

From Adversity to Resilience in the Public Health 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 and Social Outcomes

Exposure to **Adverse Childhood Experiences (ACEs)** and other risk factors for toxic stress (e.g., poverty, racism, or violence) is widespread among children and families.^{1,2} Extensive research documents a consistent dose-response relationship between ACE exposure and development of 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.²⁻¹² Repeated, severe, or chronic exposure to ACEs and other adversities, without sufficient buffering supports, has been well established to lead to the **toxic stress response**,¹³⁻¹⁹ defined in the National Academies of Sciences, Engineering, and Medicine's 2019 consensus report as the "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."²⁰ 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 through application of a rigorous scientific framework and leveraging of cross-sector expertise.

ACEs and toxic stress are a health threat for all population groups. In California, 63% of White individuals and 56% of college or technical school graduates have had at least one ACE.²² At the same time, people who are racially marginalized (Black, Latinx, Native American, or multiracial), high school nongraduates, unemployed or unable to work, in lower income brackets, uninsured or underinsured, involved in the justice system, women, and/or identify as lesbian, gay, bisexual, or transgender, are disproportionately impacted.^{1,2,8,17,22-29} Vulnerable communities also have less access to the kinds of interventions that are demonstrated to buffer toxic stress.

The Role of the Public Health Sector in Preventing and Mitigating Toxic Stress

The long-standing mission of the public health sector is to promote the health and well-being of entire populations, to seek to prevent disease and injuries before they happen, and to mitigate health consequences once disease, injury, or disaster does strike. Thus, public health plays an essential role in primary, secondary, and tertiary prevention of ACEs and toxic stress.

To carry out its mission, the public health field strives to deliver 10 essential public health services:^{30,31}

- 1. Assess and monitor** population health, factors that influence health, and community needs and assets, such as population-level ACE prevalence, through surveys such as the Behavioral Risk Factor Surveillance System, the Maternal Infant Health Assessment, and the National Survey of Children's Health;
- 2. Investigate, diagnose, and address** health hazards and root causes for toxic stress;
- 3. Communicate effectively** to inform and educate about health, factors that influence it, and how to improve it, including to the public at large, and to specific sectors about their roles in prevention, early detection, and treatment, such as through public education campaigns on the impacts of ACEs and toxic stress and evidence-based prevention and intervention strategies;
- 4. Strengthen, support, and mobilize** communities and partnerships to improve health, including strong cross-sector referral networks and community partnerships to prevent and respond to health risks related to toxic stress;
- 5. Create, champion, and implement** policies, plans, and laws that impact health, including equitable access to resources needed for health promotion, prevention of health risks, and early identification and treatment for recognized health conditions, such as the frameworks promoted by the ACEs Aware Initiative to screen for clinical risk for toxic stress and respond with evidence-based interventions;³²
- 6. Utilize legal and regulatory actions designed to improve and protect the public's health;**
- 7. Assure an effective system that enables equitable access to the individual services and care needed to be healthy,** including for primary, secondary, and tertiary prevention of health risks like ACEs and toxic stress;



- 8. Build and support a diverse and skilled public health workforce**, including training for sector-specific personnel to understand their role in preventing and intervening on health risks, and strategies for cross-sector coordination, including across the healthcare, public health, social services, early childhood, education, and justice sectors;
- 9. Improve and innovate public health functions** through ongoing surveillance, evaluation, research, and continuous quality improvement, by collaborating with leading researchers in the field of toxic stress, such as the [Bay Area Research Consortium on Toxic Stress and Health](#), the [JPB Research Network on Toxic Stress](#), and the [PALS research network](#),³³⁻³⁵ and
- 10. Build and maintain a strong organizational infrastructure** for public health that coordinates cross-sector efforts to prevent and address adversity and toxic stress.

