



# ADVERSE CHILDHOOD EXPERIENCES

# ACEs

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*Indicator Information Packet*

*Public Health Services  
Community Health Statistics Unit  
7/2022*



**LIVE WELL**  
SAN DIEGO



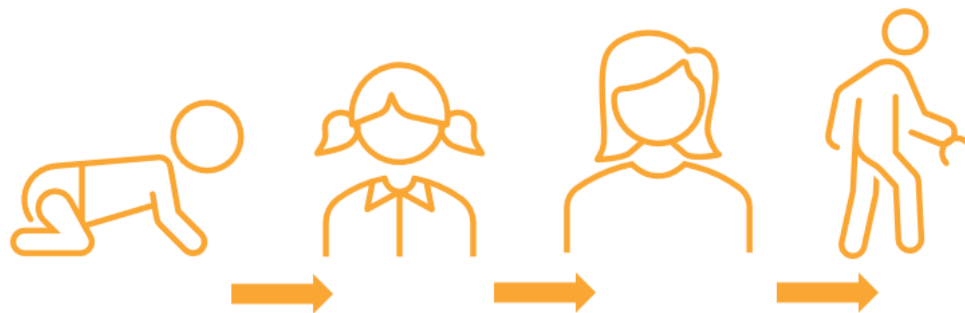
# WHAT ARE ACEs?



## Adverse Childhood Experiences (ACEs)

ACEs are potentially traumatic events that occur before the age of 18:

- ACEs range from physical and sexual abuse to aspects of a child's environment, including household challenges experienced by parents, caregivers, or other adults living with the child.
- ACEs can have lasting effects on health and well-being well into adulthood.



# TYPES OF ACEs



## Types of ACEs



### ABUSE

- Emotional
- Physical
- Sexual



### NEGLECT

- Emotional
- Physical



### HOUSEHOLD CHALLENGES\*

- Substance misuse
- Mental illness
- Suicidal thoughts and behavior
- Divorce or separation
- Incarceration
- Intimate partner violence or domestic violence

\*The child lives with a parent, caregiver, or other adult who experiences one or more of these challenges.

# HOW ARE ACEs MEASURED?



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## ACE Questionnaires

ACEs are measured using a variety of questionnaires:

### Adult Retrospective:

- Self-reported: Behavioral Risk Factor Surveillance System (BRFSS) Questionnaire
- Self-reported: Maternal and Infant Health Assessment (MIHA)

### Child Surveys:

- Parent-reported: National Survey of Children's Health (NSCH)

Other modifications to the original CDC-Kaiser ACE survey are also available.

# HOW ARE ACEs MEASURED?



## BRFSS ACE Questionnaire

The Behavioral Risk Factor Surveillance System (BRFSS) is a telephone health survey covering topics including health-related risk behaviors, chronic health conditions, and use of preventive services. BRFSS is administered by 50 states in partnership with the Centers for Disease Control (CDC).

- The ACE Module was adapted from the CDC-Kaiser Permanente Study and is included as a module in BRFSS. It is administered to adults looking retrospectively at their childhood experiences.
  - 11 questions regarding ACEs
  - Scored based on types of answers to the questions
  - Sample size = approximately 8,000 to 12,000 per year



# HOW ARE ACEs MEASURED?



## MIHA Questionnaire

The Maternal and Infant Health Assessment (MIHA) is a collaborative effort of the Maternal, Child and Adolescent Health Division and the Women, Infant and Children Division of the California Department of Public Health and the Center on Social Disparities in Health at UC San Francisco. MIHA surveys postpartum women (ages 15 and older) who deliver a live birth about their own childhood hardships prior to age 14.

- Provides information about the childhood hardships experienced by mothers of newborns and their hardships during pregnancy
  - Includes a wider range of potentially adverse experiences than the original CDC-Kaiser ACE study
  - Sample size = approximately 7,000 per year

# HOW ARE ACEs MEASURED?



## NSCH ACE Questionnaire

The National Survey of Children's Health (NSCH) has been administered since 2003 by the U.S. Census Bureau for the Maternal and Child Health Bureau of the Department of Health and Human Services. The NSCH uses set of family, economic, and community adversity indicators to ask parents about current adverse experiences to which their children (ages 10-17) have been exposed

- 10 ACEs measured
- Includes a wider range of potentially adverse experiences than the original CDC-Kaiser ACE study
- Sample size = approximately 3,000 to 6,000 per year
- Before 2016, NSCH used an interview format, rather than a questionnaire



# TYPES OF ACEs MEASURES BY SURVEY



Types of Measures by Survey

Types of measures	Behavioral Risk Factor Surveillance System (BRFSS)	National Survey of Children's Health (NSCH)	Maternal and Infant Health Assessment (MIHA)
Emotional abuse*	✓		
Physical abuse*	✓		
Sexual abuse*	✓		
Intimate partner violence*	✓	✓	
Substance abuse*	✓	✓	✓
Mental Illness in household*	✓	✓	
Incarcerated household member*	✓	✓	✓
Parent separated or divorced*	✓	✓	✓
Physical neglect*	•		
Emotional neglect*			✓
Neighborhood violence		✓	
Parent death		✓	
Treated unfairly due to race/ethnicity		✓	
Treated unfairly due to Sexual Orientation or Gender Identity		✓	
Economic hardship		✓	✓

\* Similar to the type of measure that appeared in the original Kaiser Permanente/CDC ACE Study

- Included in 2009-09, 2013, 2021



# 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**.

- Toxic stress can have a lasting effect on brain structure and function and disrupt healthy development.
- The more ACEs to which a child is exposed, the more likely it is that they will develop a toxic stress response.
- A toxic stress response increases the risk for poor health and well-being outcomes associated with ACEs, including:
  - Behavioral, emotional, academic, and health problems during childhood and adolescence
  - Behavioral, emotional, and health issues in adulthood, such as chronic diseases, obesity, substance abuse, and depression
- ACEs can be passed from generation to generation



