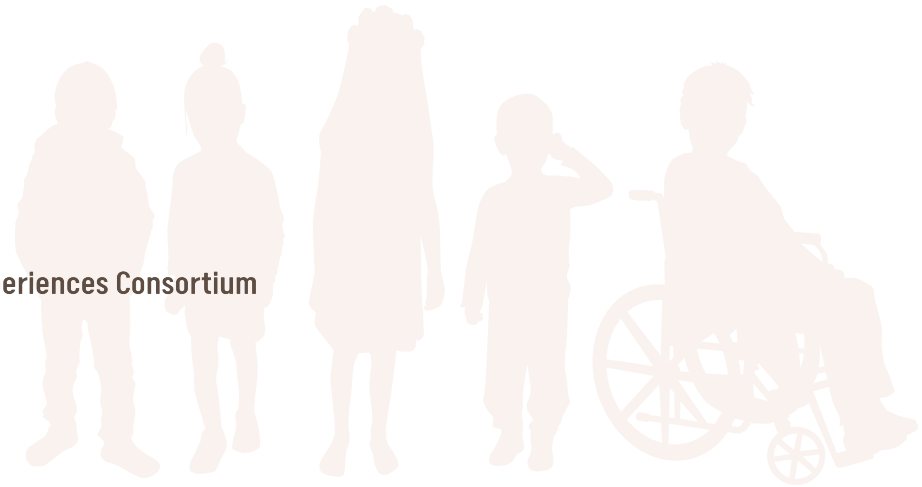
ARIZONA DEPARTMENT
OF HEALTH SERVICES

ADVERSE CHILDHOOD EXPERIENCES IN ARIZONA

A reporting brief using data from the US National Survey for Children's Health

May 2021



Arizona Adverse Childhood Experiences Consortium

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EXECUTIVE SUMMARY

Adverse Childhood Experiences refer to specific kinds of adversity and traumatic events during childhood and adolescence (0-17 years)[1]. ACEs impact the health, wellbeing, and quality of life for children, families, and communities in Arizona. Since the 1990s, extensive research has shown how elevated stress and trauma experienced early in life can have detrimental and long-term effects on the quality of life into adulthood.

Between 2014 and 2016, Arizona has continually ranked as one of the top ten states with the worst child wellbeing outcomes[2,3]. In 2019, the Arizona Department of Health Services issued an ACE action plan to address ACES in Arizona[4]. The three primary objectives of the ACE plan are to 1) reduce the number of ACES children experience, 2) evaluate Arizona's data to understand the factors contributing to high ACE exposure in children, and 3) mitigate the adverse health outcomes resulting from ACES.

This report's findings are based on the 2018-2019 National Survey on Children's Health. Essential highlights for ACEs in Arizona are:

- Forty-three percent of children in Arizona aged 0-17 years experienced one or more ACEs
- The top three ACEs were experiencing family divorce or separation (24.9%), hard to cover the basics on family's income (17%), and living with someone with an alcohol/drug problem (10.8%)
- Arizona had a higher prevalence of ACEs in all nine ACEs assessed in the NSCH compared to the national prevalence
- Children who were third or more generation (all parents in the household are born in the US) had the highest percentage of experiencing one or more ACEs (45%)
- Black children had the highest prevalence of two or more ACEs (34%)
- Children who had no insurance coverage in the past 12 months had the highest prevalence of experiencing one or more ACEs (44%)

Trauma can occur from many kinds of events during childhood. Building resilience early, supporting families, and promoting supportive relationships with adult caregivers mitigates childhood trauma and helps children heal from their trauma and reverse the damaging effects of the experience. ACEs are preventable. We can improve the quality of life for children and their families and promote a healthier Arizona.

ADVERSE CHILDHOOD EXPERIENCES

What are ACEs?

ACEs refer to specific kinds of adversity and traumatic events during childhood and adolescence (0-17 years)[1]. Such events include experiencing abuse and neglect, witnessing household violence, having a caregiver with a mental illness or substance use problems, and losing a loved one[5,6]. There are three categories of ACEs: abuse, neglect, and household dysfunction. More than two-thirds of the US population report experiencing at least one ACE, and 1 in 6 people experience four or more ACEs[1,7]. Extensive research shows a powerful, persistent correlation between ACEs and poor health outcomes later in life such as an increase in the risk of depression, suicide, diabetes, heart disease, substance use, maternal health problems, and sexually transmitted infections[8–11]. ACEs also have been shown to impact education attainment, employment, and income[12].

Original ACE Study

The original ACE Study was conducted in 1995-1997 by the U.S. Centers for Disease Control and Prevention (CDC) and Kaiser Permanente Health Care Organization in California6. More than 9,000 adults in the Kaiser network were surveyed about their exposure to abuse and household dysfunction during childhood. Seven childhood exposures were explored in the study: psychological abuse, physical abuse, sexual abuse, substance abuse, mental illness, violence against mother, and criminal behavior in the household. These exposures were then correlated with leading health risk factors and disease outcomes. The results showed strong correlations between harmful experiences in childhood and poor health outcomes in adulthood. Additionally, a significant dose-response relationship was discovered: the more experiences of abuse or childhood dysfunction a person had, the higher the odds of having health conditions such as cancer, heart disease, hepatitis, chronic bronchitis, and overall poor health. The survey questions from the original ACE study are presented in Table 1.

Stress and the Developing Brain[13–15]

The development of a child's brain is influenced by the interaction between the genes they have and the environments they grow up in. The brain architecture is the system of circuit connections between different neurons across the brain. It is built from the bottom up. It starts with an ordered sequence of simple circuits and skills such as focus and survival. These simple circuits then provide the foundational scaffolding for more complex circuits and skills that form throughout life, such as social bonding and intellectual development. The quality and type of experience impact the formation of neurological pathways during the first years of life. Pathways that are rarely used will fade, and those that are more frequently used grow stronger. It is essential to provide the right conditions for healthy brain development in childhood to create a strong foundation for future health, mental functioning, and overall wellbeing and avoid problems later in life.

