We Are More Than Our Numbers

Understanding and Responding to Adverse Childhood Experiences for Physicians and Their Practice Teams

CALIFORNIA ACADEMY OF FAMILY PHYSICIANS
STRONG MEDICINE FOR CALIFORNIA

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General Information

Needs Statement: A consensus of scientific research demonstrates that cumulative adversity, especially when experienced during childhood development, is a root cause of some of the most harmful, persistent, and expensive health challenges facing our nation. "Adverse Childhood Experiences," or "ACEs," comes from the landmark 1998 Adverse Childhood Experiences Study (ACEStudy). The study, conducted by Kaiser Permanente and the US Centers for Disease Control and Prevention (CDC), is one of the largest investigations ever conducted to assess connections between early adversity and long-term health.[1]

The study examined exposure to childhood adversity, including abuse, neglect, and household dysfunction like domestic violence, parental mental illness, and parental substance abuse. Researchers assigned an "ACE score" to each participant by adding up the number of categories of adversities the participant reported. The study highlighted two things: ACEs are incredibly common and the higher the ACE score, the higher the risk for acute and chronic disease for both children and adults. While patients are more than their ACE scores, the number plays a role in assessing health risk mediated by the toxic stress physiology. ACEs Aware and the California Surgeon General recommend the Roadmap to Resilience for ACE screening. A complete ACE screen involves assessing for the triad of adversity (ACE score), clinical manifestations of toxic stress (ACE-Associated Health Conditions), and protective factors. The first two components are used in assessing clinical risk for toxic stress and all three help to guide effective responses. ACEs and toxic stress are significant public health issues and family physicians/primary care physicians can play a major role in improving outcomes for patients by engaging in the screening and management of these areas.[2]

Trauma-informed care (TIC) is one part of the necessary response. It uses childhood trauma as a lens to understand the range of cognitive, emotional, physical, and behavioral symptoms and health risks seen when individuals enter and move through systems of care.

The ACEs Aware initiative uses the following definition of a trauma-informed approach and principles. The principles are based on the Substance Abuse and Mental Health Services Administration (SAMHSA) definition but vary slightly in that they incorporate the biological susceptibility to toxic stress.

Approach [3]

A trauma-informed approach to clinical care is defined as having these components:

- A foundation grounded in trauma-informed principles and a team approach to care;
- An environment that is calm, safe, and empowering for patients;
- Education about the impacts of current and past trauma (and other adversities) on health; and
- Inquiry about and response to recent and past trauma that includes onsite or community-based resources and treatments.

Principles [4]

- Establish the physical and emotional **safety** of patients and staff;
- **Build** trust between providers and patients;
- **Recognize** the signs and symptoms of trauma exposure on physical and mental health;
- Promote **patient-centered, evidence-based care;**
- Ensure provider and patient **collaboration** by bringing patients into the treatment process and discussing mutually agreed upon goals for treatment; and
- Provide care that is sensitive to the patient's **racial, ethnic, and cultural background, andgender identity**

Individuals who have experienced traumatic life events are often very sensitive to situations that remind them of the people, places or things involved in their traumatic event.

Desired Outcomes/Learning Objectives: After reading this publication, learners should be able to:

1. Define Adverse Childhood Experiences (ACEs), their prevalence, and their effects on health, including ACE-Associated Health Conditions (https://www.acesaware.org/treat/the-science-of-aces-toxic-stress/).[5]
2. Explain the role of trauma and ACEs in patients' risk for toxic stress and associated health conditions.
3. Engage in conversations with their health care team members and their patients about ACE screening, the screening triad, and TIC.

Target Audience: This educational activity, designed for family physicians and their health care team members, stresses the relationship between ACE scores and ACE-Associated Health Conditions, including non-communicable diseases, and provides information on screening, treatment, management of ACEs and toxic stress, and trauma-informed care.

Cultural Competency: CAFP policy and California state law requires that each learning activity have elements of cultural and linguistic proficiency included in the content. This activity includes discussions of special populations and tools to use for patient communications.

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Of note, an additional 2.0 AMA PRA Category 1™ Credits, 2.0, including *AAFP prescribed credits, and 2.0 Maintenance of Certification credits can be earned after completing a certified ACEs Aware Core Training, which provides additional detailed information and practice, case-based examples of ACE screening and clinical response. A free, online training, as well as other free trainings, are available at ACEsAware.org/training – the online training is accredited by the Postgraduate Institute for Medicine.*

Completion and Evaluation: To successfully earn credit, participants must complete the evaluation. Upon successful completion of the evaluation, you will receive your CME/CE certificate. **To complete the evaluation and claim your credits, please go to:**
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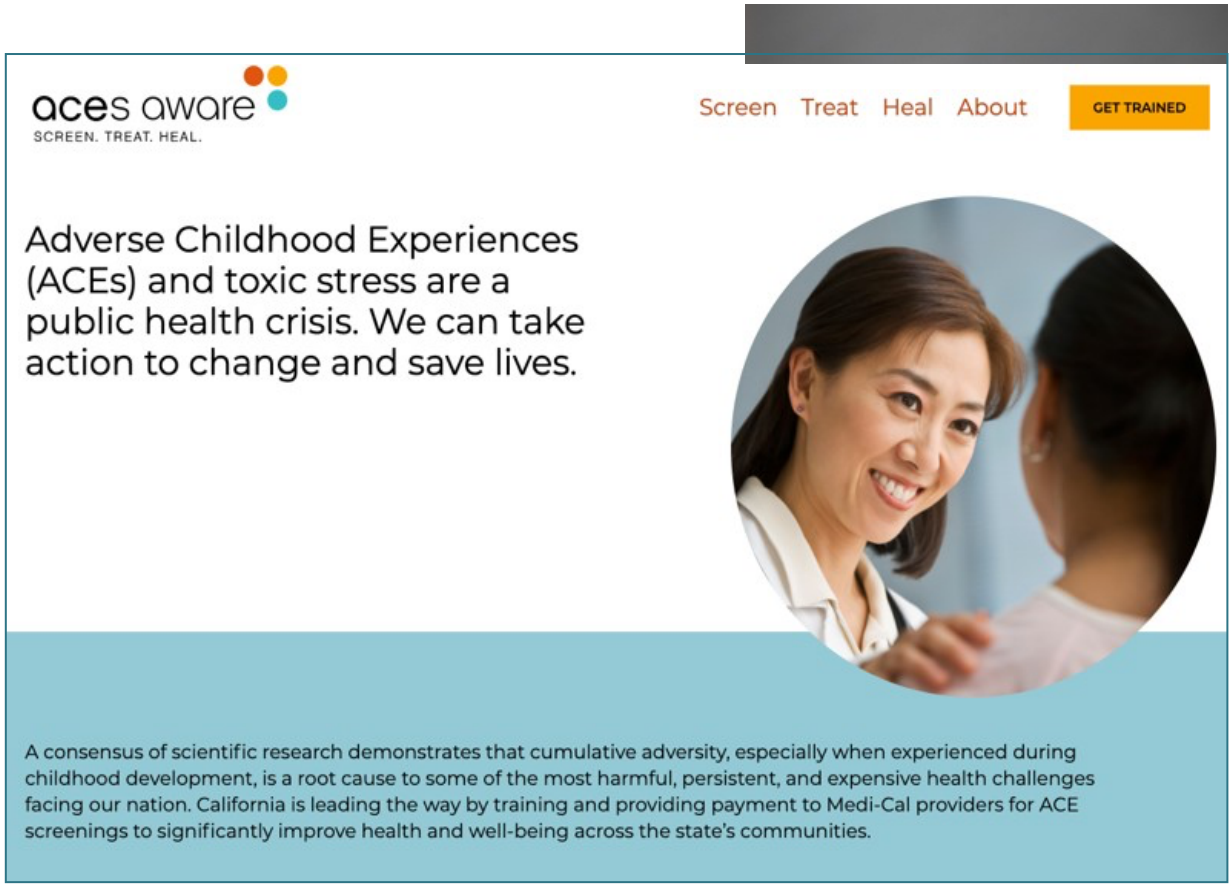
Fee: No fee is charged for this educational activity.

