

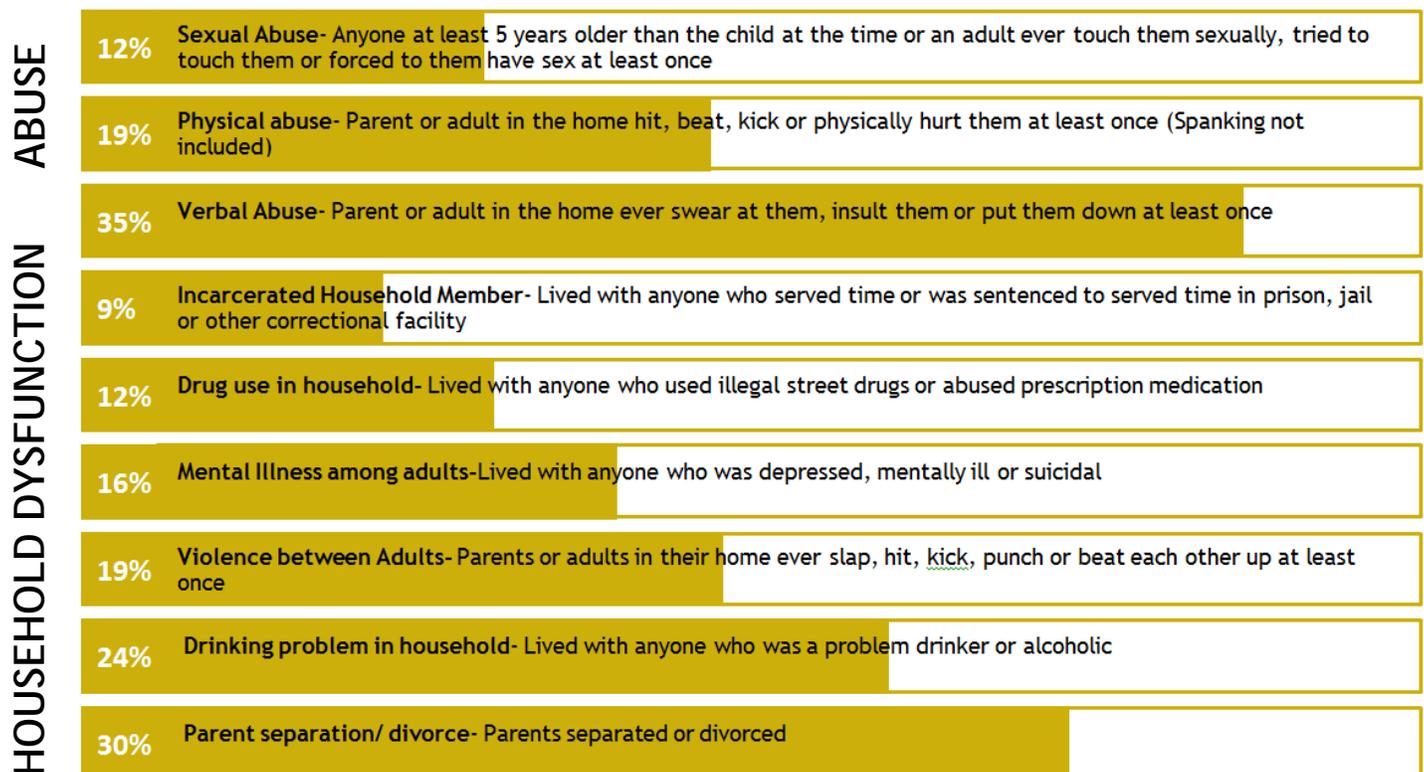
# Adverse Childhood Experiences in Arizona

Findings from the 2014 Arizona Behavioral Risk Factor Surveillance System

**ACEs** or Adverse Childhood Experiences are traumatic events that an individual experiences before the age of 18 and can remember as an adult. ACEs are associated with negative effects on social, cognitive and emotional aspects of the adult life.<sup>1</sup> Through the 2014 Behavioral Risk Factor Surveillance System (BRFSS), Arizona’s residents were asked if they had experienced any of the nine types of ACEs categorized under abuse or household dysfunction as a child.

**2014** was the first year that ACE data was collected for Arizona. The interest in ACEs has increased in recent years as more researchers explore the relationship between ACEs and health outcomes. This report presents the findings from the 2014 BRFSS ACEs using a weighted sample, which helps these results more accurately represent Arizona’s adult population and their experiences.

