From Adversity to Resilience in the Healthcare Sector

Findings from Roadmap for Resilience: The California Surgeon General’s Report on Adverse Childhood Experiences, Toxic Stress, and Health

How Adversity Can Impact Health Outcomes

Adverse Childhood Experiences (ACEs) are highly prevalent\textsuperscript{1-3} and are strongly associated, in a dose-response fashion, with some of the most common and serious health conditions facing our society, including nine of the 10 leading causes of death in the United States.\textsuperscript{11} ACEs promote these health impacts, at least in part, through activation of the toxic stress response,\textsuperscript{12-18} defined in the National Academies of Science, Engineering, and Medicine's 2019 consensus report as “prolonged activation of the stress response systems that can disrupt the development of brain architecture and other organ systems, and increase the risk for stress-related disease and cognitive impairment, well into the adult years.... For children, the result is the disruption of the development of brain architecture and other organ systems and an increase in lifelong risk for physical and mental disorders.”\textsuperscript{19}

The Role of the Healthcare Sector in Preventing and Mitigating Toxic Stress

A key component of California’s strategy to reduce ACEs and toxic stress by half in a generation is the recognition of toxic stress as a health condition that is amenable to treatment and application of a rigorous scientific framework. The healthcare system, therefore, plays a central role in preventing, detecting, and mitigating toxic stress. These efforts are more important than ever in the context of coronavirus disease 2019 (COVID-19), which is increasing ACEs and other adversities, and reducing access to buffering resources, thereby escalating risk for toxic stress.

Healthcare Sector Strategies for Preventing and Addressing ACEs and Toxic Stress

**Primary Prevention**

Targets individuals without exposure to ACEs to prevent ACEs from ever occurring and increases protective or buffering factors, should exposure to ACEs and other adversities occur, including preventing intergenerational transmission of ACEs and toxic stress. Healthcare providers have an essential role in primary prevention by providing universal trauma-informed care, patient education, anticipatory guidance, and important linkages to cross-sector partners. Healthcare leaders also play an important role in advocating for trauma-informed systems and effective referral networks (such as in schools, justice, social services, early childhood, and public health programs).

**Secondary Prevention**

Facilitates early detection through routine screening with the goal of exploiting the latency between exposure (as to ACEs) and the development of the toxic stress response. Secondary prevention aims to prevent the development of the toxic stress response by applying buffering interventions.

**Tertiary Prevention**

Targets individuals who have experienced ACEs and have developed consequences of toxic stress, such as earlier-onset or more severe AAHCs. Treatment to address the prolonged activation of the stress response and concomitant disruptions in neuro-endocrine-immune-metabolic and genetic regulatory systems may be a necessary adjunct to usual care for AAHCs.

For more detail and information, read Roadmap for Resilience: The California Surgeon General’s Report on Adverse Childhood Experiences, Toxic Stress, and Health at [https://osg.ca.gov/](https://osg.ca.gov/)
Primary Prevention

**Trauma-informed care** is beneficial for all patients but especially those with a history of adversity. Key principles include:\(^\text{20}\)

1. Establishing physical and emotional safety of patients and staff;
2. Building trust between providers and patients;
3. Recognizing signs and symptoms of trauma exposure in physical and mental health;
4. Promoting patient-centered, evidence-based care;
5. Ensuring provider and patient collaboration by bringing patients into the treatment process and discussing mutually agreed-upon goals for treatment; and
6. Providing care that is sensitive to the patient’s racial, ethnic, and cultural background, and gender identity.

High-quality, affordable care that is culturally and linguistically sensitive\(^\text{21}\) is essential.

**Within the healthcare setting, prevention of ACEs requires:**

Patient education about ACEs and toxic stress coupled with promotion of **safe, stable, and nurturing relationships and environments**, anticipatory guidance, and linkages, resources, or referrals that focus on:\(^\text{19,22,23}\)

- Optimizing social-emotional and other learning at home, such as through Talk, Read, Sing\(^\text{24}\) or Reach Out and Read\(^\text{25}\)
- Promoting healthy relationship norms;
- Parenting and family relationship skill-building;
- Connecting youth to caring adults and activities;
- Linkages to high-quality home visitation and/or child care;
- Preschool and school enrichment with family engagement;
- Economic supports, such as links to Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) and tax credit programs; and
- Legal supports, such as through medical–legal partnerships.\(^\text{26}\)
Secondary Prevention

Universal, primary-care-based screening for ACEs, beginning during prenatal care or newborn well-child care and continuing through adulthood, is an important means to identify and intervene for those at risk for toxic stress.

ACE screening involves assessing for the triad of adversity (ACE score), clinical manifestations of toxic stress (ACE-Associated Health Conditions, AAHCs), and protective factors to assess clinical risk for toxic stress and to guide effective responses.\(^\text{27}\)

This approach meets the Wilson and Jungner criteria for optimal screening efforts as promoted by the World Health Organization.\(^\text{28}\) One of the most important of these criteria is the presence of a latent or early symptomatic stage, during which time interventions are most effective and cost-efficient.

- Assessment for AAHCs should include not only mental and behavioral conditions, but also non-neuropsychiatric conditions (for which the links between toxic stress and health may be under-recognized).\(^\text{29}\)
Joint Healthcare Strategies
For both Secondary and Tertiary Prevention

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 **AAHCs** by providing **patient education** on toxic stress and offering strategies to help regulate the stress response, including.\(^{19,30-32}\)

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.

5. **Follow up** as necessary, using the presenting AAHCs as indicators of treatment progress.

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Investment in research is necessary to advance the science to prevent, measure, and treat the effects of toxic stress in children and adults. Clinical diagnostic criteria for toxic stress, viable biomarkers for diagnosis and monitoring treatment efficacy, and therapeutic targets for interrupting the toxic stress response are imperative for improving quality and efficacy of care. Treatment guidelines for addressing the role of toxic stress in specific AAHCs (such as asthma and heart disease) are called for.

References


