Health Department
- Maricopa County Department of Public Health
- Governor's Office of Youth, Faith and Family
- ASU College of Health Solutions
- St. Joseph's Hospital and Medical Center
- Arizona Department of Education



ADHS also leveraged the capacity of organizations across the state to directly support health improvement efforts consistent with the AzHIP and improve the community's health. The below table lists the external partners who took lead responsibility for implementing at least one action item in the plan.

| Health Priority | External Partner |
|------------------------------------|---|
| Cancer | American Cancer Society Maricopa County Department of Public Health Greater Valley Area Health Education Center The Arizona Partnership for Immunization American Cancer Society Action Network Komen Foundation Arizona Alliance of Community Health Centers |
| CLRD/Asthma | Arizona Asthma Coalition Arizona Multi-Housing Association Arizona Smoke Free Living Coalition American Lung Association |
| Diabetes | Vitalyst Health Foundation Arizona Living Well Institute Arizona Diabetes Coalition |
| HAI | Arizona HAI Advisory Committee |
| Heart & Stroke | Arizona Stroke Collaborative American Heart Association |
| Maternal & Child Health | Strong Families Arizona Postpartum Support International, AZ Chapter AZ Chapter of the American Academy of Pediatrics The Arizona Partnership for Immunization Arizona Department of Education First Things First Maricopa Community Advisory Board Teen Outreach Pregnancy Services Arizona Family Health Partnership Safe Kids Arizona State Child Fatality Review Team Safe Sleep Task Force Preconception Health Alliance |
| Mental Health | Arizona Council of Human Service Providers Arizona Health Care Cost Containment System |

| Health Priority | External Partner |
|----------------------|---|
| Obesity | Pinnacle Prevention Arizona Department of Education First Things First Arizona Academy of Nutrition and Dietetics University of Arizona Western Region Public Health Training Center Maricopa County Department of Public Health Mercy Care Plan AZ Chapter of the American Academy of Pediatrics Edunuity Arizona Food Market Association Vitalyst Health Foundation Food System Coalitions |
| Oral Health | Arizona Dental Association A.T. Still University Oral Health Coalition Arizona Health Care Cost Containment System Arizona Academy of Pediatric Dentistry Arizona American Indian Oral Health Initiative Arizona Alliance for Community Health Centers Strong Families Arizona |
| Substance Abuse | Governor's Office of Youth, Faith, and Family Arizona Health Care Cost Containment System |
| Suicide | Arizona Health Care Cost Containment System |
| Tobacco | Arizona Smokers Help Line (ASHLine) Maricopa County Department of Public Health Arizona Smoke Free Living Coalition American Lung Association Arizona Multi-Housing Association Attorney General's Office Students Taking a New Direction Pima Prevention Partnership |
| Unintentional Injury | Arizona Department of Transportation Arizona Game and Fish |

| Health Priority | External Partner |
|--------------------------|---|
| Access to Care | Arizona Association of Health Plans CoverAZ Arizona Alliance for Community Health Centers Arizona Nurses Association University of Arizona Center for Rural Health AARP Arizona Medical Association Health Literacy Coalition Arizona Health Care Cost Containment System Vitalyst Health Foundation |
| Built Environment | Vitalyst Health Foundation Arizona Partnership for Healthy Communities Maricopa Association of Governments Living Streets Alliance Arizona Housing Coalition Arizona Alliance for Livable Communities |
| School Health | Arizona Department of Education Arizona Dairy Council Governor's Office of Youth, Faith, and Family Healthy Future AZ Alliance for Healthy Generations Action for Healthy Kids |
| Worksite Wellness | Maricopa County Department of Public Health Arizona Smokers Help Line (ASHLine) Arizona Cancer Coalition American Heart Association The Arizona Partnership for Immunization |

ADHS will expand upon this participation for new focus areas identified through this Assessment, including engaging a broader set of organizations whose work impacts social determinants of health and those who focus on health equity strategies.

Conclusion

This Assessment will help inform the future direction of the AzHIP and collaborative efforts to improve the health of Arizonans. It will be used to direct resources and focus to areas of highest need and priority.