## Prevalence of Individual ACEs among Arizonans



**35%** of Arizonans experienced verbal abuse as children



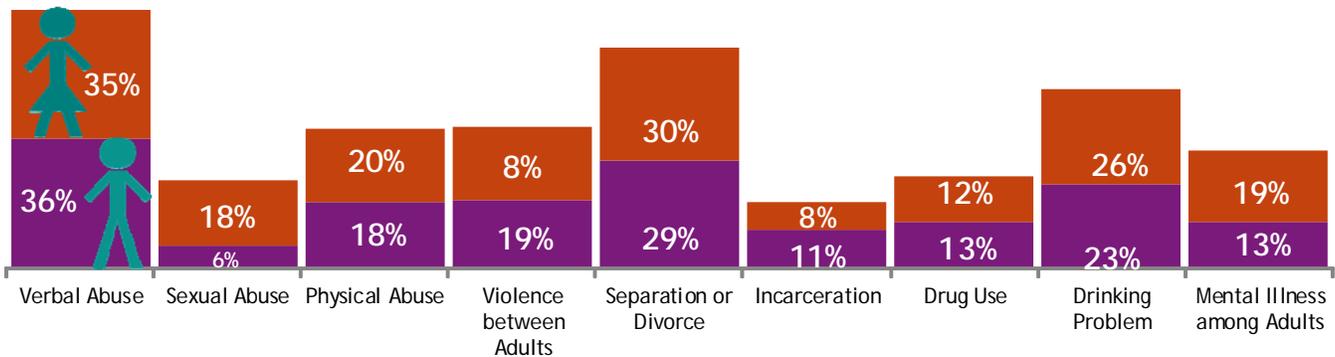
**The ACE Study** is a large ongoing study conducted in collaboration with the CDC, Dr. Robert Anda, Dr. Vincent Felitti and Kaiser Permanente. Between 1995 and 1997, more than 17,000 Kaiser Permanente HMO members were surveyed to gather information regarding childhood exposures to abuse, neglect and family dysfunction.<sup>1</sup> This information, combined with physical examinations data is still being collected for these individuals in the hope that it will shed light into the relationship between ACEs and social, emotional and cognitive development, the adoption of risky behaviors, health outcomes and, subsequently, causes of death.<sup>1</sup> The ACE study has helped shift the focus from individual immediate causes for health outcomes to a broader exploration of life-long experiences that lead to negative health outcomes.

Since 2009, more than **25** states and territories have included the ACE module in their BRFSS questionnaires.

**Adverse** childhood experiences combined with high levels of toxic stress, produced by abuse, chronic neglect or exposure to violence, could provoke disruption in cognitive development. These adverse upbringing conditions could lead to persistent epigenetic changes that are associated with detrimental physical and mental health outcomes.<sup>2</sup>

**Differences** in the prevalence of certain ACEs are evident when comparing between sexes. Survey results indicate that women are more likely than men to have experienced sexual and physical abuse, parental separation or divorce, and to have lived with someone with a drinking problem or mental illness.

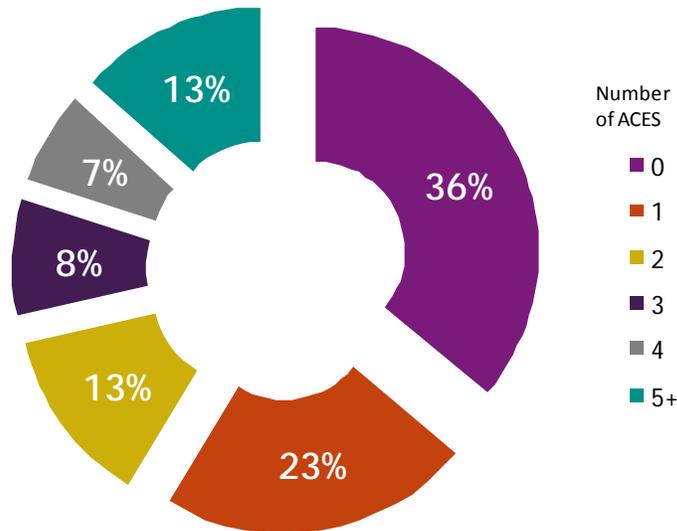
Comparison for ACEs prevalence between sexes



**18%** of females experienced sexual abuse compared to **6%** of males

# Co-occurrences of ACEs were observed among Arizonans. Other studies show that co-occurrences of ACEs are common. In other words, if an individual experienced at least one ACE, it is likely that he or she experienced more than one.