## Toxic

Prolonged activation of stress response system with no protective relationships

## Tolerable

Serious, temporary stress responses, buffered by supportive relationships

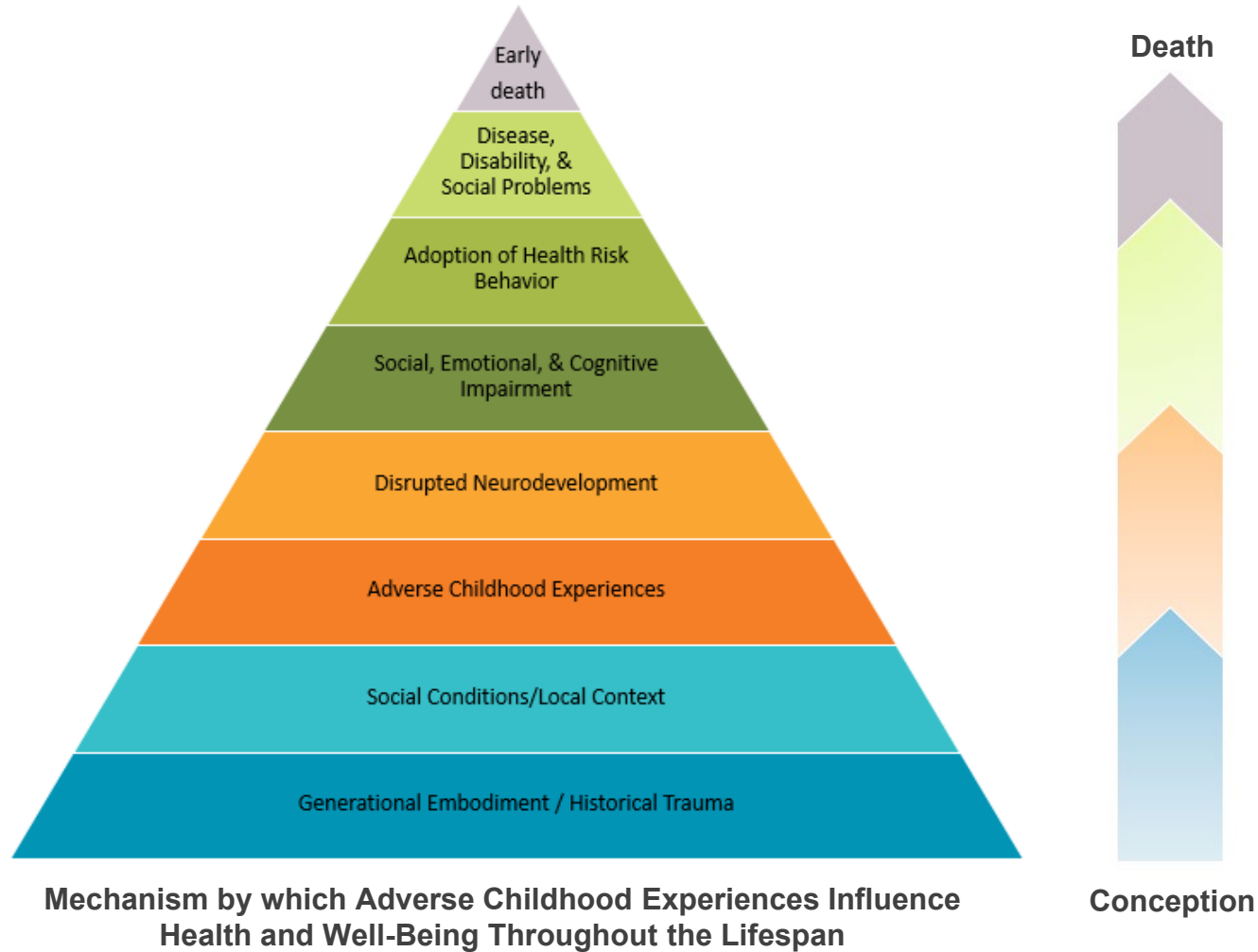
## Positive

Brief increases in heart rate, mild elevations in stress hormone levels

# THE ACE PYRAMID



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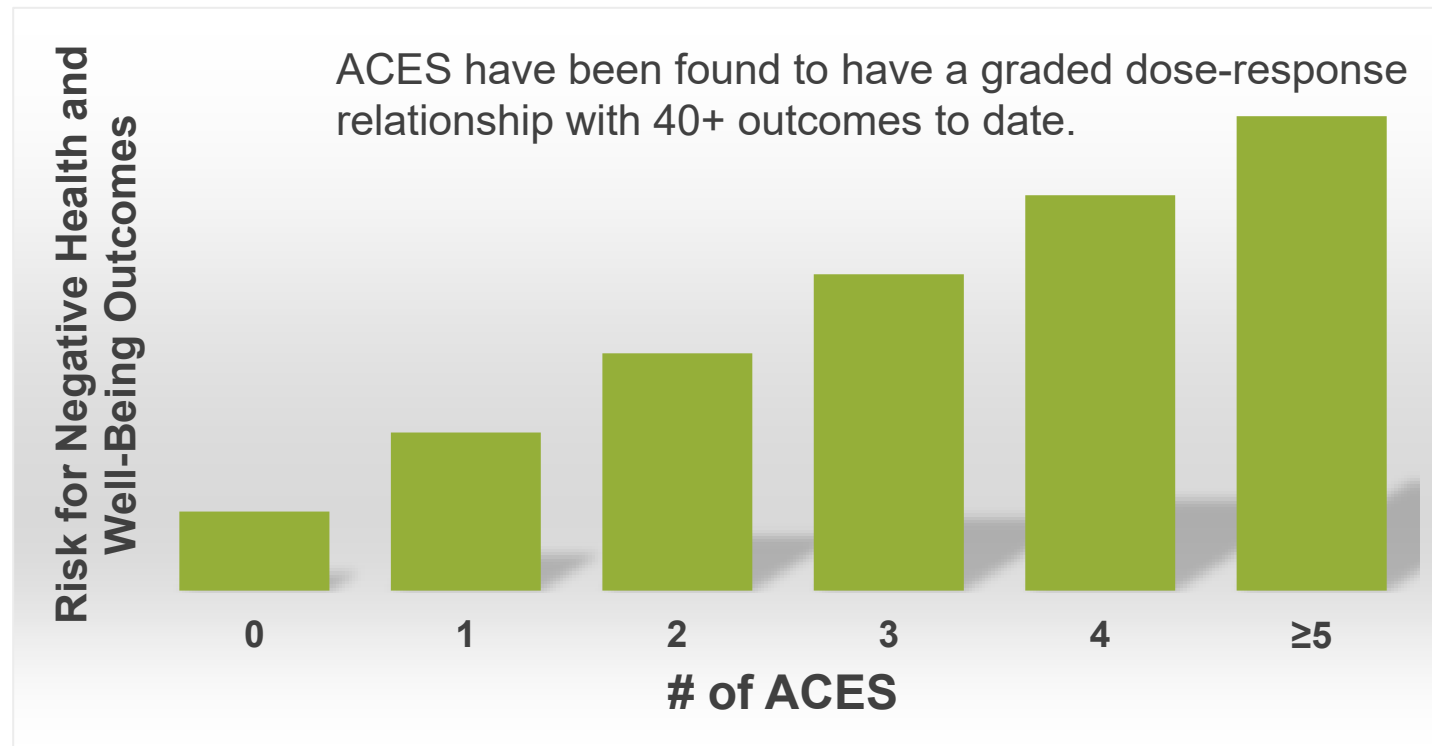


- Centers for Disease Control and Prevention (CDC). Violence Prevention. About the CDC-Kaiser ACE Study. April 2021. (Accessed July 27, 2022). <https://www.cdc.gov/violenceprevention/aces/about.html>

# ACEs AND NEGATIVE HEALTH AND WELL-BEING OUTCOMES



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

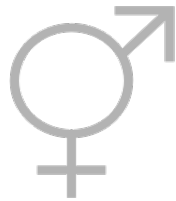


\* This pattern holds for the 40+ outcomes, but the exact risk values vary depending on the outcome.

# AT RISK POPULATIONS FOR ACEs



Some groups of people are more likely to have experienced ACEs.



**Gender & Sexual  
Orientation**



**Race/Ethnicity**



**Income &  
Employment Level**



**Educational  
Attainment**

# ACEs HEALTH & WELL-BEING OUTCOMES



ACEs are associated with a variety of poor health and well-being outcomes.

**Risky Behaviors**



**Chronic Disease**



**Infectious Disease**



**Mental Health**



**Injury**



**Generational Risks**



ACEs are associated with increased risky behaviors.

## Risky Behaviors



- Smoking
- Heaving drinking or alcoholism
- Substance misuse
- Risky sexual behavior
- Suicidal thoughts and behavior

# ACEs HEALTH & WELL-BEING OUTCOMES



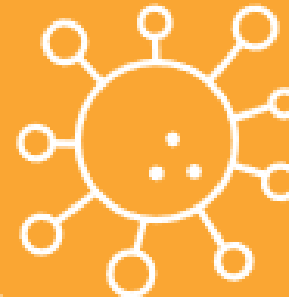
ACEs are associated with many poor physical health outcomes, including 9 of the top 10 leading causes of death in 2017.

