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# Clinician and Staff Perspectives on Implementing Adverse Childhood Experience (ACE) Screening in Los Angeles County Pediatric Clinics

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## ABSTRACT

**PURPOSE** To understand clinician and clinical staff perspectives on the implementation of routine Adverse Childhood Experience (ACE) screening in pediatric primary care.

**METHODS** We conducted a qualitative evaluation in 5 clinics in Los Angeles County, California, using 2 rounds of focus group discussions: during an early phase of the initiative, and 7 months later. In the first round, we conducted 14 focus group discussions with 67 participants. In the second round, we conducted 12 focus group discussions with 58 participants. Participants comprised clinic staff involved in ACE screening, including frontline staff that administer the screening, medical clinicians that use screening to counsel patients and make referrals, and psychosocial support staff who may receive referrals.

**RESULTS** Themes were grouped into 3 categories: (1) screening acceptability and perceived utility, (2) implementation and quality improvement, and (3) effects of screening on patients and clinicians. Regarding screening acceptability and perceived utility, clinicians generally considered ACE screening to be acceptable and useful. In terms of implementation and quality improvement, significant barriers included: insufficient time for screening and response, insufficient training, and lack of clarity about referral networks and resources that could be offered to patients. Lastly, regarding effects of screening, clinicians expressed that ACE screening helped elicit important patient information and build trust with patients. Further, no adverse events were reported from screening.

**CONCLUSIONS** Clinic staff felt ACE screening was feasible, acceptable, and beneficial within pediatric care settings to improve trauma-informed care and that ACE screening could be strengthened by addressing time constraints and limited referral resources.

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## INTRODUCTION

Adverse childhood experiences (ACEs) describe highly stressful events that happen in a child's life before age 18 years. These may include abuse, neglect, or other major life stressors such as violence in the home or separation from a parent.<sup>1-3</sup> A stress response is part of normal physiologic mechanisms, but ACEs can trigger a sustained response known as toxic stress. Toxic stress can alter hormone levels, neural pathways, and immune responses in ways that may contribute to declines in physical and mental health in childhood and adulthood—including developmental delays, depression, asthma, obesity, smoking, cancers, and heart disease.<sup>4-6</sup>

In the 1998 seminal ACE study, more than one-half of survey respondents reported exposure to at least 1 ACE, and one-quarter reported experiencing 2 or more ACEs.<sup>7</sup> A dose-response relationship was identified linking higher numbers of ACEs to higher subsequent occurrences of mental and physical health conditions. Later studies with specific racial/ethnic socioeconomic groups have confirmed these findings,<sup>1,8</sup> while also uncovering racial/ethnic inequities in the prevalence of ACEs.<sup>9-11</sup>

Given the high frequency of ACEs and the demonstrated dose-response effect,<sup>12</sup> there has been increased interest in routine screening for ACEs in pediatric/primary care settings to mitigate the physical and mental health effects of ACEs in children and adults.<sup>13-15</sup> There are several screening tools available, including the original ACE screener used in adult populations, as well as pediatric adaptations such as the Center for Youth Wellness' Adverse Child Experiences Questionnaire (CYW ACE-Q)<sup>16</sup> and the Pediatric ACEs and Related Life Events Screener (PEARLS).

In this evaluation, clinicians used the PEARLS tool. More information on the tool is provided in the [Supplemental Appendix](#). Depending on the tool used and the age of the child, the caregiver may complete the form, or the child/adolescent may complete it themselves. Clinicians then use these screenings as opportunities to have conversations with families about strength, resilience, and healing, as well as to help connect families to resources or referrals.<sup>17</sup>

This evaluation took place in the larger context of the California “ACEs Aware” initiative to implement ACE screening statewide among California’s Medicaid (Medi-Cal) patients.<sup>18</sup> Our objective was to better understand clinic staff experiences and perspectives regarding routine ACE screening in pediatric care and whether perceptions changed over time.

## METHODS

### Design and Approach

This qualitative evaluation collected data through focus group discussions with staff at 5 pediatric clinics participating in the California ACEs Learning and Quality Improvement Collaborative (CALQIC).<sup>19</sup> Thirty- to 60-minute focus group discussions were conducted via videoconferencing to accommodate for participants’ work schedules. Our multidisciplinary evaluation team had expertise in pediatrics, primary care, psychology, social work, and economics, which allowed us to assess the data from various disciplines and perspectives. The evaluation team (G.A., R.M., I.E.-D., P.C., N.M., and N.E.) facilitated the focus group discussions. Two team members were present during each discussion: a facilitator and a notetaker. The notetaker transcribed notes and de-identified transcripts. Verbal consent was obtained from participants at the start of each focus group discussion. Protocols were approved by the Human Subjects Protection Committee at the lead author’s organization.

Focus group discussions followed a semistructured interview protocol which was co-developed by the evaluation team and refined for clarity and salient themes over the course of the evaluation. Our interview protocol explored 6 domains, listed in Table 1 along with sample questions.