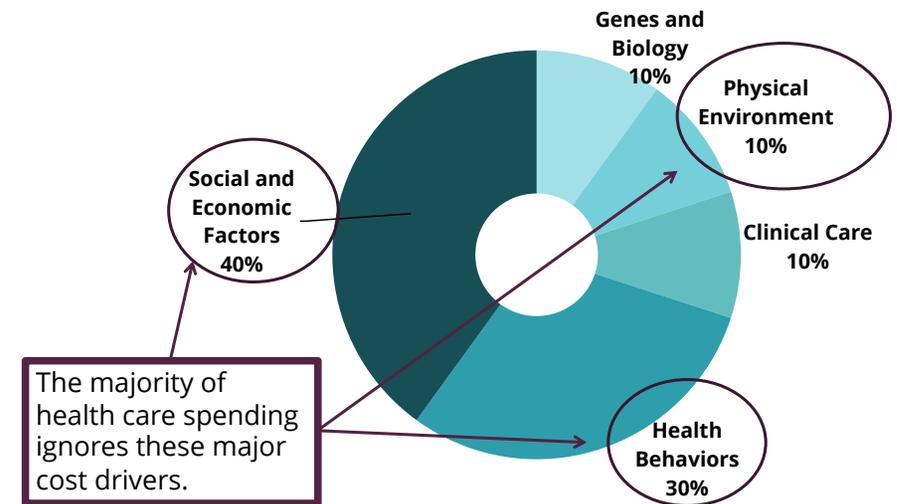
By examining health indicators and outcomes across the lifespan, we see clear opportunities for strategies to address issues that impact Maternal and Infant Health, Adolescent Health, Healthy Adults, and Healthy Aging. The data also highlight the need for interventions that concentrate on populations such as our tribal communities, veterans, and individuals who reside in the Border Region.

The Assessment illuminates the significant impact that social determinants of health have on the health outcomes for Arizonans. As we have discussed throughout the report, social, economic, and physical conditions in communities play a significant role in the health of the residents of those communities.

The health indicators outlined in this Assessment also emphasize the need for deliberate strategies that support equity. Individuals in communities with disparate access to social, economic, or environmental supports have different health outcomes, which we see in some of the geographic, racial, and other disparities highlighted in this Assessment. Approaches that support the health of individuals based on their unique circumstances are critical to achieving health equity. Support and strategies that work for some populations may fall short in addressing the needs of others.

As Arizona updates the AzHIP, it will need to look more broadly at social determinants and other factors that shape our population's health and ensure priorities and approaches reflect this shared commitment to health equity, designed to support the needs of all Arizonans.

Determinants of Health Model, 2018



Determinants of Health Model based on frameworks developed by: Tarlov AR. Ann N Y Acad Sci 1999; 896: 281-93; and Kindig D, Asada Y, Booske B. JAMA 2008; 299(17): 2081-2083. National Academy for State Health Policy and de Beaumont Foundation 2018.



Appendix A

ADHS SHA Epidemiology Data Team

- Monique Adakai, MPH
- Carla Berg, MHS
- Shane Brady, MPH
- Martin Celaya, MPH
- Kyle Gardner, MSPH, CHES
- Ken Komatsu, MPH
- Holly Poynter, MPH, CPH
- Michelle Sandoval-Rosario, MPH, CPH
- Marguerite Sagna-Kemp, PhD
- Sheila Sjolander, MSW
- Kevin Watanabe, MS, MPH, RD, CSP



Appendix B

SHA Data Roadshow Presentations

| Organization/Group | Format | Date |
|---|-----------|------------|
| AzHIP Tribal Work Group | In-person | 10/15/2018 |
| ADHS - Bureau of Women & Children's Health | In-person | 10/16/2018 |
| Arizona Local Health Officers Association | In-person | 10/18/2018 |
| AzHIP Steering Committee | In-person | 10/19/2018 |
| Vitalyst Health Foundation & partners | In-person | 10/22/2018 |
| AzHIP Co-Chairs | In-person | 10/24/2018 |
| Diabetes Coalition | In-person | 10/26/2018 |
| Governor's Goal Council 3 | In-person | 11/9/2018 |
| AzHIP School Health Work Group | In-person | 11/13/2018 |
| ADHS Leadership | In-person | 11/13/2018 |
| Public Health Learning Community | Webinar | 11/15/2018 |
| AZ Partnership for Healthy Communities | In-person | 11/15/2018 |
| ADHS - IHS Quarterly Meeting | In-person | 11/15/2018 |
| Maricopa Association of Governments - Age Friendly Arizona | Webinar | 11/20/2018 |
| Arizona Community Foundation - Philanthropic Services Committee | In-person | 11/20/2018 |
| Blue Cross Blue Shield of AZ - Community Health Interventions & Health Equity | In-person | 11/26/2018 |
| Cancer Coalition Steering Committee | In-person | 11/30/2018 |
| ADHS Lunch and Learn | In-person | 12/4/2018 |
| Live Webcast | Webinar | 12/18/2018 |
| Dignity Health, St. Joseph's Hospital and Medical Center "2MATCH" Advisory Board | In-person | 1/9/2019 |
| State Medicaid Advisory Committee | In-person | 1/9/2019 |
| Arizona Healthy Communities Conference | In-person | 3/28/2019 |

