

# The ACEs Aware Initiative

## ACEs AWARE PHASE I: TRAINING PROVIDERS

In January 2020, the Office of the California Surgeon General (CA-OSG) and the California Department of Health Care Services (DHCS) launched the ACEs Aware initiative as a key lever in achieving the California Surgeon General's bold vision to cut Adverse Childhood Experiences (ACEs) and toxic stress in half in one generation.

**ACEs Aware Phase I** aims to train providers on screening for ACEs and on recognizing and responding to toxic stress. This is an important mechanism for reducing the population-level burden of ACEs and toxic stress for several reasons.

1. **ACEs are common, so a routine, population-based approach is needed.** Among Californians on Medi-Cal, 69% report one ACE, and 23% report four or more ACEs.<sup>27</sup> Given the significant prevalence, health consequences, and costs of ACEs and toxic stress, a routine (universal) and population-based approach to screening is warranted.<sup>2,15,16,30</sup> As outlined in the section, **Primary and Secondary Prevention Strategies in Healthcare** (in Part II), ACE screening involves assessing for the triad of adversity (ACE score), clinical manifestations of toxic stress (ACE-Associated Health Conditions, AAHCs), and protective factors. The first two components are used in assessing clinical risk for toxic stress and all three help to guide effective responses.<sup>699</sup>
2. **Screening provides an opportunity for early intervention and prevention.** The toxic stress response often involves a latency between exposure (such as to ACEs) and negative health outcomes. Latency between exposure and outcome is one of the key World Health Organization (Wilson and Jungner) criteria for selecting optimal screening efforts (see **Primary and Secondary Prevention Strategies in Healthcare**, in Part II, for more details). This latency enables targeted interventions against toxic stress to be deployed prior to onset or early in the disease course, when they are most effective and economical. Screening for ACEs and toxic stress meets all World Health Organization screening criteria.<sup>724</sup>
3. **Early intervention improves outcomes.** Cumulative ACE exposure is

known to cause toxic stress and, consequently, a multitude of adverse clinical and social outcomes.<sup>6,60</sup> The physiological response to stress can be either positive, tolerable, or toxic.<sup>6,7</sup> In the positive and tolerable stress responses, there is a return to homeostasis with adequate buffering interventions. The tolerable stress response is a period during which opportunity for early identification and intervention is optimal. Scientific consensus demonstrates that early intervention to address exposure to childhood adversity can improve physical and mental health outcomes through regulating the toxic stress response.<sup>23,603,704</sup>

4. **Screening facilitates the recognition of possible toxic stress physiology and tailored interventions that can reduce causes of disease and death.** While strong evidence links ACEs to leading causes of death, including cardiovascular disease, stroke, chronic obstructive pulmonary disease, Alzheimer's disease, and diabetes, the association between toxic stress and non-neuropsychiatric conditions is under-recognized in medicine. Patients who present with significant toxic stress and non-neuropsychiatric conditions often receive care that does not adequately address the role that toxic stress physiology plays in their disease process(es).<sup>1535,1536</sup> Also, screening for ACEs in order to identify toxic stress

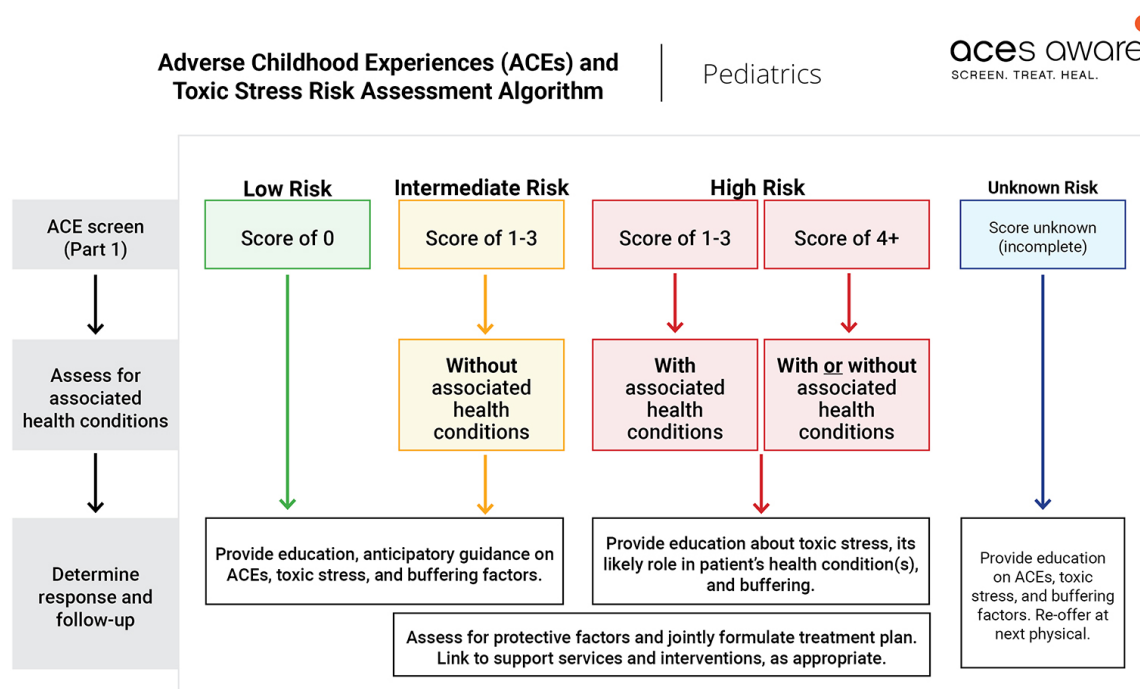
#### KEY OBJECTIVES OF THE ACEs AWARE INITIATIVE

1. To inform and empower primary care clinicians with the latest evidence on how to recognize, address, and prevent ACEs and toxic stress.
2. To incentivize early detection and early intervention for toxic stress by reimbursing providers for screening for ACEs, which includes assessing for the triad of adversity (ACE score), clinical manifestations of toxic stress (ACE-Associated Health Conditions, AAHCs), and protective factors. The first two components are used in assessing clinical risk for toxic stress and all three help to guide effective responses.
3. To increase awareness and utilization of cross-sectoral, evidence-based and promising clinical and community interventions for preventing and addressing the toxic stress response.
4. To build clinical capacity for screening for—and clinical and cross-sector community capacity for response—to ACEs and toxic stress by investing in clinical quality improvement and community networks for response.
5. To improve clinical outcomes and health equity by enhancing the quality and specificity of healthcare provided to individuals exposed to ACEs and/or at risk for toxic stress, through rigorous, evidence-informed methods.

risk allows for educating patients about the links between early adversity and long-term health, and the evidence on how to intervene, which can empower individuals and families to attend to toxic stress to address their own health and also break the intergenerational cycle of adversity.<sup>53</sup>

## Training and resources for providers

To help providers recognize and respond to ACEs and toxic stress, ACEs Aware includes a thoughtful approach to clinical training and seeks regular guidance from key stakeholders and global experts through multiple advisory committees.

