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# Patient and Caregiver Perspectives on Implementation of ACE Screening in Pediatric Care Settings: A Qualitative Evaluation

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**Introduction:** This qualitative research study explored the perspectives of adolescents, 12 to 19-years-old, and caregivers of children under 12-years-old on the acceptability of adverse childhood experiences (ACEs) screenings in five pediatric clinics.

**Method:** A constructivist grounded theory approach was utilized. One-on-one semistructured phone interviews were conducted with 44 adolescents and 95 caregivers of children less than 12 years old. Interviews were analyzed using thematic analysis.

**Results:** Most participants reported feeling comfortable discussing ACEs with their providers. Some reported that screening helped build trust. Others expressed privacy concerns and did not receive information about the reason for screening. Adolescent patients shared conflicting feelings—of both comfort and discomfort. Caregivers attending to multiple children, foster parents, and monolingual Spanish speakers disclosed unique challenges to ACEs screening. We found no evidence of lasting adverse effects.

**Discussion:** Participants generally found ACEs screenings acceptable. Some adolescents identified benefits from the experience. However, clinics planning to adopt routine ACEs screening should ensure clear messaging on why screening is occurring, anticipate and address privacy concerns, and adopt workflows to discuss screening results. *J Pediatr Health Care.* (2023) 37, 616–625

## KEY WORDS

ACE screening, pediatric, primary care

## INTRODUCTION

Adverse childhood experiences (ACEs) are traumatic or highly stressful events that occur during childhood. ACEs can include exposure to household stressors (such as mental illness or intimate partner violence), neglect (emotional or physical), or abuse (psychological, physical, or sexual; [Bucci et al., 2016](#); [Felitti et al., 1998](#)). Exposure to ACEs can lead to disruptions in the development of neurologic, neuroendocrine, immunologic, and other body systems, leading to what has been described as a physiologic “toxic stress” response that can increase health risks ([Garner et al., 2012](#); [Lacey et al., 2020](#); [McEwen, 1998](#)).

Over two decades of research have demonstrated associations between a history of ACEs and negative psychological and physical health outcomes such as depression, anxiety, obesity, smoking and other substance misuses, respiratory disease, heart disease, and cancer in adulthood ([Baldwin & Danese, 2019](#); [Hughes et al., 2017](#); [Petrucci et al., 2019](#); [Suglia et al., 2018](#)). Poorer short-term outcomes have also been associated with ACEs. For example, early and prolonged ACE exposure puts young children at higher risk of experiencing developmental delays ([Cprek et al., 2020](#)), behavioral problems ([Hall et al., 2023](#)), and poor physical health ([Lanier et al., 2018](#)). Similarly, adolescents who report one or more ACEs are at a higher risk of experiencing mental health ([Lee et al., 2020](#)) or substance use problems ([Broadbent et al., 2022](#); [Leza et al., 2021](#)).

More than half of U.S. adults report at least one ACE, and one out of six reports three or more ([Giano et al., 2020](#)), making ACEs an important public health and clinical care problem. Of particular concern is the disproportionate

impact of ACEs on people of color ([LaBrenz et al., 2020](#); [Merrick et al., 2018](#)). There are growing efforts to identify individuals who have experienced ACEs to improve toxic stress, mitigate health effects, and address health disparities. The American Academy of Pediatrics (AAP) has recommended that pediatric practices consider using standardized tools to identify risk factors that put children at risk for experiencing toxic stress ([Garner et al., 2012](#)). As a result of this recommendation by the AAP, numerous studies on ACE screening feasibility and acceptability in pediatric and family practice settings have occurred ([Ford et al., 2019](#); [Loveday et al., 2022](#); [Mishra et al., 2023](#)).