Appendix C

AzHIP Steering Committee

| Member | Title & Participating Organization |
|-----------------------------|--|
| Dr. Cara Christ (Co-Chair) | Director, Arizona Department of Health Services |
| Suzanne Pfister (Co-Chair)* | President and CEO, Vitalyst Health Foundation |
| Christina Corieri | Arizona Office of the Governor |
| David Adame | President & CEO, Chicanos Por La Causa |
| Jennifer Carusetta | Health Care Committee, Arizona Chamber of Commerce |
| Cynthia Claus | Director, Health Programs Phoenix Area Indian Health Services |
| Maria Dadgar | Executive Director, Inter Tribal Council of Arizona |
| Dr. Dan Derksen | Director, University of Arizona Center for Rural Health |
| Marcy Flanagan | President, Arizona Local Health Officers Association (ALHOA) |
| Eric Gudino | Special Assistant to the Director, Arizona Department of Transportation |
| Nika Gucci | Executive Director for University Engagement, Arizona State University Center for Mindfulness, Compassion, & Resilience |
| Deb Gullet* | Executive Director, Arizona Association of Health Plans |
| Emily Jenkins* | President & CEO, Arizona Council of Human Service Providers |
| Debbie Johnston* | Senior Vice President, Policy Development, Arizona Hospital and Healthcare Association |

| Member | Title & Participating Organization |
|----------------------|---|
| Marion Kelly | Director, Mayo Clinic Office for Community Affairs |
| Chris Lineberry | Principal, Stanfield Elementary School |
| Libby McDannell | Executive Vice President, Arizona Medical Association |
| John McDonald | CEO, Arizona Alliance for Community Health Centers |
| Dr. James Napoli | Senior Medical Director, Provider Partnership and Clinical Transformation, Blue Cross Blue Shield of Arizona |
| Sean Price | Deputy Director, Programs, Arizona Department of Economic Security |
| Joan Serviss | Executive Director, Arizona Housing Coalition |
| Jami Snyder | Director, Arizona Health Care Cost Containment System |
| Christine Wiggs | Director, Community Health Interventions & Health Equity, Blue Cross Blue Shield of Arizona |
| Colonel Wanda Wright | Director, Arizona Department of Veterans' Services |

* Indicates AzHIP external Co-Chair

Appendix D SHA Survey Results

Because gathering feedback from partners was a priority in the development of this Assessment, ADHS hosted a live webcast on December 18, 2018, to highlight the preliminary data. While attendees were able to ask questions and provide commentary during the presentation, the recording was also posted [online](#) with a follow-up [survey](#) to ensure the public had a chance to provide input.

The Partner Feedback Survey allowed participants to share their key takeaways from the presentation and collected feedback on the top health priorities that statewide partners should address over the next five (5) years. Overall, the survey indicated that our stakeholders were astounded by the wealth of information in the SHA.

Respondents echoed that “the greatest threats to wellness for our citizens have not changed very much in recent years.” The SHA supports the claim that the health of Arizonans is tied to our physical and built environment as well as healthy habits. What did surprise most was the lack of public health funding in the state. Our partners strongly feel that increased funding would allow us to better impact upstream prevention efforts.

“Arizona has the potential to move beyond reactive clinical care and lead the way in preventive care through public health approaches.”

-Survey Respondent

The top 3 health priorities that respondents indicated should be addressed were injury prevention, mental health, and obesity, nutrition, and physical activity. Partners are also invested in tackling the health inequities across the state, especially the burden among tribal populations. Although ADHS has not started the development of the next AzHIP, this information may be used in the creation of the next Improvement Plan before it is released in 2021.

“Identifying where there is an area of concern clarifies the level of disparity and drives prevention efforts.”

