

# PART IV

## What Lies Ahead



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

# ACEs Aware Phase IV: Evaluation

Adverse Childhood Experiences (ACEs) and toxic stress are major root causes (drivers) of multiple short- and long-term negative health and well-being outcomes among children and adults in California. Implementation of the statewide ACEs Aware initiative, starting with provider training towards the comprehensive integration of ACEs and toxic stress screening and treatment into existing healthcare systems, and partnered with enhanced allied cross-sector efforts, is a key first step towards achieving the overarching goal of cutting ACEs and toxic stress in half within a generation.

Given that the ACEs Aware initiative represents the first statewide ACEs and toxic stress screening and treatment program of this scale, a strong evaluation plan is an integral part of ensuring continuous quality improvement (QI), assessing program effectiveness, and generating implementation lessons. The evaluation

## KEY OBJECTIVES OF THE ACES AWARE INITIATIVE

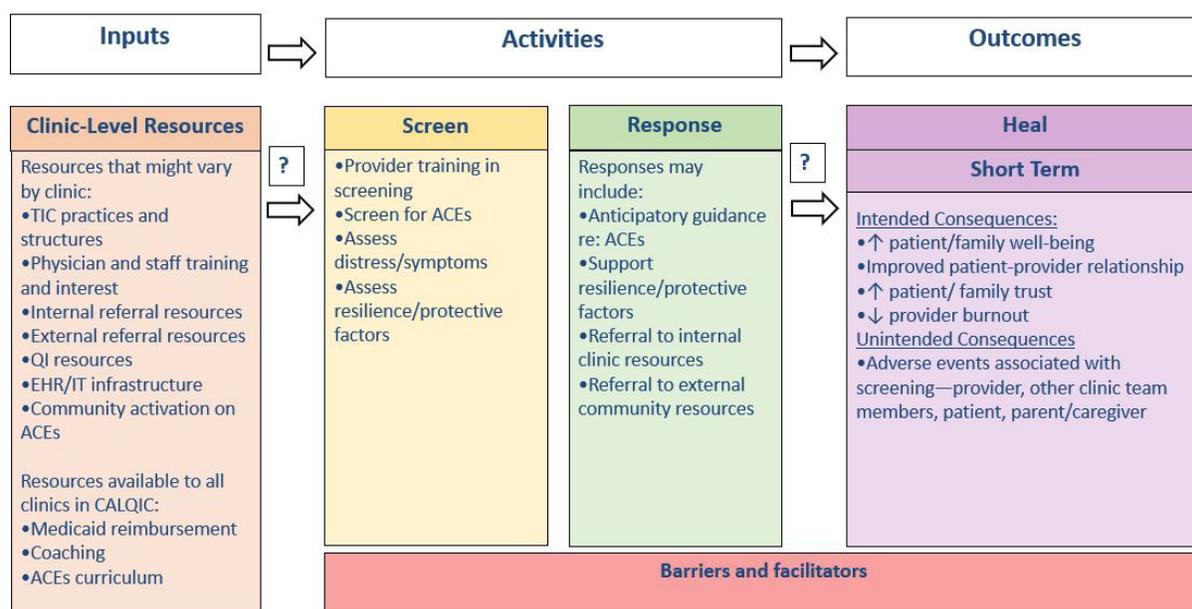
1. To inform and empower primary care clinicians with the latest evidence on how to recognize, address, and prevent ACEs and toxic stress.
2. To incentivize early detection and early intervention for toxic stress by reimbursing providers for screening for ACEs, which includes assessing for the triad 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.

plan has three components:

1. Collection (already ongoing) of key clinic, provider, and patient-level outcomes related to optimal clinical response to risk of toxic stress, by the California ACEs Learning and Quality Improvement Collaborative (CALQIC);
2. Quarterly internal tracking (already ongoing) of provider screening efforts by the California Department of Health Care Services (DHCS) and the Office of the California Surgeon General (CA-OSG); and
3. A future external evaluation (planned but not yet funded) that independently assesses overall systems-level changes in healthcare outcomes, utilization, and costs, by combining inputs from the two efforts listed above, plus supplemental administrative data.

