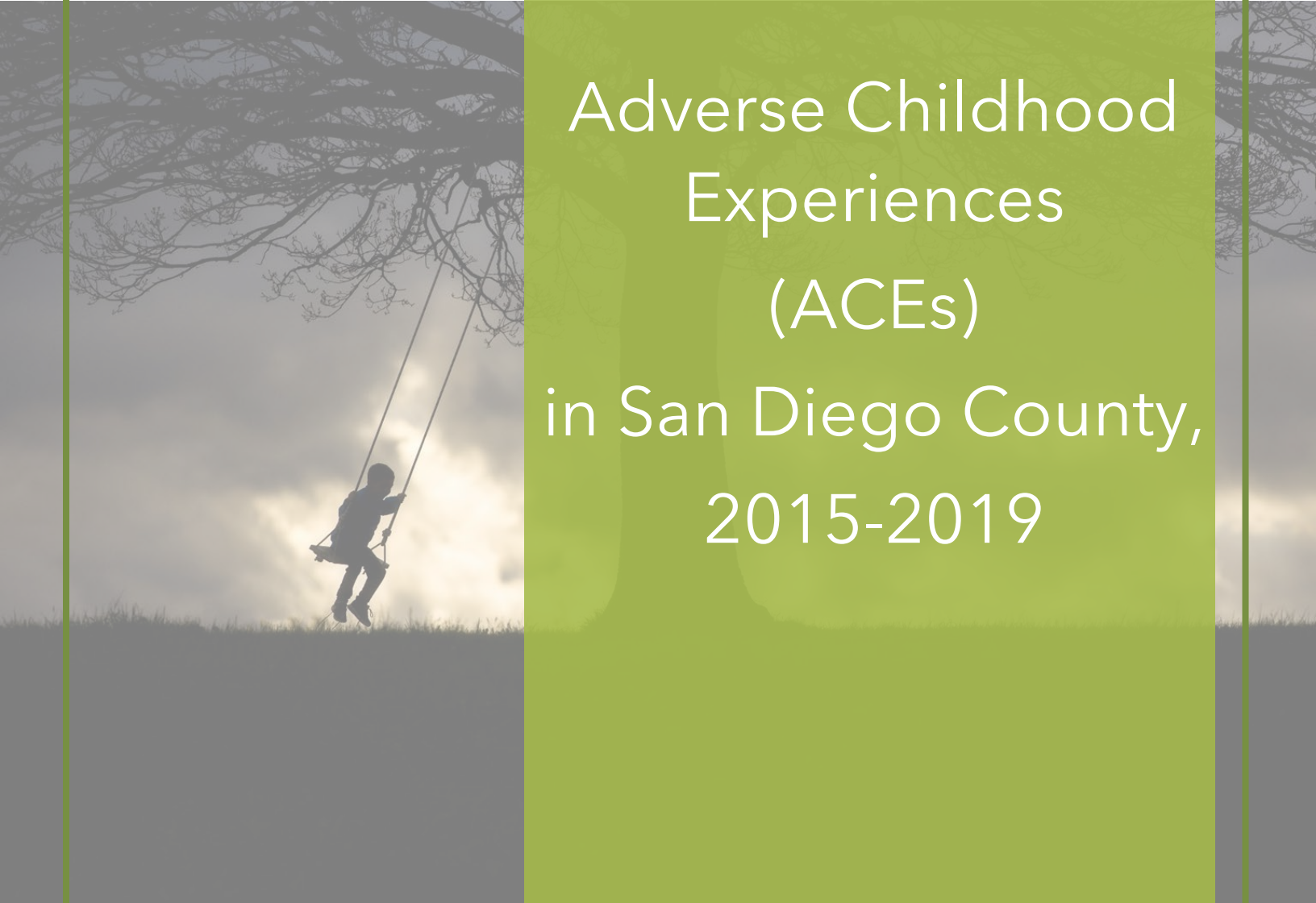




COUNTY OF SAN DIEGO
HHSA
HEALTH AND HUMAN SERVICES AGENCY

LIVE WELL
SAN DIEGO



Adverse Childhood Experiences (ACEs) in San Diego County, 2015-2019

County of San Diego, Health and Human Services Agency,
Public Health Services, Community Health Statistics Unit

Prepared September 2022

Adverse Childhood Experiences (ACEs) in San Diego County

September 1, 2022

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Methodology

Data Source

Data included in this brief come from the 2015, 2017, and 2019 California Behavioral Risk Factor Surveillance System (BRFSS). BRFSS is a telephone health survey covering topics including health-related risk behaviors, chronic health conditions, and use of preventive services. It is administered by 50 states in partnership with the Centers for Disease Control (CDC).¹

The ACE module included in BRFSS was adapted from the CDC-Kaiser Permanente ACE Study. The survey is administered to adults looking retrospectively at their childhood experiences. Since 2009, 48 states and the District of Columbia have included ACE questions for at least one year on their survey.² From 2015-2019, approximately 1,042 adults in San Diego County completed the ACE Module included in BRFSS. All estimates included in the analyses in this brief are weighted to represent the population in San Diego County.

