

Issue At A Glance:

Adverse Childhood Experiences and Toxic Stress

Nearly two million children in California are affected by adverse childhood experiences (ACEs) and the lasting effects can lead to toxic stress in adulthood. This brief provides an overview of the health effects of ACEs and toxic stress, California's ACEs Aware initiative, and the ACEs and Toxic Stress campaign.

Introduction

Nearly two million children in California are affected by adverse childhood experiences (ACEs), cutting across socioeconomic boundaries and increasing their risk for health, behavioral, and learning challenges.¹ ACEs refer to traumatic events in childhood, such as abuse, neglect, or exposures to violence, mental illness, divorce, substance abuse, or criminal behavior within the household.^{2,3}

Studies show that ACEs can have lasting negative effects on health, increasing the risk of mental health issues and overall wellbeing challenges in adulthood.^{3,4} Furthermore, significant and prolonged adversity during crucial stages of early development, without the protective support of trusted adults and secure, stable environments, can cause lasting disruptions in brain development. This can trigger a toxic stress response.⁵

This brief provides an overview of the health impacts of adverse childhood experiences and toxic stress, California's ACEs Aware initiative, and the ACEs and Toxic Stress campaign.

Adverse Childhood Experiences Categories²

Abuse Any harmful act by a parent, stepparent, adult in the home, or older individual that causes emotional, physical, or sexual harm, including verbal insults; threats; hitting; slapping; and any form of unwanted sexual contact.

Household Challenges Adverse conditions within a home, including domestic violence; substance abuse; presence of mental illness or suicide attempts; parental separation or divorce; or a household member being incarcerated.

Neglect A lack of emotional or physical care, including feeling unloved or unsupported and not having basic needs met, such as food, medical care, or protection.

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Understanding Adverse Childhood Experiences and Toxic Stress

Adverse Childhood Experiences (ACEs)

First introduced in a 1995 study by the Centers for Disease Control and Prevention (CDC) and Kaiser Permanente in California, adverse childhood experiences (ACEs) are traumatic events that occur in childhood, including physical, emotional, or sexual abuse; household dysfunction, such as parental mental illness, substance abuse, domestic violence, incarceration, and divorce; and physical or emotional neglect.^{2,5} Furthermore, a large body of research shows a strong correlation between the number of ACEs experienced and a higher risk of poor outcomes later in life, including increased risks of heart disease, diabetes, obesity, depression, substance abuse, smoking, poor academic performance, unemployment, and early death.^{6,7}

Toxic Stress

When an individual faces a challenge, problem, or threat, a stress response can occur with stress hormones, triggering a series of physiological changes throughout the body. Occasional and short-term stress are normal aspects of healthy development.⁸ In manageable doses, stress can help individuals build resilience, improve focus, and develop essential coping skills.⁹ However, prolonged, severe, or chronic stress can lead to toxic stress, where the stress response remains activated for extended periods of time. This persistent activation can disrupt healthy brain development and other bodily systems, increasing the risk of mental health issues, chronic diseases, and other long-term complications.^{8,10}

Impact of ACEs and Toxic Stress on Health and Development

ACEs and the toxic stress they cause can significantly harm long-term physical and mental health, affecting brain development and function, weakening immune functions, and increasing the risks of chronic diseases and behavioral issues.^{7,11}

ACEs and toxic stress are closely linked to brain development, with the potential to change a child's brain anatomy, chemistry, and gene expression.¹² Toxic stress enlarges the fear centers of the brain (i.e. amygdala and the rest of the limbic system), which can heighten anxiety and increase sensitivity to perceived threats.^{13,14} It also reduces the size and impairs the function of areas involved in learning, memory, and executive functioning (i.e. prefrontal cortex and hippocampus), which can increase the risk of learning and behavioral issues.¹³

Children who experience ACEs and toxic stress are more prone to behavioral issues and emotional regulation difficulties.¹² Research shows that adults who had ACEs may be more likely to engage in high-risk behaviors as coping mechanisms or as a result of impaired emotional regulation.¹⁵ This may manifest as using tobacco products, substance abuse, or other self-destructive habits.^{12,15} In addition to risky behaviors, individuals with history of ACEs are at risk of developing mental health issues, such as post-traumatic stress disorder (PTSD) and depression, and may struggle with maintaining healthy relationships due to trust issues, emotional outbursts, or social withdrawal.^{15,16}

The ACEs Aware Initiative

Adverse childhood experiences (ACEs) and toxic stress are a critical public health issue with far-reaching consequences, affecting everything from heart disease to homelessness. Recent data shows that nearly one-third of California adults have experienced one ACE, and 16.3% have experienced four or more ACEs.⁷

In response, in January 2020, California's Office of the Surgeon General and the Department of Health Care Services launched ACEs Aware, an initiative designed to provide Medi-Cal providers with training, clinical protocols, and reimbursements for screening both children and adults for ACEs.¹⁷ Then, in October 2021, the ACEs Aware initiative transitioned to a new organizational home at the University of California, creating the University of California ACEs Aware Family Resilience Network (UCAAN), a multicampus initiative including University of California, San Francisco and University of California, Los Angeles. The goal of UCAAN is to develop, promote, and sustain evidence-based approaches for screening patients for ACEs and creating treatment plans to help them recover from the effects of trauma and toxic stress.¹⁸

Since the launch of the initiative, more than 40,000 providers have participated in the ACEs training and nearly three million ACE screenings have been conducted by Medi-Cal providers across the state.¹⁹ ACE screenings are based on a set of 10 questions that assess the presence of certain adverse childhood experiences. As the ACE score increases, so does the risk of disease and social and emotional issues.²⁰ The results of these screenings show that between January 2020 and September 2023, approximately 6% of Medi-Cal beneficiaries aged 0 to 20 had an ACE score of four or more. For Medi-Cal beneficiaries aged 21 to 64, approximately 16% had an ACE score of four or more.²¹

The ACEs and Toxic Stress Campaign

As part the Children and Youth Behavior Health Initiative, the Office of the California Surgeon General launched a \$24 million campaign in 2024 aimed at raising public awareness of ACEs and toxic stress. To shape the campaign, the office holds listening sessions with youth, parents, caregivers, and community partners statewide, many of whom are personally affected by ACEs and toxic stress.²² The listening sessions refined the campaign goals to promote a broad understanding of ACEs, toxic stress, and their impacts and to inspire action, hope, and healing through increasing knowledge and building skills towards healing.²³



Conclusion

Adverse childhood experiences (ACEs) are common, with approximately 64% of adults in the U.S. reporting having experienced at least one type of ACE before the age of 18 and over 17% reporting having experienced four or more types of ACEs.²⁴ Preventing ACEs may help reduce the occurrence of various health issues, with research estimating an 89% decrease in suicide attempts among high school students, an 84% decrease in prescription pain medication misuse, and a 66% decrease in persistent feelings of sadness or hopelessness through creating safe, stable, nurturing relationships and environments.^{24,25,26} Addressing and preventing ACEs is crucial not only for improving individual wellbeing, but also for fostering healthier communities overall.

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Did you know?

Nearly 20% of California adults have experienced four or more adverse childhood experience (ACEs) before turning 18.²⁷



LOMA LINDA UNIVERSITY
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Institute for Health Policy and Leadership

11209 Anderson Street
Loma Linda, CA 92354
Phone: 909-558-7022
Fax: 909-558-5638
www.IHPL.llu.edu

Questions?

Please contact Renée Chuang, MS,
Doctoral Graduate Assistant at the
Institute for Health Policy & Leadership
(RChuang@llu.edu).