-Survey Respondent



Appendix E

Data Source Table

| Data Source | Description |
|---|---|
| America's Health Rankings | America's Health Rankings, guided by an Advisory Council, works on themes and topics to provide a wide variety of health and health-related information to help policymakers, advocates, and individuals understand a population's health in a holistic, inclusive manner. The Annual Report is the longest running annual assessment of the nation's health on a state-by-state basis. The Annual Report has analyzed a comprehensive set of behaviors, public and health policies, community and environmental conditions, and clinical care data. |
| American Community Survey (ACS) | The American Community Survey (ACS) is the largest annual household survey conducted by the Census Bureau to generate period estimates of socioeconomic and housing characteristics for states and communities (counties, zip codes, census tracts, and block groups). It was developed to replace the "long form" of the decennial census and provide more timely data about the entire U.S. population. The ACS is the primary source for detailed population and housing information, including data on educational attainment, income, occupation, poverty, language proficiency, veterans, housing type and several other topics. The survey is designed to provide estimates that describe the average characteristics of an area over a specific time period, either a calendar year (single-year estimates) or a period of 3 or 5 calendar years (multiyear estimates). Data collected are used in many sectors to monitor changing demographics, allocate findings, build infrastructures, and plan for emergencies. More information the ACS can be found at: https://www.census.gov/programs-surveys/acs/ |
| Arizona Maternal Mortality Review Program | The Arizona Maternal Mortality Review (MMR) has conducted reviews of all pregnancy associated deaths within the State since the program's inception in 2012. The review committee classifies maternal deaths into one of the four following categories: pregnancy related death, pregnancy associated death, not pregnancy related or associated, and unable to determine. Once categorized, the MMR team focuses on the cause of death for pregnancy related and pregnancy associated deaths. The comprehensive review examines whether the death was preventable or not and if there were any underlying causes for pregnancy related deaths. If the death was considered preventable, the committee will make recommendations on what could have been done to change the outcome. |
| Arizona Youth Survey | The Arizona Youth Survey (AYS) is a biennial school-based survey of 8th, 10th, and 12th grade students. It is administered in schools across all 15 counties in Arizona during the Spring semester of every even academic year. The purpose of the survey is to better understand the frequency of problematic behaviors in youth (i.e. substance use, bullying, impaired driving, gang activity), and the factors that may influence the prevalence of these behaviors. The AYS is based on nationally recognized surveys, including Communities that Care (CTC) and Monitoring the Future (MTF). Over the years, the AYS has provided schools, community organizations, and government agencies with valuable information for substance abuse prevention planning and grant writing. http://azcjc.gov/content/arizona-youth-survey |
| AZ Department of Economic Security Annual Homeless Report | The Annual Report on Homelessness in Arizona has been prepared pursuant to A.R.S. § 41-1954 (A) (19) (g). This report provides information about homelessness in Arizona during SFY 2018. The report attempts to recognize the similarities and differences in demographic characteristics of subgroups that make up the homeless population, as well as the similarities and differences in the issues that impact homelessness in the three Continuums of Care (COC). |
| Birth Certificate | A birth certificate is a legal document attesting birth, paternity, adoption, and official identity. It is also a great source of demographic and socioeconomic information that it used to monitor trends in public health, healthcare utilization, obstetric procedures, and maternal and infant health. All births to Arizona residents, including those of residents who give birth in other states are included in the birth certificate system maintained by the Arizona Department of Health Services Bureau of Vital Records. Data in this report represent births to Arizona residents. |

| Data Source | Description |
|--|--|
| BRFSS | <p>The Behavioral Risk Factor Surveillance System (BRFSS) is a population-based telephone survey conducted annually in all 50 states, the District of Columbia and U.S. territories to collect information on health-related behavioral risk factors, preventable health practices, healthcare access, and chronic conditions among non-institutionalized U.S. adults ages 18 years or older.</p> <p>Additional detailed information about the BRFSS survey design, sampling methods, data collection, and weights is available at https://www.cdc.gov/brfss/index.html.</p> |
| Census Bureau Population data | <p>The Census Bureau takes the count of all people living in the U.S. every 10 years, providing a statistical demographic portrait of the country. During the non-census years, the intercensal and postcensal population estimates are generated to provide population counts of the nation. Data collected by the census serve several purposes. As mandated by the U.S. Constitution, the census provides the population counts necessary for seats allocation among the states in the U.S. House of representatives. Population counts from the census are necessary denominators for calculation rates of health events. Federal, State and local governments require census for program planning and management.</p> |
| Death Certificate | <p>Information on deaths is compiled from the original documents filed with the Arizona Department of Health Services Bureau of Vital Records and from transcripts of death certificates filed in other states but affecting Arizona residents. Death certificates are critical documents that not only serve to establish legal benefits but also provide vital statistics information for epidemiologic purposes. The information provided on the death certificate is important for tracking mortality trends, providing outcome data for research studies, setting priorities for improving the health of the population. Mortality data in this report present death of Arizona residents. This means that deaths have been assigned to the place where the person lived regardless of where the death occurred. Mortality data for Arizona Residents are summarized annually in a comprehensive report that describes statewide trends, leading causes of death, health disparities, population at high-risk, and community health.</p> <p>Detailed information about the annual report can be found at: https://pub.azdhs.gov/health-stats/report/ahs/index.php</p> |
| Hospital Discharge Data | <p>Hospital Discharge Data (HDD) are a valuable source of information about the patterns of care, public health, and the burden of chronic disease and injury morbidity. ADHS collects hospital discharge records for inpatient and emergency department visits from all Arizona licensed hospitals. The available data are for state-licensed hospitals including psychiatric facilities. Federal, military, and the Department of Veteran Affairs hospitals are not included. An inpatient discharge occurs when a person who was admitted to a hospital leaves that hospital. A person who has been admitted to the emergency room or as a hospital inpatient more than once in a given calendar year will be counted multiple times as a discharge and included more than once in the hospital discharge data set; thus, the statistics on inpatient hospital care and emergency room care in this report are for discharges, not persons. All discharges are for the residents of Arizona. Discharges of out-of-state residents are not included in this report.</p> <p>https://www.azdhs.gov/preparedness/public-health-statistics/hospital-discharge-data/index.php</p> |
| National Health and Nutrition Examination Survey | <p>The National Health and Nutrition Examination Survey (NHANES) is a program of studies designed to assess the health and nutritional status of adults and children in the United States. The survey is unique in that it combines interviews and physical examinations. NHANES is a major program of the National Center for Health Statistics (NCHS). NCHS is part of the Centers for Disease Control and Prevention (CDC) and has the responsibility for providing vital and health statistics for the Nation.</p> <p>https://www.cdc.gov/nchs/nhanes/index.htm</p> |