ACE Scores

Total ACE scores were calculated by summing the number of types of ACEs each respondent was exposed to before the age of 18. Exposure was included in the ACE score if the individual responded “yes” or “at least once” to the following questions:

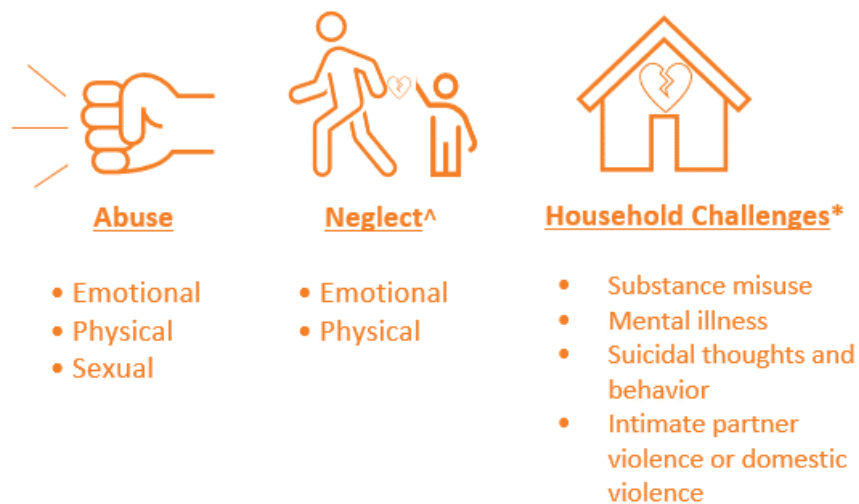
- “Did you live with anyone who was depressed, mentally ill, or suicidal?”
- “Did you live with anyone who was a problem drinker or an alcoholic?”
- “Did you live with anyone who used illegal street drugs or who abused prescription medications?”
- “Did you live with anyone who served time or who was sentenced to serve time in a prison, jail, or other correctional facility?”
- “Were your parents separated or divorced?”
- “How often did your parents or adults in your home ever slap, hit, kick, punch or beat each other up?”
- “How often did a parent or adult in your home ever hit, beat, kick, or physically hurt you in any way?”
- “How often did a parent or adult in your home ever swear at you, insult you, or put you down?”
- “How often did anyone at least 5 years older than you or who was an adult, ever touch you sexually?”

Introduction

What are ACEs?

Adverse childhood experiences (ACEs) are potentially traumatic experiences that occur before the age of 18. ACEs range from physical and sexual abuse to household challenges experienced by parents, caregivers, or other adults living with the child.³ Although there are a range of potentially traumatic experiences in childhood, the following types of ACEs are currently measured by the Behavioral Risk Surveillance System (BRFSS).²

These ACEs include:



[^]Neglect items added to BRFSS in 2021. 2015-2019 analysis does not include neglect items.
^{*}The child lives with a parent, caregiver, or other adult who experiences one or more of these challenges.

Figure 1: Types of ACEs, Centers for Disease Control and Prevention (CDC), BRFSS ACE Module.

ACEs and Toxic Stress

Experiencing a high number of ACEs, without supportive adults or safe and stable environments, may lead to a prolonged activation of the biological stress response, known as toxic stress. The more adversity to which a child is exposed, the more likely it is that they will develop a toxic stress response. Toxic stress can have a lasting effect on brain structure and function and disrupt healthy development.⁴ The long-term biological changes caused by toxic stress can also be passed onto the next generation.⁴

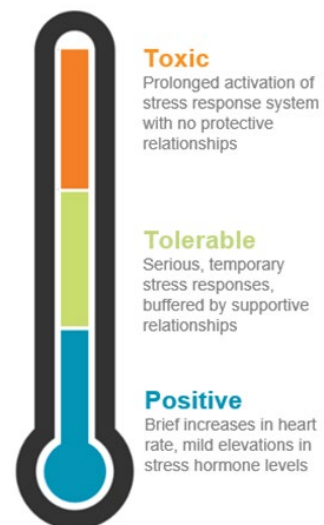


Figure 2: Toxic Stress, Image adapted from University of Chicago.⁵

ACEs and Health Outcomes

Current research indicates that experiencing a higher number of ACEs is associated with chronic health conditions, mental illness, and health risk behaviors.^{3,4} Additionally, ACEs can be passed from generation to generation and increase the risk of health problems in children born to parents with high ACE scores.⁴ Children born to parents with high ACE scores are more likely to have neuropsychiatric, behavioral, and physical health problems.

In the United States, 1 in 6 adults have experienced 4 or more ACEs, and 61% of adults have experienced at least one ACE.⁶ Some demographic groups are more likely to experience an increased number of ACEs, including racial and ethnic minorities, females, LGBTQ+ individuals, and those with lower socioeconomic status and education levels.⁷

ACEs have been found to have a graded dose-response relationship with 40+ health and well-being outcomes as of 2019, including 9 of the top 10 leading causes of death in San Diego County (Table 1).^{4,8,9}

Association of ACEs with the Leading Causes of Death in San Diego County		
Rank	Leading Causes of Death in San Diego County, 2017	Odds Ratio† for 4 or More ACEs (relative to no ACEs)
1	Cancer	2.3
2	Heart Disease	2.1
3	Alzheimer's Disease	11.2
4	Stroke	2.0
5	Accidents (Unintentional Injuries)	2.6
6	Chronic Lower Respiratory Diseases	3.1
7	Diabetes	1.4
8	Kidney Disease	1.7
9	Suicide*	37.5
10	Influenza and pneumonia	unknown

† Pooled Odds Ratios from a random-effects meta-analysis across the world. *Calculated OR measures association with suicide attempts

Table 1: Association of ACEs with the Leading Causes of Death in San Diego County, 2017.^{4,9}



As the number of ACEs increases, so does the risk for negative health and well-being outcomes.⁸

Fortunately, ACEs are preventable. Creating and maintaining safe, stable, and nurturing relationships and environments for children and families can prevent ACEs and decrease the risk of adverse health and well-being outcomes associated with ACEs.⁴ Preventing ACEs could decrease the overall burden of disease across the United States, including a decrease in roughly 2.5 million cases of overweight/obesity, up to 1.9 million cases of heart disease, and 21 million cases of depression.⁶