Co-occurrences of ACEs among Arizonans

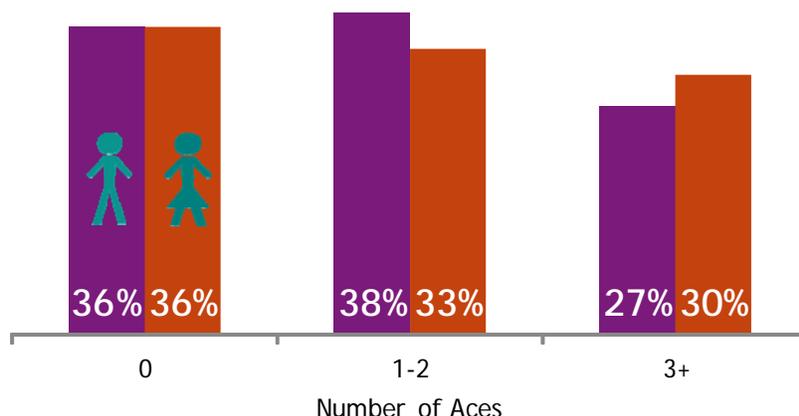


A possible limitation of the ACE questionnaire is that it operates under the assumption that the magnitude of the effect for each ACE is the same. In other words, experiencing sexual assault is as detrimental as parental separation or divorce. Even with this limitation in mind, ACEs provides important information about the health of Arizonans.

**64% of Arizonans experienced at least 1 ACE**

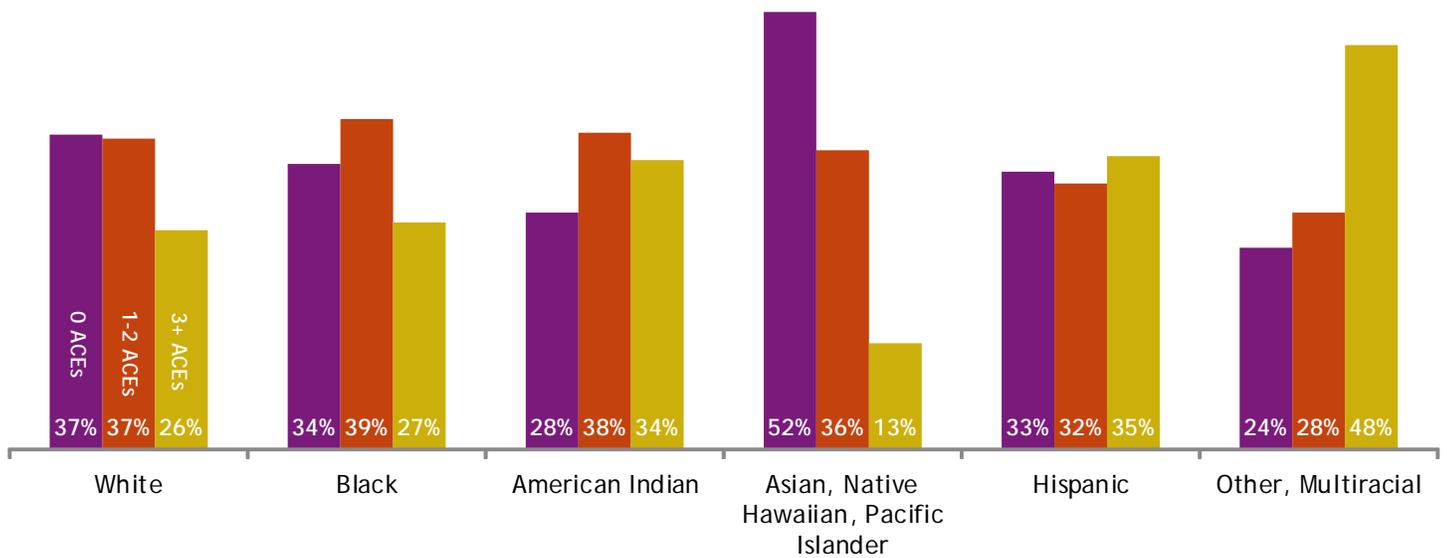
**ACE** scores, the count of ACEs experienced, are used to explore differences among individuals based on socio-demographic factors such as sex, race/ethnicity, marital status, education, income, health coverage and geographical location. The analysis of the difference of ACE scores by these factors can provide insightful information about Arizonans and their health outcomes and behaviors.