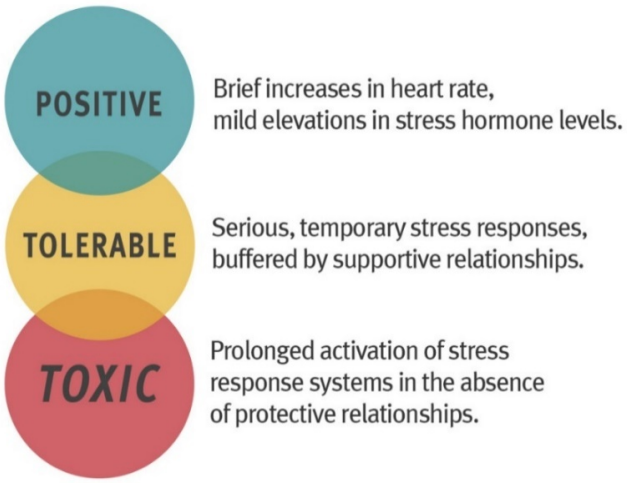
Coping with adversity is an essential part of child development. Children depend on responsive caregivers to help regulate their stress response. When children are in a safe and nurturing environment, their brains can focus on their neurological development processes. However, when a child experiences early trauma, their brain spends more time in survival-oriented stages, interrupting the development of complex circuits and learning. When a stressor occurs, the body responds by increasing the heart rate, blood

pressure, and circulation of stress hormones, such as cortisol. In environments with supportive adult relationships, these physiological effects are buffered, and the child learns how to respond to stressors in a healthy way.

There are three types of stress responses[14,15]:

- Positive stress response: This is an essential and necessary part of development. There is a temporary increase in blood pressure and a mild increase in circulating cortisol levels. When the child has stable and supportive adult relationships, the stress response is kept small and manageable, which helps them develop emotional regulation and self-control skills. Examples of positive stressors include meeting new people, receiving immunizations, and dealing with frustration.
- Tolerable stress response: This occurs when an experience activates the body's stress response system to a higher degree, large enough to disrupt brain development and have longer-lasting effects. Supportive adult relationships buffer the stress response by facilitating adaptive coping strategies that restore baseline heart rate, blood pressure, and stress hormone levels. The absence of stable adult relationships may result in maladaptive coping strategies and have damaging effects on the body. Examples of tolerable stressors include death, natural disasters, divorce, and frightening injury.
- Toxic stress response: This is associated with intense, frequent, and prolonged activation of the body's stress response system. A toxic stress response typically occurs when there is an absence of supportive adult relationships and the associated buffering protections. This results in the disruption of brain development. Examples of toxic stressors include emotional abuse, chronic caregiver neglect, exposure to violence, and family economic hardship.

Figure 1: Types of Stress Responses

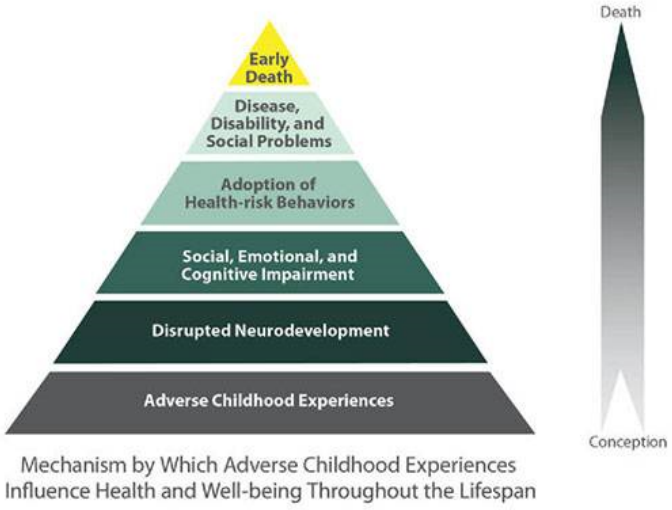


(Source: Center on the Developing Child at Harvard University)

Research has shown that ACEs cause toxic stress[14]. Toxic stress has adverse effects on a child's brain development, immune system, cardiovascular system, and other metabolic regulation systems. Experiencing multiple ACEs over time and in the absence of stable, consistent, and supportive relationships with adults leads to damaging effects and lifelong repercussions on learning, behavior,

and health. Research has shown that severely stressed children have less developed upper brains (the part responsible for complex thoughts like decision making and planning), smaller brain sizes, and fewer neurological connections[16,17]. These children are easily overwhelmed by minor stressors. In the absence of a supportive caregiver, they have difficulty calming themselves and may develop strong maladaptive neurological pathways and behavioral responses. If not intervened early, these maladaptive pathways and behaviors become increasingly difficult to alter later in life, contributing to risk health behaviors, social problems, and early mortality (figure 2).

Figure 2: Conceptual framework for the original ACE study (1995-1997)



(Source: Centers for Disease Control and Prevention)

ARIZONA ACE FINDINGS

Methodology

This report's primary findings are based on the 2018-2019 National Survey on Children's Health (NSCH) combined dataset[18]. Additionally, older NSCH combined datasets (2015-2016 and 2016-2017) were used to identify trends in the prevalence of ACES[19,20].

The NSCH is an annual survey that provides information on the physical and mental health, health care access, family conditions, and neighborhood conditions of children aged 0-17 years in the US. Households with one or more children under the age of 18 are randomly sampled, and one child in each household is selected to be the subject of the survey. The questionnaire is completed by a parent or guardian with knowledge of the sampled child's health and health care. The NSCH is conducted by the US Census Bureau and funded by Health Resources and Services Administration (HRSA) Maternal and Child Health Bureau (MCHB).

The 2018-2019 NSCH data report consists of a combined data set from the 2018 and 2019 annual surveys[21]. The combined dataset only included items that were the same in both annual surveys. A total of 59,963 nationwide surveys were completed for the combined years. Of this total, only 1242 surveys were completed for Arizona. The survey responses are adjusted weighted to account for combining two years of data, nonresponses, and selecting a single child in a household[22,23].

Furthermore, the responses are weighted to reflect the demographic composition of non-institutionalized children 0-17 years in each state based on the American Community Survey (ACS)[24]. Table 1 below compares the types of ACEs assessed in the original ACE study and the NSCH.

This report's descriptive and stratified statistics summarize information about ACEs experienced by children in Arizona by co-occurrence, demographic characteristics (race, age, sex, children with special needs, generational status, income, education), and insurance coverage. The frequencies reported are weighted based on Arizona's population composition of children 0-17 years.