Questions? For questions regarding the content of this activity or for technical assistance, contact cafp@familydocs.org. For more information on this topic go to: www.familydocs.org/aces

For more information on the ACEs Aware initiative visit www.ACEsAware.org.



Become ACEs Aware: A Call for Providers to Screen for ACEs and Assess the Risk of Toxic Stress in California

Nadine Burke Harris, MD, MPH, FAAP
California Surgeon General

Family physicians and other primary care physicians are on the front lines of patient care and uniquely qualified to meet a wide range of patient needs, from birth to the end of life. They are trained not only to treat a patient's illness, but to recognize and address the root causes of negative health outcomes across the life course.

Adverse Childhood Experiences (ACEs) and toxic stress represent a public health crisis that has been, until recently, largely unrecognized by our health care system and society. A consensus of scientific evidence demonstrates that cumulative adversity, especially when experienced during critical stages of development, is a root cause of some of the most harmful, persistent, and costly health challenges facing our state and the nation.

The ACEs Aware initiative is a first-in-the-nation statewide effort to provide physicians and other health care providers with screening tools and clinical protocols to screen for ACEs and treat the impacts of toxic stress. The bold goal of ACEs Aware is to reduce ACEs and toxic stress by half in one generation, and to launch a national movement to ensure everyone is ACEs Aware. Eligible Medi-Cal providers can receive a $29 payment from DHCS when they screen children and adults with full-scope Medi-Cal for ACEs using a qualified screening tool.

ACEs and ACE Prevalence

The term Adverse Childhood Experiences (ACEs) comes from the landmark1998 study by the Centers for Disease Control and Prevention and Kaiser Permanente. It describes 10 categories of adversities experienced by age 18 in three domains: abuse, neglect and/or household challenges (as reframed by the CDC in 2015; originally phrased as household dysfunction).

Unfortunately, ACEs are highly prevalent. The most recent California Department of Public Health and University of California, Davis, Violence Prevention Research Program data[6] demonstrates that 62 percent of Californians have experienced at least one of the 10 ACEs, and 16 percent of Californians have experienced four or more. Nationally, the prevalence is similar.

ACEs are not destiny … As health care professionals, we can take action to change and save lives.

Impact of ACEs and Toxic Stress on Health

A robust body of research links ACEs to serious and common health conditions including asthma, diabetes, cardiovascular disease, autoimmune disorders substance dependence, and depression.[7] Research shows that exposure to ACEs leads to a toxic stress response, which is characterized by overactivity of the biological stress response, leading to long-term dysregulation of brain, neuroendocrine, metabolic, immune, and genetic regulatory pathways. Further, the toxic stress response can be handed down from generation to generation both through environmental exposures and directly through changes in genetic regulatory mechanisms.

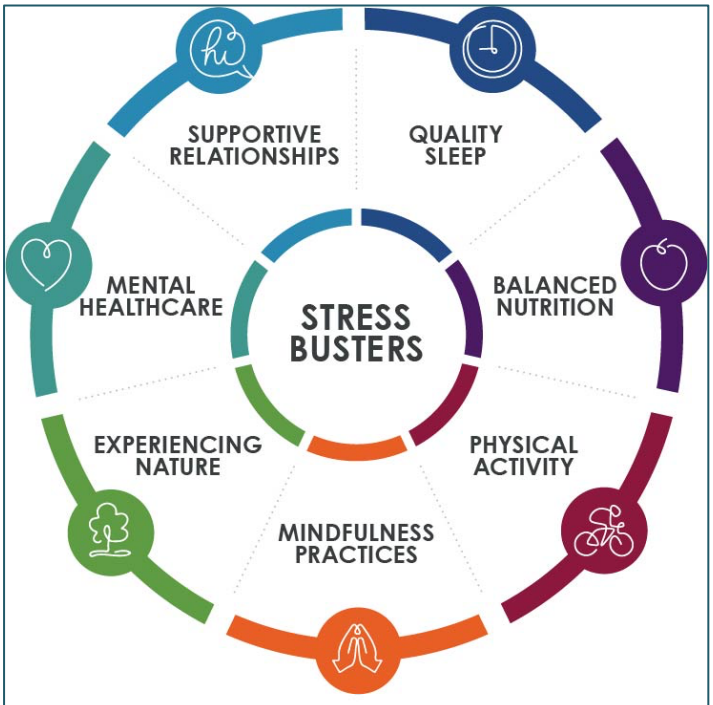
Clinical Response Overview

But there's hope. ACEs are not destiny. The past two decades of scientific investigation demonstrates that health-promoting factors can buffer the toxic stress response by reducing stress hormones, reducing inflammation and enhancing neuroplasticity and metabolic regulation.

By identifying and addressing ACEs early, providers can support their patients to buffer the toxic stress response, bolster protective factors, and prevent the further accumulation of risk factors.

Clinical response to identification of ACEs and increased risk of toxic stress should include:

1) Applying principles of trauma-informed care, such as establishing trust, safety, and collaborative decision-making;
2) Supplementing usual care for ACE-Associated Health Conditions by providing patient education on toxic stress and offering strategies to regulate the stress response, including:
    a. Supportive relationships, including with caregivers (for children), other family members, and peers
    b. High-quality, sufficient sleep
    c. Balanced nutrition
    d. Regular physical activity
    e. Mindfulness and meditation
    f. Access to nature
    g. Mental health care, including psychotherapy or psychiatric care, and substance use disorder



Sources: Bhushan D, et al. The 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; Gilgoff et al. Adverse Childhood Experiences, Outcomes, and Interventions. *Pediatric Clinics* 2020; **67**(2): 259-73.

treatment, when indicated

3) Validating existing strengths and protective factors;
4) Referrals to patient resources or interventions, such as educational materials, social work, school agencies, care coordination or patient navigation, and community health workers; and
5) Follow up as necessary, using the presenting ACE-Associated Health Condition(s) as indicators of treatment progress.

As health care professionals, we can take action to change and save lives. We can screen for ACEs, provide trauma-informed care, and significantly improve physical and mental health for our patients. We can enhance the quality and efficacy of our treatment plans and disease management by ensuring they are ACEs Aware.