We conducted 2 rounds of focus group discussions: the first round during the early phase of ACE screening at participating clinics (August to December 2020), and the second round began 7 months later (July to October 2021). Most participants from round 1 participated in round 2, which allowed us to explore how clinic staff adjusted to screening protocols and procedures over time.

Clinics used the Pediatric ACEs and Related Life Events Screener (PEARLS)<sup>20,21</sup> to assess ACEs, with an added strengths assessment.

### Population and Recruitment

We recruited 3 types of staff that have regular contact with families who undergo ACE screening: (1) frontline staff such as front desk staff, nurses, and medical assistants who are responsible for administering/collecting ACE screeners; (2) clinicians such as physicians and nurse practitioners who were assigned to discuss the results of the screening with patients; and (3) psychosocial support staff such as medical case managers and clinical social workers who work with patients and families to connect them with resources. Figure 1 shows the general approach that clinics used to incorporate ACE screening into their workflow. As part of the ACEs Aware initiative, clinicians received an online 2-hour training called “Becoming ACEs Aware in California” ([www.training.acesaware.org](http://www.training.acesaware.org)) which allowed clinicians to be reimbursed through Medi-Cal for ACE screening. Frontline staff and psychosocial support staff were not required to complete the online training.

We initially aimed to conduct 3 focus group discussions (1 for each staff type) at each of the 5 clinics. Given the small number of psychosocial support staff across the 5 clinics,

however, we decided to conduct a single focus group discussion across clinics in the first round (n = 8) and a single group in the second round (n = 7). Further, given that smaller group sizes provided more time for discussion and insights, we increased the number of focus group discussions to have an average number of 4 to 5 participants per group. Each group comprised only 1 of the 3 types of recruited staff.

Points of contact at each clinic assisted with focus group discussion recruitment and scheduling.

### Analysis

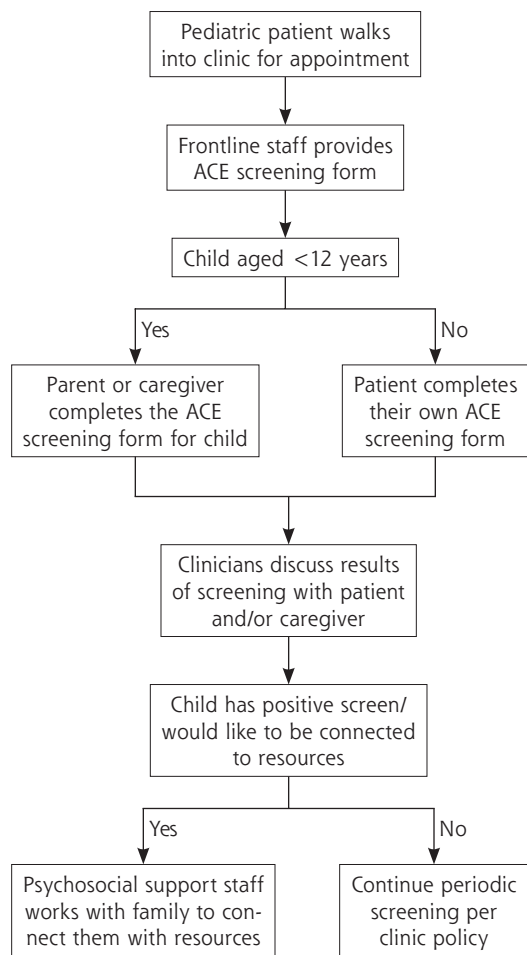
Data were analyzed through a constructivist grounded theory approach to identify thematic content.<sup>22,23</sup> Thematic content analysis is the systematic process

**Table 1. Domains of Interest and Sample Questions**

Domain	Sample Questions
Overall screening process and experience	How is ACE screening going? What aspects of the screening process are working best? What aspects of the screening process are more challenging?
Training and supervision	How prepared were you for your role in ACE screening and response?
Acceptability and equity	How comfortable is the screening process for you? In what ways were you mindful of your patients’ background (racial/ethnic/cultural/religious) when talking about ACEs?
Experiences with patients	How do you address ACEs during the visit? Have you noticed any issues with patients when completing the screener?
Resources and referrals	When and how do you offer resources and referrals to patients?
Effects on staff	How has the ACE screening and response affected you?

ACE = adverse childhood experience.

**Figure 1. Typical ACE screening clinic workflow.**



ACE = adverse childhood experience.

of creating themes to describe the meaning of a social reality expressed by an interviewee, often referred to as coding.<sup>24</sup>

Our team then conducted the analysis through an iterative process of manual open and axial coding, conducted with interview transcripts in Microsoft Word; no qualitative analysis software was used for the analysis.<sup>25,26</sup> We conducted separate reviews and manual coding of each transcript immediately after the focus group discussion: first by the team who facilitated the focus group discussion, and then by a team member who was blinded to the first team’s coding. The evaluation team then compared and reconciled themes from both coders to achieve consensus through group discussion.<sup>27</sup> We repeated this process for all focus group discussions, and thematic saturation was reached before the conclusion of the planned focus group discussions. Given that participants were a relatively homogenous group—all of those who worked at pediatric clinics in Los Angeles County—we expected that saturation would be reached.<sup>28</sup> Once all planned focus group

discussions were coded, we compared themes across focus group discussions to identify broader categories and the most frequent themes.