Co-occurrences of ACEs among Arizonans by sex



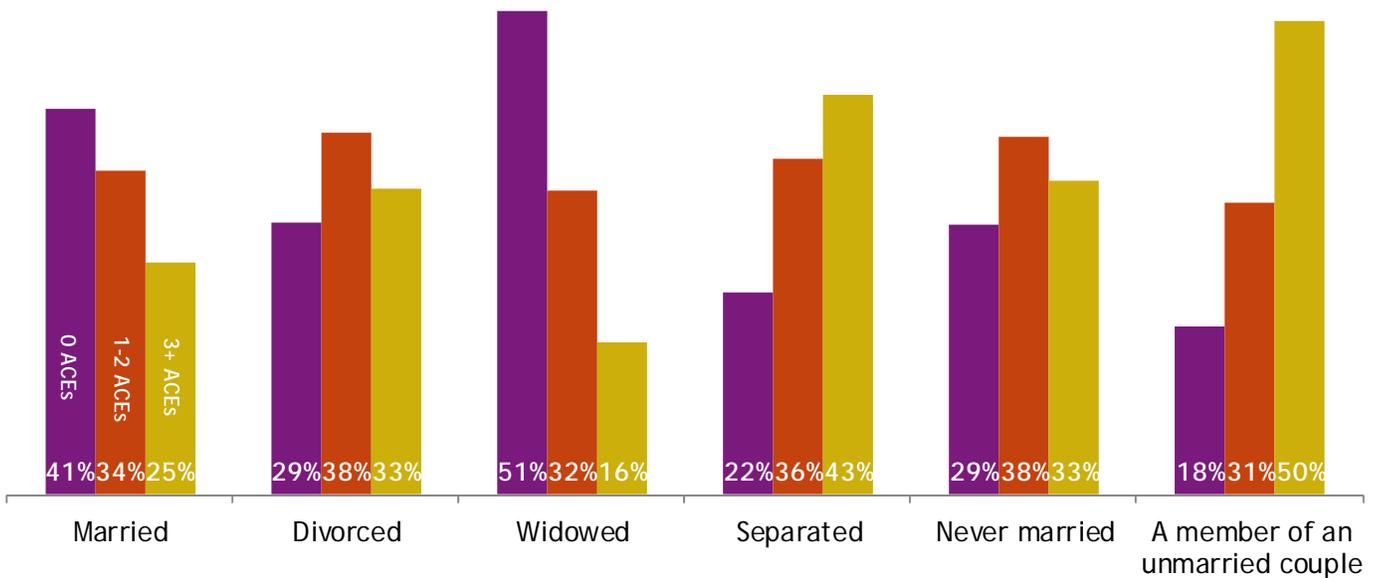
**30% of women in Arizona experienced at least 3 or more ACEs**

Co-occurrences of ACEs among Arizonans by race/ethnicity



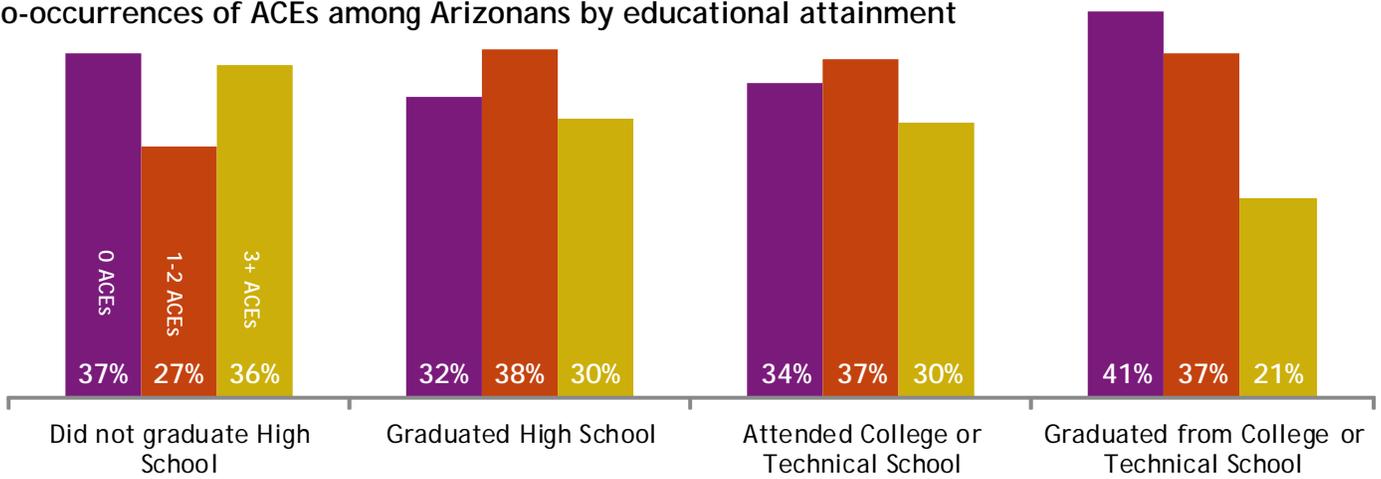
72% of American Indians and 67% of Hispanics experienced at least 1 ACE