Table 1: Comparison of ACE Types between the 1995-1997 Original ACE Study and 2018-2019 NSCH Survey

1995-1997 Original ACE Study	2018-2019 NSCH Survey
Psychological Abuse • Did a parent or other adult in the household often or very often swear at your, insult you, put you down, or humiliate you? • Did a parent or other adult in the household often or very often act in a way that made you afraid that you might be physically hurt? **Physical Abuse** • Did a parent or other adult in the household often or very often push, grab, shove, or slap you? • Did a parent or other adult in the household often or very often hit you so hard that you had marks or were injured? **Sexual Abuse** • Did an adult or person at least 5 years older ever touch or fondle you in a sexual way? • Did an adult or person at least 5 years older ever have you touch their body in a sexual way? • Did an adult or person at least 5 years older ever attempt oral, anal, or vaginal intercourse with you? • Did an adult or person at least 5 years older ever actually have oral, anal, or vaginal intercourse with you? **Substance Use** • Live with anyone who was a problem drinker or alcoholic? • Live with anyone who used street drugs?	**Hard to cover the basics, like food or housing, on family's income** • Since this child was born, how often has it been very hard to cover the basics, like food or housing, on your family's income? **Witnessed Domestic Violence** • To the best of your knowledge, has this child ever experienced the following: saw or heard parents or adults slap, hit, kick, punch one another in the home? **Lived with Anyone Who Had A Problem with Alcohol or Drugs** • To the best of your knowledge, has this child ever experienced the following: lived with anyone who had a problem with alcohol or drugs? **Lived with Anyone Who Was Mentally Ill, Suicidal, or Severely Depressed** • To the best of your knowledge, has this child ever experienced the following: live with anyone who was mentally ill, suicidal, or severely depressed? **Parent or Guardian Served Time in Jail** • To the best of your knowledge, has this child ever experienced the following: parent or guardian served time in jail? **Victim or Witness of Neighborhood Violence** • To the best of your knowledge, has this child ever experienced the following: was a victim of violence or witnessed violence in his or her neighborhood?

Mental Illness

- Was a household member depressed or mentally ill?
- Did a household member attempt suicide?

Mother Treated Violently

- Was your mother (or stepmother) sometimes, often, or very often pushed, grabbed, slapped, or had something thrown at her?
- Was your mother (or stepmother) sometimes, often, or very often kicked, bitten, hit with a fist, or hit with something hard?
- Was your mother (or stepmother) ever repeatedly hit over at least a few minutes?
- Was your mother (or stepmother) ever threatened with, or hurt by, a knife or gun?

Criminal Behavior in Household

- Did a household member go to prison?

Parent or Guardian Divorced or Separated

- To the best of your knowledge, has this child ever experienced the following: parent or guardian who got divorced or separated?

Parent or Guardian Died

- To the best of your knowledge, has this child ever experienced the following: parent or guardian died?

Treated or Judged Unfairly Because or His/Her Race or Ethnic Group

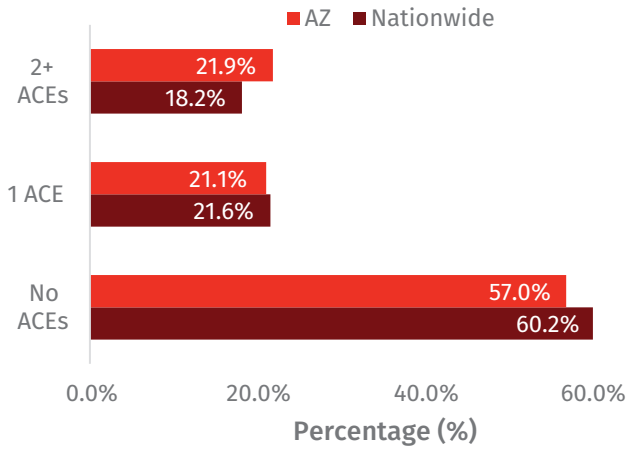
- To the best of your knowledge, has this child ever experienced the following: treated or judged unfairly because of his or her race or ethnic group?

Prevalence of ACEs in Arizona

Overall, based on the NSCH data, 43% of children in Arizona experienced one or more ACEs. This is slightly higher than the national rate of 39.8%.

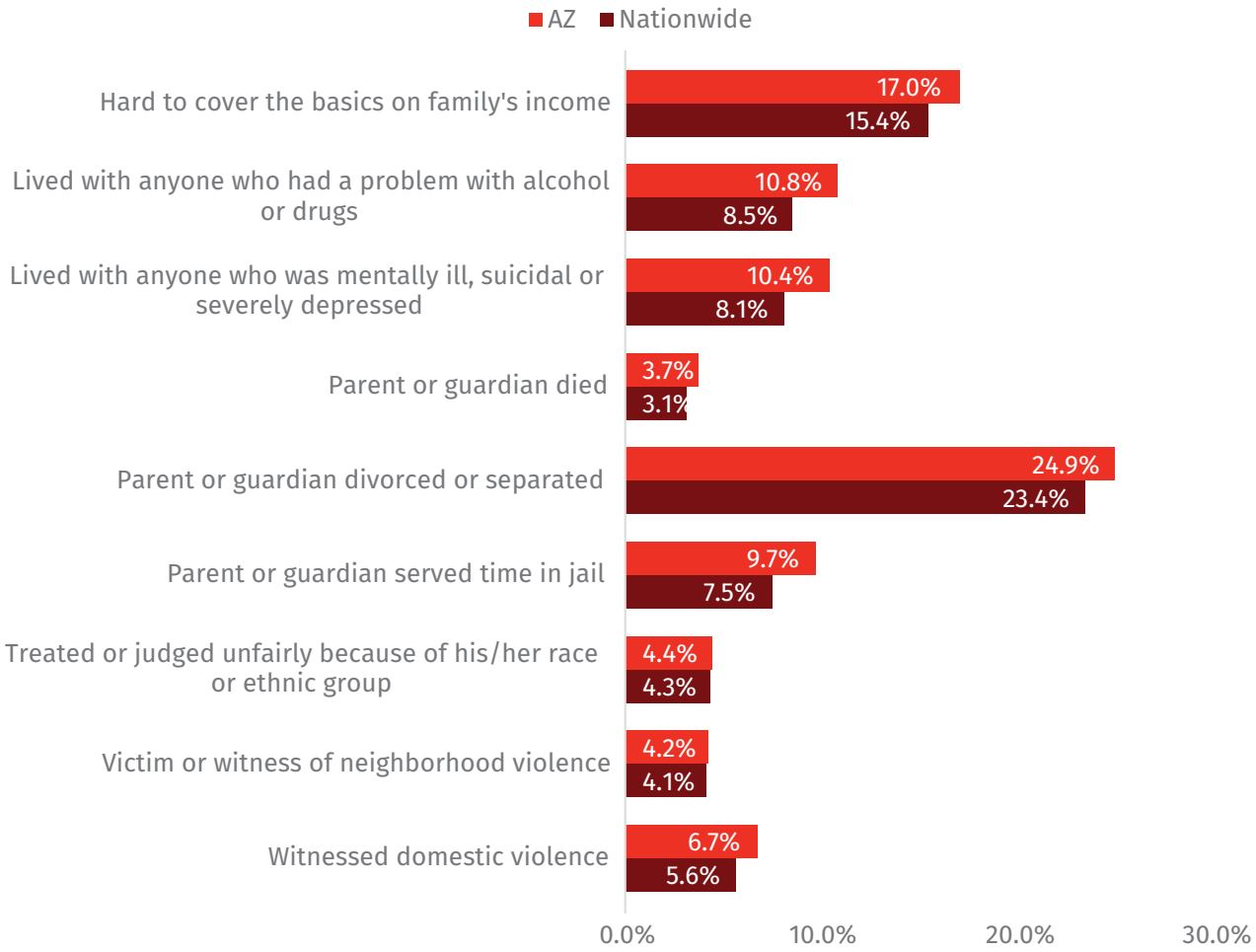
The NSCH reports ACEs' co-occurrence as the following three categories: no adverse childhood experiences, one adverse childhood experience, and two or more adverse childhood experiences. Compared to all children in the US, children in Arizona have a slightly lower rate of experiencing only one ACE (21.1% vs. 21.6%) but a higher rate of two or more ACEs (21.9% vs. 18.2%) (Figure 3).