| Data Source | Description |
|--|--|
| National Immunization Survey | <p>The National Immunization Survey (NIS) collects data on immunization and breastfeeding rates from landline and cellphone surveys. Mothers of children 19-35 months old are asked about breastfeeding duration and exclusivity. Because the age range of children, published data on NIS is always at least three years old. The survey also requires women to recall the age of their children when they stopped exclusively or partially breastfeeding. Recall accuracy is complicated by the time passed (up to 35 months), the possibility of multiple children and recalling breastfeeding duration for the child in question, and fatigue associated with being a new parent. As with other surveys, NIS is susceptible to response and participation bias. Since 2001, the NIS survey has included questions about breastfeeding duration and exclusivity. The survey remains the best data source for breastfeeding rates across the country.</p> <p>https://www.cdc.gov/vaccines/imz-managers/nis/index.html</p> |
| National Survey of Children's Health | <p>The National Survey of Children's Health (NSCH) provides rich data on multiple, intersecting aspects of children's lives including physical and mental health, access to quality healthcare, and the child's family, neighborhood, school, and social context. The National Survey of Children's Health is funded and directed by the Health Resources and Services Administration (HRSA) Maternal and Child Health Bureau (MCHB).</p> |
| National Survey on Drug Use and Health | <p>The National Survey on Drug Use and Health (NSDUH) is a nationwide study that provides up-to-date information on tobacco, alcohol, and drug use, mental health and other health-related issues in the United States. Each year, NSDUH interviews approximately 70,000 people age 12 and older for this important study. The study results are released each September, and are used to inform public health programs and policies. NSDUH is authorized by Section 505 of the Public Health Service Act, which requires annual surveys to collect data on the level and patterns of substance use. The Substance Abuse and Mental Health Services Administration (SAMHSA), an agency in the U.S. Department of Health and Human Services (DHHS), sponsors NSDUH. SAMHSA's Center for Behavioral Health Statistics and Quality (CBHSQ), oversees all aspects of the study including data collection, analysis and reporting.</p> <p>https://nsduhweb.rti.org/respweb/homepage.cfm</p> |
| The Dartmouth Atlas of Health Care | <p>The Dartmouth Atlas Project uses methodology, commonly known as small area analysis, which is population-based to document variations in how medical resources are distributed and used in the United States. The project uses Medicare data to provide comprehensive information and analysis about national, regional, and local markets.</p> |
| YRBSS | <p>The Youth Risk Behavior Surveillance System (YRBSS) was established in 1991 by the Centers for Disease Control and Prevention (CDC) to monitor six priority health-risk behaviors that contribute to the leading causes of morbidity and mortality among youth and young adults in the United States. The YRBSS was designed to enable public health professionals, educators, policy makers, and researchers to 1) describe the prevalence of health risk behaviors among youths, 2) assess trends in health-risk behaviors over time, and 3) evaluate and improve health-related policies and programs. One component of the surveillance system is the biennial school-based Youth Risk Behavior Survey (YRBS). Survey results are based on representative samples of high school students in the nation, States, tribes, and select large urban school districts across the country.</p> <p>For more information on the YRBS visit: https://www.cdc.gov/healthyouth/data/yrbs/index.htm</p> |