All methods and results are reported according to the Standards for Reporting Qualitative Research (SRQR) Guidelines.<sup>29</sup>

## RESULTS

During round 1 of focus group discussions, clinics had been implementing ACE screening for 4 to 5 months. We conducted round 2 seven months later. Table 2 summarizes focus group discussion information.

Below, we describe the 3 categories that emerged from the data and the most prominent themes in each category:

1. Screening acceptability and perceived utility
2. Implementation and quality improvement
3. Perceived effects of ace screening on patients and clinicians

Most themes persisted across rounds, while a few emerged only in round 2. For each category, we provide an overview table of all the themes (Table 3, Table 4, and Table 5). Each table is followed by a summary that provides exemplar quotes from key themes.

### Category 1: Screening Acceptability and Perceived Utility

Under the acceptability category (Table 3), clinicians and frontline staff felt comfortable administering and discussing ACE screening. Several clinicians explained that they had prior experience interacting with children and families with histories of complex social situations, thus, ACE screening felt within their skill set. A clinician shared, “Some of us have been doing child abuse evaluations for quite a long time, so we are comfortable asking difficult questions.” (Clinician, Clinic #2)

Although most clinicians felt comfortable administering ACE screening, concerns emerged when patient resources were insufficient. Clinicians were concerned that the inability to provide timely resources might undermine patient-clinician

**Table 2. Focus Group Discussion Participants Across Rounds**

Study Characteristic	Round 1	Round 2
	(Aug-Dec 2020)	(Jul-Oct 2021)
Implementation phase	Early implementation	Later implementation
Number of FGDs	14	12
Number of clinics included	5	5
Number of frontline staff	30	29
Number of medical clinicians	29	22
Number of psychosocial support staff	8	7
Total number of participants	67	58

FGD = focus group discussion.

**Table 3. Category 1. Screening Acceptability and Perceived Utility**

Theme	Round 1	Round 2
Theme 1. Clinicians, frontline staff, and psychosocial support staff generally felt comfortable administering and discussing the ACE screener.	✓	✓
Theme 2. Clinicians were concerned about conducting screenings when there were insufficient resources to help patients.	✓	✓
Theme 3. At certain clinics serving patients with a high prevalence of adversity, some clinicians, frontline staff, and psychosocial support staff did not see strong added value of ACE screening.	✓	✓
Theme 4. Clinicians and frontline staff shared concern about “triggering” patients, though they weren’t aware of any specific instances of this occurring.	✓	✓
Theme 5. Clinicians felt patients and caregivers have been receptive and open to the ACE screening, with a few exceptions.	✓	✓
Theme 6. Medical professionals perceived that many patients and caregivers appeared to find value in ACE screening—including a sense of relief and validation.	✓	✓
Theme 7. Many patients and caregivers did not complete the open-ended question on strengths, but clinicians perceived this question as important.	✓	✓
Theme 8. Both clinicians and frontline staff offered more specific observations on patient/caregiver challenges, confusion, hesitancy, and discomfort related to ACE screening.	✗	✓

ACE = adverse childhood experience.

**Table 4. Category 2. Implementation and Quality Improvement**

Theme	Round 1	Round 2
Theme 1. Clinicians, frontline staff, and psychosocial support staff faced logistical challenges and workflow issues with ACE screening.	✓	✓
Theme 2. For some frontline staff, ACE screening was viewed as a “black box” about which they knew little and were only peripherally involved.	✓	✓
Theme 3. Clinicians and frontline staff faced challenges in describing the purpose of ACE screening to patients and reviewing screening results with patients.	✓	✓
Theme 4. Clinicians were sometimes unsure how to respond to ACE screening results and wanted additional tools or support in this area; they developed opinions on areas for more training and ongoing support.	✓	✓
Theme 5. Clinicians and psychosocial support staff needed more resources and support for referrals.	✓	✓
Theme 6. There were additional challenges regarding ACE screening for certain populations.	✓	✓
Theme 7. Clinics had increasingly established effective ACE screening and response workflows.	✗	✓
Theme 8. Clinicians and frontline staff formulated suggestions to improve ACE screening implementation, quality, and acceptability.	✗	✓

ACE = adverse childhood experience.

trust. One clinician remarked: “If I ask you questions but can’t deliver on them, it is cheating the relationship because I am not fulfilling my end by meeting your need when you are telling me about your problems.” (Clinician, Clinic #3) Some clinicians expressed apprehension toward ACE screening, fearing that it could “trigger” patients. However, clinicians and clinical staff did not report any instances of this happening.