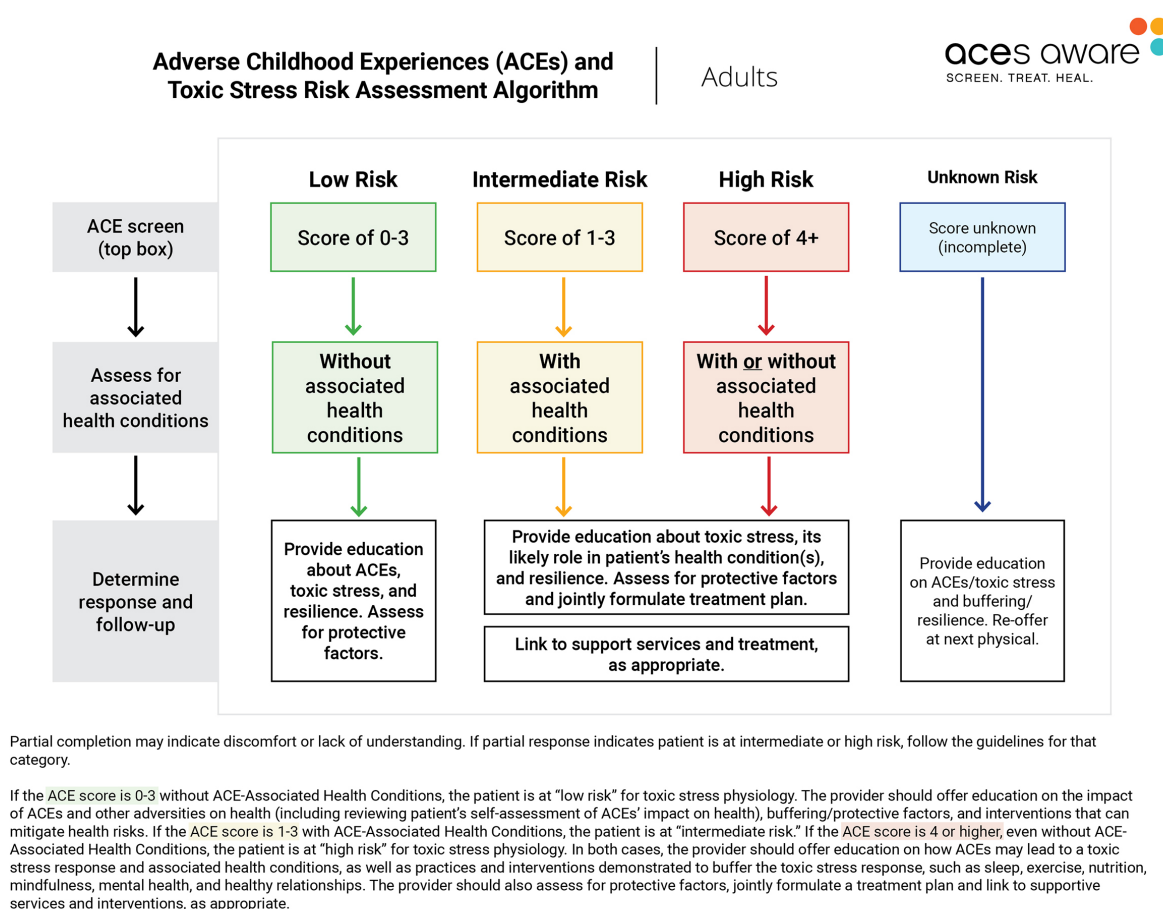


This algorithm pertains to the ACE score (Part 1 of PEARLS), whose associations with health conditions are most precisely known. Social determinants of health (Part 2 of PEARLS) may also increase risk for a toxic stress response and should be addressed with appropriate services, but should NOT be added to the ACE score for this algorithm. Partial completion may indicate discomfort or lack of understanding. If partial response indicates patient is at intermediate or high risk, follow the guidelines for that category.

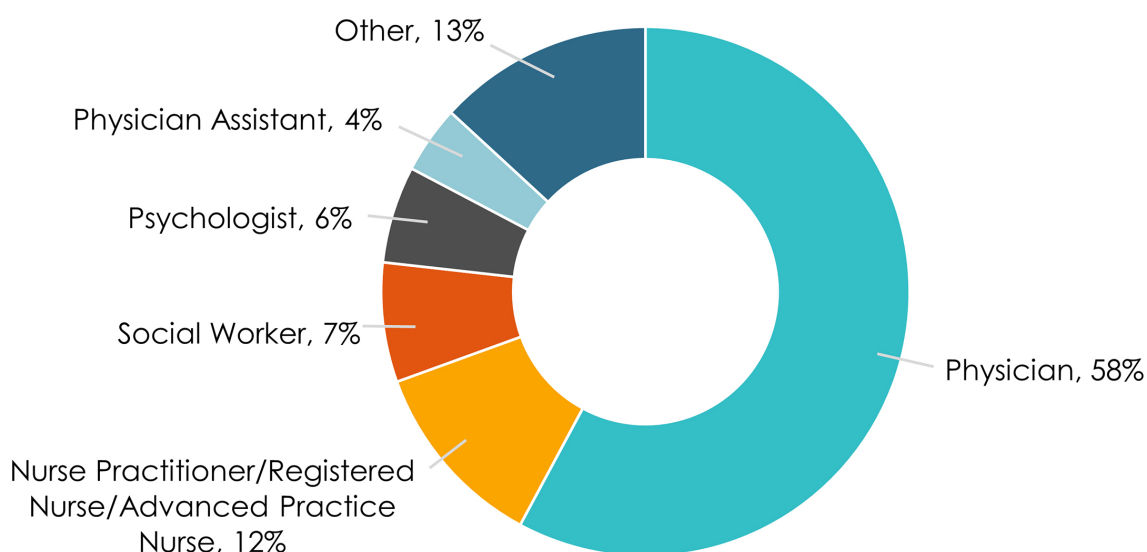
If the ACE score is 0, the patient is at "low risk" for toxic stress. The provider should offer education on the impact of ACEs and other adversities on health and development as well as on buffering factors and interventions. If the ACE score is 1-3 without ACE-Associated Health Conditions, the patient is at "intermediate risk" for toxic stress. If the ACE score is 1-3 and the patient has at least one ACE-associated condition, or if the ACE score is 4 or higher, the patient is at "high risk" for toxic stress. In both cases, the provider should offer education on how ACEs may lead to toxic stress and associated health conditions, as well as practices and interventions demonstrated to buffer the toxic stress response, such as sleep, exercise, nutrition, mindfulness, mental health, and healthy relationships. The provider should also assess for protective factors, jointly formulate a treatment plan, and link to supportive services and interventions, as appropriate.