## Chronic Disease



- Overweight/obesity
- Diabetes
- Cancer
- Chronic obstructive pulmonary disease (COPD)
- Kidney Disease
- Alzheimer's or Dementia
- Asthma
- Heart Disease
- Stroke

## Infectious Disease



- HIV and other STIs



ACEs are associated with poor mental health outcomes.

## Mental Health



- Depression
- Suicide
- Anxiety
- ADHD
- Post traumatic stress disorder (PTSD)

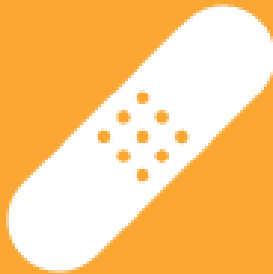


# ACEs HEALTH & WELL-BEING OUTCOMES



ACEs are associated the additional health outcomes below:

## Injuries



## Maternal Health Problems & Teenage Pregnancy



Those with **6 or more ACEs**, live on average, almost **20 years less** than those with none.



- Office of the California Surgeon General. Adverse Childhood Experiences (ACEs) and Toxic Stress. 2021. (Accessed July 14, 2022). <https://osg.ca.gov/aces-and-toxic-stress/>
- Roadmap for Resilience: The California Surgeon General's Report on Adverse Childhood Experiences, Toxic Stress, and Health. Office of the California Surgeon General, 2020. DOI: 10.48019/PEAM8812. [Roadmap for Resilience: The California Surgeon General's Report on Adverse Childhood Experiences, Toxic Stress, and Health](#)

# GENERATIONAL RISKS



Children born to parents with high ACE scores are more likely to have neuropsychiatric, behavioral, and physical health problems.

- Anxiety
- Asthma
- Attention-deficit/hyperactivity disorder (ADHD)
- Autism
- Depression
- Post-traumatic stress disorder (PTSD)
- Schizophrenia
- Sleep disturbances



# ECONOMIC BURDEN



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## Economic Burden in the U.S.

- The total economic burden of ACEs is estimated to be about **\$748 billion per year**.
- Roughly **75% of these costs** come from children and adults with **2 or more ACEs\***.

\*In Europe and in North America

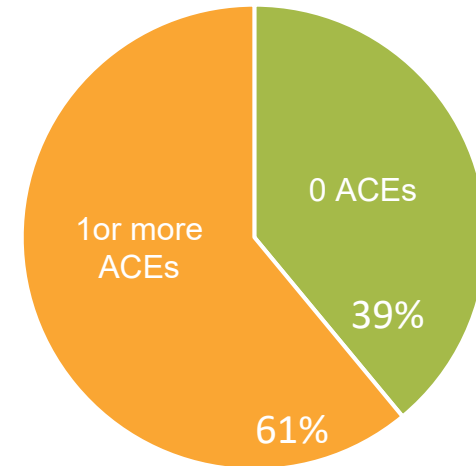
## Economic Burden in California

- In California, ACEs is estimated to cost about **\$112.5 billion per year**
  - Roughly \$10.5 billion is spent on healthcare costs
  - \$102 billion is spent on years of productive life lost
- It is estimated that in the **next ten years**, ACEs will cost the state over **\$1.2 trillion**.

# NATIONAL STATISTICS AMONG ADULTS (BRFSS)



From 2015-2017, **about 61%** of adults in the United States experienced **1 or more ACEs**.

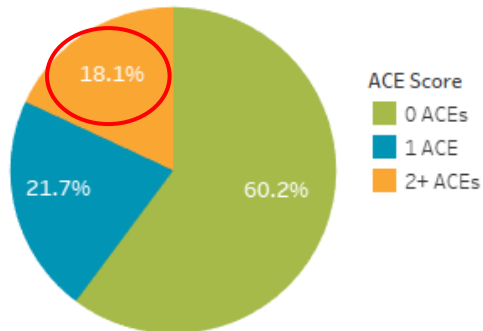


**1 in 6** adults in the United States experienced **four or more** types of ACEs between 2015 and 2017.

# NATIONAL STATISTICS AND DISPARITIES AMONG CHILDREN (NSCH)



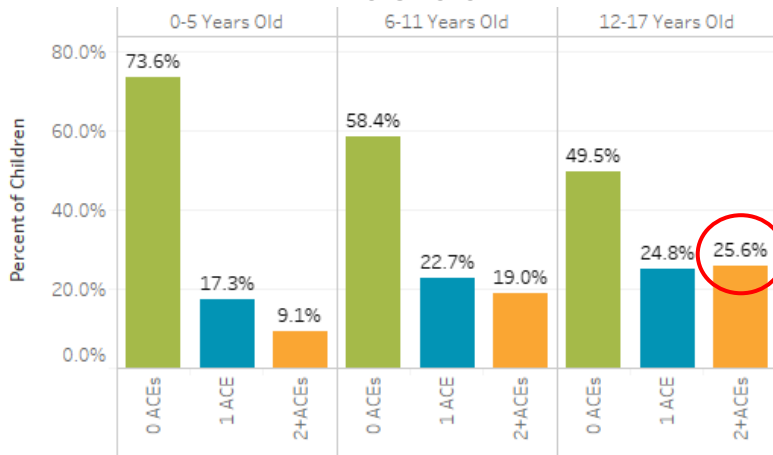
Prevalence of ACE Scores in Children\*, United States, 2019-2020



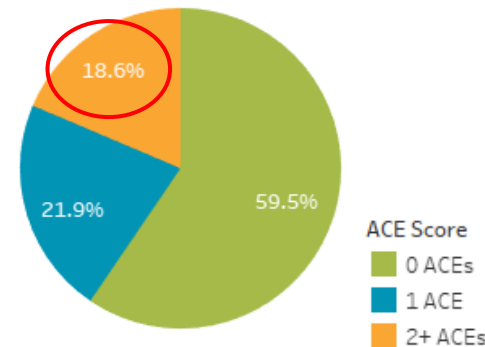
Distribution of ACE Scores in Children\* by Race/Ethnicity, United States, 2019-2020

	0 ACEs	1 ACE	2+ACEs
White, non-Hispanic	64.7%	19.5%	15.8%
Black, non-Hispanic	46.1%	28.5%	25.4%
Asian, non-Hispanic	79.9%	14.3%	5.8%
Hispanic	56.0%	24.1%	19.9%
Other, non-Hispanic	55.4%	21.1%	23.4%

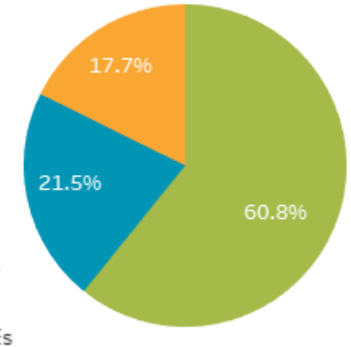
Distribution of ACE Scores in Children\* by Age, United States, 2019-2020