Overall, clinicians and clinical staff were impressed with the candor of patients when filling out the screener, as well as their general willingness to complete the form in its entirety, which helped support discussion of ACEs with clinicians. A clinician shared, “I’ve had positive responses like ‘Oh that’s neat, I’m glad you’re checking in on that!’” (Clinician, Clinic #3) Not only were patients receptive to screening, but some also found a sense of relief in being able to discuss these

issues. One clinician said: "She didn't have any questions, but she said, 'I'm so glad you ask these because I don't talk about them with anyone and I'm sure there are lots of people who have had these experiences.' So that motivates me." (Clinician, Clinic #2) Nonetheless, clinicians reported that a small number of patients felt it was inappropriate to ask children about ACEs. For example, one clinician shared: "I get some who have flatly refused. I don't remember any specific logical objections. I think the parents just weren't comfortable with it." (Clinician, Clinic #5) Likewise, clinicians observed that caregivers were sometimes reluctant to have children over age 12 complete their own screening.

In the second round of focus group discussions, staff were able to provide more specific observations on patient and caregiver challenges, and hesitancy related to screening. One clinician said: "People are fearful to answer. In a certain way, [caregivers] think they are going to get into trouble." (Clinician, Clinic #4) Another clinician shared: "I also have some parents who cry... I can think of 3 or 5 patients since we started ACE screening, like who have young children and say every time I see this form, it just makes me cry." (Clinician, Clinic #3). However, negative experiences were uncommon and emotional responses were short-lived.

The screening tool used by clinics has an additional open-ended question about patient strengths. Although patients often left this blank, clinicians considered it important to ask. Lastly, a small number of clinicians at clinics serving patients in foster care did not find strong added value of ACE screening since they were already providing support for prior trauma—thus screening was perceived as duplicative.

## Category 2: Implementation and Quality Improvement

Although clinic staff perceived ACE screening to be feasible, some themes reflected areas for quality improvement (Table 4). Clinicians and clinical staff initially faced logistical and workflow issues with ACE screening. Constraints related to time in both rounds included the time to complete the screening, as well as not having enough time after the screening to discuss it. One clinician shared that they already have a lot of paperwork during visits and that the "flood of ACE questions" was time-consuming. Several clinicians explained that clinic workflows may not allow patients enough time to complete the screening before they see the clinician. This resulted in the clinician not reviewing responses until after the visit and missing the opportunity to have a discussion. By round 2 of focus group discussions, however, clinicians consistently mentioned that clinics established an effective screening workflow. One clinician said: "I agree that we have really integrated this into our workflow." (Clinician, Clinic #1) Another participant explained the impact on their workflow: "At the moment it's run pretty smoothly... The only major difference for us is that it has increased the volume of referrals." (Psychosocial support staff, Clinic #1)

In round 1, clinicians shared that they were sometimes unsure how to respond to screening results. One clinician shared: "I felt like I needed more guidance or training... I don't feel like I'm an expert in trauma-based care..." (Clinician, Clinic #4) Specifically, clinician flagged certain topics for additional guidance such as discussions with adolescents, patients who disclose abuse, and families with undocumented immigration status. One clinician shared: "The mom was a bit hesitant... it was important to make it clear that the conversation was about providing support, not creating legal problems [because of her immigration status]. I would like to have some training on that." (Clinician, Clinic #1) Frontline staff also shared that they could benefit from training to help explain the purpose of ACE screening.

In addition to training on how to have supportive discussions about ACEs, clinicians requested information on referral resources. One clinician shared: "[I'd like] training regarding how to speak with parents and how to elicit this information in a very limited time and how to be empathetic. And then the second would be training on what to do and the available resources and how to actually access that." (Clinician, Clinic #1)

Staff who were in frontline and psychosocial support roles in the clinic felt they knew very little about ACE screening and did not consider it relevant to their work. One participant shared: "We just say – this is the paper. Do you have any questions? We don't really know what happens after that, if they connect with a case manager or anything. It is in the hands of the clinician, and they go from there." (Frontline staff, Clinic #3)

In the second round of focus group discussions, staff were more familiar with ACE screening and offered suggestions to improve implementation, quality, and acceptability. Frontline staff proposed that having a script to help introduce ACE screening, along with answers to frequently asked questions, would be helpful. One participant offered an example of the types of questions frontline staff receive: "From a teen's perspective, sometimes they might be unsure if their experiences meet the threshold. Like, they sometimes will say, 'My parent said this to me... does that equal being humiliated?'" (Frontline staff, Clinic #1) Clinicians also emphasized that positive questions on coping mechanisms could make the experience more positive for patients.

## Category 3: Perceived Effects of ACE Screening on Patients and Clinicians

Among the perceived effects of screening (Table 5) medical clinicians and frontline staff largely reported that ACE screening helped them elicit important information and build trust with patients. ACE screening gave clinicians a structured way to ask questions that often go unasked, which contributed to a holistic approach to providing care. One clinician elaborated: "I feel like it helps us to really understand the depth of the trauma that they've gone through; it's really thorough and addresses a lot of different points." (Clinician,

**Table 5. Category 3: Perceived Effects of ACE Screening on Patients and Clinicians**

Theme	Round 1	Round 2
Theme 1. Clinicians and frontline staff thought the ACE screening helped elicit important information and build trust with patients.	✓	✓
Theme 2. Many clinicians were unsure if patients were connecting with existing resources after receiving referrals.	✓	✓
Theme 3. Clinicians, frontline staff, and psychosocial support staff expressed concerns about the burden of completing ACE screening for caregivers of young and/or multiple children.	✓	✓
Theme 4. Although most clinicians felt ACE screening had not changed patient care, some expressed that screening gave them peace of mind that important information was not being overlooked.	✓	✓
Theme 5. ACE screening and review can take an emotional toll on clinicians.	✓	✗
Theme 6. Success of the referral process has varied significantly.	✗	✓

ACE = adverse childhood experience.