Co-occurrences of ACEs among Arizonans by marital status



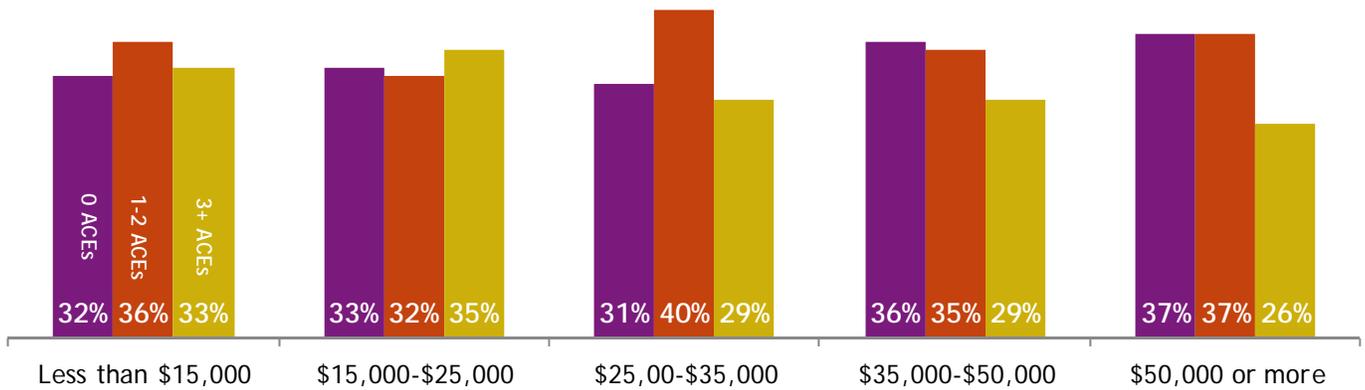
81% of individuals who are members of an unmarried couple experienced at least 1 ACE

Co-occurrences of ACEs among Arizonans by educational attainment



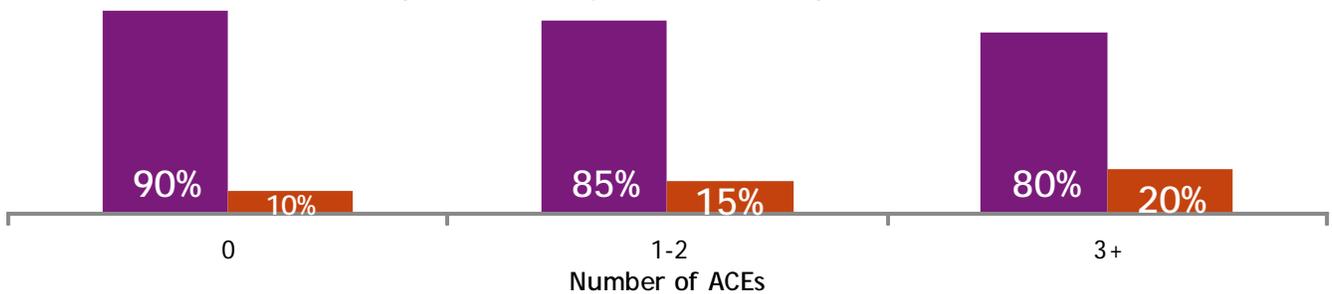
**36%** of individuals who did not graduate high school have experienced 3 or more ACEs