Distribution of ACE Scores in Children\* among Females, United States, 2019-2020



Distribution of ACE Scores in Children\* among Males, United States, 2019-2020



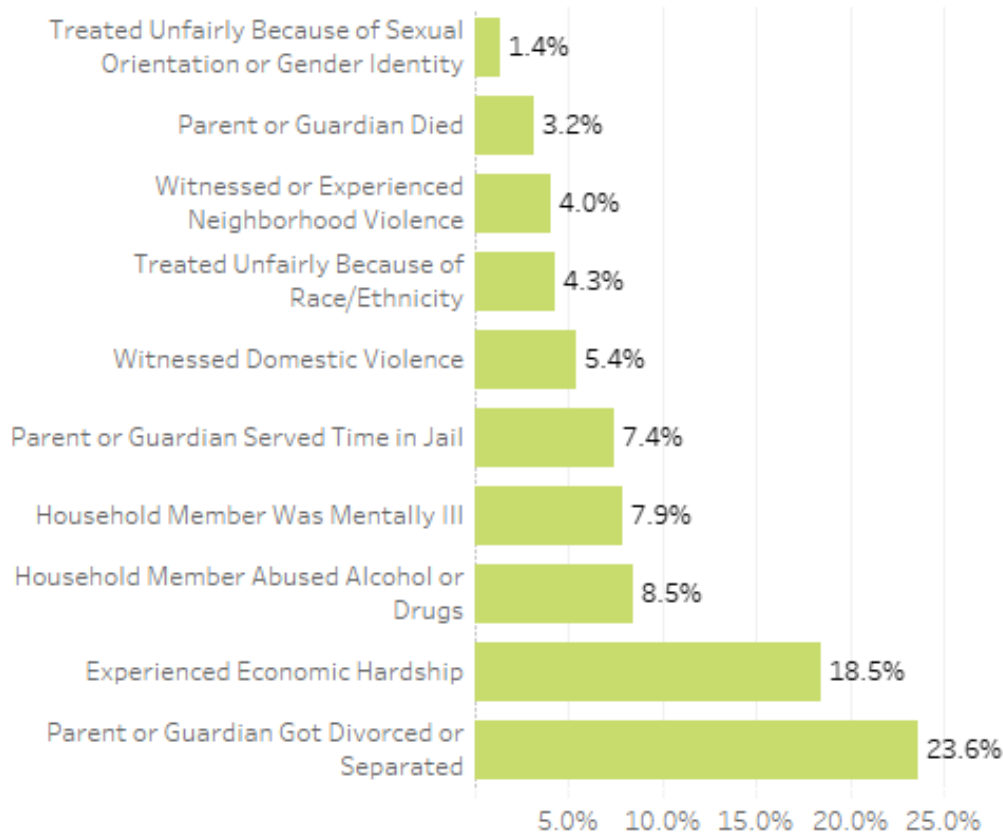
\* ACEs reported by parent or caregiver

# NATIONAL STATISTICS AMONG CHILDREN (NSCH)



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Prevalence of Types of ACEs in Children (Caregiver Reported),  
United States, 2016-2020



**Parent separation or divorce** was the **most common** ACE among children in the United States, followed by **economic hardship**.

In the United States, **8.5%** of children **lived with someone who abused alcohol or drugs**.

Source: KidsData.org. Children with Adverse Experiences (Parent Reported), by Type (CA & U.S. Only). 2022. [Children with Adverse Experiences \(Parent Reported\), by Type \(CA & U.S. Only\)](https://kidsdata.org/data/2022/Children-with-Adverse-Experiences-Parent-Reported-by-Type-CA-U.S.-Only) - Kidsdata.org

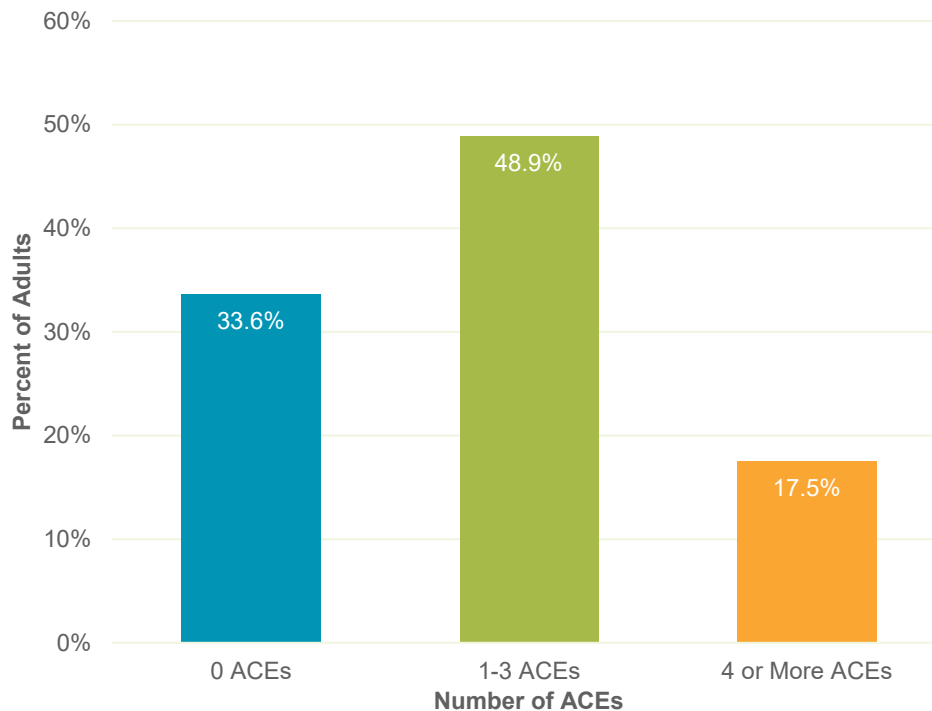
Original data source: U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB), National Survey of Children's Health, 2016-2020.

Prepared by County of San Diego, Health & Human Services Agency, Community Health Statistics Unit, 7/2022

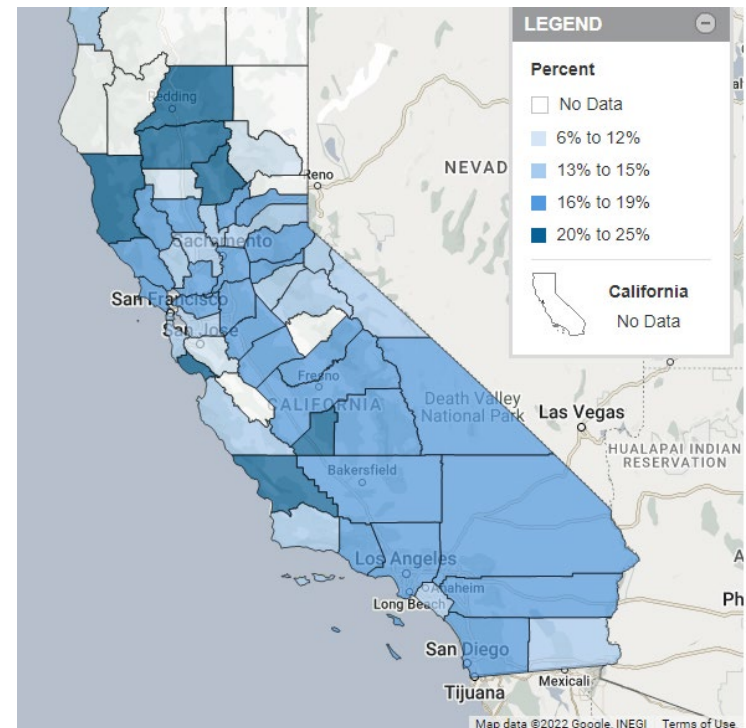
# CALIFORNIA STATISTICS AMONG ADULTS (BRFSS)