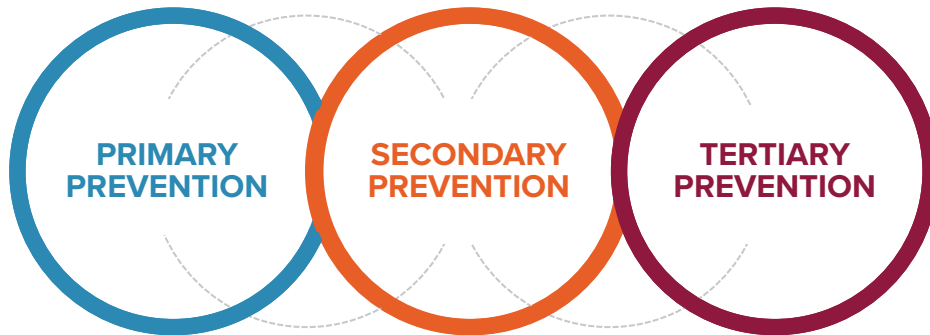
To prevent and reduce ACEs and toxic stress requires a focus on impacts on both the individual and family levels, and, equally importantly, on optimizing the social, economic, and policy contexts in which people live, grow, learn, work, and play. Public health offers an upstream approach that addresses the fundamental root causes of ACEs and toxic stress in children and families (e.g., access to healthcare, child care, housing, food security, educational and employment opportunities, and economic stability).³⁶⁻³⁸ It also holds a strong equity lens that focuses on eliminating inequities rooted in historical and contemporary injustices, including health and healthcare disparities.

Public health has a special collaborative and convening role to align cross-sector agency actors and engage community partners in sustained, mutually reinforcing policy, systems, and programmatic change activities, and to seek to adequately fund these mutually reinforcing social support systems.

Public health also has an important role in conducting rigorous population-level data collection and analysis for the purposes of surveillance, monitoring, and evaluating outcomes as a result of specific interventions. Coordinating thoughtfully conducted quality improvement and biomedical research that seeks further understanding of optimal and evidence-based prevention and intervention for toxic stress to advance practice transformation is also crucial.



Public Health Strategies for Preventing and Addressing ACEs and Toxic Stress



Primary Prevention Strategies

These activities are intended to prevent ACEs and toxic stress before they happen by focusing on upstream structural factors and determinants of health and well-being among the general population.

Secondary Prevention Strategies

These activities are designed to facilitate early detection of ACEs and prevention of the toxic stress response by strengthening protective factors and reducing risk factors.

Tertiary Prevention Strategies

These activities are targeted toward people who have already experienced ACEs and toxic stress by intervening to halt or slow disease processes, prevent recurrence, and return people to health.



Primary Prevention Strategies

- ▶ Public education campaigns on the impacts of ACEs and toxic stress, and promotion of social norms that counter violence and adversity
- ▶ Promote access to high-quality mental and physical healthcare, including preventive care
- ▶ Promote positive family relationship approaches and parenting skill-building
- ▶ Ensure availability of high-quality child care and home visitation services
- ▶ Enhance availability and coordination of allied cross-sector initiatives that promote safe, stable, nurturing relationships and environments
- ▶ Provide widespread trauma-informed training for providers and workers in all sectors
- ▶ Strengthen economic supports for families
- ▶ Reduce poverty and food insecurity
- ▶ Promote safe and stable supportive housing
- ▶ Reduce or eliminate exposure to environmental toxins

Secondary Prevention Strategies

- ▶ Surveillance of population-level indicators of exposure to ACEs and impacts of toxic stress, with policy-oriented application of this data
- ▶ Use of rigorous data collection and analysis to inform evidence-based screening, intervention, and evaluation of outcomes around ACEs, toxic stress, and ACE-Associated Health Conditions
- ▶ Coordinate with research entities to advance the precision and accuracy of clinical assessment of toxic stress risk
- ▶ Provide education to support parenting skills
- ▶ Increase early child home visitation services
- ▶ Provide high-quality mental and physical healthcare to lessen immediate and long-term harms



Tertiary Prevention Strategies

- ▶ Provide high-quality mental and physical healthcare to lessen immediate and long-term harms, such as family-centered treatment for substance use disorders
- ▶ Promote toxic stress mitigation strategies on enhancing sleep, nutrition, exercise, healthy relationships, mindfulness practices, access to nature, and when needed, mental healthcare
- ▶ Support cross-sector interventions to ameliorate the consequences of toxic stress
- ▶ Facilitate treatment of toxic stress among adults to prevent intergenerational transmission
- ▶ Align policy and programmatic investments in expansion of evidence-based interventions, such as the California Initiative to Advance Precision Medicine investment in research on precision medicine approaches to identifying and intervening on toxic stress²¹

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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/>

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