In the short term, CALQIC is providing training and technical assistance for 18 months to a subset of regional healthcare systems, including 53 clinical systems and their providers in seven regions across the state. As part of this QI effort, CALQIC will be collecting and tracking detailed process data on patient and family health and well-being, patient-provider relationships, patient and family trust, provider burnout, and unintended adverse events associated with screening (for details, see **The ACEs Aware Initiative** in Part III). 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. 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. The external statewide evaluation of the ACEs Aware initiative will build upon and incorporate many of the process and outcomes indicators and data collection tools from CALQIC.

Evaluation efforts will be guided by the CALQIC Logic Model for Evaluation (**Figure 36**). Each arrow in the Figure represents an if-then statement. The goal of the evaluation is to capture the elements in each column to better understand the relationships between them. Screening and referral will vary by clinic according to variations in inputs, or in relationship to variations in other activities. Indicators of activities to be tracked include the screening rates and the rates of internal and external referrals by ACE score resulting in appointments. The quantitative assessments of screening implementation and referral variations, paired with qualitative information regarding clinic-level resources and capabilities, will be used to better understand the barriers to and facilitators of ACEs screening, and to



**Figure 36.** 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.

identify effective potential solutions to address the barriers. Outcomes assessed by clinic and patient characteristics will include: patient/family health and well-being, patient-provider relationship trust, patient perceptions of helpfulness of referrals, and provider burnout, as well as unintended consequences.

As part of the second evaluation component, Medi-Cal claims data is being collected and reported quarterly by DHCS and CA-OSG, to include systems-level information about all Medi-Cal providers who are screening and responding to ACEs in primary care. This will include a tabulation of total ACE screenings and stratification by relevant patient and healthcare-setting characteristics, such as stratification of patient results by high-risk or low-risk screens and by provider type, delivery system, and region. Specifically, the DHCS quarterly ACEs Aware Medi-Cal Claims report will stratify these results by procedure code, high-risk screens (HCPCS code G9919) and low-risk screens (G9920). Other data reported will include:

- Total ACE screening visits
- ACE screenings by age of beneficiary
- ACE screenings by sex of beneficiary
- ACE screenings by age and sex
- ACE screenings by ethnicity of beneficiary

- ACE screenings by delivery system
- ACE screenings by California region
- ACE screenings by provider type
- ACE screenings by physician specialty
- ACE screening rate for each Medi-Cal managed care plan

The ACEs Aware initiative will continue to collect and report data on the numbers and types of providers who have taken an ACEs Aware Core Training. In the future, it may also be possible to assess the extent to which particular screening results are associated with specific types of referrals and clinical interventions.

The overall purposes of the external ACEs Aware initiative evaluation are to assess the statewide implementation of ACEs/toxic stress screening and response for Medi-Cal recipients and the resultant changes in healthcare systems, and to document the impacts on utilization of healthcare and other services, related health outcomes (e.g. rates and severity of ACE-Associated Health Conditions, AAHCs), and potentially, associated systems-level cost consequences (i.e., related to AAHCs). An evaluation team, consisting of members of state agencies, contractors, healthcare systems, and subject matter experts, is planned to coordinate the overall evaluation strategy and integrate these efforts across the three evaluation components. A **three-year** time frame has been established for this external evaluation to allow sufficient time for at least short-term AAHCs to be monitored.

The evaluation team will create an updated Logic Model to focus on wider practice and outcome questions, with sub-models to document the multiple inputs, activities, and outcomes, highlighting the potential wider systems-level changes and outcomes across all sites serving Medi-Cal beneficiaries statewide (not just the CALQIC sites). The Logic Model will incorporate the full scope of the evaluation of the statewide ACEs Aware initiative and identify a series of overarching evaluation questions. Based on the Logic Model and related evaluation questions, key indicators (and existing and new data sources for these indicators) will be identified. Implementation of the evaluation plan, including data collection, analysis, and iterative QI efforts based on findings, will include closely monitoring process and outcome indicators and producing regular evaluation reports.

The following process evaluation questions could be assessed by an external evaluation plan that combines inputs from CALQIC, DHCS, CA-OSG, and other administrative sources:

- What was the overall feasibility or practicality of implementing ACEs/toxic stress screening and response in primary care with engagement of cross-

sector response networks?