Prevalence of ACEs in Adults, California, 2013-2019



Prevalence of 4+ACEs (Adult Retrospective) in California by County, 2011-2017

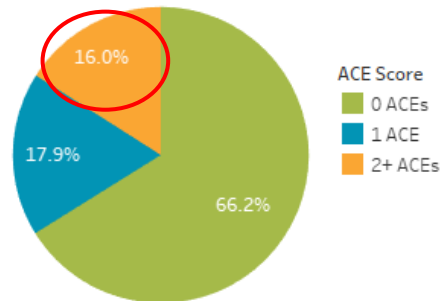


- KidsData. Prevalence of Adverse Childhood Experiences (Adult Retrospective), 2013-2019. (Accessed July 6, 2022). <https://www.kidsdata.org/topic/1969/aces-brfss/bar#fmt=2486&loc=2&tf=153&pdist=172&ch=1273,1256,1274,1259&sort=loc>
- Original data source: California Dept. of Public Health, Injury and Violence Prevention Branch, California Behavioral Risk Factor Surveillance System custom tabulation (Jan. 2022).
- KidsData. Prevalence of Adverse Childhood Experiences (Adult Retrospective), by County, 2011-2017. (Accessed July 6, 2022). [Prevalence of Adverse Childhood Experiences \(Adult Retrospective\), by County - Kidsdata.org](#)
- Original data source: UC Davis Violence Prevention Research Program, tabulation of data from the California Behavioral Risk Factor Surveillance System and American Community Survey (Apr. 2020).

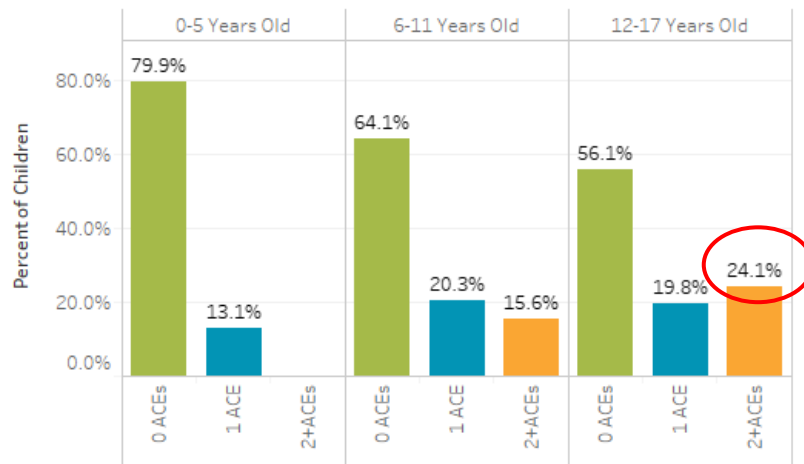
# CALIFORNIA STATISTICS AND DISPARITIES AMONG CHILDREN (NSCH)



Distribution of ACE Scores in Children\*, California, 2019-2020



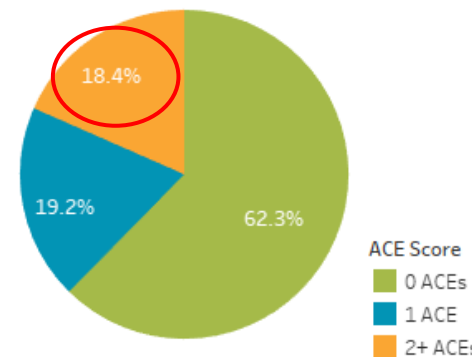
Distribution of ACE Scores† in Children\* by Age, California, 2019-2020



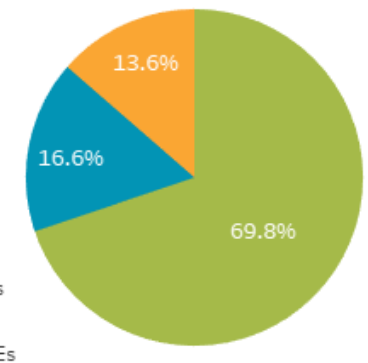
Distribution of ACE Scores† in Children\* by Race/Ethnicity, California, 2019-2020

	0 ACEs	1 ACE	2+ ACEs
White, non-Hispanic	70.2%	17.5%	12.2%
Black, non-Hispanic	Unstable estimates		
Asian, non-Hispanic	80.5%	14.2%	
Hispanic	61.2%	19.0%	19.8%
Other, non-Hispanic	72.0%	13.0%	14.9%

Distribution of ACE Scores in Children\* among Females, California, 2019-2020



Distribution of ACE Scores in Children\* among Males, California, 2019-2020



† Statistically unstable estimates not shown

\* ACEs reported by parent or caregiver

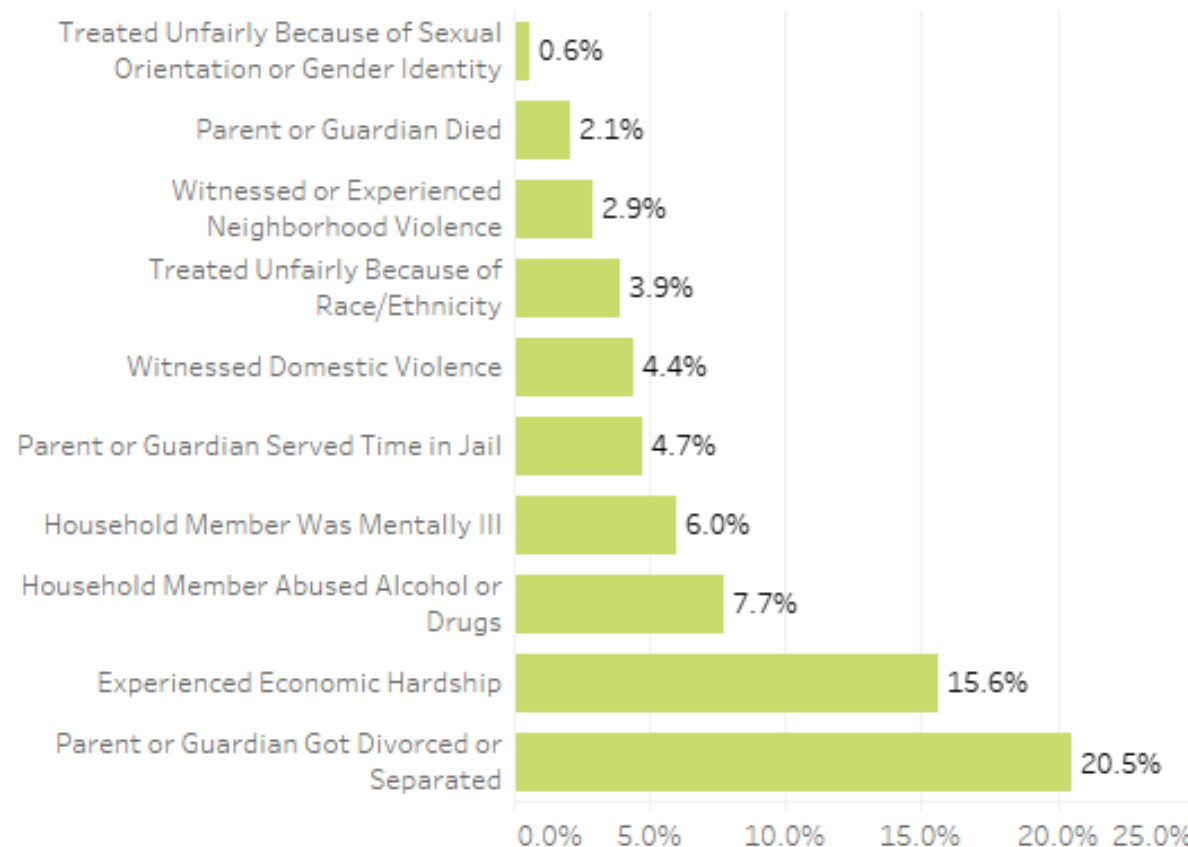


# CALIFORNIA STATISTICS AMONG CHILDREN (NSCH)



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Prevalence of Types of ACEs in Children (Caregiver Reported), California, 2016-2020



**Parent separation or divorce** was the **most common** ACE among children in California, followed by **economic hardship**.