Appendix F

Ten leading causes of death by age group in 2017

| Rank | <1Y | 1-14Y | 15 - 19Y | 20-44Y | 45-64Y | 65+Y |
|------|-----------------------------------|---|------------------------------------|--------------------------------------|---|---|
| 1 | Congenital Anomalies 92 | Unintentional Injury 76 | Unintentional Injury 107 | Unintentional Injury 1,219 | Cancer 2,727 | Heart Disease 10,171 |
| 2 | Short Gestation 64 | Cancer 30 | Suicide 62 | Suicide 514 | Heart Disease 1,853 | Cancer 8,850 |
| 3 | Maternal Complications 31 | Suicide 16 | Homicide 32 | Cancer 301 | Unintentional Injury 1,175 | Chronic Lower Respiratory Disease 3,293 |
| 4 | Unintentional Injury 23 | Congenital Anomalies 13 | Cancer 8 | Homicide 268 | Liver Disease 591 | Alzheimer's Disease 2,997 |
| 5 | SIDS 14 | Homicide 10 | Heart Disease * | Heart Disease 248 | Diabetes 545 | Cerebrovascular Disease 2,292 |
| 6 | Intrauterine hypoxia 11 | Influenza & Pneumonia * | Abnormal Findings * | Liver Disease 149 | Chronic Lower Respiratory Disease 460 | Unintentional Injury 1,485 |
| 7 | Homicide 10 | Chronic Lower Respiratory Disease * | | Diabetes 77 | Suicide 413 | Diabetes 1,411 |
| 8 | Respiratory Distress 6 | Asthma * | | Obesity 45 | Cerebrovascular Disease 304 | Hypertension 850 |
| 9 | Influenza & Pneumonia * | | | Cerebrovascular Disease 44 | Hypertension 149 | Parkinson's Disease 737 |
| 10 | | | | HIV 20 | Influenza & Pneumonia 125 | Influenza & Pneumonia 697 |

All age group rank 1 2 3 4 5

ADHS Bureau of Vital Records

Appendix G

AzHIP Work Group Co-Chairs

| Work Group | ADHS Co-Chairs | External Co-Chairs | Organization |
|------------------------------------|--------------------|--------------------|---|
| Cancer | Virginia Warren | Sharlene Bozack | American Cancer Society (Retired) |
| CLRD/Asthma | Wayne Tormala | Barbara Burkholder | Arizona Asthma Coalition |
| | Teresa Manygoats | Kelly J. Smith | American Lung Association |
| Diabetes | Addey Rascon | Melanie Mitros | Vitalyst Health Foundation |
| | | Tina Killean | National Institutes of Health |
| HAI | Ken Komatsu | Debbie Johnston | Arizona Hospital and Healthcare Association |
| Heart & Stroke | Wayne Tormala | Hope Martinez | HonorHealth |
| | Carmen Batista | Micah Panczyk | University of Arizona - SHARE Project |
| | | Nicole Olmstead | American Heart Association |
| Maternal & Child Health | Patricia Tarango | Paula Mandel | Pima County Health Department |
| Mental Health | Mike Sheldon | Emily Jenkins | Arizona Council of Human Service Providers |
| | | Dana Hearn | Arizona Health Care Cost Containment System |
| Obesity | Celia Nabor | Renee Bartos | Pediatrician |
| | Stephanie Martinez | | |
| Oral Health | Julia Wacloff | Kevin Earle | Arizona Dental Association |

| Work Group | ADHS Co-Chairs | External Co-Chairs | Organization |
|-----------------------------|-------------------|-----------------------|--|
| Substance Abuse | Sheila Sjolander | Sam Burba | Governor's Office of Youth, Faith, and Family |
| | Lacie Ampadu | Shana Malone | Arizona Health Care Cost Containment System |
| Suicide | Sheila Sjolander | Kelli Donley Williams | Arizona Health Care Cost Containment System |
| Tobacco | Wayne Tormala | Matt Madonna | American Cancer Society (Retired) |
| | Emily Carlson | Scott Leischow | ASU College of Health Solutions |
| Unintentional Injury | Yomi Diaz | Pam Goslar | St. Joseph's Hospital and Medical Center (Retired) |
| | B. Michael Nayeri | Shannon Dunn | HonorHealth |
| Access to Care | Ana Roscetti | Deb Gullett | Arizona Association of Health Plans |
| | | Suzanne Pfister | Vitalyst Health Foundation |
| Built Environment | Sheila Sjolander | C.J. Hager | Vitalyst Health Foundation |
| School Health | Elizabeth Holmes | Nerissa Emers | Arizona Department of Education |
| Worksite Wellness | Patricia Tarango | Sherry Haskins | Maricopa County Department of Public Health |

Appendix H

Resources to Address Workforce Shortages

Arizona has employed a variety of strategies designed to recruit and retain healthcare professionals, including evidence-based workforce programs available in Arizona and nationally to address access to primary care, dental and behavioral health services. Arizona’s Primary Care Office (PCO) housed within the ADHS Bureau of Women’s and Children’s Health is the primary point of contact for technical assistance and site development needs among providers and sites looking to participate in any of these programs.