Most studies on ACE screening have focused on practitioner perspectives on ACE screening feasibility and acceptability in clinical settings, whereas fewer have explored patient or patient caregivers’ perspectives on the topic ([Barnett et al., 2020](#); [Ford et al., 2019](#); [Mishra et al., 2023](#)). Of those that explored patient or patient caregiver perspectives, we identified only six studies in a pediatric setting. These studies found high levels of caregiver acceptability ([Conn et al., 2018](#); [Koita et al., 2018](#); [Marie-Mitchell et al., 2019](#); [Selvaraj et al., 2019](#)) or caregiver comfort discussing ACEs with their child’s primary care provider (PCP; [Koita et al., 2018](#); [Schneider et al., 2021](#); [Selvaraj et al., 2019](#)). However, the majority of these studies collected qualitative data from small samples ([Barnett et al., 2020](#); [Conn et al., 2018](#); [Koita et al., 2018](#); [Marie-Mitchell et al., 2019](#)) and failed to include the pediatric patient perspective (e.g., adolescents). Of those with larger sample sizes, only one had a racially/ethnically diverse sample population ([Schneider et al., 2021](#); [Selvaraj et al., 2019](#)). To better understand patient and patient caregiver perspectives on ACE screening during routine pediatric visits, investigations should include a diverse range of patients and caregivers (i.e., varying age, race, ethnicity, language preference, and caregiver type).

This evaluation aimed to explore the perspectives of adolescent patients and caregivers of young children on ACE screening acceptability in five pediatric primary care clinics within the Los Angeles County Department of Health Services (LAC-DHS) system between 2020 and 2021. We add to the limited body of literature on patient and caregiver acceptability on ACE screening in pediatric settings by including a large sample with racial/ethnic, caregiver type, and age range diversity. Examining patient and caregiver perspectives included here can inform future efforts to implement routine ACE screening in pediatric care settings and improve health care outcomes and health equity.

## METHODS

### Study Design and Setting

The evaluation, design, and interview protocol were approved by the lead author’s organizational Human Subjects Protection Committee. Using a cross-sectional design, qualitative data were gathered through one-on-one semistructured interviews with adolescents and caregivers of young children receiving care from one of five pediatric clinics within LAC-DHS, an integrated health care delivery

system that is the second largest municipal health system in the United States (Los Angeles County Department of Health Services n.d.b). Participating clinics were part of the California ACEs Learning and Quality Improvement Collaborative (Center for Care Innovations, 2023), a component of California's ACEs Aware screening initiative (ACEs Aware 2023a). All participating clinics provided primary care to a low-income, racially and ethnically diverse, and predominantly Medicaid-insured patient population. Of the five participating clinics, two were pediatric "Hub Clinics" (Los Angeles County Department of Health Services n.d.a) that have co-located mental health services and serve a population that is involved with child protective and family support services (e.g, foster care).

### ACE Screening Implementation

As part of the implementation process, medical providers at participating clinics received a 2-hr online training offered by the ACEs Aware initiative on "ACEs, toxic stress, screening, risk assessment, and the evidence base to effectively intervene" (ACEs Aware 2023b). Providers who completed the training were eligible to submit an attestation form with the California Department of Health Care Services, allowing the clinic to receive reimbursement for completed ACE screenings. Front desk, medical assistant, or nursing staff involved with ACE screening implementation were not required to complete the online training but were strongly encouraged to do so. Providers and staff at participating clinics were also offered ongoing training on trauma-informed care; pediatric development and special education; screening guidelines; referral coordination; building partnerships with community-based organizations; and evidence-informed practices for screening, provider response, and patient education about ACEs in primary care in alignment with the Trauma and Resilience-informed Inquiry for Adversity, Distress and Strengths Framework (TRIADS Framework). Technical assistance was also provided through the use of implementation coaches.

During routine pediatric visits, adolescent patients and/or caregivers of young children were provided with the Pediatric ACE and Related Life Events Screener (PEARLS screening tool available online: <https://www.acesaware.org/learn-about-screening/screening-tools/>), which included an added strengths assessment. Part 1 of the 17-item PEARLS tool includes questions adapted from the original 10-item ACE instrument, and part 2 includes seven additional questions on social determinants of health (University of California San Francisco, 2023). Typically, the screener was presented by the front desk, a medical assistant, or nursing staff and independently completed by patients aged 12–19 years or caregivers for children aged < 12 years. The PEARLS tool was provided in the participant's preferred language, and screening results were intended to be discussed during the visit with the medical provider.