Figure 3: Co-occurrence of ACEs in Arizona vs US, 2018-2019



The three most prevalent ACEs among children in Arizona report experiencing from the NSCH is 1) family divorce or separation (24.9%), 2) Hard to cover the basics (17%), and 3) living with someone with an alcohol/drug problem (10.8%). Arizona had a higher prevalence of ACEs than the US in all nine ACEs assessed in the NSCH (Figure 4).

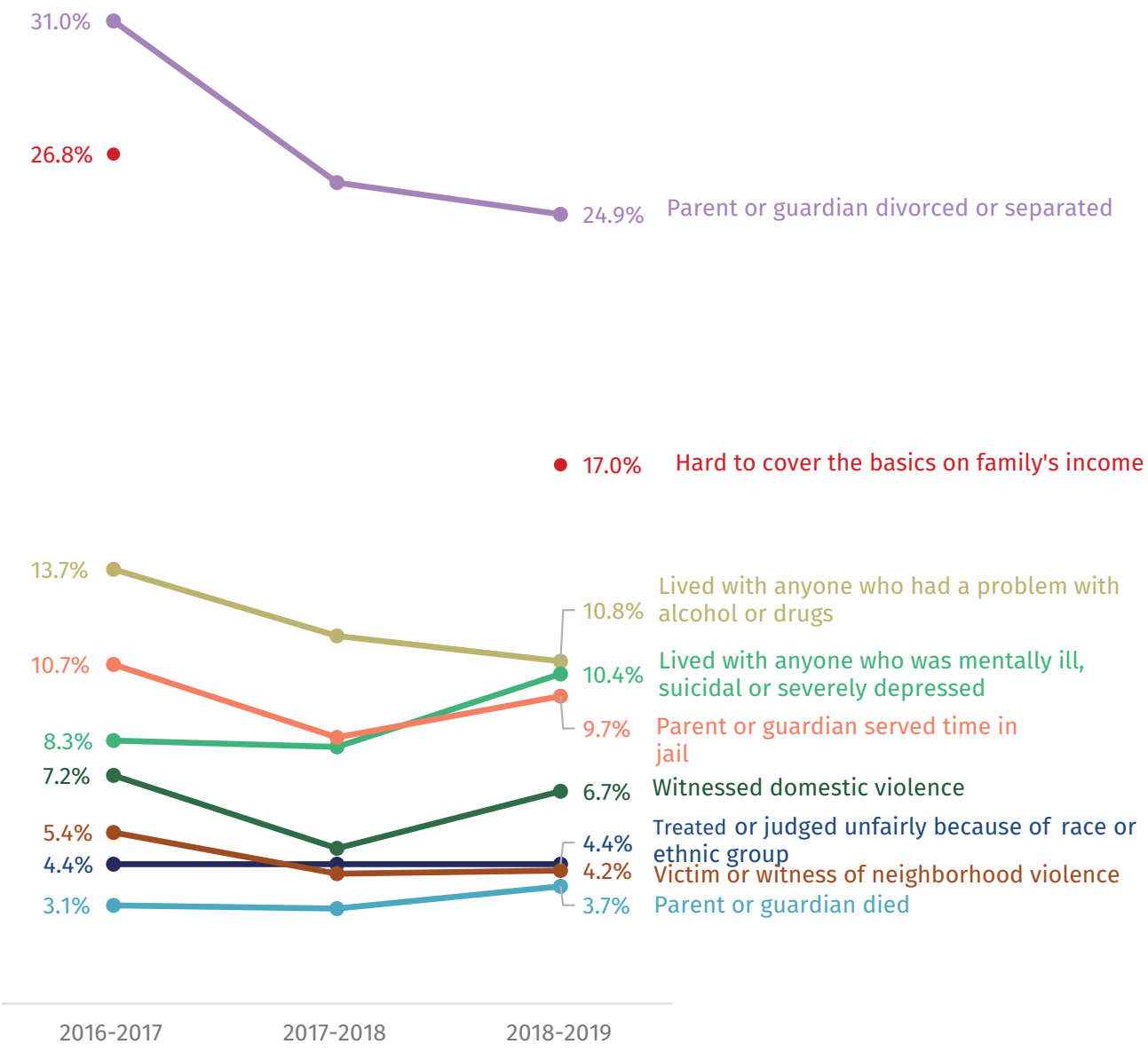
Figure 4: Comparison of Individual ACEs in Arizona vs. the US, 2018-2019



NOTE: Data on the ACE titled "hard to cover the basics on family's income" includes respondents who indicated 'somewhat' or 'very often' to this ACE question

Changes were observed in the prevalence of ACEs between 2016-2017 and 2018-2019 (Figure 5). In 2018, there was a change to the question's wording that asked about whether the child's family experienced economic hardship. As a result, data on this item was not comparable to the 2017 survey and hence not available for the 2017-2018 combined dataset. We observed several positive trends for ACEs in Arizona. The largest decrease in an individual ACE item was seen in the prevalence of children who were a witness/ victim of neighborhood violence (decreasing 22%). Among the most prevalent ACEs, over 2016-2017 to 2018-2019, there was a 21% decrease of children living with someone who had a drug/ alcohol problem and a 20% decrease of children who experienced family divorce or separation. However, we did see that the most considerable change was observed in the prevalence of children who lived with someone who was mentally ill, increasing by 25% between 2016-2017 and 2018-2019.