Co-occurrences of ACEs among Arizonans by income categories



**69%** of individuals living with less than \$15,000 a year have experienced at least 1 ACE

Co-occurrences of ACEs among Arizonans by health coverage status

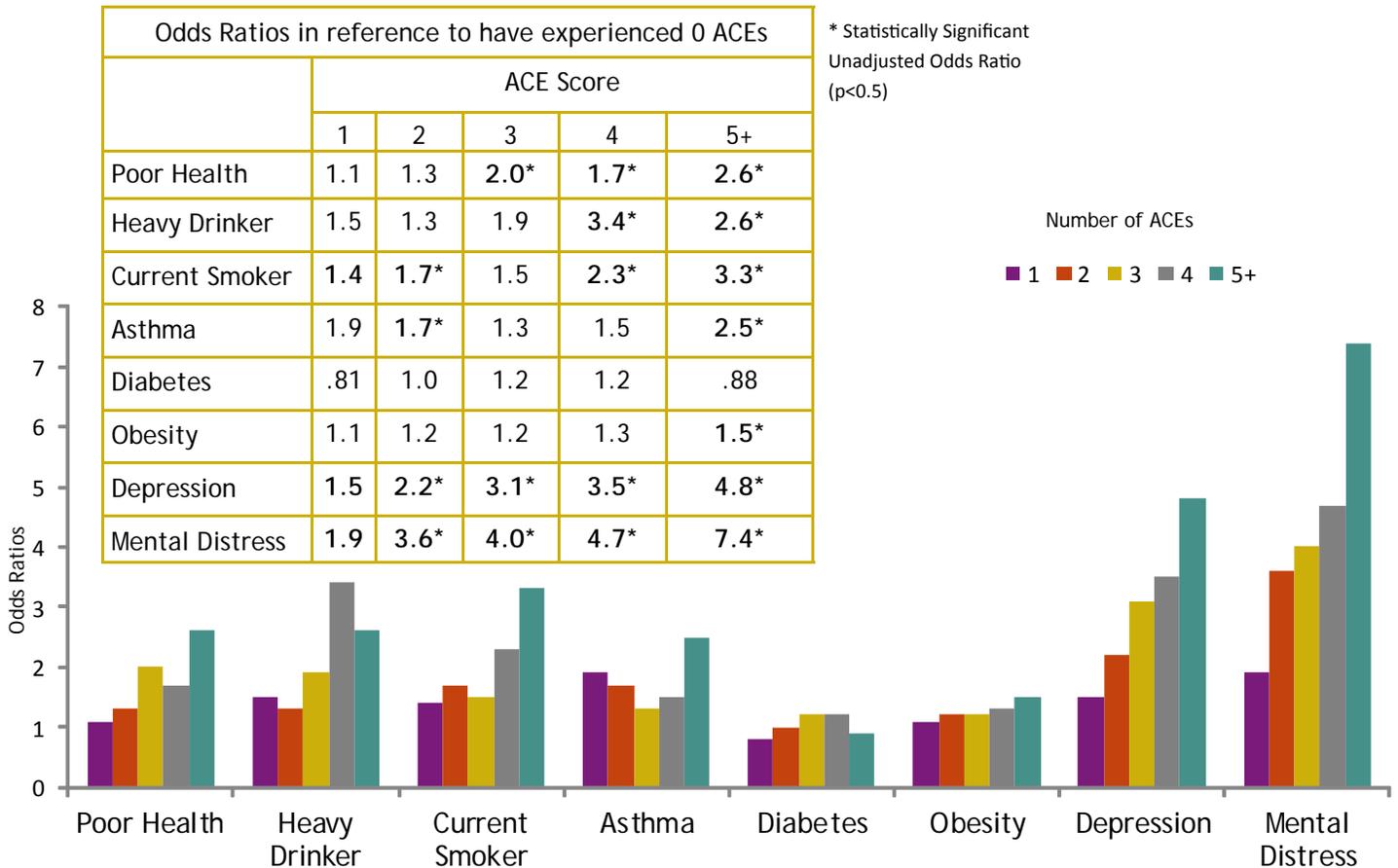


- Health Care Coverage (includes health insurance, prepaid plans such as HMOs, or government plans such as Medicare, or Indian Health Service)
- No Health Coverage

**A higher proportion of individuals without health coverage experienced 3 or more ACEs than uninsured individuals without ACEs.**

**Odd ratios** allow for the measurement of the association between ACEs and negative health outcomes or risky health behaviors. There is a clear pattern that shows that with a higher ACE score, there is a higher likelihood of developing negative health outcomes, especially mental health conditions, and engaging in risky health behaviors.

**Odds ratios for health outcomes, risky behaviors and ACE Score**



**Individuals who experienced 5 or more ACEs are 7.4 times more likely to experience mental distress than those who did not experience any ACEs**

Health Outcomes defined as:

Poor Health: Self-described general health as fair or poor.

Heavy Drinker: two drinks per day for adult men and more than one drink per day for women.

Current Smoker: Currently smokes some days or everyday.

Asthma: Adults who have been told by a health professional that they currently have asthma .

Diabetes: Adults who have been told by a health professional that they have diabetes (excluding gestational diabetes).