If an adolescent or caregiver demonstrated distress during the ACE screening, they were reminded that they had the choice to discontinue the completion of the screener at

any time. In addition, providers were trained (through ACEs Aware) on guidance for responding to these situations through active listening, nonjudgment, and empathy. Provider responses to ACE disclosure during visits were documented in the patient's electronic health record and quantitatively analyzed by the evaluation team. This analysis revealed that provider actions to ACE disclosure included anticipatory guidance and/or referrals to mental health services, developmental/behavioral services, community-based organizations, or social workers (Ashwood et al., 2022).

### Patient and Caregiver Recruitment

All adolescent patients and caregivers of young children who completed ACE screening during a pediatric visit at a participating clinic were eligible to complete an interview. Participating clinics distributed recruitment flyers and informational stickers in English and Spanish, advertising the interviews to patients and caregivers when they received the ACE screener. Recruitment materials included information for patients and caregivers to contact the evaluation team by phone or text to complete the interview. Participants were offered a \$50 gift card for participation. We recruited caregivers of children aged < 12 years who had completed an ACE screening for their child during a recent medical visit. Adolescents aged 12–19 years who independently completed an ACEs screen during a recent medical visit were also recruited to complete an interview to share their experience.

### Data Collection

Because of the COVID-19 pandemic surge during the evaluation period, clinic protocols required qualitative data collection via one-on-one phone interviews. Although face-to-face interviews are often preferable to phone interviews, insufficient research demonstrates that the latter approach produces lower-quality data and may allow a higher level of anonymity when discussing a sensitive topic such as ACEs (Novick, 2008). Verbal informed consent, demographic information, and consent to audio record the interview were obtained from participants at the beginning of each interview. All interviews were one-on-one, providing a safe space for adolescents to share their experience with ACE screening without a caregiver present on the call throughout the interview. The semistructured interviews were offered in English or Spanish, depending on the participant's stated preference, and examined adolescent and caregiver experiences with screening and the impact of screening (domains are described in Table 1). Interview recordings and transcripts were de-identified and securely stored in the lead author's organizational data management system to protect respondent confidentiality.

Most interviews were completed within a week of ACE screening at a pediatric health visit. To better understand the intermediate-term effects of ACE screening, every fourth recruited participant was scheduled for a "delayed" interview between six and eight weeks after the visit. A second round of interviews were conducted with different

**TABLE 1. Interview protocol domains and sample questions**

Domains	Sample questions
Screening process	Did anyone explain or introduce the ACE questionnaire to you? Did your provider discuss the questionnaire and your results during the visit?
Screening experience	What did you like from your experience answering and talking about the ACE questions? What did you dislike?
Views of screening as part of care visit	Do you think doctors should ask patients about ACE? Why or why not?
Screening effects on patient/family and the patient-provider relationship	How did talking about ACE affect you, if at all?

Note. ACE, adverse childhood experiences.

participants approximately six months after the first round to assess changes in adolescent and caregiver experiences with ACE screening once implementation was well underway.

### Data Analysis

A constructivist grounded theory approach was utilized, and a multidisciplinary evaluation team was chosen to ensure exploratory methods were prioritized during the evaluation design, data collection, and data analysis stages (Seale, 1999; Walker & Myrick, 2006). The evaluation team included researchers trained in medicine (pediatrics and primary care), psychology, social work, and economics. The range of expertise of the evaluation team allowed for careful deliberation of assumptions brought forth by each team member as the interview protocol was developed, initial themes were identified, a coding structure was built, and a full thematic analysis was finalized. The qualitative research team held weekly meetings to discuss emerging themes and adjust the semistructured interview questions to allow for a deeper exploration of these themes. Interviews and weekly thematic analysis meetings were ongoing until thematic saturation was reached.

Interviews were professionally transcribed and uploaded into Dedoose, a qualitative data analysis software (version 8.3.45). One evaluator developed a coding structure on the basis of topics in the interview protocol and an initial review of interview transcripts. The coding structure was further refined by consulting the evaluation team during weekly thematic analysis meetings. Two evaluators completed preliminary coding of four interviews each to establish interrater reliability and provide final feedback on the developed codebook. Interrater reliability was measured with Cohen's kappa (McHugh, 2012), targeting a minimum threshold of 0.70. Once interrater reliability was established, interviews were independently reviewed and coded.