Clinic #1) Additionally, although providers explained that screening did not change the patient care they provided, it provided reassurance that important information was not overlooked. One clinician clarified: "It makes me feel a little more secure because I feel like I didn't miss anything important. Like I have closed the loop." (Clinician, Clinic #3)

However, many clinicians were still unsure whether patients were successfully connecting with resources after receiving a referral. One clinician said: "Whatever I send them, I hope it's working. They haven't called back. Even having follow-up visits for ACEs it's tough. We are short on clinicians." (Clinician, Clinic #4) Clinicians at clinics with co-located services felt confident after doing "warm hand-offs." In round 2 some individuals continued to voice concerns about the referral process, which varied significantly across clinics and over time.

Another concern was the burden of paperwork, as caregivers fill out numerous forms during visits. One clinician explained: "Sometimes the caregiver is overwhelmed because they have so much paperwork to fill out when they register. Especially when they have multiple kids. And when they have kids under age 5 there is extra paperwork." (Clinician, Clinic #1)

Lastly, although clinicians and psychosocial support staff were familiar with screening for trauma and the emotional toll that comes with serving high-needs populations, they suggested that providing emotional support could help mitigate staff burnout. One clinician shared: "In addition to resources for the patients, it would be helpful to have resources for clinicians and staff. I had a rough week recently with a lot of positive screens. It's been really helpful to openly discuss with our colleagues and get feedback on how to manage situations that may not have a straightforward solution." (Clinician, Clinic #1)

## DISCUSSION

In this evaluation we conducted a qualitative assessment by facilitating a total of 26 focus group discussions with clinic

staff. We conducted focus group discussions at 2 points, 7 months apart, to assess changes in staff perspectives as they gained more experience with ACE screening. Overall, we found that clinic staff considered ACE screening to be acceptable and valuable. However, participants also shared barriers to screening such as: insufficient time, training, and lack of clarity about referral networks/resources that could be offered to patients.

We found that ACE screening had a high level of acceptability and perceived utility among clinic staff, which is consistent with prior studies.<sup>30-34</sup> However, our evaluation yielded additional information on perspectives of non-medical staff which has been scant in the prior literature.<sup>35</sup> Unlike medical professionals, who were clear on the significance of ACEs screening and their role in the process, frontline staff who administered the screening felt they knew very little about ACE screening and that it was not relevant to their work. Non-medical staff are crucial to consistent, successful screening implementation; thus, efforts to include them in training that is often reserved for medical professionals would likely improve overall ACE screening.

Prior literature has reported instances of clinicians being apprehensive toward screening.<sup>36</sup> Our focus group discussions provided context and examples that may help address these concerns with clinicians in the future. Some of the ambivalence toward ACE screening was specific to patients who were in the foster care system or had open cases with child protective services since screening was perceived as duplicative. Later remarks on how screening gives clinicians a sense of relief, however, indicate that the potential duplication is outweighed by the benefits of complete patient histories. Most of the controversy around ACE screening has centered on the potential to retraumatize patients.<sup>37,38</sup> These fears were present among our participants, yet over the 16 months of implementation clinicians acknowledged that in actual practice, this was not an issue.

Providers in our study reported lack of time to be a significant obstacle to successful ACE screening, which is

consistent with a prior study.<sup>39</sup> While this concern persisted in round 2 of interviews, it was less concerning. This suggests that screening experience may compensate, in part, for perceived lack of time. Many clinicians were unsure of how to connect patients to resources. This is consistent with studies that have pointed out limited evidence that ACE screening has an impact on referrals<sup>40</sup> and that follow-up resources are perceived as a barrier to screening.<sup>41</sup> This demonstrates a need for the development of robust networks of care, referral systems, care coordination, and communication loops as well as staff guidance on how to navigate resources.

Lastly, despite potential challenges in implementation and referral, clinic staff agreed that ACE screening was a good way to elicit information and build trust with patients. This is consistent with studies that report a positive impact of ACE screening on patient-clinician relationships from patient and clinician perspectives.<sup>31,42,43</sup> ACE screening can help assess risk for toxic stress, it creates opportunities for clinicians to promote supportive relationships as well as resilience and strengths-based approaches,<sup>44,45</sup> and patients can find discussing ACEs healing and empowering.<sup>46,47</sup> Furthermore, even in situations where no ACEs are disclosed, screening can serve as a tool to educate families about managing stress and creating healthy environments.<sup>48,49</sup>