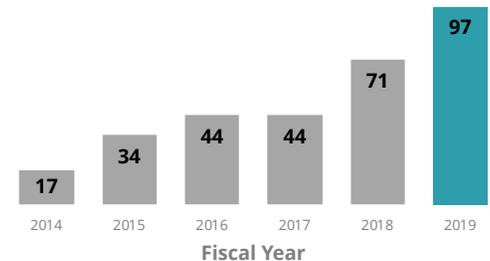
The [Arizona State Loan Repayment Program \(SLRP\)](#), a state administered program through ADHS aims to improve access to medical, dental and behavioral healthcare by recruiting eligible providers in areas of the state where they are most needed in exchange for loan repayment incentives. SLRP’s priority is to recruit providers in high need and rural areas in Arizona located in federally designated HPSAs. At the program’s inception in the late 1990s, the program authorized eligibility only for primary care physicians, dentists, nurse practitioners, and physician assistants. In 2015, SLRP expanded its provider eligibility to geriatric physicians and pharmacists, as well as psychiatrists and independently licensed mental health providers to address Arizona’s mental health provider shortages. SLRP has grown significantly in terms of funding and program participation since its expansion with 17 participants in 2014 to the current 97 participants, a 470% program growth over 4 years. The increased participation was made possible through funding increases - \$850,000 (\$650,000 state and \$200,000 federal) annually in FY 2014-2018 to the current funding level of \$2 million (\$1 million state and \$1 million federal) annually for FY 2019-FY 2022. The significant program growth catapulted the need for process improvement and modernization in the SLRP application process, transitioning from paper based

to an electronic application system to accommodate and address the increasing number of applications with limited staffing, and to enhance customer experience.

Arizona State Loan Repayment Program Disciplines and Number of Obligated Providers, 2014 – 2017

13 Disciplines

- Physicians (PC)
- Physicians (Psych)
- Dentists
- Physician Assistants (PC)
- Physician Assistants (Psych)
- Nurse Practitioners (PC)
- Nurse Practitioners (Psych)
- Nurse Midwives
- Pharmacists
- Clinical Social Workers
- Professional Counselors
- Marriage and Family Therapists
- Clinical Psychologists



ADHS Primary Care Office

[National Health Service Corps](#) is an evidence-based federal program for recruitment and retention of providers in rural and underserved communities. NHSC administered by HRSA, is the national model for SLRP. NHSC provides scholarship assistance to students in primary care training through the NHSC Scholarship Program in exchange for service in a high need HPSA after training. NHSC also provides loan repayment incentives to eligible medical, dental and mental health providers who commit to serve in rural and urban HPSAs across the U.S. In FY 2019, the NHSC Loan Repayment Program dedicated additional funding of \$15 million to award clinicians working at Indian Health Service facilities, 638 Tribally-Operated Health Programs and Urban Indian Health Programs. Unlike the traditional NHSC Loan

Repayment Program that prioritizes clinicians in high HPSA score areas, this additional funding can be used to award clinicians in areas with lower HPSA scores. There are 378 NHSC providers serving in Arizona's underserved areas as of FY2018 and a total of 459 sites are certified NHSC sites.

To combat the nation's opioid crisis, NHSC appropriates funding starting in FY2019 to address Substance Use Disorder (SUD)/Opioid epidemic nationwide with \$105,000,000 appropriated to expand and improve access to quality opioid and substance use disorder treatment in rural and underserved areas; \$75,000,000 for NHSC Loan Repayment Program expansion for SUD trained clinicians; and \$30,000,000 for NHSC Loan Repayment Program collaboration with the Federal Office of Rural Health Policy (FORHP) and the Rural Communities Opioid Response initiative. With these appropriated funding, HRSA launched in December of 2018 the [NHSC Substance Use Disorder Workforce Loan Repayment Program](#) (SUD Workforce LRP). This program aims to prevent opioid use, misuse, and opioid deaths by expanding access to SUD treatments in underserved areas by supporting recruitment and retention of needed healthcare professionals working in NHSC approved SUD treatment sites. Arizona has 109 NHSC approved SUD sites. In addition, NHSC plans to launch a new program in the Spring of 2019, the NHSC Rural Opioid Response Loan Repayment Program with a focus on expanding access to quality opioid and SUD treatment in rural areas.