## RESULTS

### Sample Characteristics

We conducted 141 interviews with adolescent patients ( $n = 44$ ) and caregivers of young children ( $n = 97$ ) who completed an ACE screening during a pediatric appointment at

participating LAC-DHS clinics. On average, interviews lasted between 15 and 30 min. The first round of patient and caregiver interviews ( $n = 76$ ) took place between October 2020 and February 2021, early in the clinics' process of screening implementation. The second round of interviews ( $n = 65$ ) took place between August and October 2021, further along in screening implementation. Two first-round participants also participated in the second round, resulting in 139 unduplicated participants. Table 2 describes the demographic characteristics of participants, including respondent type, interview language, race/ethnicity, and sex.

Most of our sample was female (86%), caregivers of young children (68%), and of Hispanic/Latinx descent (78%). Most participants completed the interview in English (82%), and the rest completed it in Spanish (18%). Representation of Hispanic/Latinx participants exceeded that of typical monthly enrollment data at facilities in which interviews were conducted, for which this population accounts for 49.1% of all enrollees. Of the 44 adolescent patients who completed the interviews, 39% ( $n = 17$ ) were aged 12–14 years, and 61% ( $n = 27$ ) were aged 15–19. Meanwhile, 60% of caregivers were aged 20–39 years ( $n = 57$ ), 28% were aged 40–59 years ( $n = 27$ ), 10% were aged > 60 years ( $n = 9$ ), and 2% did not disclose their age ( $n = 2$ ). Out of 141 total interviews, 121 were completed within a week of ACE screening, and 20 were delayed interviews completed at 6–8 weeks.

Three key topic areas emerged from the analysis: (1) acceptability of ACE screening, (2) implementation issues, and (3) effects of ACE screening on patients and caregivers. Themes and subthemes were organized within these three topic areas. Tables 3–5 include illustrative quotes for each of the topic areas.

### Topic 1: Acceptability of ACE Screening

Three key themes related to ACE screening acceptability emerged. First, nearly all respondents felt that ACE screening was acceptable in a pediatric setting, and many identified that it could serve as a way for providers to better understand their patients. Notably, adolescent patients reported neutral feelings or feelings of ambivalence about ACE screening more frequently than caregivers.



**TABLE 2. Sample characteristics of evaluation participants**

Characteristics	Total interviews		Total unduplicated participants
	Round 1 (n = 76)	Round 2 (n = 65)	Total (n = 139)
Respondent type			
Caregiver	70	68	68
Patient (adolescent)	30	32	32
Interview language			
English	76	88	82
Spanish	24	12	18
Race/ethnicity			
Hispanic/Latinx	75	83	78
Black/African American	11	6	9
White	11	8	9
Asian	1	3	2
Native Hawaiian/Other Pacific Islander	3	—	1
American Indian/Alaskan Native	—	—	—
Sex			
Female	83	88	86
Male	17	12	14
Other	—	—	—

Note. Values are presented as percentages. One hundred forty-one interviews were conducted across round one and round two. However, two participants completed interviews in both rounds, bringing our total unduplicated participant count to 139.

Second, a small number of respondents reported having privacy concerns when completing ACE screening. Typically, privacy concerns involved the location of screener administration (e.g., many patients prefer completing the screener in an examination room) or which clinic staff were permitted to view their screening responses.

The third theme involved adolescent patients' and caregivers' thoughts and feelings about how their background (e.g., race, ethnicity, and/or immigration status) impacted their experience with completing an ACE screening. Respondents

generally did not feel that their background had a negative impact on their experience with ACE screening. Adolescent patients and caregivers shared experiences of being treated equally by clinic staff when completing and discussing ACE screening.