Trauma-Informed Care

Trauma-informed care recognizes and responds to the signs, symptoms, and risks of trauma to better support the health needs of patients who have experienced ACEs and toxic stress. ACE screening, embedded as part of a broader trauma-informed approach to clinical practice, can help create safe and supportive environments for patients to receive the care they need while maintaining the well-being of the providers who serve them. For more information on trauma-informed care, visit the ACEs Aware Trauma-Informed Care Fact Sheet.[8]

Take the ACEs Aware Core Training

I encourage you to take a free, two-hour, online training[9] (or another certified ACEs Aware Cōre Training) to learn more about ACEs and toxic stress, screening tools, trauma-informed care, the ACEs and Toxic Stress Risk Assessment Algorithms, and evidence-based clinical interventions. Providers will receive continuing medical education and maintenance of certification credits upon completion of the training. Providers can then attest to completing the training at https://www.medi-cal.ca.gov/TSTA/TSTAattest.aspx[10] to qualify for Medi-Cal payment for conducting ACE screenings. For information about Medi-Cal billing, visit the ACEs Aware Certification &Payment webpage.[11]

Take a certified ACEs Aware Core Training course to learn more about screening for ACEs and toxic stress, and responding with evidence-based strategies. Attest to completing a training to qualify for Medi-Cal payment.

Through ACEs Aware, California is leading the way to advance the practice of preventive care, and to demonstrate that early identification and evidence-based intervention of ACEs and toxic stress can improve health outcomes. As California's first-ever Surgeon General, I am honored to say that California is once again on the forefront of health and wellness. Visit www.ACEsAware.org and join the movement to become ACEs Aware and to ***Screen, Treat, and Heal.***

The Burden of ACEs and the California Landscape:

Special Topics: ACEs, Sexual Health, and the LGB and TGNC Communities

Brent K. Sugimoto, MD, MPH, FAAFP
Editor, California Family Physician

On January 1, 2020, as a result of legislation signed by Governor Gavin Newsom, California became the first state[12] in the nation to implement screening of children and adults covered by Medi-Cal, the state's Medicaid program, for Adverse Childhood Experiences (ACEs) and toxic stress.

Family physicians are an essential part of California's primary care system making us critical to the fight against ACEs and their health impact. As the only specialty that cares for patients of all ages, and often entire families, family physicians are also in a unique position to combat the intergenerational cycle of ACEs from parents to children. Family physicians play a crucial role in preventing adverse outcomes in children exposed to ACEs, ameliorating the chronic physical and mental health effects in adults, and helping parents create a nurturing home free of ACEs. Having a perspective of the entire family and being able to work with all a family's members, family physicians have a special role in breaking the intergenerational transmission of ACEs and toxic stress from parent to child.

ACEs are Adversities

ACEs are not destiny, and the cumulative and prolonged experience of stressful or traumatic experiences during childhood, without sufficient supportive relationships, has the potential for lifelong effects on health. The goal of California's effort is to reduce ACEs and toxic stress by one-half in one generation.

Family physicians are an essential part of California's primary care system, making us critical to the fight against ACEs and their health impact.

ACEs are a far-reaching public health issue associated with at least nine of the 10 leading causes of death (Figure 1, next page). Successful prevention and intervention could reduce the burden of chronic disease and mental health issues within the purview of primary care.[13, 14] Family physicians need to know how to apply screening and interventions using the principles of trauma-informed care to effectively help their patients, as those with a history of trauma are more likely to have trouble engaging with the health care system for fear of safety, lack of trust, and low self- efficacy.

Figure 1: The Relationship Between the Leading Causes of Death in the United States and ACEs Burden

		Odds Ratio for ≥ 4 ACEs (relative to no ACEs)
1	Heart Disease	2.1
2	Cancer	2.3
3	Accidents (unintentional injuries)	2.6
4	Chronic lower respiratory disease	3.1
5	Stroke	2.0
6	Alzheimer's or dementia	11.2
7	Diabetes	1.4
8	Influenza and pneumonia	Risk unknown
9	Kidney disease	1.7
10	Suicide (attempts)	37.5

Credit: ACEs Aware Provider Toolkit: The Science of ACEs and Toxic Stress, May 5, 2020. https: www.acesaware.org/wp-content/uploads/2020/05/Provider-Toolkit-The-Science-of-ACEs-and-Toxic-Stress

Because family physicians provide one in five office visits in the United States — more than any other medical specialty[15] — we care for a large proportion of patients of all ages affected by ACEs. Data show that early screening and intervention can mitigate the lifelong effects of ACE exposure in children.[16, 17] For adults, knowledge of their own ACE score can empower them toward a better understanding of how their experiences can impact their health.[18] If that adult is a parent, knowing their ACE score provides self-knowledge that can help break the intergenerational transmission from parent to child – through perpetration of harm on children and/or through risk of toxic stress.

This publication provides information on ACE screening and clinical response to help family physicians, and their practice teams, effectively screen and treat their patients for ACEs throughout the lifespan and across clinical settings.

What are Adverse Childhood Experiences (ACEs)?

Adverse Childhood Experiences (ACE) describe 10 categories of adversities experienced by age 18, and grouped into the three domains of abuse, neglect, and household challenges (Figure 2). These ACEs were defined in the 1998 landmark ACE study by the Centers for Disease Control and Prevention (CDC) and Kaiser Permanente on ACEs studied traumas such as physical, emotional and sexual abuse; physical and emotional neglect; household challenges (as reframed by the CDC in 2015; originally phrased as household dysfunction), including household incarceration, mental illness, substance dependence, parental separation or divorce, and intimate partner violence (in the original study, the ACE queried was witnessing a mother treated violently).[19, 20]

Figure 2: The Ten Adverse Childhood Experiences (ACEs)