**Figure 28a.** ACEs and toxic stress risk assessment algorithm for pediatrics. Of note, this was the algorithm as it existed at the time of publication; its most recent version can be found at [ACEsAware.org](https://www.acesaware.org). Reproduced with permission from ACEs Aware.<sup>86</sup>

The California Surgeon General's Clinical Advisory Subcommittee (CAS), which is composed of medical, behavioral health, and public health experts, adapted and added evidence-based content to a case-based curriculum originally developed by the Office of Women's Health of the United States Department of Health and Human Services. The two-hour training, *Becoming ACEs Aware in California*, which includes 11 common pediatric and adult primary care case studies, is available free to any provider online at [ACEsAware.org](https://www.acesaware.org), with free Continuing Medical Education (CME) and Maintenance of Certification (MOC) credits.<sup>1537</sup> It covers the impacts of ACEs and toxic stress on health and social outcomes, clinical scripts for introducing these concepts, a clinical algorithm to assess for risk of toxic stress (**Figures 28a and 28b**), and steps to create an appropriately tailored, strengths-oriented, and evidence-based treatment and follow-up plan.



**Figure 28b.** ACEs and toxic stress risk assessment algorithm for adults. Of note, this was the algorithm as it existed at the time of publication; its most recent version can be found at [ACEsAware.org](https://www.acesaware.org). Reproduced with permission from ACEs Aware.<sup>86</sup>

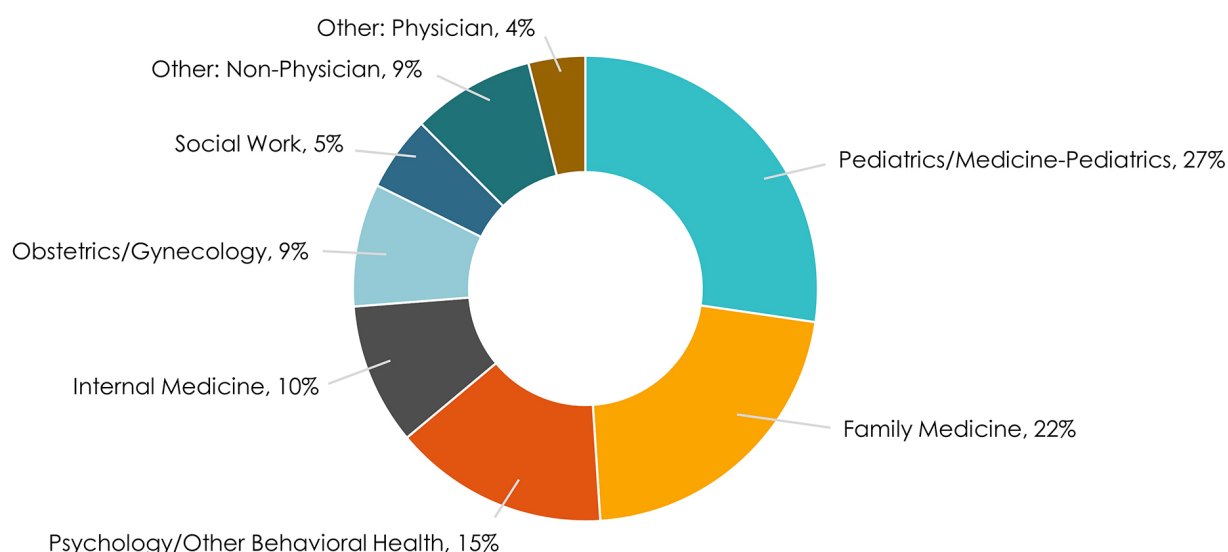


**Figure 29.** Trained providers by occupation/provider type.

Since January 1, 2020, eligible Medi-Cal providers have been able to receive an incentive payment when they screen Medi-Cal patients for ACEs.<sup>1538</sup> As of July 1, 2020, Medi-Cal providers are required to self-attest to completing a Certified Core Training to continue receiving this [Medi-Cal payment for ACE screenings](#).<sup>1538</sup> At the time of this publication, the two-hour online Becoming ACEs Aware in California was the only Core Training available, though several others are under development.

### ***Becoming ACEs Aware in California online training data***

In the first nine months of the project (December 4, 2019 through August 31, 2020), nearly 14,000 healthcare providers completed the Becoming ACEs Aware in California two-hour online training.<sup>1153</sup> Physicians make up 58% of those who have completed the training to date (**Figure 29**). Of all the healthcare providers who completed the training, 49% specialize in pediatric or family medicine (**Figure 30**). Of users who provided a National Provider Identifier, 86% are Medi-Cal providers. A [provider directory](#) can be found on the ACEs Aware website that represents the subset of the Medi-Cal providers who have attested to completing the training, and have opted in to being added to the public-facing directory. As of August 31, 2020, approximately 8,300 Medi-Cal providers have attested to training completion overall, and about half of them are listed in the directory.<sup>1153</sup>