### Topic 2: Implementation Issues

We identified three themes linked to ACE screening implementation issues. During round one interviews, some respondents reported having difficulties with ACE screening

**TABLE 3. Acceptability of adverse childhood experience (ACE) screening, key themes, and illustrative quotes**

Acceptability of ACE screening	Caregivers	Adolescents
Theme 1: Respondents felt that ACE screening was acceptable in a pediatric setting	"I feel like they should [be assessing ACE] because the parent's mental state or what the parents are going through does directly affect the children. Or who the children are around does affect who they become." (Caregiver, aged 31 years, clinic no. 5)	"I feel as if they should, and they shouldn't [conduct ACE screening] if that makes sense. . . . Because it's good for them, I guess, to make sure that their patients are okay. But at the same time, it can feel invasive if that makes sense." (Adolescent, aged 17 years, clinic no. 3)
Theme 2: Respondents shared privacy concerns related to ACE screening	"Maybe if when you're sitting in the room, they give it to you then. It seems like you're more in private. That day, there was absolutely no one in the lobby. But if there was other people. . . . [people might feel] a little bit exposed out there answering questions like that." (Caregiver, age 32 years, clinic no. 4)	"I thought everyone's going to know. . . . A lot of people are going to read the questionnaire. I thought the ladies in the front knew, too." (Adolescent, aged 13 years, clinic no. 3)
Theme 3: Respondents did not perceive that their background (race, ethnicity, etc.) affected their experience with ACE screening	"I didn't see any difference this time or before. I have taken different race or ethnicity or whatever it is [foster] kids and I've been with different ones and no. The way that they talk, the way that they treat you is pretty much equal, so I'm fine." (Caregiver, aged undisclosed, clinic no. 4)	"My doctor was a person of color, so she could understand what happened in my life. A white man would not understand exactly how my experiences may be, considering that most of my experiences are exclusive to people of my racial identity." (Adolescent, aged 16 years, unknown clinic)

**TABLE 4. Implementation issues, key themes, and illustrative quotes**

Implementation issues	Caregivers	Adolescents
Theme 1: Caregivers had difficulty completing the ACE screener or found it burdensome	<p>“[There was] so much paperwork. They could’ve possibly emailed it ahead of time and let me look over it and actually have time to think about it. And if I could’ve done it like online. . . because then that way you’re not like trying to watch your kid at the same time and you can actually think of the questions.” (Caregiver, aged 63 years, unknown clinic)</p> <p>“In some questions I felt confused or that I didn’t understand exactly what the question was. Sometimes I would look at them twice and not understand well what it was that was being asked.” (translated from Spanish; Caregiver, aged 35 years, clinic no. 5)</p> <p>“The nurse told me to answer what I could, up until what I knew about the girl’s life. . . the nurse gave me an idea of how to answer.” (translated from Spanish; Caregiver [Foster Parent], aged 45 years, clinic no. 4)</p>	None
Theme 2: A verbal introduction to or explanation of the purpose of ACE screening before completing the screener would be helpful	<p>“If the person that’s handing you all these forms had said, ‘Okay, fill all this out, one’s a survey,’ you know. . . where you know you’re filling out a survey and this is who it’s for and why.” (Caregiver, aged 50 years, clinic no. 4)</p>	None
Theme 3: Respondents who disclosed ACEs reported discussing screening results with their provider, whereas those who did not report any ACEs did not discuss ACE screening with their provider	<p>“I feel like they should be able to like go over it more. . . to look at the answers and discuss it. . . My son is in a good household, but there might be other households that aren’t as fortunate. . . if it was a different case the doctor. . . might have been able to go over it more and kind of make sure the child’s in a safe spot. . .” (Caregiver, aged 31 years, clinic no. 5)</p>	<p>“She said that after these occurrences happen, it’s very normal for a person to feel sad or lonely or just overall negative. And she explained that thoroughly to me and I appreciate that...” (Adolescent, aged 16 years, clinic no. 4)</p>

Note. ACE, adverse childhood experiences.

—but this theme was less salient during round two interviews. This theme was driven by caregivers of young children, who reported that the ACE screener increased their time completing paperwork during their visit. Caregivers also reported difficulty completing paperwork before meeting with their child’s PCP while caring for young children. Notable challenges arose for specific populations, such as foster parents and Spanish-speaking respondents. Foster parents reported that they were often missing key information to complete the screening, and Spanish-speaking respondents reported that the Spanish version of the screener had questions that were difficult to understand. Adolescent patients did not report population-specific challenges such as those highlighted for caregivers of young children.