To view the interactive Adverse Childhood Experiences (ACEs) Tableau Dashboard, visit: [Adverse Childhood Experiences | Tableau Public](#)

Survey Results

Prevalence of ACEs in San Diego County

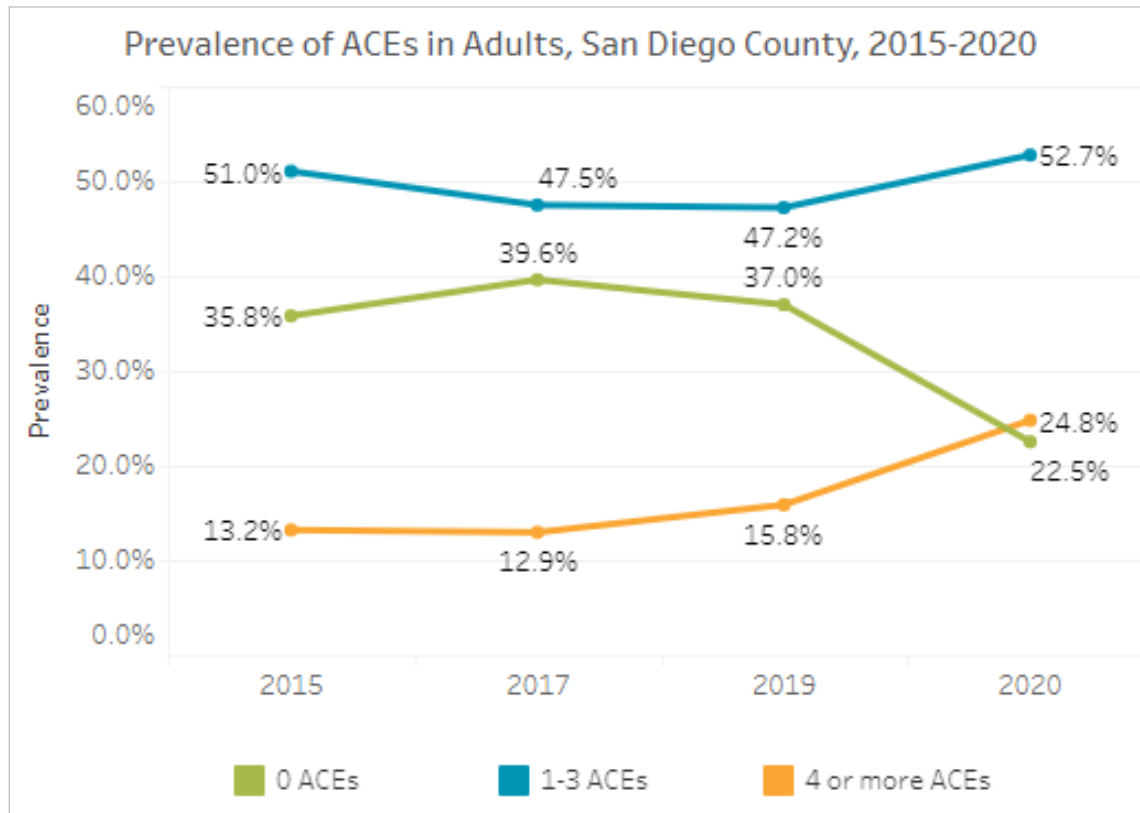


Figure 3: Prevalence of ACEs in Adults, San Diego County, 2015-2020, BRFSS.¹⁰

In 2020, nearly 1 in 4 adults in San Diego County reported experiencing 4 or more ACEs before the age of 18.

From 2015-2020, the percent of adults in San Diego County who reported experiencing at least one ACE before the age of 18 increased from 2015 to 2020. In 2020, about 25% of adults in San Diego County reported that they had experienced 4 or more ACEs, and more than half of adults reported experiencing 1-3 ACEs before the age of 18.