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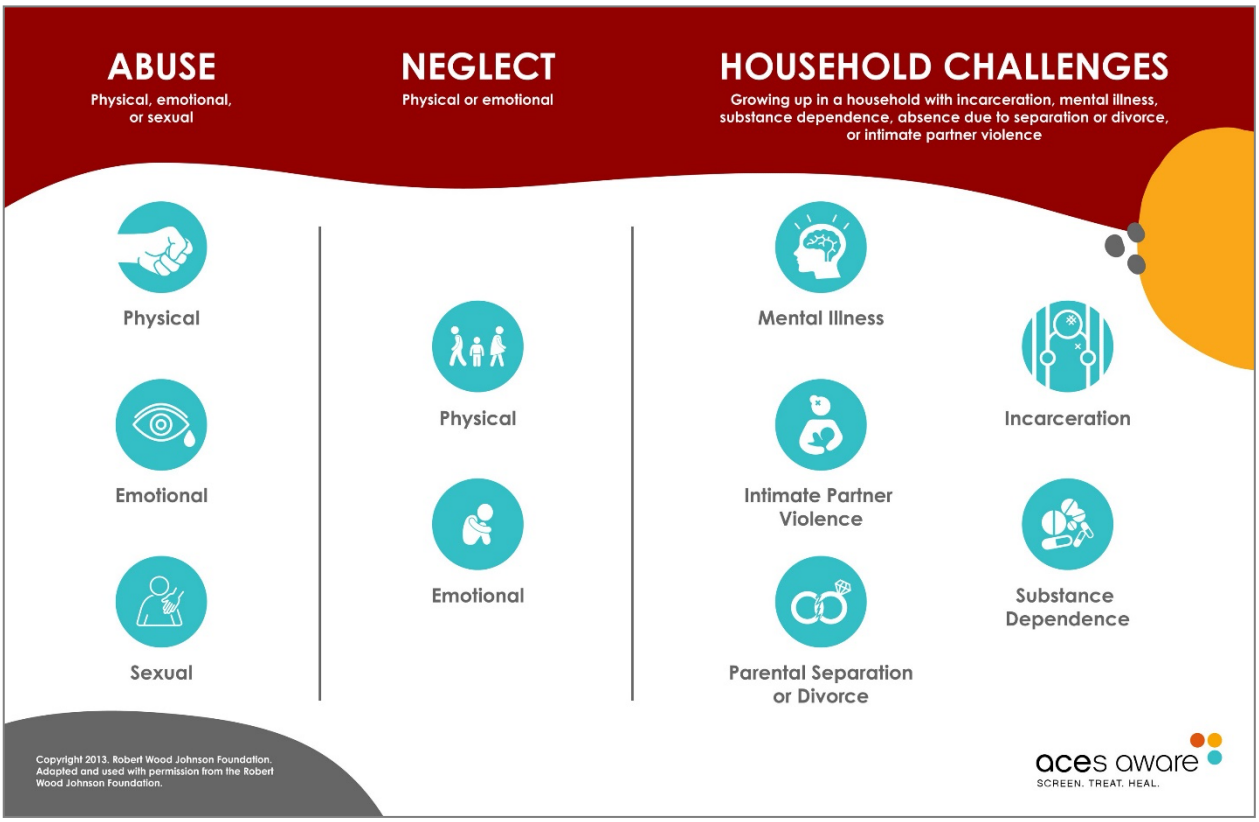


ACEs are significant because repeated or chronic provocation of a child's stress response has the potential to lead to chronic changes in the structure and functioning of the developing brain, as well as the function of the metabolic, immune, and neuroendocrine systems.[21] Perturbations in physiologic functioning play an important role in the clinical progression from ACE exposure to negative short- and long-term health and social outcomes. This biologic phenomenon is recognized as *toxic stress physiology*.

Further studies have shown that violence in the community, discrimination, bullying, death of a parent or guardian, foster care, and separation from a caregiver to migration may also be risk factors for developing toxic stress physiology. [21, 22, 23, 24]

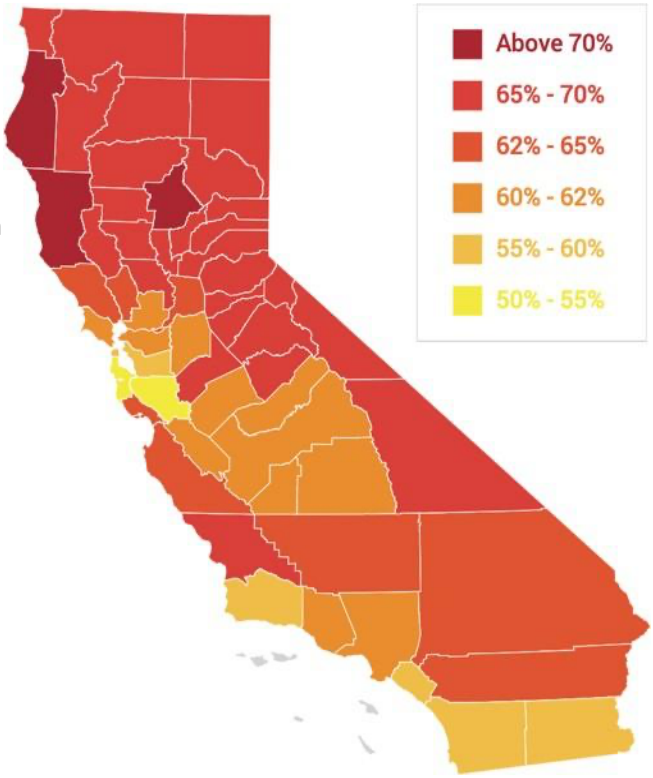
Although it may not be surprising that childhood trauma and lifestyle/behavioral issues may be connected to poor long-term outcomes, we now realize that ACEs have a direct effect on physical health through the development of toxic stress physiology.

The Burden of ACEs in California

Nationally, about 61 percent of adults report exposure to at least one ACE, and one in almost six adults

has been exposed to four or more ACEs, with a higher level of exposure more predictive of poor health outcomes and early mortality.[25]

Figure 3: The Percent of Residents with at Least One ACE Across California Counties.
From Center for Youth Wellness, Data Report: A Hidden Crisis. 2020



Data from California paint a similar picture where ACEs burden state residents with considerable well-being and financial cost finding that more than 63 percent of California residents have experienced at least one ACE. In some counties, the exposure prevalence can be as high as 78 percent (Figure 3).[28] The prevalence of Californians with four or more ACEs was 16 percent, with wide variability among counties.

Annual total cost of health-related impacts of ACEs in California is $112.5 billion. This includes direct health care expenditures ($10.5 billion), and the cost in disability and years of productive life lost to ACEs ($102 billion). Furthermore, although 16 percent of Californians have experienced four or more ACEs, they account for 36 percent of ACE-associated health care costs. The data underscore the scope and reach of the burden of ACEs in this state.[28] As Dr. Nadine Burke Harris stated:

> *"Adverse Childhood Experiences and toxic stress will cost California over a trillion dollars in the next 10 years. While implementing the type of evidence-based, cross-sector responses necessary to decrease the burden of ACEs is never easy and takes time, we simply can't afford not to do it. This research demonstrates that our imperative is not only ethical and moral, we have a strong economic imperative as well."*[29]

What is incompletely understood is the impact of year 2020's upheavals in the socioeconomic environment and how that will add to the pre-existing risk of ACEs in California. The COVID-19 pandemic has caused an unprecedented disruption of the functioning of society, and in doing so, has damaged the economy at a level not seen since the Great Depression. In California, although down from a high of 13.5 percent, at 11.4 percent, the state's unemployment rate is drastically increased from 3.9 percent one year prior. [30] Past research on the Great Recession (2007-2009) showed how it was associated with increases in child abuse and neglect and intimate partner violence.[31, 32]

Furthermore, the stress of the COVID-19 pandemic has increased mental health and suicide risk.[33] Added on top is the social unrest from protests against racial injustice and police brutality. The number and intensity of the year's multiple societal disruptions and the potential increased risk for health sequelae underscores the importance of the readiness of health care providers to identify and respond to ACEs, additional stressors and toxic stress in their patients, both pediatric and adult.

The number and intensity of the year's multiple societal disruptions and the potential increased risk for health sequelae underscores the importance of the readiness of health care professionals to identify and respond to ACEs and toxic stress.