Figure 5: Trends of ACEs (in %) between 2016-2017 and 2018-2019, Arizona



NOTE: 2016-2017 and 2017-2018 data are based on respective combined datasets for those years.

Comparison to Other States

Table 2 compares the prevalence of ACEs within the southwestern states of Arizona, Colorado, New Mexico, Utah, and the national prevalence in 2018-2019. The individual states were selected due to their similarities in population demographics and economic levels to Arizona. Compared to these states and nationally, the rates of Arizona ACE second-highest rate in 7 of the 9 ACEs: hard to cover the basics on family's income, lived with anyone who had a problem with alcohol or drugs, parent/guardian divorced or separated, parent/guardian served time in jail, parent/guardian died, treated or judged unfairly because of his/her race or ethnic group and witnessed domestic violence. The two ACEs that were not the second highest were living with anyone who was mentally ill and victim/witness of domestic violence; AZ ranked fourth and third, respectively.

Table 2: Comparison of Individual ACEs, 2018-2019

(Numbers in red indicated the highest percentage and numbers in orange indicate the second-highest percentage of the ACEs among the states reviewed)

ACE	Nationwide (%)	Arizona (%)	Colorado (%)	New Mexico (%)	Utah (%)
Hard to cover the basics on family's income	15.4	17	14.1	18.2	14.8
Lived with anyone who had a problem with alcohol or drugs	8.5	10.8	10.1	12.5	7.1
Lived with anyone who was mentally ill, suicidal, or severely depressed	8.1	10.4	10.8	10.5	13.6
Parent or guardian died	3.1	3.7	2.5	3.9	2
Parent or guardian divorced or separated	23.4	24.9	23.1	30.4	19
Parent or guardian served time in jail	7.5	9.7	7.5	11.3	5
Treated or judged unfairly because of his/her race or ethnic group	4.3	4.4	3.1	6.9	3.5
Victim or witness of neighborhood violence	4.1	4.2	4.1	7.5	5.1
Witnessed domestic violence	5.6	6.7	5.3	10.1	5

Co-Occurrence of ACEs in Arizona by Population Demographic Characteristics, 2018-2019

Children are often exposed to multiple adverse and traumatic events and sometimes these events can co-occur[25]. The co-occurrence of ACEs has a cumulative risk effect and dose response effect that increases the likelihood of negative chronic diseases, mental health, physical health and behavioral health outcomes[26–28]. The information below details the co-occurrence of ACEs in Arizona from the 2018-2019 NSCH combined data set.

Age

A higher proportion of older children in Arizona experienced ACEs compared to younger children. Fifty-six percent of children aged 12-17 years experienced one or more ACEs compared to forty-one percent of children aged 6-11 years and thirty-one percent of children aged 0-5 years (Table 3).

Sex

A higher percentage of female children (45%) experienced one or more ACEs compared to male children (41%) (Table 3).

Children with Special Health Care Needs (CSHCN)

The NSCH used a five-item CSHCN Screener to identify children with special health care needs following the consequence-based definition by the federal Maternal and Child Health Bureau(MCHB)[24].

CSHCN are "those who have or are at increased risk for a chronic physical, developmental, behavioral, or emotional condition and who also require health and related services of a type or amount beyond that required by children generally" [29]. For a child to qualify as having special needs, they must experience a specific consequence at the time of the survey, the consequence must be due to a medical or other health condition, and the condition must occur for 12 months or more[24]. The five different health consequences evaluated are 1) the use or need for prescription medication 2) above average use or need of medical, mental health, or educational services 3) functional limitations compared to others of the same age 4) use or need of specialized therapies and 5) treatment or counseling for emotional or developmental problems[24].

Based on the weighted population frequency of the NSCH, 19% of children 0-17 years in Arizona had special health care needs in 2018-2019. More CSHCN experienced one ACE compared to non- CSHCN (24% vs. 21%). Additionally, nearly twice as many CSHCN experienced two or more ACEs than their counterparts (40% vs. 18%) (Table 3).

Table 3: Co-occurrence of ACEs by Population Demographic Characteristics, 2018-2019, Arizona

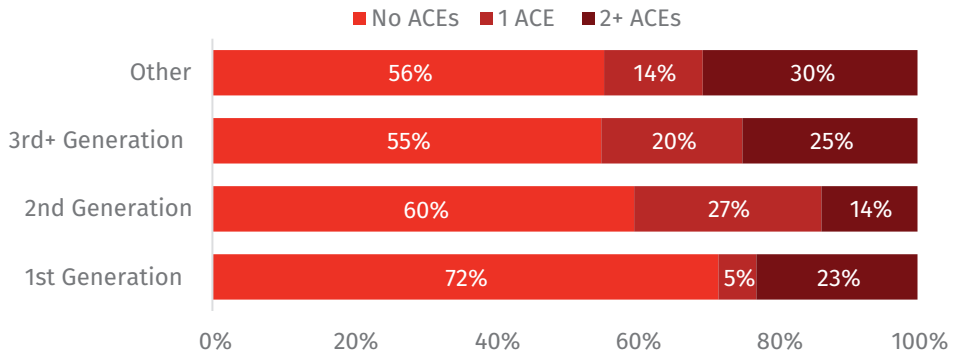
	No ACEs	One ACE	Two+ ACES
AGE			
0-5 years	68%	16%	15%
6-11 years	59%	22%	19%
12-17 years	44%	25%	31%
SEX			
Male	58%	21%	20%
Female	56%	21%	24%
CHILDREN WITH SPECIAL HEALTH CARE NEEDS (CSHCN)			
CSHCN	37%	24%	40%
Non-CSHCN	62%	21%	18%

Generational Status

Research has shown that children are at increased risk of ACE exposure if their parents have experienced ACEs[30]. Children of immigrants and those who live in households where members

do not have the same legal status are also at a higher risk of experiencing traumatic events[31]. As a border state, Arizona has a high proportion of immigrant and mixed-status households. The weighted population frequency of the NSCH showed that 2% of children 0-17 years in Arizona were first-generation (no parent in the household was born in the US), 27% were second generation (one parent in the household was born in the US), 65% were third generation or higher (all parents in the household are born in the US), and 5% were other generation (child is born in the US, parents not listed). Children classified as second generation had the highest percentage (27%) of experiencing one ACE, followed by third or more generation children (20%) (Figure 6). Other generation children had the highest percentage (30%) of experiencing two or more ACEs, followed by third or more generation children (25%).