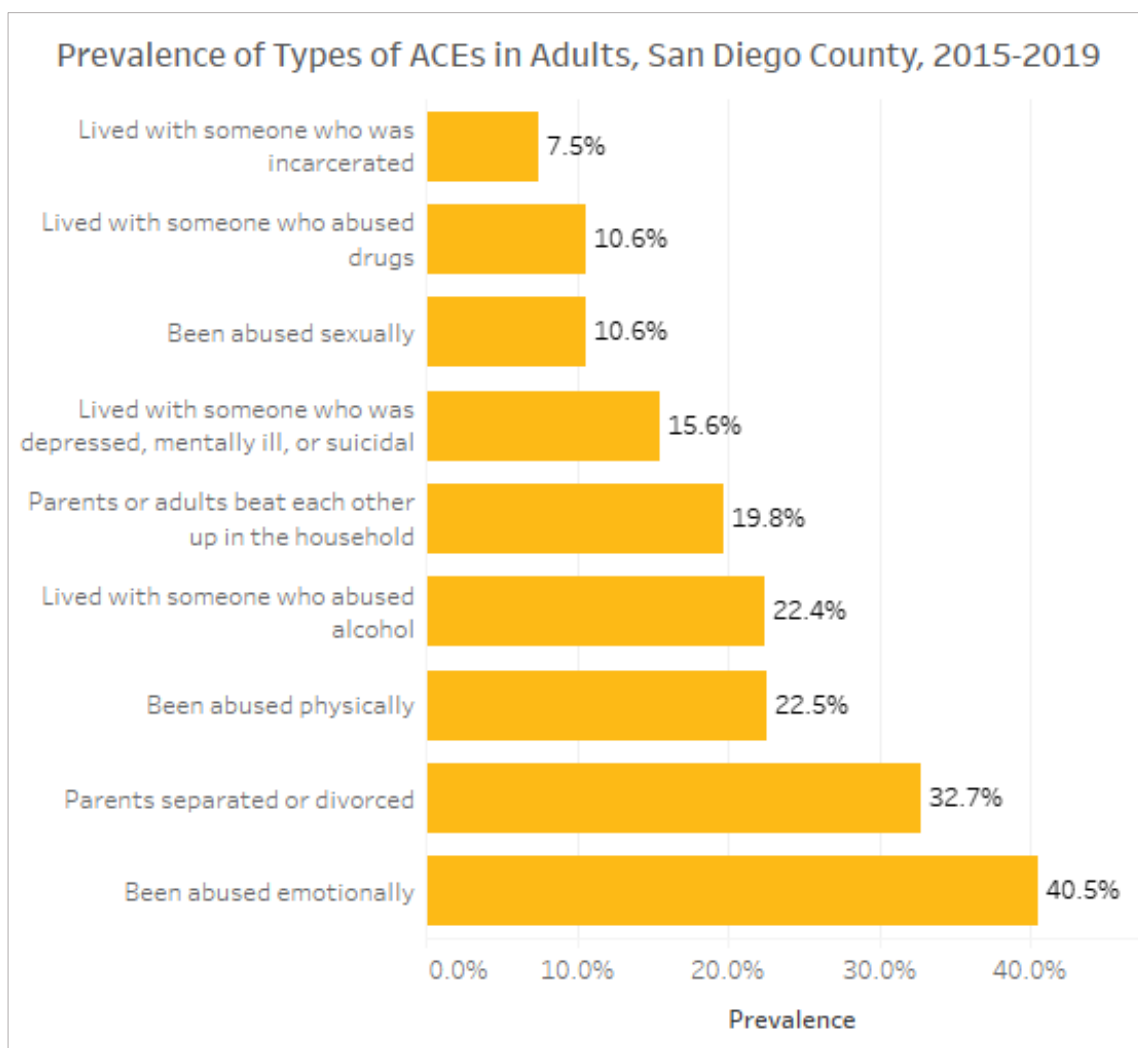


Figure 4: Prevalence of Types of ACEs in Adults, San Diego County, 2015-2019.¹¹

Of the nine ACE types measured, the most common ACE reported among adults in San Diego County was emotional abuse, followed by parental separation or divorce.

About 41% of adults surveyed between 2015 and 2019 reported they had experienced emotional abuse before the age of 18. Nearly 1 in 3 (32.7%) adults in San Diego County had divorced or separated parents before the age of 18.

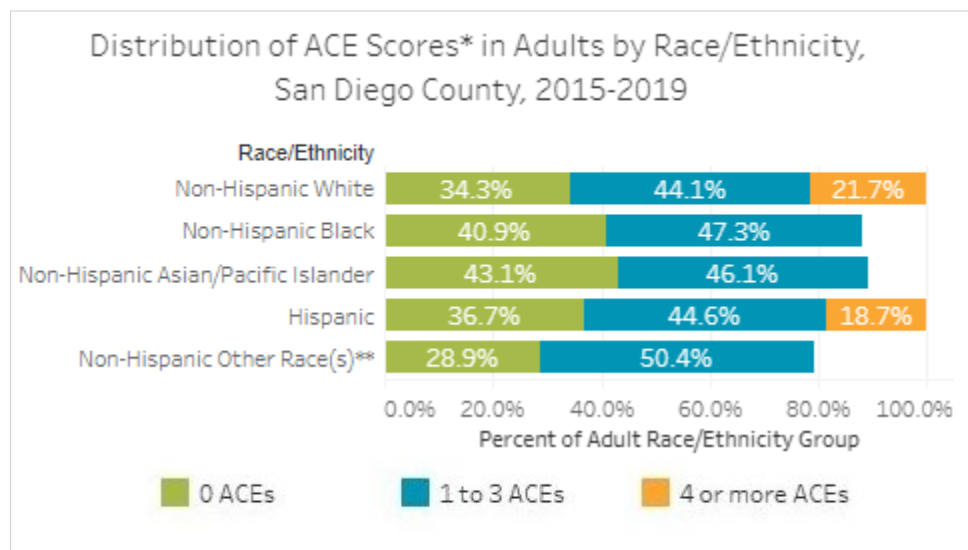
Roughly 1 in 10 adults in San Diego County experienced sexual abuse in childhood.

Of adults surveyed between 2015 and 2019, 10.6% reported they had been sexually abused at least once before the age of 18. Sexual abuse includes being touched sexually by an adult at least 5 years or older. The prevalence of sexual abuse in San Diego County is similar to the prevalence in California (10.8%), measured by BRFSS from 2011-2017, and the prevalence in the United States (11.6%), measured by BRFSS from 2011-2014.¹² Data for the United States come from the 23 states that collected ACE data between 2011 and 2014.

The least common ACE reported among San Diego County residents was living with someone who was incarcerated.

Of adults surveyed between 2015 and 2019, 7.5% reported living with someone who was incarcerated in childhood. This prevalence is similar to the prevalence in California (7.5%), measured by BRFSS from 2011-2017, and the prevalence in the United States (7.9%), measured by BRFSS from 2011-2014.^{12,2} Data for the United States come from the 23 states that collected ACE data between 2011 and 2014.

Demographic Disparities in San Diego County



*Statistically unstable estimates not shown.