**Figure 30.** Trained providers by clinical specialty.

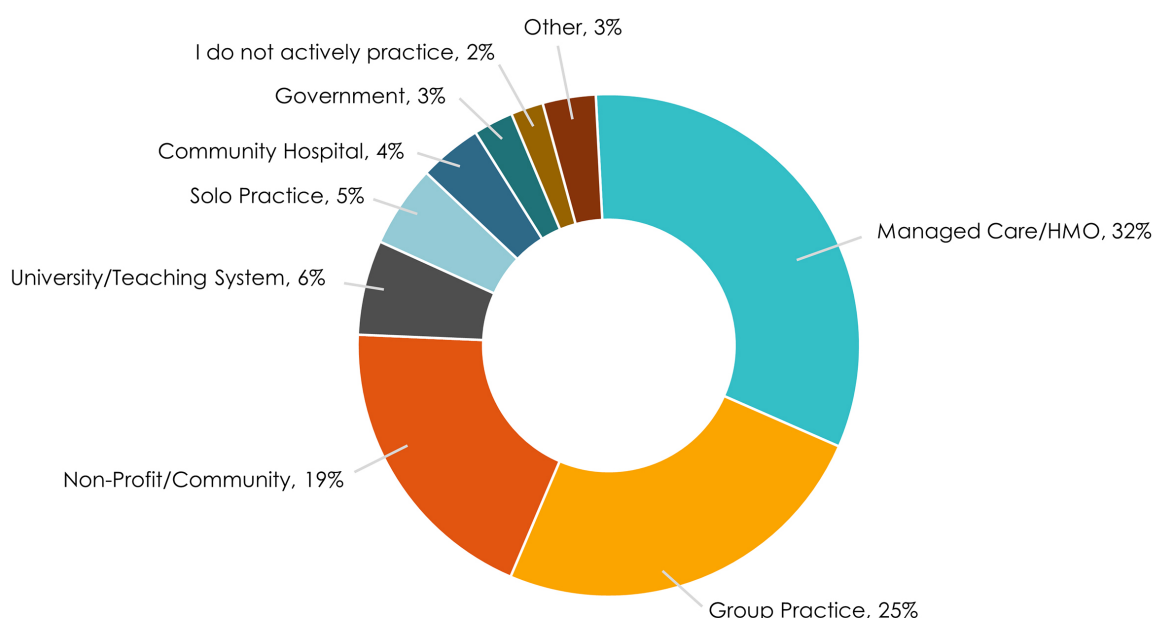
Nearly one-third (32%) of providers who completed the training are part of a managed care organization or health maintenance organization (HMO) provider network (**Figure 31**).

Before taking the training,

- 7% of providers reported screening all patients for ACEs;
- 64% reported they had been screening fewer than 25% of their patients for ACEs; and
- 35% reported they did not screen any patients for ACEs.

After taking the training,

- 97% reported that they planned to implement changes in their practice to address ACEs (**Figure 32**) or that their current practice was reinforced by the information presented—only 3% said they need more information before they would change their practice;
- 91% of providers reported confidence that they would be able to make practice changes;
- 54% reported that they planned to conduct routine ACE screenings for children adults; and

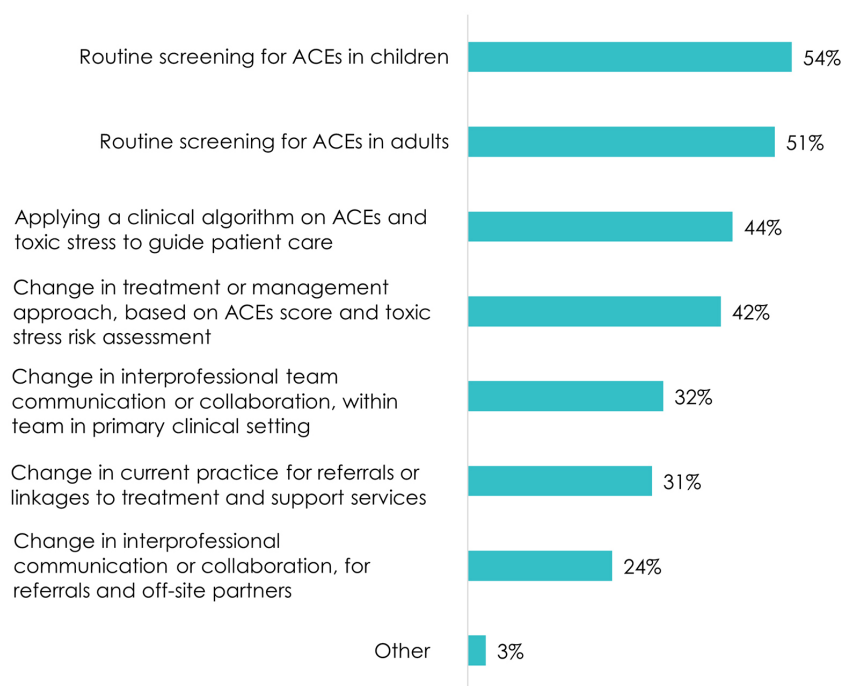


**Figure 31.** Trained providers by primary practice setting.

- 51% reported that they planned to conduct routine ACE screenings for adults.
- Of those who were not previously screening patients for ACEs, 81% indicated that they intended to implement routine ACE screening for children and/or adults.
- The most common anticipated barriers to implementing change included time constraints (71% of participants), systems constraints (32%), and patient compliance (30%).

## Screening tools

Compared to the substantial volume of published scientific literature on ACE exposure and the role of toxic stress in creating acute and long-term risk for poor health outcomes, fewer scientific works have been produced regarding specific screening tools, clinical methods and treatment algorithms;<sup>53,1539,1540</sup> therefore, the California Surgeon General convened the CAS team of subject matter experts and clinicians experienced in ACE screening to review the literature and develop recommendations in these domains. Their consensus recommendations for optimal [screening tools, clinical workflows, and ACEs and toxic stress risk assessment algorithms](#) provide the foundation for clinical guidance in the ACEs



**Figure 32.** *Types of intended practice change.*

#### Aware initiative.<sup>737</sup>

For pediatric ACE screening, the Trauma Screening Advisory Group submitted its recommendations in January 2019, including the Whole Child Assessment and the Pediatric ACEs and Related Life-Events Screener (PEARLS).<sup>1541</sup> For pediatrics, the DHCS and the CAS ultimately recommended the PEARLS, developed by the [Bay Area Research Consortium on Toxic Stress and Health \(BARC\)](#),<sup>1083</sup> as part of a randomized controlled trial evaluating the clinical utility of ACE screening, association of ACE scores with biomarkers of neuro-endocrine-immune-metabolic and genetic regulatory dysregulation, and treatment efficacy. This tool was selected because of the rigorous research framework under which it was developed and because it allows patients' answers to be de-identified, meaning that respondents can disclose the total number of ACE categories that apply rather than specifying which ones. According to early data from one large pediatric FQHC, randomization to a de-identified versus identified screen was associated with greater patient disclosure and comfort.<sup>1542</sup>

PEARLS includes age-appropriate questions on the 10 ACEs and seven to nine additional social determinants of health (SDOH), including community violence, food and housing insecurity, bullying, discrimination, and a caregiver's physical illness or death, which may be risk factors for toxic stress. (As noted in the ACEs and

toxic stress risk assessment algorithm, the SDOH questions should be addressed with appropriate services, but are not used in calculating a child's ACE score because the strengths of association between these SDOH and health outcomes have not been standardized in the ways that ACEs have been.) The PEARLS tool's initial development, face validation, and concurrent validation with a limited set of health outcomes are published;<sup>56,703</sup> more extensive validation and outcomes evaluation<sup>703</sup> are currently underway.