Second, over half of the respondents in round one interviews shared that they did not receive an introduction to the ACE screener before completing it. Although still mentioned, this theme was less salient during round two interviews. Both adolescent patients and caregivers of young children reported feeling hesitant about completing the screener because they did not fully understand what ACEs were and why they were being screened. The screener

included a written introduction addressing this, but respondents did not recall reading it.

Finally, respondents who disclosed ACEs reported discussing their screening results with their provider, whereas those who did not report ACEs did not consistently discuss their (negative) screening results during their visit. This was particularly true during the initial round one interviews. Respondents who did not disclose ACEs wanted to discuss ACE screening results with their providers. Adolescents and caregivers felt it was important for their providers to acknowledge the completion of the ACE screener at some point during the visit. Individuals who did review the screener with their PCP described it to be a helpful and positive conversation.

**Topic 3: Effects of ACE Screening on Patients and Caregivers**

Four separate themes were identified related to the effects of screening. First, reactions to screening were sometimes complex and nuanced, with differing comfort and discomfort at varying points in the screening process. Complex reactions were more commonly expressed by adolescents. Some respondents experienced emotional reactions during or



**TABLE 5. Effects of adverse childhood experience (ACE) screening of patients and caregivers, key themes, and illustrative quotes**

Effects of screening	Caregivers	Special populations
Theme 1: ACE screening prompted complex reactions, including a mix of emotions, but there were no reports of lasting adverse effects	"The thought of anything like that happening to my child, it made me feel bad. Just thinking about that some kids are actually going through this. It just broke my heart, [but] it helped me to open my eyes and be aware. It does help me realize a lot of stuff and really opened my eyes to take more precautions, like protect her, make sure that she's in a safe environment." (Caregiver, aged 21 years, clinic no. 1 [delayed interview])	"I was kind of nervous because I didn't talk to anybody about that [previously]. . . After a while, I felt pretty comfortable talking about it." (Adolescent, aged 12 years, clinic no. 1)
Theme 2: Respondents shared concerns about how other people might respond to ACE screening	"If somebody asked me these questions and I was a bad parent. . . I'd probably lie right through them, and they wouldn't know the difference. . . somebody could just write anything they want." (Caregiver, aged 63 years, unknown clinic)	"My mom was part of a gang, and she would threaten us sometimes, so you get that fear. . . You love someone so much that you're like if I had to, like, I'm not going to say it, the truth. You feel like only one person loves you, so you don't want to get them in trouble, because you feel like no one's going to love you after." (Adolescent, aged 14 years, clinic no. 4 [delayed interview])
Theme 3: Respondents appreciated the opportunity to discuss strengths with their providers as part of the screening	"It was just very positive, and it makes you sit and think. Like, 'Oh yeah, what are my child's good qualities?'" (Caregiver, aged 24 years, clinic no. 5)	"[It was] a confidence boost, 'cause, like, they ask what you like about yourself, and a lot of people struggle with that, so then it's just saying, like, 'Oh, I'm a positive person' or just little small things like that, so it was pretty good." (Adolescent, aged 16 years, clinic no. 1)
Theme 4: ACE screening had a positive or neutral effect on the patient or caregiver's relationship with the clinic and/or provider	"I felt relieved because I know that as a mother I am not alone, and I know I have the support of doctors who can help me physically and mentally [. . .] I did feel like I have their support and in any moment, I can talk to them and explain what is happening." (translated from Spanish; Caregiver, aged 22 years, clinic no. 5)	"[ACE screening] made me feel a little more comfortable talking with my doctors. . . I was more afraid of going to the doctor, but. . . because of how my doctor was really nice and everything, it got me more comfortable with actually talking with more doctors. . ." (Adolescent, aged 14 years, clinic no. 1)

shortly after screening, such as stress or sadness. However, respondents that experienced feelings such as sadness or discomfort reported that clinic staff appropriately addressed their emotions, and none of the delayed interview respondents reported lasting adverse effects of ACE screening a few weeks after screening.