This study has several limitations. First, the clinics included in our evaluation were all within LA County and focused on pediatric care settings, which limits generalizability to clinics in rural/remote areas. Given that some of our findings are consistent with literature about ACE screening in adult care clinics,<sup>33</sup> however, and that the 5 participating clinics serve diverse and high-risk populations, we consider this study to have high transferability, with the lessons learned applicable for similar clinics that might be considering implementing ACE screening. Second, our interview protocol asked staff not only about their own perceptions regarding ACE screening, but also their impressions on how patients perceived the screening. Although staff are equipped to answer such questions, we recognize the limitations inherent in asking clinicians to infer what patients and families felt. Nonetheless, we consider these to be important inputs for anticipating potential perceived barriers by clinic staff. Lastly, we only assessed perceptions at 2 points in time. While this provides more information than prior studies, there is still room to explore how implementation progresses beyond a 16-month timeframe.

## CONCLUSIONS

Focus group discussion participants found ACE screening to be acceptable, feasible, and valuable for clinic staff; none reported long-lasting adverse effects resulting from screening. While some clinicians reported a few instances of parents having emotional reactions to screening, they also noted that these reactions were short-lived and that—in the bigger picture—screening strengthened their relationships with

patients. Some workflow issues were resolved as implementation progressed, while others were more challenging to resolve, such as issues around time constraints and referrals.

Primary care settings are the main gateway into the health care system and are well-positioned for widespread implementation of ACE screening. Our evaluation found that ACE screening can be feasibly implemented in pediatric care. Given the similarities of our findings with studies that report on screening in broader primary care settings,<sup>32-34,39</sup> we consider that implementation could be expanded and improved in a broader array of primary care settings. Findings from this evaluation provide considerations and guidance for future ACE screening initiatives.



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**Key words:** adverse childhood experience; childhood trauma; early life stress; primary health care; pediatrics

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[Supplemental materials](#)

## REFERENCES

- Merrick MT, Ford DC, Ports KA, et al. Vital signs: estimated proportion of adult health problems attributable to adverse childhood experiences and implications for prevention - 25 states, 2015-2017. *MMWR Morb Mortal Wkly Rep*. 2019;68(44):999-1005. [10.15585/mmwr.mm6844e1](https://doi.org/10.15585/mmwr.mm6844e1)
- American Academy of Pediatrics. Adverse childhood experiences. AAP California Chapter 2. Accessed Feb 28, 2022. <https://aapca2.org/aces/>
- Bucci M, Marques SS, Oh D, Harris NB. Toxic stress in children and adolescents. *Adv Pediatr*. 2016;63(1):403-428. [10.1016/j.yapd.2016.04.002](https://doi.org/10.1016/j.yapd.2016.04.002)
- Oh DL, Jerman P, Silvério Marques S, et al. Systematic review of pediatric health outcomes associated with childhood adversity. *BMC Pediatr*. 2018; 18(1):83. [10.1186/s12887-018-1037-7](https://doi.org/10.1186/s12887-018-1037-7)
- Shonkoff JP, Garner AS; Committee on Psychosocial Aspects of Child and Family Health; Committee on Early Childhood, Adoption, and Dependent Care; Section on Developmental and Behavioral Pediatrics. The lifelong effects of early childhood adversity and toxic stress. *Pediatrics*. 2012;129(1):e232-e246. [10.1542/peds.2011-2663](https://doi.org/10.1542/peds.2011-2663)
- Johnson SB, Riley AW, Granger DA, Riis J. The science of early life toxic stress for pediatric practice and advocacy. *Pediatrics*. 2013;131(2):319-327. [10.1542/peds.2012-0469](https://doi.org/10.1542/peds.2012-0469)
- Felitti VJ, Anda RF, Nordenberg D, et al. Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: the Adverse Childhood Experiences (ACE) study. *Am J Prev Med*. 1998;14(4):245-258. [10.1016/s0749-3797\(98\)00017-8](https://doi.org/10.1016/s0749-3797(98)00017-8)
- Gilbert LK, Breiding MJ, Merrick MT, et al. Childhood adversity and adult chronic disease: an update from ten states and the District of Columbia, 2010. *Am J Prev Med*. 2015;48(3):345-349. [10.1016/j.amepre.2014.09.006](https://doi.org/10.1016/j.amepre.2014.09.006)
- Vásquez E, Udo T, Corsino L, Shaw BA. Racial and ethnic disparities in the association between adverse childhood experience, perceived discrimination and body mass index in a national sample of U.S. older adults. *J Nutr Gerontol Geriatr*. 2019;38(1):6-17. [10.1080/21551197.2019.1572569](https://doi.org/10.1080/21551197.2019.1572569)
- Maguire-Jack K, Lanier P, Lombardi B. Investigating racial differences in clusters of adverse childhood experiences. *Am J Orthopsychiatry*. 2020;90(1):106-114. [10.1037/ort0000405](https://doi.org/10.1037/ort0000405)