In California, **nearly 8%** of children **lived with someone who abused alcohol or drugs**.

Source: KidsData.org. Children with Adverse Experiences (Parent Reported), by Type (CA & U.S. Only). 2022. [Children with Adverse Experiences \(Parent Reported\), by Type \(CA & U.S. Only\) - Kidsdata.org](https://www.kidsdata.org/Children-with-Adverse-Experiences-(Parent-Reported)-by-Type-(CA-&-U.S.-Only)-)

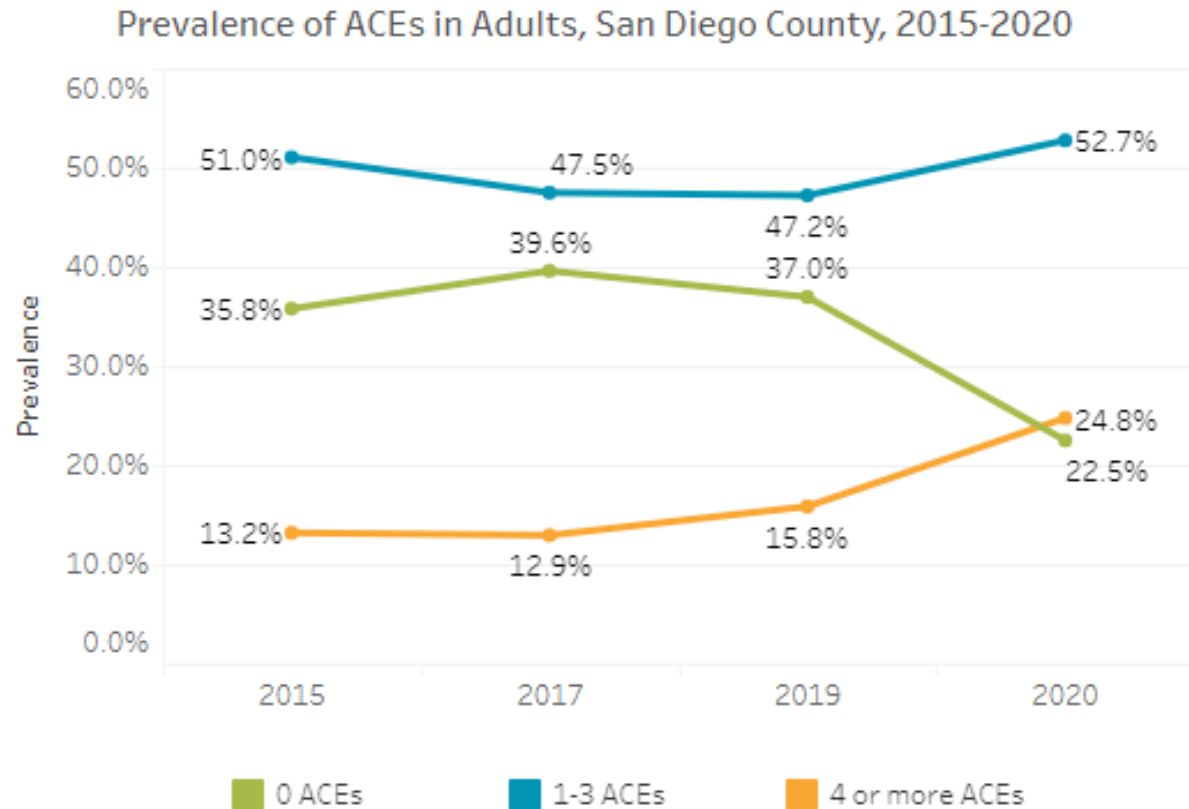
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Prepared by County of San Diego, Health & Human Services Agency, Community Health Statistics Unit, 7/2022

# LOCAL STATISTICS AMONG ADULTS (BRFSS)



The percent of adults in San Diego County who have experienced **4 or more ACEs** has **increased** from 2015 to 2020.

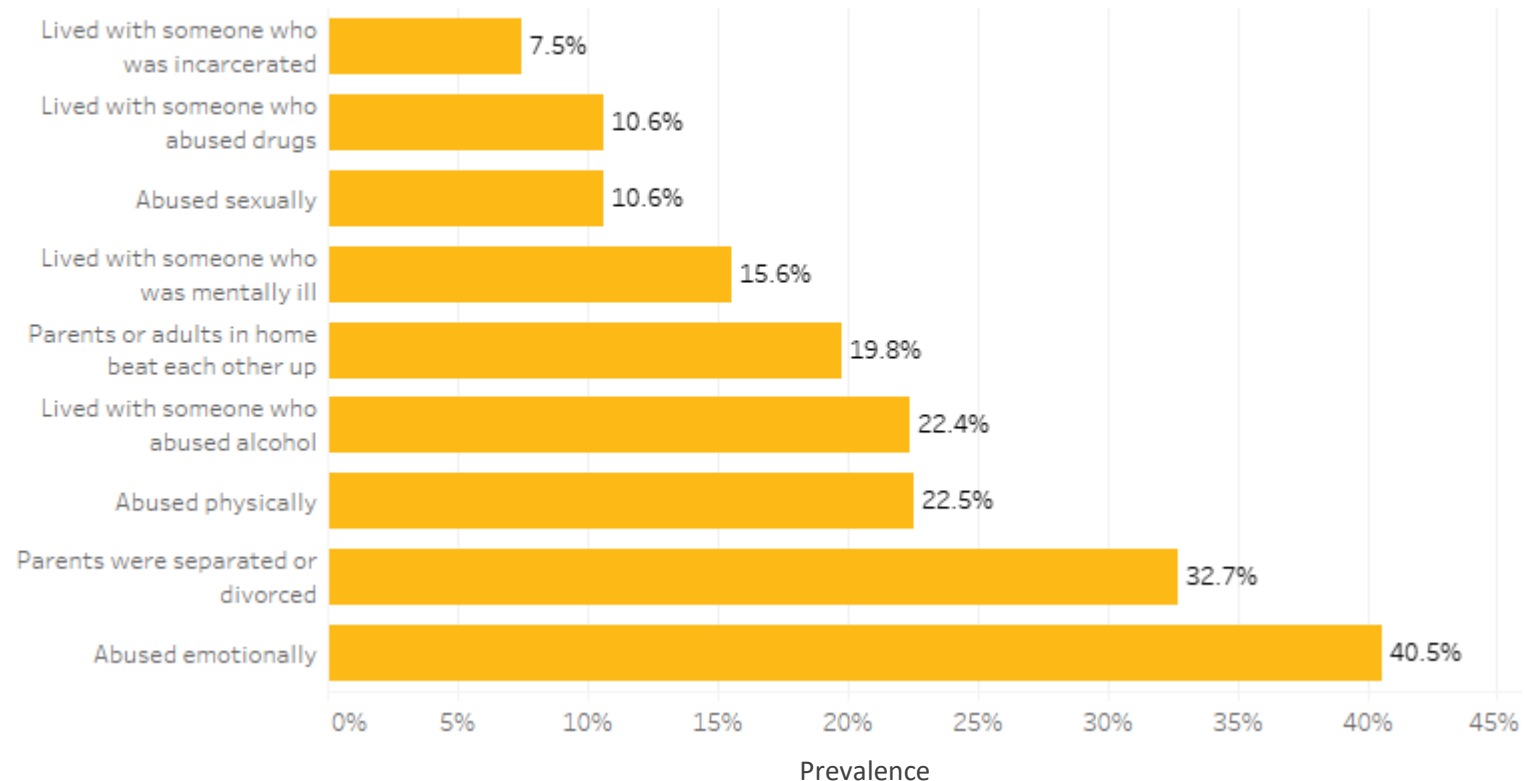


# LOCAL STATISTICS AMONG ADULTS (BRFSS)



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Prevalence of Types of ACEs in Adults, San Diego County, 2015-2019



