



ACEs Aware: The Science of Trauma and Toxic Stress

Adverse Childhood Experiences (ACEs) and toxic stress represent a public health crisis. A consensus of scientific research demonstrates that cumulative adversity, especially when experienced during critical and sensitive periods of development, is a root cause of some of the most harmful, persistent, and expensive health challenges facing our state and the nation. California is leading the way in training and paying Medi-Cal providers for ACE screening to significantly improve health and well-being across the state's communities.

Adverse Childhood Experiences

ACEs are stressful or traumatic experiences people have by age 18 that were identified in the landmark Centers for Disease Control and Prevention (CDC) and Kaiser Permanente (KP) ACE Study conducted among more than 17,000 adult patients. They relate to 10 categories of adversities in three domains: abuse, neglect, and/or household dysfunction.

Persistent Trauma Leads to Toxic Stress

The past several decades of scientific research has identified the biological mechanisms by which early adversity leads to increased risk of negative health and social outcomes through the life course.

Repeated or prolonged activation of a child's stress response, without the buffering protections of trusted, nurturing caregivers and safe, stable environments, leads to long-term changes in the structure and functioning of the developing brain, metabolic, immune, and neuroendocrine responses, and even the way DNA is read and transcribed. This is known as the toxic stress response.

These biological changes play an important role in the clinical progression from ACE exposure to negative short- and long-term health and social outcomes. Further, these outcomes demonstrate a pattern of high rates of intergenerational transmission.

For both children and adults, addressing current stressors and enhancing networks of safe, stable and nurturing relationships and environments are associated with decreased metabolic, immunologic, neuroendocrine, and inflammatory dysregulation, and improved physical and psychological health.



The Impact of Trauma and Toxic Stress on Health

Research shows that individuals who have experiences ACEs are at significantly increased risk of serious health consequences, including 9 of the 10 leading causes of death in the United States. People with four or more ACEs are:

- 38 times as likely to attempt suicide;
- 11 times as likely to have Alzheimer’s or dementia;
- 3 times as likely to have chronic lower respiratory disease;
- 2 to 2 ½ times as likely to have a stroke, cancer, or heart disease; and
- 1 ½ times as likely to have diabetes.

ACEs are associated with increased risk of a wide range of health conditions – known as ACE-Associated Health Conditions – in both pediatric and adult populations.

- *Pediatric Health:* The effects of toxic stress are detectable as early as infancy. In babies, high doses of adversity are associated with failure to thrive, growth delay, sleep disruption and developmental delay. School-aged children may have increased risk of viral infections, pneumonia, asthma and other atopic diseases, as well as difficulties with learning and behavior. Among adolescents with high ACEs, somatic complaints including headache and abdominal pain, increased engagement in high-risk behaviors, teen pregnancy, teen paternity, sexually transmitted infections (STIs), mental health disorders, and substance use.
- *Adult Health:* As noted above, ACEs are associated with some of the most common and serious health conditions faced in our communities.
- *Mental and Behavioral Health:* The higher the ACE score, the greater the likelihood an individual may experience mental health disorders such as depression, post-traumatic stress disorder, anxiety, and sleep disorders, and to engage in risky behaviors such as early and high-risk sexual behaviors and substance use.
- *Life Expectancy:* The life expectancy of individuals with six or more ACEs is 19 years shorter than that of individuals with none.



California is Launching a Movement to Make Everyone ACEs Aware

ACEs Aware is an initiative led by California Surgeon General Dr. Nadine Burke Harris and the California Department of Health Care Services. The ACEs Aware initiative will equip providers with training and clinical protocols to screen children and adults for ACEs, detect ACEs early, and connect patients to interventions, resources, and other support to improve patient health and well-being.

Effective January 1, 2020, qualified Medi-Cal providers are eligible for a \$29 payment for qualifying ACE screenings for patients with full-scope Medi-Cal.

Beginning July 1, 2020, to receive the payment, providers must have completed a certified training and self-attested to completing it. The payment is funded through Proposition 56.

Find out more about the Science of Trauma and Toxic Stress and how ACE screening can improve health and improve lives by visiting www.ACEsAware.org