For adult patients, the CAS updated the original 10 ACE questions. As with PEARLS, both identified and de-identified formats are available in multiple languages on ACEsAware.org. Data on patient disclosure, and patient and provider preference for adult ACE screening tools is more mixed than in pediatrics.<sup>678,734</sup> These screening tools, the ACEs and toxic stress risk assessment algorithms, as well as patient education materials, are available for free at [ACEsAware.org](https://www.acesaware.org).<sup>743</sup>

Training healthcare providers on ACE screening is just a first step in addressing ACEs and toxic stress. Subsequent phases of the ACEs Aware initiative, discussed below, include more in-depth engagement of provider networks, promoting innovation, and iterating upon and spreading data-driven best practices.

## ACEs AWARE PHASE II: STRENGTHENING PROVIDER ENGAGEMENT AND CAPACITY

**ACEs Aware Phase II** focuses on key objectives 1, 3, 4, and 5. Phase II aims to support providers and build capacity to extend the reach and impact of the ACEs Aware initiative. This robust effort includes funding **ACEs Aware grants** for organizations to expand access to ACEs training, provider engagement, and communications opportunities; **monthly webinars** for deeper provider training and education; and **external stakeholder engagement** to elicit information on promising models, best practices, evolving science, clinical expertise, and strategies for the implementation of coordinated trauma-informed care systems in California.

### Provider engagement—ACEs Aware grants

Early detection and intervention for ACEs and toxic stress among all patients is critical to preventing and mitigating the negative health effects of the toxic stress response. Because this broad clinical approach is relatively new for many healthcare organizations, it is critical to offer grants to support providers and build their capacity to assess for and respond to toxic stress, using a clinical assessment that combines the ACE score with the presence and extent of AAHCs and protective factors.

In January 2020, ACEs Aware sent out a request for proposals for **grants** to fund

organizations to support awareness and capacity building to respond to ACEs and toxic stress. Funding was offered in three key areas: **provider training**, **provider engagement**, and **communications**, as described below. Overall, 274 proposals were submitted, and \$14.3 million was awarded in the form of 150 ACEs Aware grants to 100 organizations. (ACEs Aware also initially intended to provide convenings grants to foster collaboration across healthcare systems and community organizations to build local networks of care, but these grants were eliminated or repurposed due to physical distancing requirements imposed to address the coronavirus disease 2019, COVID-19, pandemic.)

Organizations were given preference for funding awards if they had a history of working with providers that serve Medi-Cal beneficiaries, demonstrated organizational readiness to leverage those partnerships in promoting the importance of ACE screening and response, and had plans for reaching communities with higher prevalence of ACEs. The selection process also accounted for the prevalence of ACEs and proportion of Medi-Cal beneficiaries among the populations served by the applicants in order to effectively target funding. Reviewers ensured that grantees represented a diverse range of approaches, organizations, populations served, and geographic regions. Organizations were strongly encouraged to collaborate and develop joint grant applications. The ACEs Aware website features the full [list of grantees](#).<sup>1543</sup>

Throughout the grant period—from July 2020 through June 2021—ACEs Aware grantees will work individually and collectively to advance the goals of the ACEs Aware initiative. Grantees meet regularly (virtually) in large and small groups, focused on particular areas of interest, sharing strategies and best practices, and troubleshooting when necessary. Grantees are required to submit quarterly reports, including quantitative data on their activities and progress, as well as a midpoint and a final narrative report highlighting successes and lessons learned.

Finally, ACEs Aware has engaged the [Frameworks Institute](#), an internationally renowned organization with experience in using the science of framing to develop effective communication to spark change for a wide range of social issues.<sup>1544</sup> The Institute is charged to work with all ACEs Aware grantees to build capacity, offer technical support, and develop consistent and effective messaging on ACEs and toxic stress that is grounded in the latest science.

### **Provider training grants**

ACEs Aware awarded 31 grants to help educate Medi-Cal providers on using ACE screening (including assessment for the presence of AAHCs and protective factors) as a component of toxic stress risk assessment, providing trauma-informed care, and delivering evidence-based treatment plans to aim to mitigate the toxic stress

response. These trainings seek to build upon the original ACEs Aware training by providing further guidance for specific provider types, contexts, and/or in a variety of modalities.

- Five grants are supporting organizations to adapt existing or develop new trainings to meet ACEs Aware Core Training Certification criteria (**Table 10**). (Completing a Core Training certifies providers to receive the Medi-Cal payment for screening beneficiaries for ACEs.)
- Twenty-six organizations received grants to support the development of “Supplemental” trainings on key topics that augment the information provided through the Core Trainings. While these trainings do not qualify participants for Medi-Cal payment for ACE screening, they are designed to provide additional support to providers in promoting practice change. Supplemental training grants include resources for training members of the care team other than the primary care provider, such as social workers, mental health professionals, community health workers, or home visitors, and for addressing ACEs in specific patient populations, such as lesbian, gay, bisexual, transgender, and queer individuals, tribal communities, and communities of color.

Training topics required in core training curricula
Trauma-informed care principles
Information on ACEs and toxic stress physiology
Clinical algorithms to address the role of toxic stress in ACE-Associated Health Conditions
Guidance for tailoring treatment and follow-up for specific kinds of conditions or symptoms
Tools and interventions to promote resilience
Preventing, recognizing, and responding to vicarious trauma and burnout among staff
Information on how providers can participate in ACEs Aware
Guidance on how trauma-informed approaches can mitigate health inequities

**Table 10.** Training topics required in core training curricula.

### **Provider engagement grants**

Eighty-three grants have been awarded to supplement and promote provider engagement. These grants feature opportunities for providers and other stakeholders to share lessons learned and best practices that are tailored to specific geographic areas, patient populations, provider types, and practice settings.

- 22 organizations will conduct provider engagement to build appropriate clinical response networks of care in preventing and/or responding to toxic stress;
- 25 organizations will develop peer-to-peer learning strategies;
- 24 organizations will enable broad-based provider engagement; and
- 22 organizations will develop practice papers highlighting best practices, lessons learned, and promising implementation strategies around screening for ACEs as a component of toxic stress risk assessment, and trauma-informed systems of care.

### **Communications grants**

ACEs Aware has awarded 36 grants to support strategic communications efforts and to promote the work of fellow grantees. These grantees are working to disseminate information on provider training and engagement opportunities, and to increase awareness about the mission and scope of the overall initiative. Organizations will use a wide range of communication approaches to share ACEs Aware information, as well as their own content tailored to their audiences.