# LOCAL STATISTICS AMONG ADULTS (BRFSS)



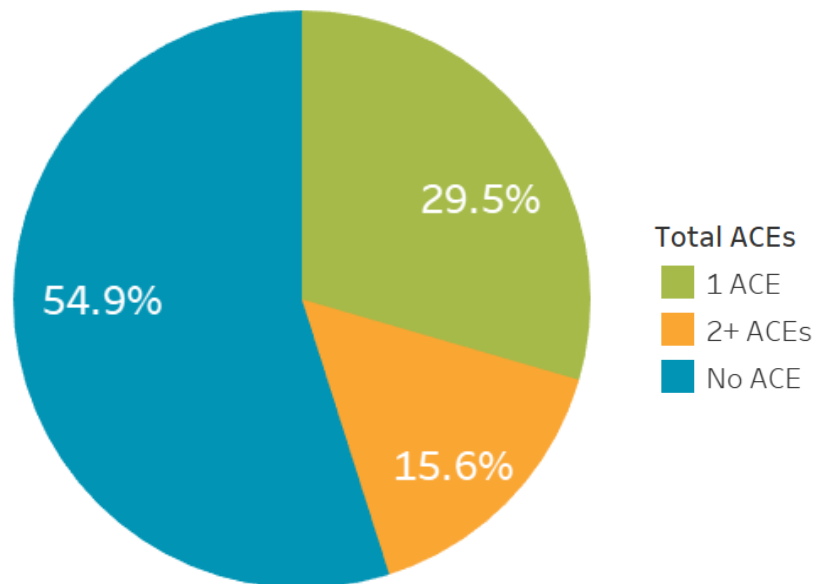
- **Emotional abuse (40.5%)** was the most common ACE among adults in San Diego County.
- **1 in 3** adults in San Diego County had **separated or divorced parents** before the age of 18.
- **Nearly 23%** of adults in San Diego County experienced **physical abuse** before the age of 18.
- **1 in 10** adults in San Diego County experienced **sexual abuse** in childhood.
- Nearly **1 in 4** adults in San Diego County **lived with someone who was a problem drinker or alcoholic** before the age of 18.

# LOCAL STATISTICS AMONG CHILDREN (NSCH)



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Distribution of ACE Scores in Children (Caregiver Reported) in San Diego County\*, 2016-2019



From 2016 to 2019, about  
**15.6% of children** in San  
Diego County experienced 2  
or more ACEs.

Source: KidsData.org, Children with Adverse Experiences (Parent Reported), by Number, 2021. Accessed July 14, 2022.

<https://www.kidsdata.org/topic/1927/aces-nsch-county/table#fmt=2449&loc=368&tf=139&ch=1256,1454,1456&sortColumnId=0&sortType=asc>

\*Data are based on methods of local area estimation using the National Survey of Children's Health (NSCH) and American Community Survey, prepared by KidsData.org. Data patterns across local areas may not align with direct NSCH estimates for California and the U.S.

# PREVENTION: CRITICAL PATHWAY



## ACEs Critical Pathway





## PRIMARY PREVENTION

Prevent and reduce likelihood of ACEs from ever occurring

- Economic supports
- Family-friendly work policies
- High-quality childcare
- Public education campaigns to raise awareness of ACEs
- High-quality mental and physical healthcare
- Early and ongoing learning opportunities
- Trauma-informed care
- Enabling opportunities for stress-buffering activities



Strengthen economic support for families



Promote social norms that protect against violence and adversity



Ensure a strong start for children



Teach skills



Connect youth to caring adults and activities



Intervene to lessen immediate and long-term harms



## SECONDARY PREVENTION

### Screening to identify individuals at increased risk of ACEs

- ACE screening can identify individuals who may be at increased risk of having a toxic stress response
- Target interventions early, when they are more likely to be effective and less expensive
- Initiate early buffering interventions, including stress-mitigation strategies included as tertiary prevention
- Early detection:
  - Improves outcomes related to toxic stress
  - Strengthens existing protective factors
  - Initiates early buffering interventions



# TERTIARY PREVENTION



## TERTIARY PREVENTION

Prevent severity, progression, or complications in those who have already developed a disease or social outcome associated with ACEs

Stress-mitigation strategies:

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

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



# PREVENTING ACEs: CDC LEARNING MODULES



## We All Have A Role in Preventing ACEs

*Adverse childhood experiences—commonly known as ACEs  
—affect children and families across all communities.*

### LEARN to PREVENT ACEs

ACEs can impact kids' health and well-being. They can have long-term effects on adult health and wellness. Their consequences can affect families, communities, and even society. Thankfully, ACEs are preventable.

These trainings will help you understand, recognize, and prevent ACEs. Get the insights you need to create healthier, happier childhoods for kids today and bright futures for adults tomorrow.



TAKE THE TRAININGS

# PREVENTING ACES: CALIFORNIA AND SAN DIEGO COUNTY EFFORTS



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## California

- The California Essentials for Childhood Initiative (EfC)
  - Led in partnership by the California Department of Public Health (CDPH), Injury and Prevention Branch, and the California Department of Social Services (CDSS), Office of Child Abuse and Prevention (OCAP)
  - Seeks to address child maltreatment and Adverse Childhood Experiences (ACEs) as public health issues
- California's ACEs Aware Initiative
  - Led by the California Department of Health Care Services (DHCS), in partnership with the California Office of the Surgeon General
  - Comprehensive approach enacting large-scale screening and intervention for toxic stress in the healthcare sector
  - Offers Medi-Cal providers training, clinical protocols, and payment for screening children and adults for ACEs
- The California Initiative to Advance Precision Medicine (CIAPM)
  - \$12.4 million in grant funding to drive innovative, community-driven research regarding ACEs

## San Diego County

- The San Diego County Childhood Obesity Initiative facilitated by UC San Diego Center for Community Health received \$3 million grant from the California Governor's Office of Research & Planning to address ACEs, build resilience against stress, and reduce childhood obesity in Latino community.