Second, when asked how others (besides themselves or their family) might react or be affected by ACE screening, a minority of respondents shared concerns about how others might react. The most shared concern was that caregivers might be dishonest when completing the screener. Exclusively in round one, some respondents shared concerns that individuals who report ACE might experience feelings of re-traumatization and/or worry about getting others in trouble. This particular concern did not come up during round two interviews.

The screener included an open-ended question inquiring about the patient's strengths. Strengths and resilience were not consistently discussed during the patient visit, but it is notable that respondents who discussed them with their PCP appreciated the opportunity and felt it made the tone of the discussion more positive.

Finally, some respondents shared that ACE screening positively impacted the relationship with the PCP or clinic.

They expressed that the screening process built trust with their provider or helped them feel that someone cared about them or their child.

## DISCUSSION

This evaluation explored pediatric clinic patients' and caregivers' perspectives on ACE screening acceptability and impact. Adolescent patients and caregivers of young children interviewed thought screening was acceptable within a pediatric setting and described comfort when discussing ACEs with their or their child's PCP. There were no incidents of lasting adverse effects of ACE screening. As the clinics became more experienced at implementing ACE screening, providers more consistently discussed screening results during the patient visit, and patients and caregivers reported fewer concerns with screening. These findings align with prior studies on the acceptability of ACE screening in pediatric settings (Mishra et al., 2023; Selvaraj et al., 2019) and add to the growing literature on ACE screening implementation in pediatric health care settings. The research team believes that this study is the first to qualitatively explore the perspectives on ACE screening from a large sample with diverse characteristics in age (adolescent patients and

caregivers of young children), race/ethnicity (a large Hispanic/Latinx population), caregiver types (biological parents and foster parents) and language preference (English and Spanish).

Although ACE screening was generally acceptable within our sample population, respondents articulated concerns about privacy and insufficient communication about the reasons for and consequences of such screening. The need for trust and privacy has been well-documented when collecting sensitive information on personal or stigmatized experiences such as domestic violence (Creedy et al., 2020), child sexual abuse, or other traumas (Cull et al., 2023). Health care organizations aiming to screen for ACEs in pediatric settings should improve the patient and caregiver experience by providing consistent messaging about ACEs before the screening, ensuring patient privacy throughout the screening process, and consistently reviewing screening results at some point during the visit. To support transparency and address privacy concerns, it may be useful to verbally inform patients and caregivers that ACE screening is being adopted as a routine part of a comprehensive health assessment and is treated as confidential health information before introducing the screener.

This evaluation did not assess the impact of screening on visit length, but respondents reported that screening made initial visit paperwork lengthier and was sometimes unable to complete the screening before meeting with their child's PCP. Respondents who did not report ACEs did not discuss screening results with their providers but expressed a desire to do so. Clinics implementing ACE screening should explore ways to make screening fit better into patient visits. For example, clinics could provide the screener and information about ACEs electronically or by phone before the family arrives for a visit or ask the family to come in earlier to allow more time before consultation with the PCP. Ensuring that clinic workflows result in the completion of the screener before seeing the PCP may partially address prior findings on provider concerns about the perceived lack of time for screening and counseling during visits (Mishra et al., 2023).

We are unaware of any studies before this evaluation that examined adolescent patient attitudes toward ACEs screening in a pediatric setting. Adolescents we interviewed reported complex reactions related to ACEs screening; for example, they reported feeling comfortable in some respects (acknowledging that PCPs could get to know them better through the use of the screener) and uncomfortable in other respects (expressing that topics such as child abuse are not easy to discuss) when completing the screener or discussing the results with their PCP. Further research is needed on engaging adolescents, resulting in improved patient-clinician relationships and, ultimately, improved health outcomes.

It is challenging to develop screening tools appropriate for multiple sub-populations. Foster parents and Spanish speakers identified difficulties with the PEARLS ACE screening questions. Based on these findings, it is

recommended that ACE screening tools be tested in various populations and obtain direct service user input to improve the patient and caregiver experience. In the meantime, pediatric clinics serving these populations might consider using patient navigators or case managers to support them during the screening process, given that a prior study reported that caregivers found their support helpful during the ACEs screening process (Kia-Keating et al., 2019).