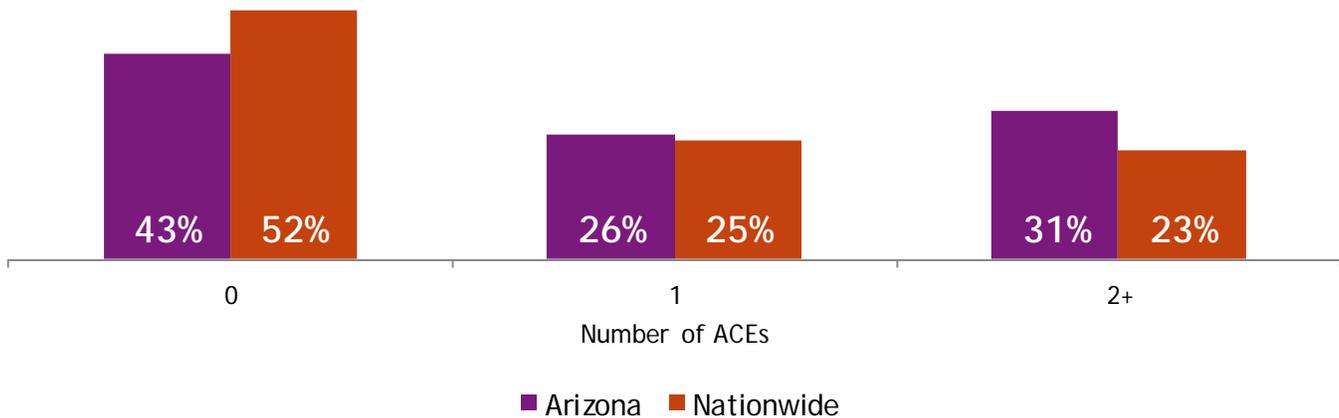
Obesity: BMI greater than 30.

Depression: Adults who had been told by a health professional that they have a depressive disorder, including depression, major depression, dysthymia, or minor depression.

Mental distress: Experiencing stress, depression and problems with emotion for at least 15 days of the 30 days prior to answering the survey.

**Children** in Arizona were surveyed for ACEs through the 2011/12 National Survey of Children's Health (NSCH). The questions asked through the NSCH, answered by the child parent or guardian, differ slightly from the BRFSS ACE module in regards of inquires about economic hardship, death of a parent, neighborhood violence and unfair treatment due to race/ethnicity.

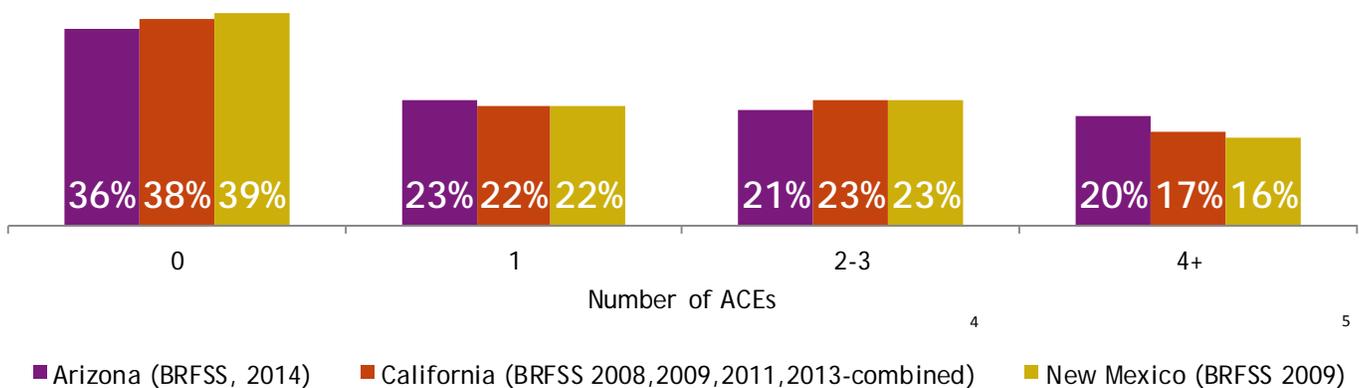
Co-occurrences of ACEs among Children in Arizona, NSCH 2011/2012<sup>3</sup>



**31%** of children in Arizona experienced 2 or more ACEs

**BRFSS** allows us to compare the number of ACEs reported in the population and compare between states. California, Arizona and New Mexico have similar geographical positions as border states in the southwest and have data available for ACEs collected through BRFSS in selected years since 2008.