### **Network of Care grants**

On December 1, 2020, ACEs Aware announced availability of a second round of grant funds of up to \$30 million intended to build on and grow a robust system—a Network of Care—to support Medi-Cal providers and their communities in effectively responding to ACEs and implementing protocols for interrupting the toxic stress response in children and adults. The objective of these “Network of Care” grants is to create, augment, and sustain formal connections between Medi-Cal providers, social service systems, and community partners to effectively address toxic stress in children and adults through clinical and community interventions following an ACE screening, to prevent future ACEs, toxic stress, and intergenerational transmission, and prevent or assist in treating AAHCs.

Two types of grants will be provided:

- Network of Care Planning Grants (up to \$300,000 per grant)
- Network of Care Implementation Grants (up to \$3,000,000 per grant).

## Provider engagement—monthly webinars

Beginning in December 2019, ACEs Aware has hosted [monthly webinars](#) to promote ongoing practice improvement and clinical implementation learnings among California providers (with a focus on those serving Medi-Cal patients) around adopting ACE screenings as a tool for assessing and intervening on risk of toxic stress and providing trauma-informed, evidence-based care.<sup>1545</sup> The webinars feature clinicians with deep expertise in these topics who share practical information with rich implementation lessons, often drawing on clinical experience and case studies. Topics have included:

- *Taking Care of Our Patients, Our Teams, and Ourselves: Trauma-Informed Practices to Address Stress Related to COVID-19*
- *Building Trauma-Informed Connections via Telehealth during COVID-19*
- *Primary Care & Telehealth Strategies for Addressing the Secondary Health Effects of COVID-19*
- *Fundamentals of ACE Screening & Response in Pediatrics*
- *Fundamentals of ACE Screening & Response in Adult Medicine*
- *Regulating the Stress Response for Kids: Practical Tips for Primary Care Providers*
- *Assessing Readiness & Building Resilience in the Clinical Workforce: A Foundation for ACE Screening Integration*
- *Supporting Patients during Pregnancy: ACEs and Maternal Health*

Information on [upcoming topics and registration](#) can be found on the ACEs Aware website.<sup>1545</sup> CME credit is now offered for the webinars.

## Provider engagement—external stakeholder engagement

The ACEs Aware initiative considers strategic engagement with external stakeholders and leaders a key guiding framework for its work.

### **The Trauma-Informed Primary Care Implementation Advisory Committee (TIPC)**

The **TIPC** advises ACEs Aware on promising models, best practices, clinical-, systems-, and policy- expertise, strategic insights, and the latest science, for optimal implementation of toxic stress-responsive and trauma-informed systems in California. The TIPC is comprised of field-leading experts, including representatives of major healthcare plans, health systems, philanthropic associations, nonprofits, local government associations, professional provider associations, and subject matter experts (see [TIPC MEMBER ORGANIZATIONS](#)). The TIPC advises on promising models, best practices, evolving science, clinical expertise, and strategy for the

implementation of trauma-informed care systems in California.

The TIPC met in June of 2019 and set 10 short-term goals:

1. Develop and implement a robust training plan for a broad group of healthcare providers and staff that includes the standardization and attainment of Continuing Medical Education (CME).
2. Identify the process for including CME in provider trainings and establish a subcommittee with key stakeholders and members to oversee the implementation of this training plan.
3. Collaborate with healthcare professional organizations to leverage existing resources to offer and disseminate provider trainings.
4. Identify and disseminate strategies, protocols, and best practices to support ACEs screening. Share assessments with stakeholders in order to

#### TIPC MEMBER ORGANIZATIONS

- |   |  |
|---|--|
| > American Academy of Pediatrics                        | > California Maternal Quality Care Collaborative     |
| > Anthem Blue Cross                                     | > California Medical Association                     |
| > Blue Shield of California                             | > California Pan-Ethnic Health Network               |
| > Blue Shield of California Foundation                  | > California Primary Care Association                |
| > California Academy of Family Physicians               | > California State Association of Counties           |
| > California Behavioral Health Directors Association    | > Californians for Safety and Justice                |
| > California Conference of Local Health Officers        | > Center for Youth Wellness                          |
| > California Department of Public Health                | > County Health Executives Association of California |
| > California Department of Social Services              | > County Welfare Directors Association of California |
| > The California Endowment                              | > Didi Hirsch Mental Health Services                 |
| > California Governor's Office of Planning and Research | > First 5 California                                 |
| > California Health and Human Services Agency           | > Kaiser Permanente                                  |
| > California Health Care Foundation                     | > L.A. Care Health Plan                              |
|   | > The Permanente Medical Group                       |
|   | > Sutter Health                                      |
|   | > University of California, San Francisco            |

advance our learning.

5. Identify and engage state leadership to support data-driven strategies. Establish systems to monitor and track shared metrics across populations.
6. Establish a shared understanding of community vision and culture of collaboration between health plans, organizations and clinics.
7. Develop a plan to break the intergenerational ACEs cycle that includes appropriate parenting resources and high-tech/high-touch best practices for serving families.
8. Develop and implement a statewide education campaign to raise the public's awareness about ACEs and toxic stress. Develop resource toolkit(s) for diverse audiences.
9. Establish minimum requirements for early periodic screening, diagnosis, and treatment supports that are evidence-based and inclusive of early response efforts.
10. Develop a plan to identify community-based resources and a funding stream to facilitate the adoption of the Health Homes model for children that includes early intervention. Support efforts to establish and sustain public and private partnerships in order to catalyze this work.

In addition to the full committee, the following subcommittees were created to address specific needs:

- **The Clinical Advisory Subcommittee** developed the online training curriculum to certify Medi-Cal providers to receive payment for screening patients for ACEs, and related clinical tools in Fall 2019.
- **The Clinical Implementation Subcommittee** provides input and clinical expertise on developing guidance and tools to help providers: better understand toxic stress physiology and AAHCs; implement ACE screenings to identify risk of toxic stress, evidence-based interventions, and trauma-informed care; and, reduce health disparities. Key areas of focus include practical implementation strategies such as electronic health record integration, advancement of health equity, and continuous review and incorporation of the latest research into ACEs Aware.
- **The Network of Care Subcommittee** will recommend a roadmap for improving collaboration and coordination across the healthcare and community resources necessary to respond to toxic stress—between health plans, health centers, clinicians, and clinical and community organizations. The Network of Care Roadmap, planned for release in December, 2020, will:
  - » Identify key stakeholders and elements in a cross-sector network of care;

- » Clarify the roles of primary care providers and other stakeholders;
- » Describe the importance of buffering supports and coordination among providers and key resources; and
- » Provide considerations for policy and implementation.
- **The Provider Engagement and Education Subcommittee** provides strategic advice on increasing the number of providers who complete an ACEs Aware Core Training and supporting providers in integrating ACE screening and clinical response into their practice. To date, the subcommittee has provided valuable input on:
  - » Communications to increase provider training numbers;
  - » Provider webinar strategy, format, and topics;
  - » ACEs Aware COVID-19 response strategy, EHR strategy, and managed care strategy; and
  - » The forthcoming ACE Screening Implementation Guide for providers.