There were some limitations to this evaluation. The clinics included are part of a health care network that serves a diverse patient population living in a large, predominately urban county, and therefore, findings may not be generalizable to clinics in more remote or rural settings. These clinics provided care to a low-income Medi-Cal (California's Medicaid program) population, of which almost half identify as Hispanic/Latinx, so the applicability of findings should be considered within that context. Participation bias was a likely limitation of our evaluation, as individuals with positive or negative experiences may be more willing to share than those without strong feelings about ACE screening. Finally, sampling bias might have been introduced through the incentive offered to complete an interview.

## CONCLUSIONS

This evaluation suggests that pediatric patients and caregivers consider ACE screening acceptable. Some respondents—particularly adolescent patients—experienced mixed feelings when completing the ACEs screener but noted that feelings such as sadness or discomfort were manageable and that clinic staff appropriately addressed their emotions. We found no evidence of lasting adverse effects of ACE screening on patients or caregivers. ACE screening positively or neutrally impacted the caregiver/patient relationship with the provider and/or clinic staff. Pediatric health care settings considering routine ACE screening implementation should ensure patients receive adequate explanations about why they are being screened and create time in the visit for PCPs to discuss ACE screening with patients and caregivers.

## SUPPLEMENTARY MATERIALS

Supplementary material associated with this article can be found in the online version at <https://doi.org/10.1016/j.pedhc.2023.06.005>.

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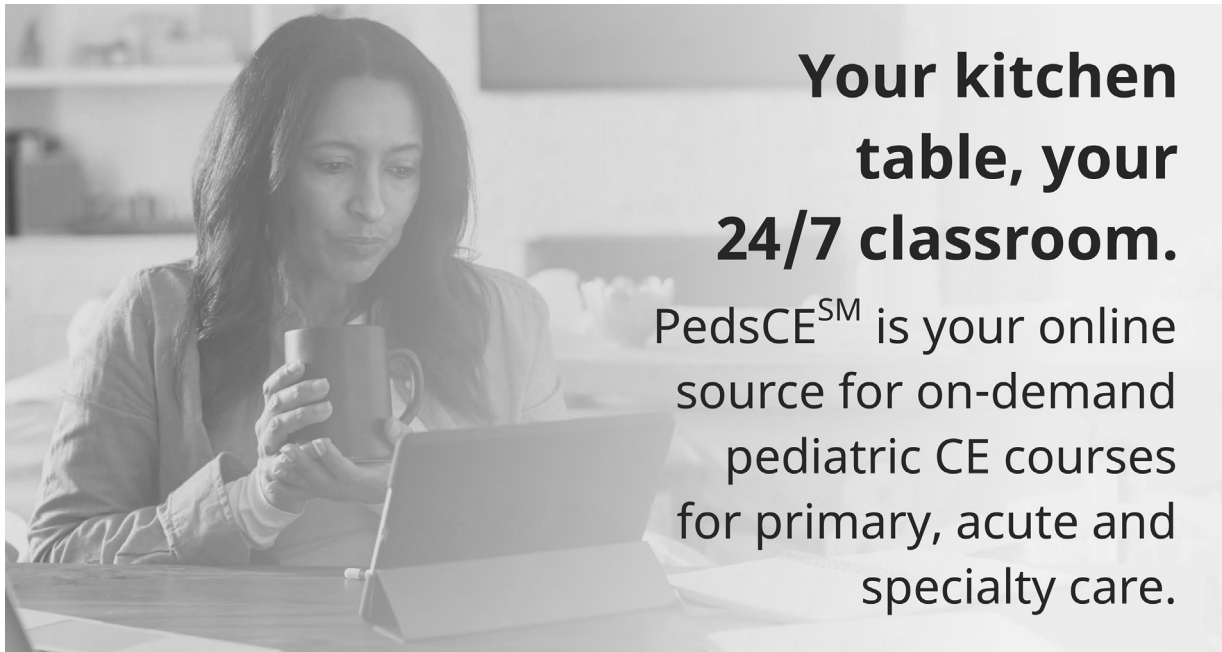
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