[Nurse Corps](#), a federal program administered by the US Department of Health and Human Services (DHHS), Health Resources and Services Administration (HRSA) aims to alleviate nursing shortages across the US. Nurse Corps provides scholarships and loan repayment incentives to nursing students or full-fledged nurses who commit to serve in facilities located in federally designated HPSAs with a critical shortage of nurses.

The [J-1 Visa Waiver Program](#) is a federal program coordinated in ARIZONA by ADHS that allows foreign medical graduates on

J-1 Visas to remain in the US after training without returning to their home residence. Through ADHS' recommendation on behalf of foreign medical graduates, J-1 physicians receive a waiver of the mandatory home residency requirement from the US Citizenship and Immigration Services (USCIS) by committing to serve in an underserved area for three years, improving accessibility of healthcare services in underserved areas in Arizona. Each year, ADHS supports 30 J-1 Visa Waiver physicians in Arizona. A total of 74 J-1 Waiver physicians are serving their three year service commitment in Arizona's underserved areas.

An extension of the J-1 Visa Waiver Program, the [National Interest Waiver Program](#) (NIW) is a federal program also coordinated by ADHS that allows certain foreign workers with advanced degrees or exceptional abilities to work in the US. In Arizona, ADHS issues an attestation letter on behalf of foreign physicians participating in the J-1 Visa Waiver Program requesting NIW recommendation. If the J-1 Visa Waiver physician commits to an additional two years of service in an underserved area for a total service of 5 years, ADHS issues an attestation letter on behalf of the requesting physician to the USCIS certifying that the physician's work in the underserved area is in the public interest. There is no limit in the number of NIW recommendations that ADHS can issue at any given year. There are 12 NIW providers serving their five-year service commitment in in Arizona's underserved areas.

Safety Net Providers

Safety net providers, including [Community Health Centers](#) ([Federally Qualified Health Centers](#) - FQHCs) and [Rural Health Clinics](#), play an essential role in promoting access to preventive and primary care among medically underserved communities and vulnerable populations. Community Health Centers must meet 19 federal criteria including but not limited to the following criteria in order to be designated an FQHC: located in or serve a high need community (designated medically underserved area or population) and provide

comprehensive primary healthcare services to all with fees adjusted based on the patient's ability to pay. In Arizona, 21 health centers operate 176 sites, providing preventive and primary healthcare services to 587,459 people. Arizona's Community Health Centers have experienced a 53% growth in number of patients served since 2010, 80% of these organizations have earned Patient Centered Medical Home (PCMH) recognition, and 62% utilize telehealth to better reach underserved populations. The majority of Arizona's Community Health Center patients are poor (91% live at or below 200% of the Federal Poverty Line) and approximately two-thirds are racial/ethnic minorities.⁸⁵

A [Sliding Fee Scale \(SFS\)](#) is used by medical providers and clinics offering discounted fees for services to persons without health insurance. SFS clinics can reduce access to care barriers due to healthcare costs for uninsured and low income individuals. Community Health Centers (CHCs),

Federally Qualified Health Center-Look-Alikes (FQHC-LALs), National Health Service Corp sites, Arizona State Loan Repayment sites, and J-1 Visa Waiver primary care sites are required to implement a SFS as well as post a notice about the availability of a SFS in a visible location at their facility. The SFS determines the percentage or portion of billed charges that the uninsured client will be responsible for based on gross family income. Sliding Fee Schedules must be based on current [Federal Poverty Guidelines](#) and adhere to the Arizona Administrative Code A.A.C. R9-1-504 Sliding Fee Schedule submission and content. There are over 400 SFS clinics in Arizona offering primary care, behavioral health, and dental services to uninsured and low-income individuals.

ADHS maintains an updated list and mapper of [SFS clinics in the State](#) and has a user friendly online interface for the public to identify the nearest SFS clinic.

⁸⁵ National Association of Community Health Centers, [Arizona Health Center Fact Sheet](#). Accessed 2019.



Sliding Fee Schedule (SFS) Clinic interactive mapper

[SFS Clinics](#) improve access to care for low-income and uninsured individuals who are not eligible for commercial or government.

Sliding Fee Schedule Clinics

[ADHS Home](#) / [Geographic Information System \(GIS\) Applications](#) / [Sliding Fee Schedule Clinics](#)