### ACEs Aware managed care plan engagement strategy

In addition to incorporating the input and work of TIPC, its subcommittees, and its member organizations, ACEs Aware is coordinating with managed care plans (MCPs) to enlist their partnership in engaging providers in screening for ACEs and toxic stress. Because approximately 80% of Medi-Cal beneficiaries are enrolled in a Medi-Cal MCP, ACEs Aware recognizes the crucial role MCPs can play in implementing a novel clinical screening effort at scale. In a recent survey of MCP Chief Medical Officers and Medical Directors (with 21 out of 24 responding), 96% said they are engaging with the ACEs Aware initiative and have visited the ACEs Aware website; 87% have communicated with their network of providers about ACEs Aware; 96% have communicated with other staff (case managers, behavioral health providers, and social workers) about ACEs and toxic stress training and/or other resources; and 36% have faced some challenges around updating and configuring health plan information technology or claims systems to reimburse providers for the ACE screening codes.

The goals of the ACEs Aware MCP Engagement Strategy are to ensure that MCPs are encouraging and implementing ACE screening and response among Medi-Cal providers, and to leverage MCP relationships with providers to expand ACE training, screening, and response among Medi-Cal providers. Objectives include ensuring that MCPs and delegated entities understand how to implement and oversee ACE screening, billing, and payment; have the resources and tools to support primary care providers and teams; and develop the internal infrastructure to support primary care providers in implementing ACE screening and response.

ACEs Aware conducted a “nuts and bolts” webinar for MCPs in September 2020. Going forward, the initiative will continue to: engage with delegated entities to identify any additional needs in the managed care ecosystem; develop a robust communications infrastructure to reach plan and delegated-entity staff at multiple levels; conduct quarterly webinars focused on the key implementation supports MCPs have requested and peer-to-peer learning; solicit commitments from MCPs to promote provider Core Training and screening for ACEs as a tool for recognizing risk of toxic stress in primary care; and, leverage quarterly data reports and the provider directory to inform engagement strategy.

## ACEs AWARE PHASE III: QUALITY IMPROVEMENT

ACEs Aware Phase III focuses mainly on objective 5, though it aids in the others. The aim of Phase III is to identify and spread best practices and strategies for addressing ACEs and toxic stress in healthcare settings through data-driven quality improvement (QI) efforts. The main mechanism is the California ACEs Learning and Quality Improvement Collaborative (CALQIC), which will generate both qualitative and quantitative data on best practices in ACEs screening and response from 53 clinics in seven California regions over 18 months.

### What is QI in healthcare?

The [Institute for Healthcare Improvement \(IHI\)](#) defines the science of improvement as “an applied science that emphasizes innovation, rapid-cycle testing in the field, and spread in order to generate learning about what changes, in which contexts, produce improvements.”<sup>1546</sup> QI methods and tools are used to develop innovations on a small scale, identify and leverage key implementation learnings, and scale up and spread them across healthcare systems. One key goal of ACEs Aware is to improve the quality of care received by patients who have experienced ACEs or may be at risk of toxic stress. CALQIC employs implementation science techniques,<sup>1547</sup> including both QI and deeper qualitative inquiry methodologies, to provide the most robust learnings.

### Prior success of collaborative QI efforts in California

California has successfully undertaken large public-private collaborative QI efforts at scale that have been extremely effective. Examples include the [California Maternal Quality Care Collaborative](#)<sup>1548</sup> and the [California Perinatal Quality Care Collaborative](#)<sup>1549</sup> (CMQCC and CPQCC, respectively). While these collaboratives are different from CALQIC in that both are hospital-based, they illustrate the power of well-funded, public-private, statewide collaborative approaches to achieve rigorous, systematic QI in healthcare in the state of California.

## CMQCC

The CMQCC includes more than 200 California hospitals covering 95% of all births in the state. It addresses the leading causes of preventable death among pregnant and postpartum women through development and spread of best practices using QI toolkits containing tools and articles, care guidelines, hospital-level implementation guides, and professional education materials. Since implementation of the CMQCC, maternal mortality in California has declined by 55% between 2006 and 2014 (while the national rate continued to rise), saving 9.6 lives per 100,000 through this concerted effort.<sup>1548</sup>

The collaborative has also made significant gains in reducing disparities in maternal morbidity and mortality. For example, 99 hospitals participating in a hemorrhage QI collaborative saw a significant reduction in the gap between Black and White maternal mortality due to severe maternal morbidity from hemorrhage. Before the collaborative, the mortality rate among women with hemorrhage was 22.1% (12,002/54,311), with the highest rate observed among Black women (28.6%; 973/3,404), and the lowest among White women (19.8%; 3,124/15,775). The overall rate fell to 18.5% (3,553/19,165) in the post-intervention period. Both Black and White mothers benefited from the intervention, but the benefit among Black women exceeded that among White women (9.0% vs. 2.1% absolute rate reduction).<sup>1550</sup>

## CPQCC

The CPQCC, founded in 1999, established a database that houses critical data on more than 95% of all low-birth-weight deliveries in California. This has allowed the development of data-driven QI efforts, which assisted in significantly reducing catheter-associated infections by 75%, antibiotic utilization by 13.8%, and length of separation between mothers and pre-term babies by an average of three days. It also increased early discharge from 32% to 42% and breastfeeding at discharge from 54% to 64%.<sup>1549</sup>

These large-scale efforts are blueprints for public-private QI processes for advancing best clinical practices to address ACEs and toxic stress. CALQIC adapts and adds to the known QI approaches described above. Systems for data gathering, evaluation, dissemination, and continuous quality improvement, similar to models like the CMQCC and the CPQCC, are crucial to the success of any broad-scale learning collaboratives like CALQIC. CALQIC's goal is to provide a structure for rapid learning regarding processes of care and a structure for a deeper qualitative understanding of necessary elements of practice transformation and optimal relational aspects of care. This public-private QI network aims to drive similar successes as CMQCC and CPQCC at scale for intervening in and stemming the

health crisis of ACEs and toxic stress.