Figure 5: Distribution of ACE Scores in Adults by Race/Ethnicity, San Diego County, 2015-2019.¹¹

Prevalence of ACEs varies by race/ethnicity.

Research has indicated that individuals who are Black, Hispanic, and multi-racial experience a higher number of ACEs.^{4,7,12} However, there was not enough BRFSS data collected in San Diego County to accurately measure the prevalence of 4 or more ACEs in non-Hispanic Black and Other race adults. The non-Hispanic Other racial group had the highest prevalence of 1-3 ACEs, followed by non-Hispanic Black and Asian/Pacific Islander.

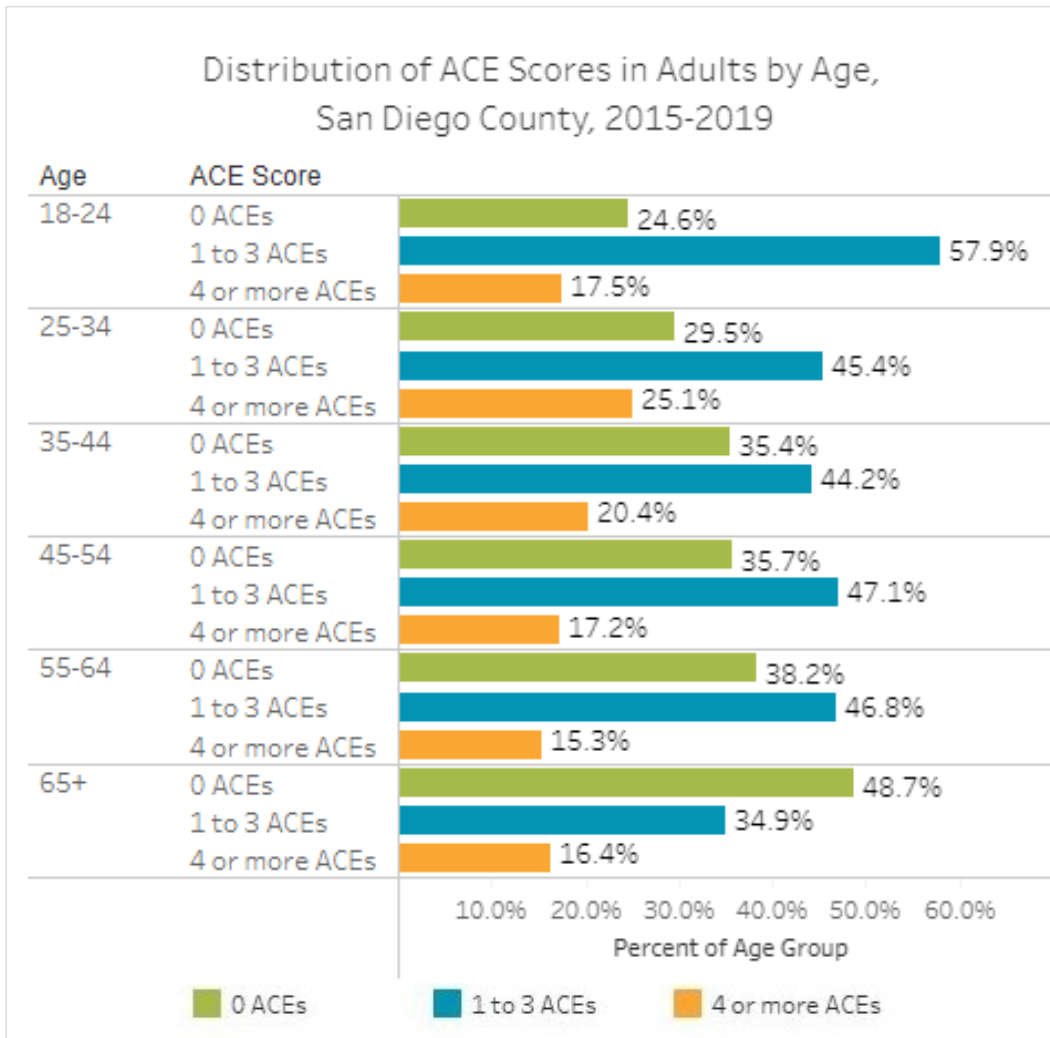


Figure 6: Distribution of ACE Scores in Adults by Age, San Diego County, 2015-2019.¹¹

Adults aged 25-34 reported the highest prevalence of 4 or more ACEs.

Among adults aged 25-24, 1 in 4 (25.1%) reported experiencing 4 or more ACEs before the age of 18. Adults aged 65+ reported the lowest prevalence of ACEs overall (51.3%). Younger generations may be at increased risk of health issues related to ACEs.¹³

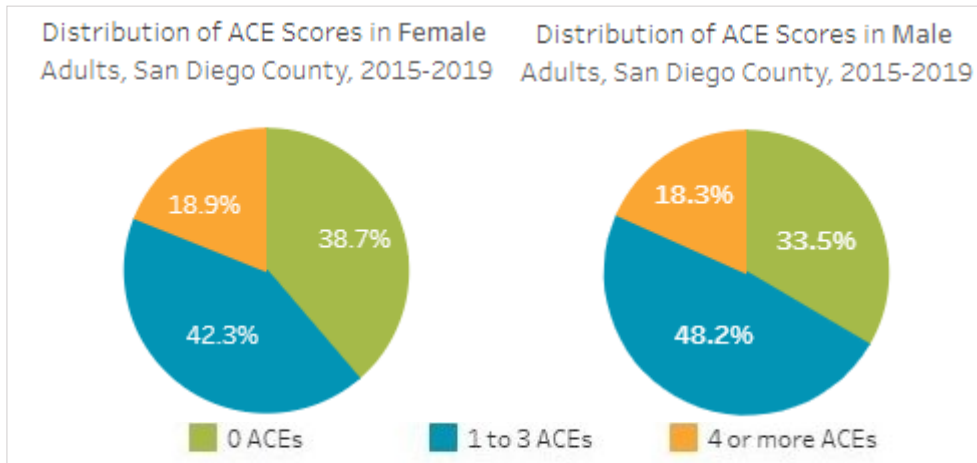


Figure 7: Distribution of ACE Scores in Adults by Sex, San Diego County, 2015-2019.¹¹

In San Diego County, females reported a slightly higher prevalence of 4 or more ACEs than males.