- California Department of Public Health. Injury and Violence Prevention (IVP) Branch. Essentials for Childhood (EfC) Initiative. December 2021. (Accessed July 27, 2022). <https://www.cdph.ca.gov/Programs/CCDCPHP/DCDIC/SACB/Pages/EssentialsforChildhood.aspx>
- California Department of Health Care Services. ACEs Aware. About ACEs Aware. 2020. (Accessed July 27, 2022). <https://www.acesaware.org/>
- New California Investments for Adverse Childhood Experiences and Toxic Stress Research. Governor's Office of Planning and Research. July 2021. (Accessed July 28, 2022). <https://opr.ca.gov/news/2021/07-09.html>
- County News Center. County Announces \$9 Million in Funding for Childhood Obesity Programs. October 2021. (Accessed July 27, 2022). <https://www.countynewscenter.com/county-announces-9-million-in-funding-for-childhood-obesity-programs/>



## **Stop ACEs in San Diego:**

[Child Welfare Services \(sandiegocounty.gov\)](http://sandiegocounty.gov)

Child Abuse Hotline: **858-560-2191**

## **Support:**

[Family Support - NAMI San Diego](#)

[Community Services for Families - SAY San Diego](#)

# CONTACT US



County of San Diego  
Health and Human Services Agency  
Public Health Services  
Community Health Statistics Unit  
619-692-6667  
[www.SDHealthStatistics.com](http://www.SDHealthStatistics.com)





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# QUESTIONS?



COUNTY OF SAN DIEGO  
**HHSA**  
HEALTH AND HUMAN SERVICES AGENCY

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# REFERENCES



1. Centers for Disease Control and Prevention (CDC). Adverse Childhood Experiences (ACEs), November 5, 2019. Accessed July 6, 2022. <https://www.cdc.gov/vitalsigns/aces/index.html>
2. Centers for Disease Control and Prevention (CDC). Violence Prevention: Adverse Childhood Experiences Resources. April 2022. (Accessed July 6, 2022). <https://www.cdc.gov/violenceprevention/aces/resources.html>
3. Bhushan D, Kotz K, McCall J, Wirtz S, Gilgoff R, Dube SR, Powers C, Olson-Morgan J, Galeste M, Patterson K, Harris L, Mills A, Bethell C, Burke Harris N, Office of the California Surgeon General. Roadmap for Resilience: The California Surgeon General's Report on Adverse Childhood Experiences, Toxic Stress, and Health. Office of the California Surgeon General, 2020. DOI: 10.48019/PEAM8812. [Roadmap for Resilience: The California Surgeon General's Report on Adverse Childhood Experiences, Toxic Stress, and Health](#)
4. Centers for Disease Control and Prevention (CDC). About BRFSS. (Accessed July 7, 2022). <https://www.cdc.gov/brfss/about/index.htm>
5. Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System ACE Data. April 2020. (Accessed July 7, 2022). <https://www.cdc.gov/violenceprevention/aces/ace-brfss.html>
6. California Department of Public Health (CDPH). Maternal and Infant Health Assessment. April 2022. (Accessed July 27, 2022). <https://www.cdph.ca.gov/Programs/CFH/DMCAH/MIHA/Pages/default.aspx>
7. Data Resource Center for Child & Adolescent Health. The National Survey of Children's Health. 2020. (Accessed July 14, 2022). <https://www.childhealthdata.org/learn-about-the-nsch/NSCH>
8. Centers for Disease Control and Prevention (CDC). National Center for Injury Prevention and Control, Atlanta, GA. Preventing Adverse Childhood Experiences: Leveraging the Best Available Evidence. 2019. <https://www.cdc.gov/violenceprevention/pdf/preventingACES.pdf>
9. Spain, A., Brown, A., & Sander, A. (2019). Implementing DULCE and I-SCRN (Research brief 2). Chicago, IL: Chapin Hall at the University of Chicago. [https://www.chapinhall.org/wp-content/uploads/Innovation-Implementation\\_Final.pdf](https://www.chapinhall.org/wp-content/uploads/Innovation-Implementation_Final.pdf)
10. Centers for Disease Control (CDC), Violence Prevention, About the CDC-Kaiser ACE Study, April 2021. (Accessed July 27, 2022). <https://www.cdc.gov/violenceprevention/aces/about.html>
11. Centers for Disease Control and Prevention. Adverse Childhood Experiences (ACEs): Risk and Protective Factors. January 2021. (Accessed July 6, 2022). <https://www.cdc.gov/violenceprevention/aces/riskprotectivefactors.html>
12. Indiana Department of Health. Adverse Childhood Experiences (ACEs) and Adult Smoking. September 2020. [https://www.in.gov/health/tpc/files/ACEs-and-Current-Smoking\\_9182020.pdf](https://www.in.gov/health/tpc/files/ACEs-and-Current-Smoking_9182020.pdf)
13. Office of the California Surgeon General. Adverse Childhood Experiences (ACEs) and Toxic Stress. 2021. (Accessed July 14, 2022). <https://osg.ca.gov/aces-and-toxic-stress>
14. Bellis MA, Hughes K, Ford K, Ramos Rodriguez G, Sethi D, Passmore J. Life course health consequences and associated annual costs of adverse childhood experiences across Europe and North America: a systematic review and meta-analysis. *Lancet Public Health*. 2019;4(10):517-528. doi:10.1016/S2468-2667(19)30145-8
15. Centers for Disease Control and Prevention (CDC). Vital Signs, Adverse Childhood Experiences (ACEs). November 2019. (Accessed July 14, 2022). <https://www.cdc.gov/vitalsigns/aces/index.html>
16. National Survey of Children's Health, Health Resources and Services Administration, Maternal and Child Health Bureau. <https://mchb.hrsa.gov/data/national-surveys>
17. KidsData.org. Children with Adverse Experiences (Parent Reported), by Type (CA & U.S. Only). 2022. (Accessed July 6, 2022). [Children with Adverse Experiences \(Parent Reported\), by Type \(CA & U.S. Only\) - Kidsdata.org](#)
18. KidsData. Prevalence of Adverse Childhood Experiences (Adult Retrospective). 2022. (Accessed July 6, 2022). <https://www.kidsdata.org/topic/1969/aces-brfss/bar#fmt=2486&loc=2&tf=153&pdist=172&ch=1273,1256,1274,1259&sort=loc>
19. KidsData. Prevalence of Adverse Childhood Experiences (Adult Retrospective), by County, 2011-2017. (Accessed July 6, 2022). [Prevalence of Adverse Childhood Experiences \(Adult Retrospective\), by County - Kidsdata.org](#) Centers for Disease Control (CDC). The Behavioral Risk Factor Surveillance System (BRFSS) 2015, 2017, 2019-2020.
20. KidsData.org, Children with Adverse Experiences (Parent Reported), by Number, 2021. Accessed July 14, 2022. <https://www.kidsdata.org/topic/1927/aces-nsch-county/table#fmt=2449&loc=368&tf=139&ch=1256,1454,1456&sortColumnId=0&sortType=asc>
21. California Department of Health Care Services. ACEs Aware. About ACEs Aware. 2020. (Accessed July 27, 2022). <https://www.acesaware.org/about/>
22. Centers for Disease Control and Prevention (CDC). Injury Prevention & Control: Division of Violence Prevention. Preventing Adverse Childhood Experiences. October 2018. (Accessed July 27, 2022). <https://vetoviolence.cdc.gov/apps/aces-training/#/>
23. California Department of Public Health. Injury and Violence Prevention (IVP) Branch. Essentials for Childhood (EfC) Initiative. December 2021. (Accessed July 27, 2022). <https://www.cdph.ca.gov/Programs/CCDC/DCD/CDC/SACB/Pages/EssentialsforChildhood.aspx>
24. New California Investments for Adverse Childhood Experiences and Toxic Stress Research. Governor's Office of Planning and Research. July 9, 2021. Accessed October 24, 2021. <https://opr.ca.gov/news/2021/07-09.html>
25. County News Center. Count Announces \$9 Million in Funding for Childhood Obesity Programs. October 2021. (Accessed July 27, 2022). <https://www.countynewscenter.com/county-announces-9-million-in-funding-for-childhood-obesity-programs/>