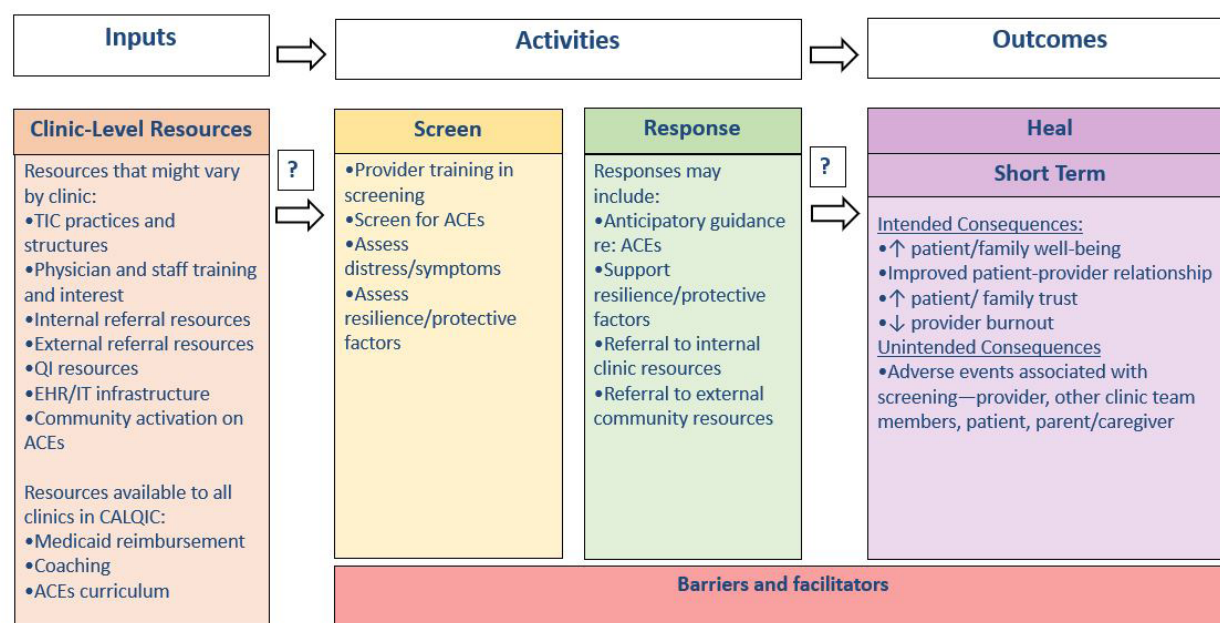
### **California ACEs Learning and Quality Improvement Collaborative**

To advance healing approaches to screening and responding to ACEs and toxic stress, CALQIC was created as a collaboration between by the University of California, San Francisco (UCSF), CA-OSG, and DHCS. CALQIC is an 18-month public-private learning collaborative of 53 clinics in seven diverse California regions dedicated to identifying promising clinical practices, tools, resources, and partnerships in responding to ACEs and toxic stress to inform future implementation phases of California's ACEs Aware initiative. CALQIC supports participating clinics to:

- Identify and overcome barriers to ACE screening and response at both the site and organizational levels;
- Develop or strengthen models of care and tools for operationalizing ACE screening and response (i.e., clinical roles, workflows, and scripts);
- Align clinical efforts with the statewide initiative, ACEs Aware, which is working to ensure providers are credentialed, use approved screening tools, and bill using appropriate codes;
- Advance health equity;
- Collect and track data to assess progress in ACE screening and response; and
- Identify and respond to any potential adverse events associated with ACE screening.

Participating clinics receive virtual coaching, technical assistance, site visits to exemplar organizations, and grants. All 53 learning collaborative clinics participate in qualitative and quantitative evaluation activities. CALQIC also includes two “deep dive” evaluations in urban and rural counties to focus on how clinic- and provider-level characteristics and resources affect screening and response for toxic stress, and patient experience (**Figure 33**). In the context of the COVID-19 pandemic and the ongoing California wildfires, CALQIC is also capturing the experiences of screening for and responding to toxic stress for patients experiencing acute on chronic adversity. CALQIC's evaluation will extend the use of telehealth for screening and responding to ACEs, due to changes in care delivery in response to the COVID-19 pandemic.

CALQIC is led by the Center to Advance Trauma-Informed Health Care at UCSF, experts with deep experience in trauma and adversity, implementation science, and health equity. Serving as partners are the RAND Corporation, which is the preeminent California-based nonprofit focused on the evaluation of healthcare innovation, and the Center for Care Innovations, which is the leading California-



**Figure 33.** California ACEs Learning and Quality Improvement Collaborative (CALQIC) logic model for evaluation. Image reproduced with permission from the University of California, San Francisco, Center to Advance Trauma-Informed Health Care (2019); CALQIC.

Each arrow is an if-then statement, and the goal of the evaluation is to capture the elements in each column to better understand the relationships between each. It is assumed that screening and referral will vary by clinic—according to variations in inputs, or in relationship to variations in other activities. The quantitative assessments of screening success and referral variations, paired with qualitative information on clinic-level resources and capabilities, will be used to better understand the barriers to and facilitators of ACEs screening, and effective potential solutions to address the barriers.

based convener of learning collaboratives focused on healthcare innovations for low-income Medicaid populations. Together, these organizations are applying the science of QI, coupled with qualitative methods, to identify, evaluate, and disseminate facilitators, strategies, and promising practices among the participating clinics.

CALQIC also includes an intentional focus on adverse events (any harms or unintended consequences encountered during or after ACE screening and response). Because potential harms of ACE screening have been speculated on, but have not been well documented or described, the first goal is to rigorously assess any potential harms associated with screening. In addition, CALQIC qualitative interviews will elicit the experience of adverse events from providers, others performing the screening, and patients and parents. CALQIC anticipates that it will use this information to inform a pilot system to collect adverse events

in at least one of its “deep dive” evaluation sites. Ultimately, this work could inform a potential future system to collect adverse events, analogous in principle to the federal [Vaccine Adverse Event Reporting System](#), a safety surveillance program co-sponsored by the Food and Drug Administration and the Centers for Disease Control and Prevention.<sup>1551</sup>

The project also integrates health equity and patient/community voice into all aspects and activities of the project team, training of participating clinicians, and development of best practices for the next phases of training of healthcare providers. Ultimately, the lessons learned in CALQIC will inform best practices in ACE screening and response, help avoid unintended harms, and guide future implementation efforts in other clinics and health systems throughout California and nationally.