To combat ACEs in California, the state has earmarked $160.8 million for a three-year initiative, including $40.8 million for Adverse Childhood Experiences (ACEs) screenings of children and adults receiving Medi-Cal. DHCS is providing a $29 payment to Medi-Cal providers who administer the screening (one time for adults in their lifetime, yearly for children until age 21, and both per provider and per managed care plan). In addition, $10 million has been budgeted for cross-sector training and provider awareness of ACEs[34] and $50 million (plus matching funds) has been allocated to training health care professionals in how to screen and respond with trauma-informed care.[35]

ACEs and Health Disparities

Just as health disparities are persistent, and prevalent, we are learning that ACEs mirror racial and ethnic inequities. ACEs disproportionately impact women, racial and ethnic minorities.[36] It is increasingly understood how ACEs impact minority groups. For example, in a national sample of the Behavioral Risk Factor Surveillance System (BRFSS) (Table 1), women were more likely to have had exposure to at least four ACEs. Similarly, Black and Native American individuals were more likely to have had a high exposure of at least four ACEs compared to Whites (Table 2). This risk for higher ACE exposure has clear implications for the burden of chronic disease and mental health problems in these populations.

Table 1 — Adverse Childhood Experience Score by Sex[14] ¶

	0		1		2 to 3		≥ 4	
	No.	% (95% CI)	No.	% (95% CI)	No.	% (95% CI)	No.	% (95% CI)
Men	26,852	39.3 (38.5-40.0)	14,590	24.7% (24.0-25.3)	12,340	22.2 (21.5-22.8)	6,781	13.9 (13.4-14.5)
Women	36,513	38.8 (38.2-39.5)	18,570	22.3 (21.7-22.9)	16,820	21.7 (21.1-22.3)	11,569	17.1 (16.6-17.7)

Total	**63,365**	**39.0 (38.6-39.5)**	**33,160**	**23.4 (23.0-23.9)**	**29,142**	**21.9 (21.5-22.4)**	**18,350**	**15.6 (15.2-16.0)**

Table 2 — Adverse Childhood Experience Score by Race/Ethnicity[14] ¶†

	0		1		2 to 3		≥ 4	
	No.	% (95% CI)	No.	% (95% CI)	No.	% (95% CI)	No.	% (95% CI)
White	52,614	40.2 (39.7–40.7)	26,451	23.1 (22.7–23.6)	22,855	21.7 (21.2–22.2)	13,934	15.0 (14.6–15.4)
Black	4,591	32.0 (30.5–33.5)	3,209	26.4 (24.9–27.8)	2,782	24.0 (22.6–25.4)	1,498	17.7 (16.3–19.0)
American Indian/ Alaska Native	838	28.8 (24.6–32.9)	588	21.2 (17.2–25.3)	677	21.6 (17.3–25.9)	726	28.3 (24.1–32.6)
Asian	1,038	56.3 (52.5–60.1)	350	19.8 (16.8–22.8)	283	15.3 (12.7–17.9)	116	8.6 (5.9–11.2)
Hispanic	3,434	38.2 (36.3–40.1)	1,953	23.2 (21.6–24.9)	1,891	22.7 (21.1–24.3)	1,349	15.8 (14.5–17.2)
Other	850	25.5 (22.1-28.9)	690	24.2 (20.7-27.7)	654	22.3 (19.4-25.1)	727	28.0 (24.7-31.4)
Total	63,365	39.0 (38.6-39.5)	33,160	23.4 (23.0-23.9)	29,142	21.9 (21.5-22.4)	18,350	15.6 (15.2-16.0)–

CI: Confidence Interval

¶: p<0.001 from chi-squared test of independence

†: Participants self-reporting as white, black, American Indian/Alaska Native, Asian, and Other (Native Hawaiian or Other Pacific Islander, multiracial, or other) were non-Hispanic; Hispanic participants could be of any race.

There has been debate over the extent to which racial disparities in health are mediated by socioeconomic status (SES), although data increasingly show that SES alone is insufficient to explain the magnitude of health disparities among racial groups.[36] Similarly, disparities in ACEs among racial/ethnic groups may be independently explained, in part, by race/ethnicity alone. For example, in a study by Slopen et al. (2016),[36] the incidence rate ratio (IRR) of ACEs *increased* with income compared to white respondents. While the Hispanic–white IRR for children in the poorest stratum was 0.93, (95% CI = 0.82, 1.06), it increased to 1.60 (95% CI = 1.31, 1.95) for children in the high-income stratum. Similarly, in the Black-White comparison group, the IRR for Black children in the poorest stratum was 0.76 (95% CI = 0.70, 0.83), and increased with income to 1.44 (95% CI = 1.21, 1.72) for children in the high-income stratum. This may be due to the "diminishing returns" hypothesis as explained by Farmer (2005)[37], where with increasing SES, adults of minority racial/ethnic groups did not have the same improvement in self-rated health as white adults.

Still, it is important to recognize the inadequacy in assigning race/ethnicity alone as the cause of disparities in ACEs and toxic stress. As Shonkoff et al. (2021)[38] observe:

> *"The conventional designation of race or ethnicity as a risk factor for disparities in health outcomes diverts critical attention away from systemic racism, other structural inequities, and their deep historical roots as pernicious influences on the intergenerational transmission of stress-related disease."*

They propose that eliminating disparities in early childhood adversities and toxic stress must include an upstream approach that includes addressing the systemic, cultural, and interpersonal racism that are the root cause of these disparities.

Gender Disparities

Women are more likely to have a high exposure to ACEs (Table 3), potentially leading to excess risk for those health conditions associated with ACE exposure such as heart disease, chronic lower respiratory disease, and dementia. Research has also shown that there are gender differences with regards to the types of adverse outcomes associated with ACE exposure, with women being at higher risk for sexual risk taking and being a victim of intimate partner violence.[39]

Table 3 – The Brown, et al.[39] study showed:
Men who were neglected as children were 2.7 times as likely than men who were not exposed to ACEs to have sexual debut before age 13 (OR: 2.67; 95% CI: 2.28–3.12)
Women who were neglected as children were 31.5 times (95% CI: 24.5–40.7) as likely to have sexual debut before age 13.
Heterosexual men who were sexually abused had 9.9 times the odds as men who were not exposed to ACEs to have sexual debut before age 13 (OR: 9.90; 95% CI: 8.09–12.1).
Even worse, women who were sexually abused were 90.5 times as likely to have sexual debut before age 13 (OR: 90.5; 95% CI: 70.6–116.0).

Furthermore, women exposed to ACEs were more likely to report two or more sex partners in the past three months, using alcohol and/or drugs at last sexual intercourse, not using a condom during last sexual intercourse, to have been pregnant as a teen or to have had a fetal demise, to be involved in physical intimate partner violence, and to have reported being coerced into sex. All of these adverse outcomes have important implications for health and are issues that healthcare providers must be aware of for their patients with high ACE scores. In addition to the other health issues associated with ACE exposure, family physicians may want to have special consideration in assessing the sexual health and physical safety of women with high ACE exposure, including desires about child-bearing, intimate partner violence, and sexual health including STI/HIV prevention.