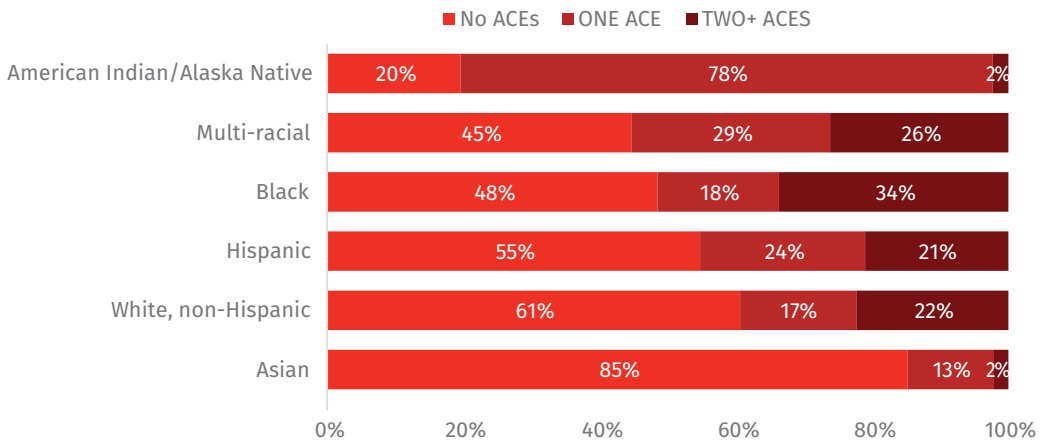
Figure 6: Co-Occurrence of ACEs by Generation Status of Children 0-17 years, 2018-2019, Arizona



Race

In 2018-2019, 44% of the children in Arizona were Hispanic, 42% were white, 5% were multi-racial, 5% were Black, 2% were Asian, and less than 1% were American Indian/Alaska Native and Native Hawaiian/Other Pacific Islander. As shown in Figure 7, Asian children had the highest percentage of no ACEs (85%). American Indian/Alaska Native children had the highest prevalence of experiencing one ACE (78%), followed by multi-racial children (29%). Black children had the highest prevalence of two or more ACEs (34%), followed by Multi-racial children (26%).

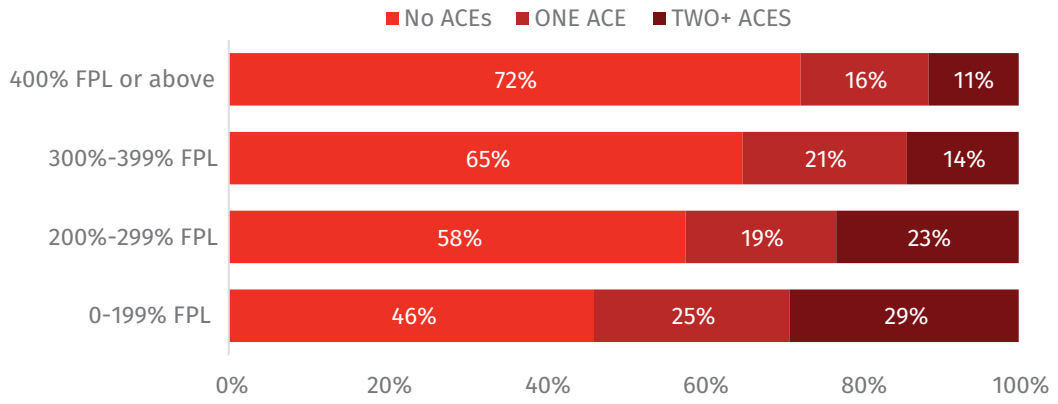
Figure 7: Co-Occurrence of ACEs by Race of Children 0-17 years, 2018-2019, Arizona



Household Income Level

Forty-six percent of children had a household income level of 0-199% Federal Poverty Level (FPL), eighteen percent had a 200%-299% FPL income, twelve percent had a 300%-399% FPL income, and twenty-five percent had a 400% FPL or above income. Children who had an income level of 0-199% FPL had the highest percentage of experiencing one ACE (25%) and two or more ACEs (29%) compared to children who had other income levels (Figure 8).

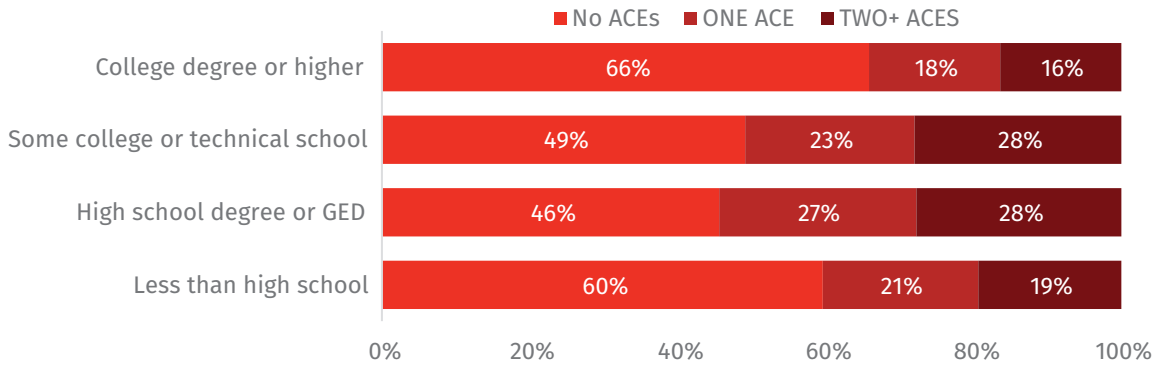
Figure 8: Co-Occurrence of ACEs by Household Income Level of Children 0-17 years, 2018-2019, Arizona



Education

The majority of children in Arizona had a primary caregiver whose highest level of education was a college degree or higher (44%), 26% had an adult who completed some college or technical school, 19% had an adult with a high school degree or GED, and 11% had an adult with less than a high school education. Children whose primary caregiver had a high school degree or GED reported the highest percentage of experiencing one or more ACEs (55%). Children whose primary caregiver had a college degree or higher had the lowest percentage of experiencing one or more ACEs (34%) (Figure 9).