Previous research has indicated that females are at greater risk of experiencing 4 or more types of ACEs compared to males^{4,7}. In San Diego County, 18.9% of females experienced 4 or more ACEs before the age 18, compared to 18.3% of males. However, males reported a higher prevalence of at least once ACE. Overall, nearly 67% of males experienced at least once ACE compared to 61% of females.

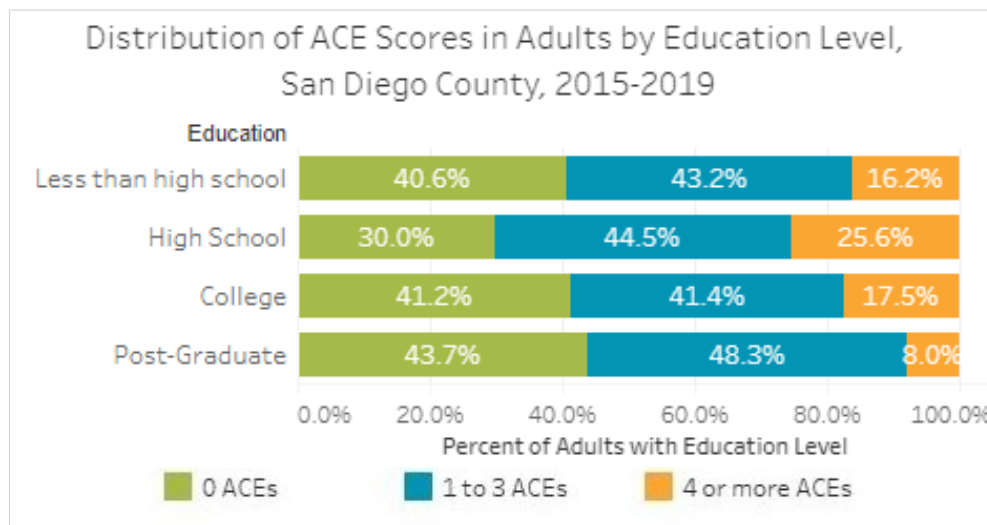


Figure 8: Distribution of ACE Scores in Adults by Education Level, San Diego County, 2015-2019.¹¹

Adults with less than a college degree were more likely to experience ACEs than adults with a college degree or higher.

In San Diego County, 70% of adults with a high school degree experienced 1 or more ACEs, and 25.6% experienced 4 or more ACEs. Adults with a post-graduate education experienced

the lowest prevalence of ACEs. Previous research has indicated that experiencing a high level of adversity in childhood is associated with lower education levels.^{4,7}