- What was the scope and reach of program uptake and implementation, including documentation of implementation and timelines across sites (e.g., degree and nature of implementation activities)?
- What systems and organizational policy and practice changes were implemented?
- What organizational and clinical challenges were encountered, and what solutions were developed?
- What was the practitioner and client experience like (e.g., acceptability of screening, stigma)?
- What were the impacts of the program, both intended and unintended? How can the unintended consequences be minimized?

The following outcome evaluation questions are intended to be addressed as well, comparing screened clients by ACE score/toxic stress risk status and with unscreened clients over time:

- What was the incidence and prevalence of ACEs (and toxic stress risk level) by program site and client factors (e.g., ACEs score/risks identified, demographic characteristics)?
- What types of referrals were made and completed?
- What healthcare utilization patterns/changes took place (e.g., changes in usage of emergency services, mental/behavioral healthcare, community resources, and specialty care)?
- What differences were seen by seen in frequency, severity, and mortality related to AAHCs, by screening status, ACEs score, and/or toxic stress risk?

Cost-effectiveness and cost-benefit analyses should also be conducted once program and utilization services costs are documented, including associated impacts on rates of health outcomes (patient and program benefits) and service utilization trends.

Because the ACEs Aware initiative involves implementation of clinical and systems-level interventions for ACEs and toxic stress, a mixed-methods (quantitative and qualitative) quasi-experimental study design should be used for tracking implementation processes, systems changes and outcomes (both intended and unintended). The rationale for this approach to evaluation in this large-scale field application is based on the voluntary nature of the participation of organizations/clinics, professionals, and patients. In this situation, there is no random assignment of sites or patients to receive or not receive ACEs and toxic stress screening and

response interventions, so strong causal interpretations of the results would not be valid. The primary limitation of this design is that alternative explanations for all the findings cannot be easily ruled out, due to both potential selection bias in those who choose to participate (or not) and unmeasured or confounding historical or other factors.

A thoughtful evaluation strategy to address these limitations should combine data from a rigorous qualitative assessment with tracking data from the detailed quantitative indicators. The qualitative evaluation component will be especially critical to document both the policy and system changes in healthcare and their ancillary wrap-around support systems. The consultant evaluation team should include strong subject matter expertise in qualitative data analyses, as well as in healthcare policy and financial analyses. Data-collection methods should include interviews of major stakeholders and policy analyses of systems challenges and changes. An important aspect of this component will be to capture and describe the contextual and qualitative differences in clinical implementation across sites, and attempt to distill and disseminate best practices that promote optimal health and social outcomes.

Documentation and analysis of the extent of program implementation at each system/site to test for dose-response impacts is also planned. The primary quantitative data source for the statewide assessment of ACEs/toxic stress screening and treatment implementation and healthcare utilization will be Medi-Cal claims data over time. At the patient level, pre- and post-intervention assessment time frames will be used (e.g., six months to one year prior to screening and one to three years after) to track service utilization over time among those screened for ACEs and toxic stress (by toxic stress risk category). De-identified aggregate data sets of screened patients will be created and matched with aggregate control group data for further comparison analyses. Using these aggregate data, referral and treatment service claims data will also be identified and tracked, including:

- Use of Centers for Medicare and Medicaid Services (CMS) core indicators (and any unique California standards);
- Within healthcare systems and sites: diagnosis codes; further screening and/or work-up codes; treatment and referral codes; case management codes; and total claims and related costs incurred; and
- Internal and external referrals and services used, tracked by the above systems indicators, where available.

For the quantitative evaluation, three types of comparison conditions could be used: 1) use of statewide Medi-Cal claims service usage data as baseline; 2) use of clinical practice and service utilization data at each implementation system or

site and, when possible, at (selected or comparable) non-implementation sites; and 3) early adopters versus late adopters (comparing pre- and post-intervention outcomes).

For the selected AAHCs to be tracked, a similar set of indicators will be used, including the CMS core (and any unique California standard) indicators, with the status of each condition measured at baseline before the first ACE screening and for comparison groups, including prior treatment patterns (e.g., treatment services, prescriptions, emergency department visits, and hospitalizations), and overall claims and costs, at standard follow-up time periods (e.g., six months or annually) for screened and comparison groups.