11. Richards TN, Schwartz JA, Wright E. Examining adverse childhood experiences among Native American persons in a nationally representative sample: differences among racial/ethnic groups and race/ethnicity-sex dyads. *Child Abuse Negl.* 2021;111:104812. [10.1016/j.chiabu.2020.104812](https://doi.org/10.1016/j.chiabu.2020.104812)
12. Hughes K, Bellis MA, Hardcastle KA, et al. The effect of multiple adverse childhood experiences on health: a systematic review and meta-analysis. *Lancet Public Health.* 2017;2(8):e356-e366. [10.1016/S2468-2667\(17\)30118-4](https://doi.org/10.1016/S2468-2667(17)30118-4)
13. Finkelhor D. Screening for adverse childhood experiences (ACEs): cautions and suggestions. *Child Abuse Negl.* 2018;85:174-179. [10.1016/j.chiabu.2017.07.016](https://doi.org/10.1016/j.chiabu.2017.07.016)
14. Ford K, Hughes K, Hardcastle K, et al. The evidence base for routine enquiry into adverse childhood experiences: a scoping review. *Child Abuse Negl.* 2019;91:131-146. [10.1016/j.chiabu.2019.03.007](https://doi.org/10.1016/j.chiabu.2019.03.007)
15. Snyder CS, Moodie DS. American Academy of Pediatrics. *Congenit Heart Dis.* 2012;7(2):200-201. [10.1111/j.1747-0803.2012.00643.x](https://doi.org/10.1111/j.1747-0803.2012.00643.x)
16. Center for Youth Wellness. Center for Youth Wellness ACEQ & user guide. <https://centerforyouthwellness.org/cyw-aceq/>
17. Watson P. How to screen for ACEs in an efficient, sensitive, and effective manner. *Paediatr Child Health.* 2019;24(1):37-38. [10.1093/pch/pxy146](https://doi.org/10.1093/pch/pxy146)
18. State of California Department of Health Care Services. About ACEs Aware. ACEs Aware. Published 2022. Accessed Mar 7, 2022. <https://www.acesaware.org/about/>
19. Center for Care Innovations. California ACEs Learning and Quality Improvement Collaborative (CALQIC). Accessed Mar 29, 2022. <https://www.careinnovations.org/programs/calqic/>
20. State of California Department of Health Care Services. Screening tools. ACEs Aware. Accessed Mar 29, 2022. <https://www.acesaware.org/learn-about-screening/screening-tools/>
21. Thakur N, Hessler D, Koita K, et al. Pediatrics adverse childhood experiences and related life events screener (PEARLS) and health in a safety-net practice. *Child Abuse Negl.* 2020;108:104685. [10.1016/j.chiabu.2020.104685](https://doi.org/10.1016/j.chiabu.2020.104685)
22. Seale C. Quality in qualitative research. *Qual Inq.* 1999;5(4):465-478. [10.1177/107780049900500402](https://doi.org/10.1177/107780049900500402)
23. Walker D, Myrick F. Grounded theory: an exploration of process and procedure. *Qual Health Res.* 2006;16(4):547-559. [10.1177/1049732305285972](https://doi.org/10.1177/1049732305285972)
24. Vaismoradi M, Turunen H, Bondas T. Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nurs Health Sci.* 2013;15(3):398-405. [10.1111/nhs.12048](https://doi.org/10.1111/nhs.12048)
25. Kendall J. Axial coding and the grounded theory controversy. *West J Nurs Res.* 1999;21(6):743-757. [10.1177/019394599902100603](https://doi.org/10.1177/019394599902100603)
26. Williams M, Moser T. The art of coding and thematic exploration in qualitative research. *Int Manag Rev.* 2019;15(1):45-55.
27. Cascio MA, Lee E, Vaudrin N, Freedman DA. A team-based approach to open coding: considerations for creating intercoder consensus. *Field Methods.* 2019;31(2):116-130. [10.1177/1525822X19838237](https://doi.org/10.1177/1525822X19838237)
28. Hennink M, Kaiser BN. Sample sizes for saturation in qualitative research: a systematic review of empirical tests. *Soc Sci Med.* 2022;292(November):114523. [10.1016/j.socscimed.2021.114523](https://doi.org/10.1016/j.socscimed.2021.114523)
29. O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: a synthesis of recommendations. *Acad Med.* 2014;89(9):1245-1251. [10.1097/ACM.0000000000000388](https://doi.org/10.1097/ACM.0000000000000388)
30. Campbell KA, Wuthrich A, Norlin C. We have all been working in our own little silos forever: exploring a cross-sector response to child maltreatment. *Acad Pediatr.* 2020;20(1):46-54. [10.1016/j.acap.2019.06.004](https://doi.org/10.1016/j.acap.2019.06.004)
31. Kia-Keating M, Barnett ML, Liu SR, Sims GM, Ruth AB. Trauma-Responsive care in a pediatric setting: feasibility and acceptability of screening for adverse childhood experiences. *Am J Community Psychol.* 2019;64(3-4):286-297. [10.1002/ajcp.12366](https://doi.org/10.1002/ajcp.12366)