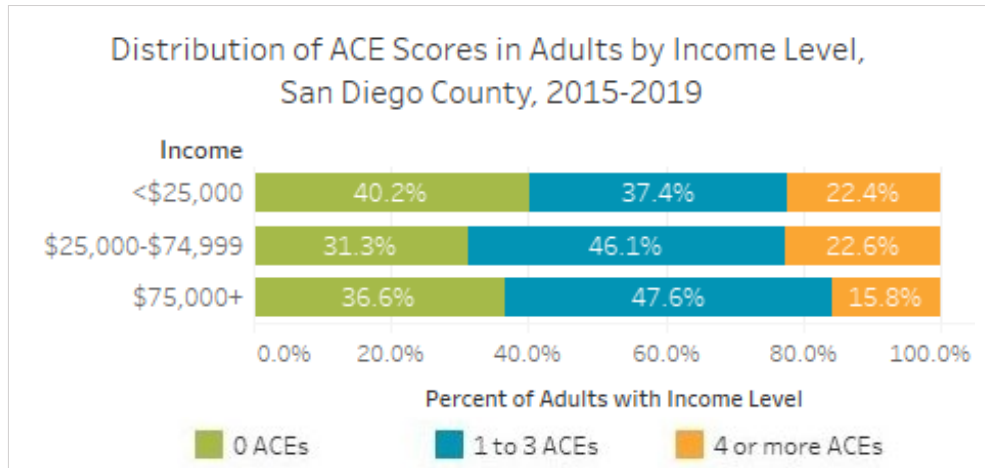
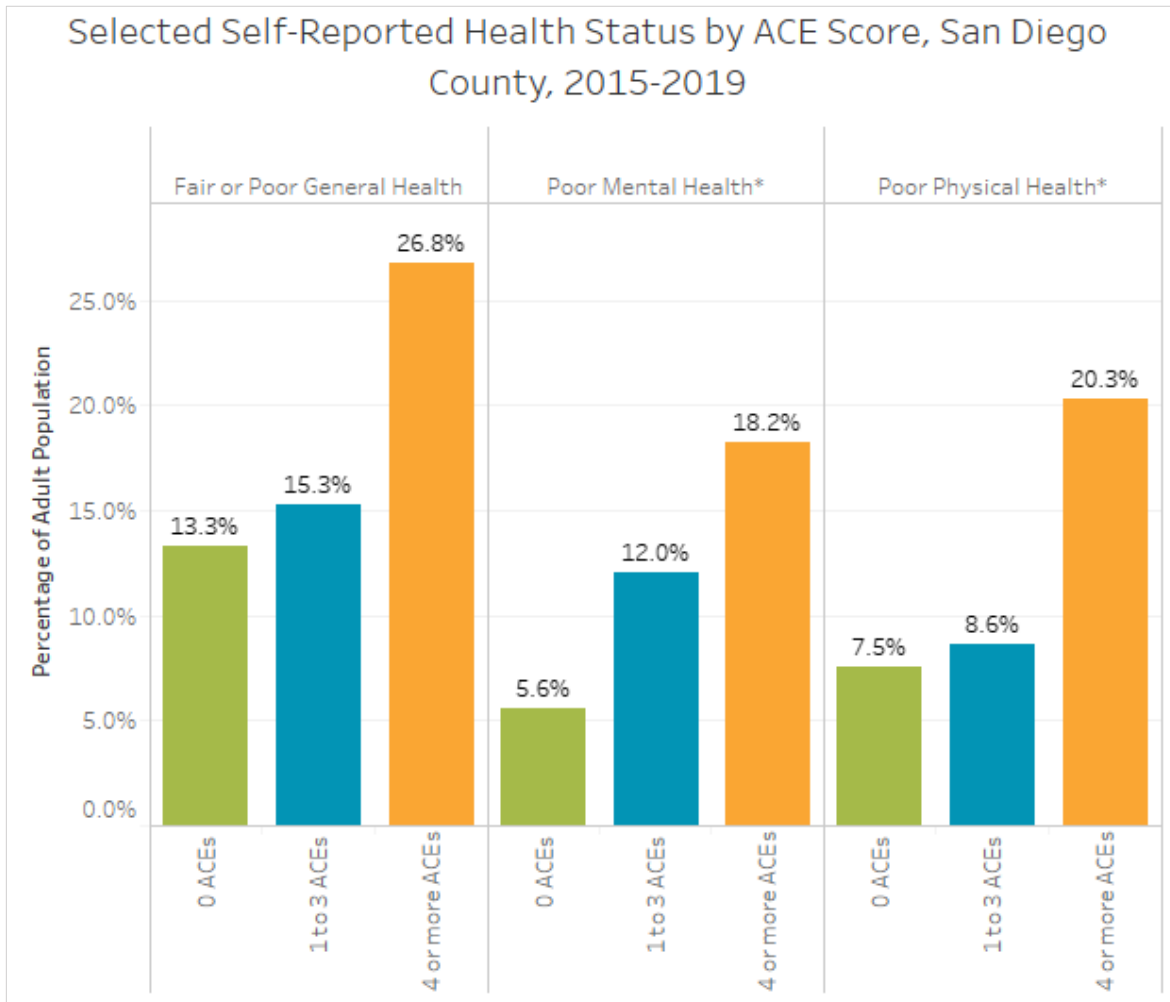


Figure 9: Distribution of ACE Scores in Adults by Income Level, San Diego County, 2015-2019.¹¹

Adults with an annual income of \$75,000 or more experienced the lowest prevalence of 4 or more ACEs.

Approximately 16% of adults with an annual income of \$75,000 or greater living in San Diego County experienced 4 or more ACEs, compared to 22.6% of adults with an annual income of \$25,000 to \$74,999 and 22.4%, of adults with an annual income less than \$25,000.