LGB and TGNC Communities

Another important consideration for health care providers is patients who identify as part of the lesbian, gay and bisexual (LGB) and transgender/gender nonconforming (TGNC) communities, which has a history of stigma and poor health indicators compared to the general population.[40]

Some data suggest that sexual minorities are more likely to experience ACEs, at potentially twice the odds of their heterosexual peers.[43, 44] For example, Austin et al.[45] found that:

- 73.2 percent of LGB participants reported at least one ACE compared to 59.6 percent of heterosexual respondents
- 69.5 percent of LGBTQ participants reported four or more ACEs.

Men who have sex with men (MSM) with a high ACE score were more likely to report early sexual debut and were more likely to report sex in exchange for drugs or money, emotional and psychological problems associated with substance use, suicide attempts, and lack of condom use.[46] The magnitude of the increased odds from ACEs exposure compared to their heterosexual peers is staggering.

Table 4 – In Brown et al.,[44] study showed:
The adjusted odds ratio of sexual debut for MSM before the age of 13 was:
20.9 (95% CI: 13.1–33.3) for exposure to neglect
15.9 (95% CI: 11.0–22.8) for exposure to physical and emotional abuse, and
122.2 (95% CI: 64.4–231.5) for exposure to sexual abuse.
For women who have sex with women (WSW), the adjusted odds ratio of sexual debut before the age of 13 was:
9.16 (95% CI: 7.21–11.6) for exposure to neglect
6.89 (95% CI: 5.18–9.17) for exposure to physical and emotional abuse, and
39.3 (95% CI: 28.2–54.9) for exposure to sexual abuse.

Little studied is the intersection of being both a sexual and racial minority with ACE exposure risk. However, considering that one in two black MSM and one in four Latino MSM will be diagnosed with HIV in their lifetime (compared to one in eleven white MSM),[46] it is reasonable to surmise that belonging to both a racial and sexual minority group carries a risk for ACE exposure different than either identity alone. This is an area that needs further study.

TGNC study participants were more likely to report emotional abuse and physical neglect compared to cis-gender participants, and to report a history of homelessness, meaning they were less likely to have the buffering supports promoting resilience to ACE exposure....

The TGNC community is known to have stark health disparities compared to cis-gendered individuals. It has been shown the TGNC individuals are more likely to have been a victim of intimate partner violence, to have had severe psychological stress within the past month, to have attempted suicide, and to be more likely to have HIV infection.[47] Therefore, it would be reasonable to surmise that this group would also have a higher exposure to ACEs, although there is a dearth of research in the literature, and those that do exist may suffer from lack of generalizability.

One of the few studies conducted in this population did find evidence of a relationship between high ACE scores and poor mental and physical health compared to cis-gendered individuals.[48] (Table 5). In this study by Schnarrs et al. (2019), both LGB and TGNC individuals residing in San Antonio had ACE exposures much higher than the general population, but for TGNC participants, 60.7 percent of participants reported an ACE score ≥4. Almost one in seven (14.7 percent) had an ACE score ≥8. While high ACE scores do not guarantee poor outcomes for all people exposed (especially in the presence of buffering factors supporting resilience), TGNC participants were more likely to report emotional abuse and physical neglect compared to cis-gender study participants, and to report of history of homelessness, meaning they were less likely to have the buffering supports

Table 5 – ACEs by gender-identity (Schnarr et al, 2019)[47]

ACE Score	Total Sample (n = 477; %)	Cis-gender (n = 375)	Transgender (n = 102)
0	12.8	13.9	8.8
1	11.5	11.7	10.8
2	13.6	13.9	12.7
3	11.3	12.5	6.9
4	13.4	12.3	17.6
5	11.1	9.9	15.7
6	8.6	9.6	4.9
7	6.7	6.4	7.8
8	5.5	5.1	6.9
9	3.6	3.7	2.9
10	1.9	1.1	4.9

promoting resilience to ACE exposure and potentially at risk for worse health outcomes. More research is needed in this area and is likely to uncover risks similar to and possibly exceeding those of other sexual minorities.

Conclusion

Exposure to ACEs is common in California, with over 16 percent of the population (one in six individuals) having a very high exposure to ACEs (four or more ACEs).[41] In certain groups, particularly women and minority groups, the prevalence of exposure exceeds that of the general population. ACEs have a dose-response relationship with many health outcomes, pose a large burden on the health of individuals and their communities, and impose a large economic cost to the state.

ACEs also impact clinician treatment planning too, as providers in primary care already manage and treat the chronic medical and mental health conditions that are more common in those with high ACE scores. Even if primary care physicians do not address ACEs, ACEs still impact our daily practice. We have already learned how those with higher ACE scores account for a disproportionate amount of the ACE-associated health care costs. Addressing and preventing ACEs in primary care, then, may be the upstream intervention for those health conditions that form a large portion of our complex cases.

Even more importantly, this intervention may improve quality of care. A feasibility study by Glowa et al.[50], found that implementing ACE screening was feasible, adding on average less than five minutes to a visit when ACEs were detected. Physicians also found they gained new information, especially with an ACE score $\geq$ 4 (83.3% agreeing). A review of feasibility and acceptability of ACE screening found that for both patient *and* physician, screening enhanced the patient-physician relationship.[50]

Treating the individual and treating the family are skills of the family medicine specialty that are central to the California Surgeon General's goal of reducing ACEs and toxic stress by one-half in one generation. Family medicine's contribution to the state's ambitious and visionary program can have a lasting, beneficial impact on the health of Californians for generations.

Check out this ACEs Aware video where I spoke on the importance of ACE screening to primary care and family physicians: *https://www.youtube.com/watch?v=9Zp1YpsR2k8*

The Office of the California Surgeon General, with the ACEs Aware project, has developed an extensive set of tools and resources for family physicians and other health care providers to use as they integrate screening and treatment into their practices.

The tools and resources can be found https://www.acesaware.org/screen/screening-tools/.

A complete Provider Toolkit is available as well, https://www.acesaware.org/heal/provider-toolkit/.

CAFP has also developed materials for family physicians which can be found at https://www.familydocs.org/aces.

Family physicians and their practice teams are also encouraged to complete the free, two-hour training module on www.ACEsAware.org and then attest to completing the training at https://www.medi-cal.ca.gov/TSTA/TSTAattest.aspx to qualify for Medi-Cal payment for conducting ACE screenings. For information about Medi-Cal billing, visit the ACEs Aware Certification & Payment webpage.

Examining the Intersection of ACEs and Trauma-Informed Care

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Trauma-informed care (TIC) is an organizational structure and treatment framework that involves understanding, recognizing, and responding to the effects of all types of trauma. TIC also emphasizes physical, psychological and emotional safety for both patients and health care professionals, and helps survivors rebuild a sense of control and empowerment.

By being more informed about the role of trauma and ACEs in patients' risk for toxic stress and associated health conditions, physicians and other clinicians can improve the care they provide and improve patients' health care outcomes. Several organizations, institutions and specialty societies have developed guidelines and approaches addressing trauma-informed care. The Substance Abuse and Mental Health Services Administration (SAMHSA) is one of the foremost institutions offering evidence-based resources for TIC.