32. Glowa PT, Olson AL, Johnson DJ. Screening for adverse childhood experiences in a family medicine setting: a feasibility study. *J Am Board Fam Med.* 2016;29(3):303-307. [10.3122/jabfm.2016.03.150310](https://doi.org/10.3122/jabfm.2016.03.150310)
33. Flanagan T, Alabaster A, McCaw B, Stoller N, Watson C, Young-Wolff KC. Feasibility and acceptability of screening for adverse childhood experiences in prenatal care. *J Womens Health (Larchmt).* 2018;27(7):903-911. [10.1089/jwh.2017.6649](https://doi.org/10.1089/jwh.2017.6649)
34. Kalmakis KA, Shafer MB, Chandler GE, Aponte EV, Roberts SJ. Screening for childhood adversity among adult primary care patients. *J Am Assoc Nurse Pract.* 2018;30(4):193-200. [10.1097/JJXX.0000000000000033](https://doi.org/10.1097/JJXX.0000000000000033)
35. Mishra K, Atkins DE, Gutierrez B, Wu J, Cousineau MR, Hempel S. Screening for adverse childhood experiences in preventive medicine settings: a scoping review. *J Public Health (Berl).* 2023;31:613-622. [10.1007/s10389-021-01548-4](https://doi.org/10.1007/s10389-021-01548-4)
36. McLennan JD, Macmillan HL, Affii TO, McTavish J, Gonzalez A. Problems with the recommendation to implement ACEs screening. *Paediatr Child Health.* 2020;25(1):64-65. [10.1093/pch/pxz129](https://doi.org/10.1093/pch/pxz129)
37. Racine N, Killam T, Madigan S. Trauma-Informed care as a universal precaution: beyond the adverse childhood experiences questionnaire. *JAMA Pediatr.* 2020;174(1):5-6. [10.1001/jamapediatrics.2019.3866](https://doi.org/10.1001/jamapediatrics.2019.3866)
38. Campbell TL. Screening for Adverse Childhood Experiences (ACEs) in primary care: a cautionary note. *JAMA.* 2020;323(23):2379-2380. [10.1001/jama.2020.4365](https://doi.org/10.1001/jama.2020.4365)
39. Gillespie R, Folger A. Feasibility of assessing parental ACEs in pediatric primary care: implications for practice-based implementation. *J Child Adolesc Trauma.* 2017;10:249-256. [10.1007/s40653-017-0138-z](https://doi.org/10.1007/s40653-017-0138-z)
40. Loveday S, Hall T, Constable L, et al. Screening for adverse childhood experiences in children: a systematic review. *Pediatrics.* 2022;149(2):e2021051884. [10.1542/peds.2021-051884](https://doi.org/10.1542/peds.2021-051884)
41. Clark AM, Jones HM. Barriers to screening for adverse childhood experiences. *J Nurse Pract.* 2022;18(2):190-194. [10.1016/j.nurpra.2021.11.004](https://doi.org/10.1016/j.nurpra.2021.11.004)
42. Conn AM, Szilagyi MA, Jee SH, Manly JT, Briggs R, Szilagyi PG. Parental perspectives of screening for adverse childhood experiences in pediatric primary care. *Fam Syst Health.* 2018;36(1):62-72. [10.1037/fsh0000311](https://doi.org/10.1037/fsh0000311)
43. SmithBattle L, Loman DG, Yoo JH, Cibulka N, Rariden C. Evidence for revising the adverse childhood experiences screening tool: a scoping review. *J Child Adolesc Trauma.* 2021;15(1):89-103. [10.1007/s40653-021-00358-w](https://doi.org/10.1007/s40653-021-00358-w)
44. Barnett ML, Kia-Keating M, Ruth A, Garcia M. Promoting equity and resilience: wellness navigators' role in addressing adverse childhood experiences. *Clin Pract Pediatr Psychol.* 2020;8(2):176-188. [10.1037/cpp0000320](https://doi.org/10.1037/cpp0000320)
45. Purewal SK, Bucci M, Wang LG, et al. Screening for ACEs in childhood and adolescence. *Zero to Three.* 2016;36(3):10-17.
46. Leasy M, O'Gurek DT, Savoy ML. Unlocking clues to current health in past history: childhood trauma and healing. *Fam Pract Manag.* 2019;26(2):5-10.
47. Burke Harris N, Silvério Marques S, Oh D, Bucci M, Cloutier M. Prevent, screen, heal: collective action to fight the toxic effects of early life adversity. *Acad Pediatr.* 2017;17(7S):S14-S15. [10.1016/j.acap.2016.11.015](https://doi.org/10.1016/j.acap.2016.11.015)
48. Dube SR. Continuing conversations about adverse childhood experiences (ACEs) screening: a public health perspective. *Child Abuse Negl.* 2018;85:180-184. [10.1016/j.chiabu.2018.03.007](https://doi.org/10.1016/j.chiabu.2018.03.007)
49. Bethell CD, Carle A, Hudziak J, et al. Methods to assess adverse childhood experiences of children and families: toward approaches to promote child well-being in policy and practice. *Acad Pediatr.* 2017;17(7S)(Supplement):S51-S69. [10.1016/j.acap.2017.04.161](https://doi.org/10.1016/j.acap.2017.04.161)