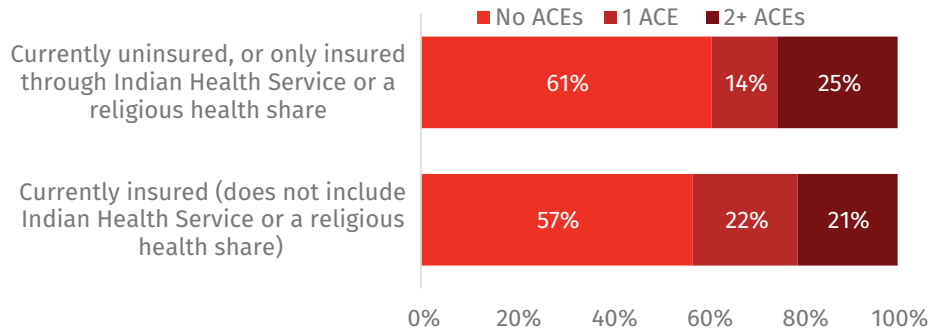
Figure 9: Co-Occurrence of ACEs by Highest Education Level of Primary Caregiver for Children 0-17 years, 2018-2019, Arizona



Insurance Coverage

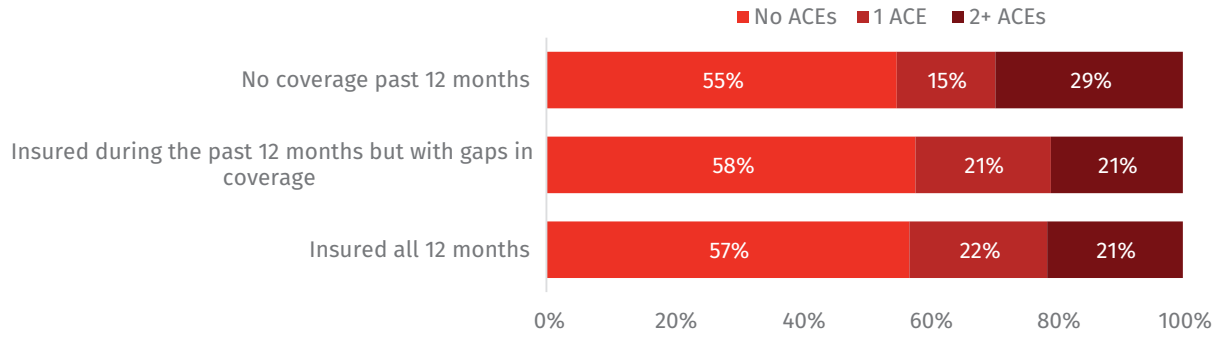
At the time of the NSCH assessment, 91% of children in Arizona were currently insured, and 9% were uninsured or only insured through Indian Health Service/religious health share. Forty-three percent of insured children experienced one or more ACEs, whereas thirty-nine percent of children who were uninsured or only insured through Indian Health Service/religious health share experienced one or more ACEs (Figure 10).

Figure 10: Co-Occurrence of ACEs by Insurance Status of Children 0-17 years, 2018-2019, Arizona



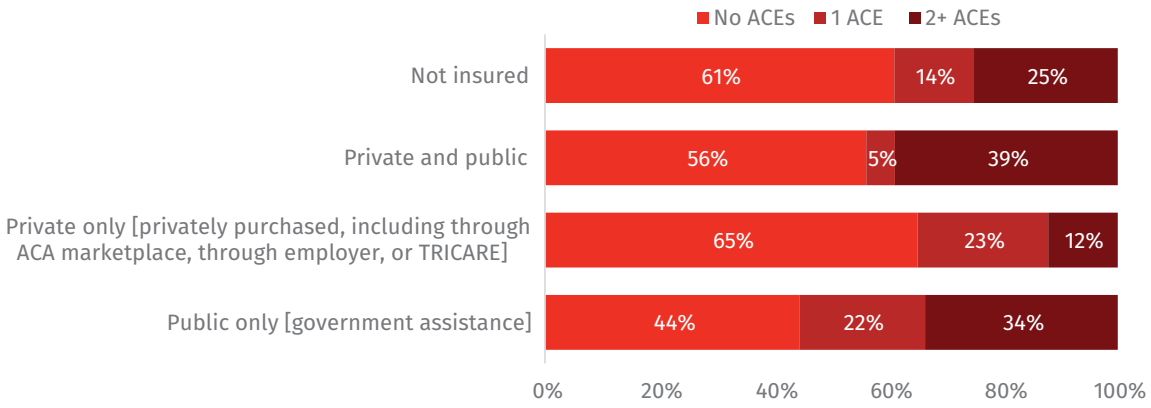
Children were also evaluated on whether they had continuous insurance coverage over 12 months (Figure 11). Eighty-eight percent were insured for all 12 months, six percent had gaps in coverage over 12 months, and six percent had no coverage. Children who had no insurance coverage had the highest prevalence of experiencing one or more ACEs (44%). Children with 12 months of coverage and those who had gaps in their insurance coverage had a similar prevalence of experiencing one or more ACEs (43% and 42%)

Figure 11: Co-Occurrence of ACEs by Insurance Coverage Duration of Children 0-17 years, 2017-2018, Arizona



Regarding the type of insurance coverage (Figure 12), 31% of children had public only insurance, 56% had private only insurance, 3% had a combination of public and private insurance, and 9% were uninsured. Children with private only insurance had the highest percentage of experiencing one ACE (23%), and children with a combination of public and private insurance had the highest rate of experiencing two or more ACEs (39%).