No one is immune to the impact of trauma and toxic stress. Trauma affects the individual, families and communities by disrupting healthy development, adversely affecting relationships, and contributing to mental and physical health issues. Everyone pays the price when a community produces multiple generations of people with untreated trauma.

According to SAMHSA, using a trauma-informed approach to care can create a safe, accepting, and respectful environment which is often needed for patients to reveal thoughts or behaviors associated with trauma, suicide, or intimate partner violence (IPV) to their physicians or other health care professionals.

Trauma affects the individual, family and community by disrupting healthy development, adversely affecting relationships, and contributing to mental health issues, substance abuse disorders, domestic violence and child abuse.

It is not always necessary for a person to disclose past painful experiences. Through education about the impact of ACEs, along with teaching healthy coping skills within a trauma-informed culture, physicians and their teammates can promote positive health and behavioral health outcomes. Health care professionals become "trauma-informed" by recognizing that many people may have experienced trauma, and that trauma may take many forms, including for example childhood sexual abuse, domestic

violence, racism, elder abuse and combat history. They also recognize that people who have been traumatized need support and understanding from those around them. Trauma survivors can be re-traumatized by well-meaning caregivers and community service providers. Understanding the potential impact of trauma, ACEs, and toxic stress on health is an important first step in becoming a compassionate and supportive community. Table 6 below helps to illustrate methods to ensure against re-traumatization. [52]

A trauma-informed approach to clinical care is defined as having these components: [53]

- A foundation grounded in trauma-informed principles and a team approach to care;
- An environment that is calm, safe, and empowering for patients;
- Education about the impacts of current and past trauma (and other adversities) on health; and
- Inquiry about, and response to, recent and past trauma that includes onsite or community-based resources and treatments.

The principles being used by ACEs Aware are based on SAMHSA principles, but with some differences particularly to address the biological susceptibility of ACEs and toxic stress:

- Establish the physical and emotional **safety** of patients and staff;
- **Build** trust between providers and patients;
- **Recognize** the signs and symptoms of trauma exposure on physical and mental health;
- Promote **patient-centered, evidence-based care;**
- Ensure provider and patient **collaboration** by bringing patients into the treatment process and discussing mutually agreed upon goals for treatment; and
- Provide care that is sensitive to the patient's **racial, ethnic, and cultural background, and gender identity.**

Both ACEs Aware and SAMHSA principles say it is important to note that exploring traumatic experiences requires sensitivity, skills and training. Building resilience is a valuable way to respond to trauma as individuals can be taught skills that assist them to improve coping; manage emotions; connect with others; and find hope, purpose, and meaning.

TABLE 6 – Avoiding Re-traumatization					
Safety	**Choice**	**Collaboration**	**Trustworthiness**	**Empowerment**	**Cultural, Historical and Gender Issues ***
Definitions					
Ensuring physical and emotional safety	Individual has choice and control	Making decisions with the individual and sharing power	Task clarity, consistency and interpersonal boundaries	Prioritizing empowerment and skill building	Leveraging the healing values of cultural connections
Principles in Practice					
Common areas are welcoming and privacy is respected	Individuals are provided a clear and appropriate message about their rights and responsibilities	Individuals are provided a significant role in planning and evaluating services	Respectful and professional boundaries are maintained	Providing an atmosphere that allows individuals to feel validated and affirmed with each and every contact	Policies, protocols and processes that are responsive to racial, ethnic, gender and cultural needs of individuals are incorporated

** SAMHSA offers a sixth principle of trauma- informed care: Cultural, Historical and Gender Issues moves past traditional stereotypes and biases (perhaps based on race, ethnicity, age, religion, sexual orientations, etc.) and leverages the healing values of cultural connections, incorporating policies, protocols and processes that are responsive to diverse racial, ethnic and cultural needs of the individual patients.*

An important aspect of trauma-informed care is the concept of avoiding re-traumatization. To avoid re-traumatization or re-introducing trauma, care must be taken in the ACE screening process.

ACE screening can induce a spectrum of emotional reactions in patients. Screening requires patients to reflect on and revisit upsetting parts of their lives, which may activate distressing feelings or thoughts for patients and for providers conducting the screenings. [53]

Some people who have experienced ACEs or other adversities may feel shame, blame, anger, sadness, and/or embarrassment. However, some patients find the screening experience empowerment and report a positive emotional response to being able to make important connections between ACEs, toxic stress, and their current health, and to receiving appropriately focused care. [53]

Patients with higher ACE scores with an identified (rather than anonymous) screen were more likely to have strong emotional reactions, both positive and negative, according to pilot data. De-identified (anonymous) ACE screening was much less likely to elicit a strong emotional reaction for patients, either positive or negative.[54]

It is important for health care professionals to administer screenings in a trauma-informed manner that avoids re-traumatization. ACEs Aware strategies for providers to avoid re-traumatization include:[55]

Compassionate resilience is the ability to maintain your physical, emotional, and mental well-being while responding compassionately to the suffering of others. It is a reservoir of well-being to draw upon on difficult days.

1. Maintaining emotional safety by approaching patients who have experienced ACEs and other adversities with non-judgmental support. Assess for, recognize, and integrate patient strengths and experiences into a treatment plan jointly formulated between physician, care team and patient.
2. In the primary care context, providers can provide supportive, compassionate responses to trauma histories of ACEs or other adversities without eliciting specific details.
3. Empowering patients by providing education on simple things they can do every day, at home, to recognize how stress shows up in their bodies and help regulate their stress response system and buffer the negative impacts of toxic stress. Find these strategies to regulate the stress response at ACEsAware.org/assessment-and-treatment.
4. Referring patients to mental health providers who are trained in evidence-based trauma-specific therapy, if necessary.
5. Practicing compassionate resilience to maintain provider well-being while caring for patients tobe able to combat compassion fatigue, burnout, secondary traumatic stress, vicarious trauma, and related concerns.

Physician and health care providers should also use sensitive responses when responding to patients' disclosures of personal traumas (Table 7), for example:

Table 7 – Responses to Patients
Sensitive Responses
"I'm sorry you were hurt in that way."
"What happened was not your fault."
"You are not to blame for what happened to you."
"Thank you for trusting me with such a personal and private experience."
"You deserve help in dealing with something so difficult. Would you like me to connect you with someone you could talk to about this?"
Suggestions for Avoiding Re-Traumatization
Avoid positioning yourself between the person and the exit door.
Ask what you can do to make the interview process more comfortable.
Ask permission before touching the person.

Using grounding techniques if the person appears disconnected or distressed – for example:

- Calmly remind the person where they are, that they are safe, and that the abuse is not currently happening
- Ask the person to redirect his/her attention to the environment and to describe what he/she sees in detail
- Ask the person to stomp his/her feet or push his/her body into the chair

Restore a sense of control to the person by providing him/her with as much choice as possible.