Co-occurrences of ACEs among BRFSS participants in the US southwest sates

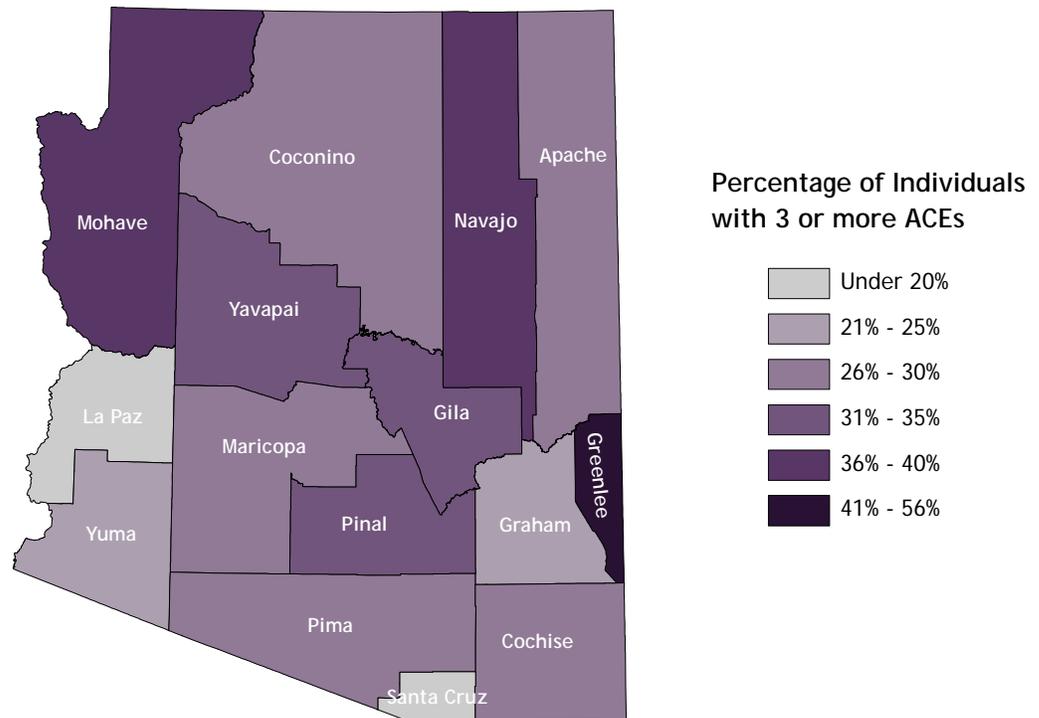


A higher percentage of individuals in Arizona experienced **4 or more ACEs** than individuals in California and New Mexico

**Among** the three Southwest states used for comparison, the same three ACEs were the most common: Verbal abuse, drug abuse in the household (defined as the combination of alcohol and street drugs) and parent separation or divorce.

**Arizonans** who experienced ACEs as children live in different places than when they were growing up. Nonetheless, the current location of Arizonans who experienced ACEs provide useful information considering that early experiences in childhood shape adult behavior. La Paz residents have the lowest percentage of individuals with ACEs in contrast to Greenlee residents who have the highest.

Percentage of Individuals with 3 or more ACEs, by current county of residence



**56%** of Arizonans who currently reside in Greenlee experienced 3 or more ACEs as a child

References:

1. Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., ... & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American journal of preventive medicine, 14*(4), 245-258.
2. NSCotD, C. (2010). Early Experiences Can Alter Gene Expression and Affect Long-Term Development. *National Scientific Council on the Developing Child, Working Paper, (10)*.
3. National Survey of Children's Health. NSCH 2011/12. Data query from the Child and Adolescent Health Measurement Initiative, Data Resource Center for Child and Adolescent Health website. Retrieved [11/2/15] from [www.childhealthdata.org](http://www.childhealthdata.org)
4. The Center for Youth Wellness (CYW). (2014.). *Data Report: Hidden Crisis. Findings on Adverse Childhood Experiences in California*. Retrieved from [https://www.cdph.ca.gov/HealthInfo/injviosa/ Documents/Essentials%20for%20Childhood/ CYW\\_HiddenCrisis\\_Report\\_110514.pdf](https://www.cdph.ca.gov/HealthInfo/injviosa/ Documents/Essentials%20for%20Childhood/ CYW_HiddenCrisis_Report_110514.pdf)
5. New Mexico Department of Health. Adverse Childhood Experiences Fact Sheet. Behavioral Risk Factor Surveillance System data, 2009.