Figure 12: Co-Occurrence of ACEs by Insurance Type of Children 0-17 years, 2018-2019, Arizona



BUILDING RESILIENCE AND PREVENTING ACES

While this report discusses the occurrence of 9 types of ACEs as measured in the NSCH, trauma can occur from many kinds of events. The brain can recover from trauma, but it can be a challenging process. Promoting supportive and caring relationships with adult caregivers not only prevents childhood trauma but can also help children heal from their trauma and reverse the damaging effects of the experience. Resilience is the ability to thrive, adapt, and cope in the face of hardship. Resilience must be developed early. Having stable and nurturing relationships is an essential factor in helping children build resilience[32,33]. Unfortunately, many conditions impact the presence, development, and quality of these relationships, and action must be taken to provide conducive and supportive environments for these relationships to grow and thrive and ultimately prevent the occurrence of ACEs. Several strategies can be employed to change norms, environments, and behaviors to address and prevent ACEs. Measures of ACEs are focused on interpersonal and household experiences; however, we know that these experiences are results of system and historic inequities. As such, solutions to ACEs need to focus on the root causes.

Strengthen Economic Supports to Families

Research has shown that low socioeconomic status is associated with poor child development, academic performance, and health outcomes[34]. Parents who experience financial hardships report have a more difficult time parenting and providing a nurturing and caring environment for their children[35,36]. Policies that strengthen household financial security - such as income tax credits, welfare reforms, and employment support programs - give parents the ability to provide for their child's basic needs and afford childcare and reduce stress, minimizing the risk of child abuse and neglect[37].

Provide Quality Care and Education Early in Life

Quality care and early education can improve social, emotional, and cognitive development in children[38,39]. It is essential to provide safe, stable, and nurturing spaces for children to maintain and regain a sense of calm. High-quality early education centers promote positive developmental outcomes in children, particularly those from low-income families[40]. Research has shown that challenges in finding quality childcare are associated with higher rates of child neglect[41]. Early education and care settings that are appropriately accredited and licensed reduce problem behaviors inside and outside the home and improve academic achievement[42] .

Additionally, having access to primary care also helps promote healthy child development and early detection and intervention of problems that may emerge[43]. Research has shown that healthcare access is one of the most effective practices in reducing maternal early childhood health adversities[44].

Intervene to lessen harms and prevent future risk

Toxic stress develops in children who experience recurring traumatic events such as abuse, neglect, family violence, parental substance use, and depression. Parents at high risk for child maltreatment benefit from programs that provide targeted services and individualized coaching[45,46]. Such programs help parents build nurturing relationships with their children, teach them how to protect their children from the detrimental effects of their own behavior or illnesses, and develop their skills in child behavior management[38].

Strengthen Family Environments and Enhance Parenting Skills

Parents and caregivers must have adequate parenting skills to build safe, stable, and supportive environments for their children[37]. Services such as home visitation programs can help first-time parents prepare for their newborns and provide training in child health and development[15]. Intensive family support is particularly vital for families at risk and can help prevent physical abuse and neglect through providing anger management support, problem-solving skills, and nonviolent disciplinary strategies[47,48].

Positive Childhood Experiences

While there is extensive research on ACEs, there is a growing body of evidence investigating positive childhood experiences (PCEs). PCEs include academic or extra-curricular achievement, self-efficacy, support, optimism, positive interpersonal relationships and connectivity, loyalty, caretaker responsiveness to health needs, and protection[49,50]. Minimal research had been conducted to investigate the co-occurrence of PCEs and ACEs on health outcomes[50]. However, there is evidence that positive childhood experiences are protective against adolescent substance use and pregnancy and are associated with positive adult functioning and better mental health outcomes[51,52]. It is critical for Arizona to examine PCEs in order to leverage these factors as possible resilience strategies to ACEs and promote lifelong health in our residents.

LIMITATIONS

There are several limitations to the data provided in this report:

1. The NSCH is completed by the parent/guardian of children 0-17 years old. Resultantly, some ACE exposures are not captured in this data depending on the level of parental awareness. This may include experiences of sexual assault or violence.
2. Other surveys that assessed ACEs were considered, such as the Behavioral Risk Factor Surveillance System (BRFSS) and the Arizona Youth Survey (AYS). However, these surveys also have their limitations. The BRFSS captures data from individuals over 18 years of age, while the AYS only assessed a limited number of ACES from middle and high school students and is administered every other year.

3. Only 1242 surveys were available from Arizona. Some subgroup analyses that have small counts could result in unstable estimates.
4. The geographical spread of ACE prevalence cannot be ascertained from the NSCH due to confidentiality restrictions of publicly accessible data[24].
5. Due to changes in the survey, not all variables are available for comparison from year to year.

This report provides descriptive summaries on the prevalence of ACEs among children 0-17 years in Arizona. The demographic information presented in this report can help broadly inform the initiatives and interventions to mitigate the prevalence of ACEs in Arizona. Further surveillance and analyses are needed to ascertain the factors that may be predictive of ACE occurrence in children and determine patterns in the co-occurrence of individual ACEs. Additional analyses on the effect of positive childhood experiences are needed to identify avenues for prevention further. A deeper dive into protective factors can further illuminate the experiences of children in Arizona.

CONCLUSION

Adverse childhood experiences continue to affect the health and wellbeing of Arizona's children. There are many ongoing efforts to reduce the prevalence and mitigate the health outcomes associated with ACEs throughout the state. The Arizona Department of Health Services in partnership various agencies, non-profit organizations, and community groups support and implement Governor's Goal Council ACE's Action Plan. The plan contains following goals: 1) Reduce the number of ACEs that Arizona children are exposed to; 2) Characterize the data that leads to Arizona having the highest percentage of children exposed to ACEs; and 3) Mitigate the number of adverse health outcomes that are associated with ACE exposure. The Bureau of Women's and Children's Health (BWCH) at the Arizona Department of Health Services is the lead on several strategies, including the Action Plan's evaluation and home visitation strategies. BWCH repeatedly sponsors 11 core questions on ACEs in the Behavioral Risk Factor Surveillance System (BRFSS) of which internal and external stakeholders have become dependent on these data to better inform their strategies to mitigate ACEs. These data are also used by BWCH to inform our home visiting programs. Future investigations triangulating various data sources are needed to understand ACEs and PCEs in Arizona such as the BRFSS, the Arizona Youth Survey, and the Youth Risk Behavior Survey. These data can galvanize Community collaborations and interdisciplinary partners can improve the quality of life for children and their families and promote a healthier Arizona.

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