Self-Reported Health Status

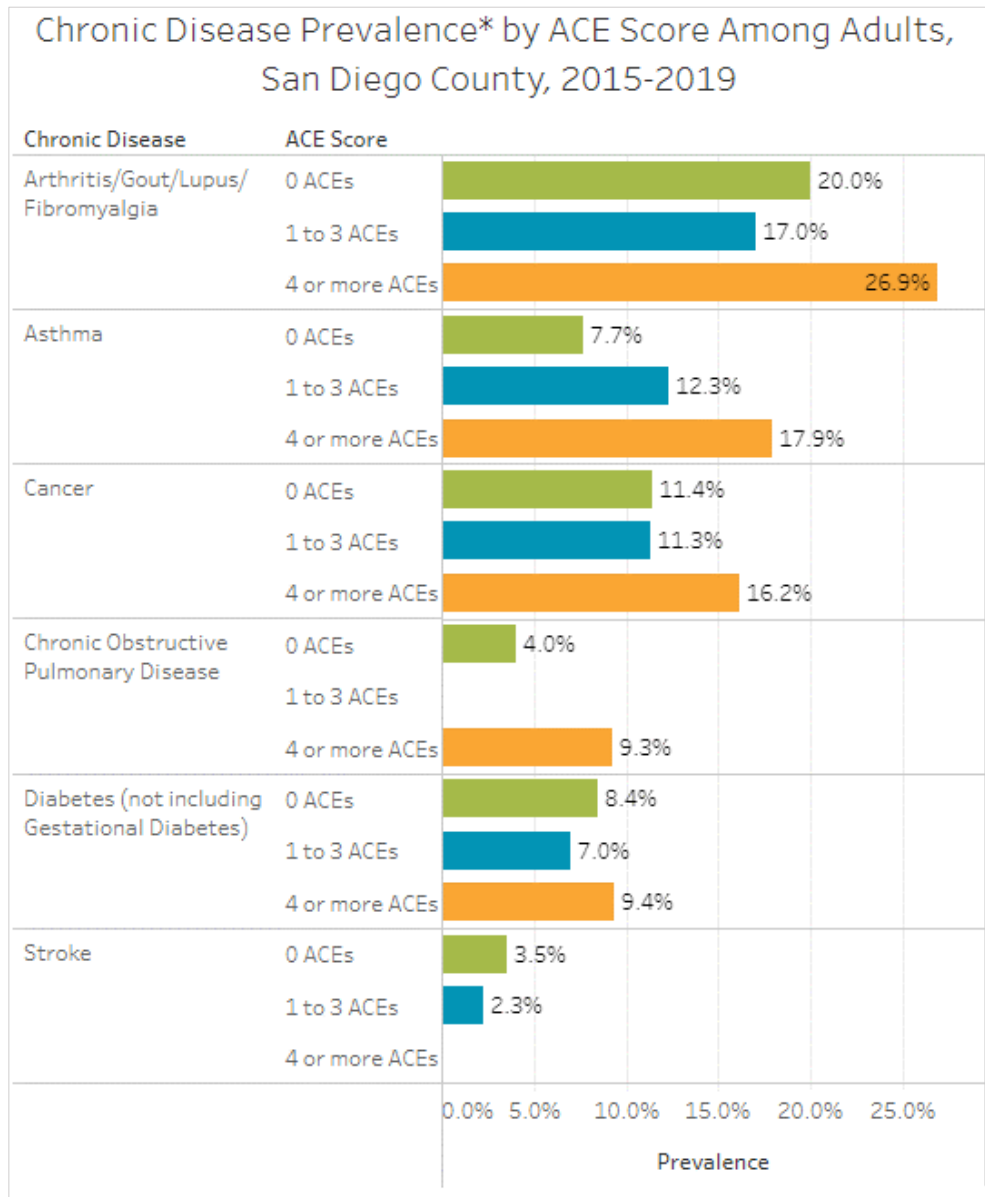


* Poor health: self-reported health was not good for 14 or more days in the past 30 days
 Figure 10: Health Status by ACE Score, San Diego County, 2015-2019.¹¹

As the number of ACEs increased, so did the prevalence of self-reported fair or poor health.

The prevalence of fair or poor general health was 2 times higher in adults who experienced 4 or more ACEs compared to those who experienced 0. The prevalence of poor mental health was 3.3 times higher in adults who experienced 4 or more ACEs compared to those who experienced 0, and the prevalence of poor physical health was 2.7 times higher in those who experienced 4 or more ACEs compared to those with 0 ACEs.

Chronic Disease Prevalence



*Statistically unstable estimates not shown.

Figure 11: Chronic Disease Prevalence by ACE Score among Adults, San Diego County, 2015-2019.¹¹

Adults with 4 or more ACEs reported a higher prevalence of chronic disease compared to adults with 0 ACEs.

Compared to adults with 0 ACEs, adults with 4 or more ACEs reported a:

- 1.3 times higher prevalence of arthritis/gout/lupus/fibromyalgia,
- 2.3 times higher prevalence of asthma,
- 1.4 times higher prevalence of cancer,
- 2.3 times higher prevalence of COPD, and
- 1.1 times higher prevalence of diabetes (not including gestational diabetes).

Prevention

Preventing ACEs requires a public health approach at primary, secondary, and tertiary levels. Strategies at each level may be used together to prevent ACEs from occurring and/or decrease the risk of poor health and well-being outcomes associated with ACEs from developing or worsening.⁴

Primary Prevention Strategies⁴

Creating and maintaining safe, stable, and nurturing relationships and environments for children and families can prevent ACEs and decrease the risk of adverse health and well-being outcomes associated with ACEs. Strategies include:

- Strengthening economic supports
- Promoting family-friendly work policies
 - Paid family leave
- Models to enhance parenting efficacy, resilience, attachment, and family bonds
 - High-quality childcare
 - Early childhood home visitation
- Public education campaigns to raise awareness of ACEs
- Access to high-quality mental and physical healthcare
- Early and ongoing learning opportunities
- Cross-sector and sector-specific training in trauma-informed tools, approaches, and strategies for providers engaging with children and families
- Enabling opportunities for stress-buffering activities

Secondary Prevention Strategies⁴

ACE screening can identify individuals who may be at increased risk of having a toxic stress response. Screening can lead to early detection of ACEs so that interventions may begin early when they are more likely to be effective and less expensive. Early detection can:

- Improve outcomes related to toxic stress
- Strengthen existing protective factors
- Initiate early buffering interventions

Tertiary Prevention⁴

Individuals who have already developed poor health and well-being outcomes associated with ACEs should focus on regulating the stress-response system to counter-act the consequences of long-term toxic stress. Current research indicates that practicing stress-mitigation strategies can alleviate the consequences of toxic stress. Stress mitigation strategies include:

- Enhancing supportive relationships
- Regular exercise
- Access to nature
- Sufficient and high-quality sleep
- Balanced nutrition
- Mindfulness practices
- Mental and behavioral healthcare



Figure 12: Stress-mitigation strategies. Image adapted from ACEs Aware, 2020.¹⁴

Tertiary prevention of toxic stress in one generation can equate to primary prevention in the next.

Conclusion

Adverse Childhood Experiences (ACEs) are common in San Diego County and across the United States. In San Diego County, racial/ethnic minorities and households with lower income and education levels are at higher risk for experiencing adversity in childhood, similar to national and state findings. Adults who experience 4 or more ACEs report higher prevalence of poor health and chronic disease. Research continues to strengthen the association of childhood adversity with poor health and well-being outcomes throughout the life course, as well as the effects of intergenerational trauma. Prevention efforts are needed to reduce the occurrence of ACEs and to decrease the risk of developing poor health and well-being outcomes associated with ACEs.

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