



ACEs Aware: The Science of Trauma & 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 serious, persistent, and expensive health challenges facing the state and nation. California is leading the way in training and paying Medi-Cal providers to screen for ACEs to significantly improve health and well-being across the state's communities.

Adverse Childhood Experiences

ACEs are stressful or traumatic events experienced by age 18. The term specifically refers to 10 categories of adversities in three domains: physical, emotional, or sexual abuse; physical or emotional neglect; and household dysfunction that includes growing up in a household with parental incarceration, mental illness, substance dependence, absence due to separation or divorce, or intimate partner violence.

Persistent Trauma Leads to Toxic Stress

The past several decades of scientific research have identified the biological mechanisms by which early adversity leads to increased risk of negative health and social outcomes over the course of a lifetime.

Repeated or prolonged activation of a child's stress response, in absence of adequate buffering caregiving support, leads to long-term changes in the structure and functioning of the developing brain, metabolic, immune, and neuroendocrine responses; it even affects the way DNA is read and transcribed. This is known as the *toxic stress response*.

A toxic stress response can impact a child's brain development, hormonal and immune systems, as well as genetic regulatory systems. These biological changes play an important role in the clinical progression from ACEs exposure to negative short- and long-term health and social outcomes, and 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

ACEs are associated with significantly increased odds of developing serious health consequences, including nine of the ten leading causes of death in the United States. People with four or more ACEs are:

- 30 times as likely to attempt suicide
- 4 times as likely to have Alzheimer's
- 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
- 1 ½ times as likely to have diabetes

ACEs are associated with increased risk of a wide range of health conditions – known as ACEs-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, common somatic complaints include 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 may 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 Leading a Movement

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.

Beginning January 1, 2020, DHCS will pay providers \$29 per trauma screening for children and adults with Medi-Cal coverage. By July 2020, providers must self-attest that the training has been completed in order to be eligible to continue receiving Medi-Cal payment for conducting ACEs screenings. The payment is funded by Proposition 56.

Learn more about the science of trauma and toxic stress and how ACEs screening can improve health and improve lives by visiting www.ACEsAware.org