In her 2017 article in *American Family Physician*, Anita Ravi, MD concludes, "Because trauma-informed care is an emerging field in primary care, best practices are evolving and ultimately guided by the specific preferences and needs of each patient. Given the medical community's growing understanding of the prevalence of trauma and its impact on health, implementing universal trauma-informed care during a clinic encounter allows all patients to receive sensitive, individualized care from their family physician."[56]

Conclusion

Thank you for your participation in this ACEs activity. In this educational publication, you have read more about how to address Adverse Childhood Experiences and toxic stress in your patients by:

- Learning the significance of ACEs on health and their burden in California
- Learning the principles of trauma-informed care, and
- Becoming acquainted with resources to help health care professionals and their patients.

Your completion of this CME publication places you in the vanguard of a new movement in health care. California is leading the nation in taking steps to reduce the impact of ACEs and toxic stress on generations of current and future Californians. As you have read, the prevalence of ACEs is pervasive, and ACEs are strongly associated, in dose-response fashion, with some of the most common and serious health conditions facing our society today. Toxic stress can affect mental and physical health as well as behavioral and physiologic responses to stress. Toxic stress can alter the neurological, endocrine, metabolic, and immune systems as well as epigenetic regulatory mechanisms increasing the susceptibility to chronic disease. To learn that the instability of a child's home life directly influences the risk of asthma and eczema is to understand that the division between mind and body has always been an artificial construct of humans. California is leading the way to shift the narrative on preventive care, demonstrating that early identification of ACEs and the effects of toxic stress and responding with evidence-based interventions can improve health outcomes.

Addressing ACEs and toxic stress may become one of the most broadly impactful things that clinicians can do in primary care. ACE screening is a tool to help family and primary care physicians and their practice teams position themselves truly upstream – addressing these traumas before they manifest themselves in significant health conditions. Hopefully, better addressing your patients' needs will bring more professional satisfaction.

Our profession's success in addressing ACEs — such as in the California Surgeon General's ACEs Aware campaign — could make us a healthier state for this and future generations.

Thank you. – *Brent Sugimoto, MD, MPH, FAAFP*

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On this page of ACEs Aware, you will find 18 foundational references listed including the 1998 landmark study referenced by Dr. Burke Harris: https://www.acesaware.org/treat/the-science-of-aces-toxic-stress/

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54. ACEs Aware Provider Toolkit fact sheet: https://www.acesaware.org/wp-content/uploads/2020/05/Provider-Toolkit-Trauma-Informed-Care-Overview.pdf

55. ACEs Aware Provider Toolkit: Bay Area Research Consortium on Toxic Stress and Health (BARC) investigators. Personal communication with the Bay Area Research Consortium on Toxic Stressand Health (BARC) investigators. 2019.
56. Anita Ravi, MD; American Family Physician; May 15, 2017; v 95, no 10, pgs 655-657

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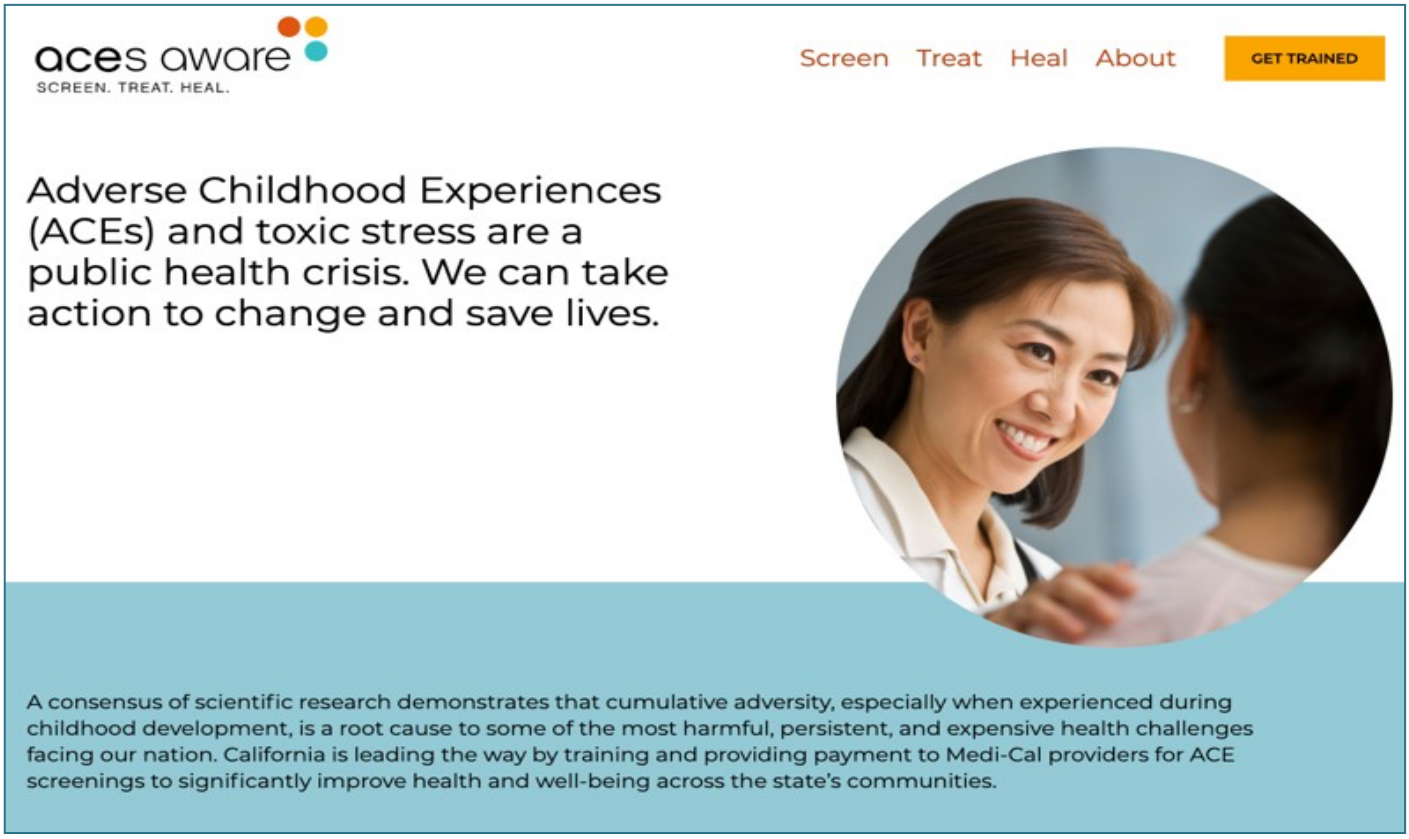
For more information on the ACEs Aware initiative visit www.ACEsAware.org.



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The Office of the California Surgeon General and the state Department of Health Care Services are leading a first-in-the-nation statewide effort to screen children and adults for Adverse Childhood Experiences (ACEs) in primary care, and to treat the impacts of toxic stress with trauma-informed care. The ACEs Aware initiative is built on the consensus of scientific evidence demonstrating that early detection and evidence-based intervention improves outcomes. The bold goal of this initiative is to reduce ACEs and toxic stress by half in one generation, and to launch a national movement to ensure everyone is ACEs Aware. For more information, visit www.ACEsAware.org.

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