The Role of School-Based Health Centers in the ACEs Aware Initiative:

Current Practices and Recommendations

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Summary

Adverse Childhood Experiences (ACEs) and toxic stress represent an urgent public health issue in the United States. When left unaddressed or without the buffering support of safe, stable, and nurturing relationships and environments, the toxic stress that results from childhood adversity can have immediate and lifelong adverse effects on social, emotional, and physical well-being. Through California's ACEs Aware initiative, the Office of the California Surgeon General and the California Department of Health Care Services lay out a roadmap to address ACEs in California through systemic reforms that promote trauma-informed care, ACE screening, and treatment of toxic stress for Medi-Cal populations. School-Based Health Centers (SBHCs) are well-positioned to coordinate care for some of California's most medically underserved youth, yet there is limited research on trauma-informed care and ACE screening implementation in this setting. With funding from the ACEs Aware initiative, this practice paper aims to describe some emerging practices and barriers and facilitators to implementing trauma-informed care, ACE screening, and care coordination for the prevention and treatment of toxic stress in SBHCs. Practice and research recommendations are also provided.

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GRANTEE

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This paper was produced with grant funding support from the California ACEs Aware initiative, a first-in-the-nation effort to screen children and adults for Adverse Childhood Experiences (ACEs) in primary care, and to treat the impacts of toxic stress with trauma-informed care. The bold goal of this initiative is to reduce ACEs and toxic stress by half in one generation. For more information, visit the **ACEs Aware website.**

We are extremely grateful for the contributions of the School-Based Health Center (SBHC) partners who participated in our ACEs Aware Professional Learning Collaborative and the participating SBHC sites and key stakeholders who participated in our network of care interviews. Additionally, we are grateful for the insight and contributions of Naomi Schapiro, PhD, RN, PNP and Victoria Keeton, PhD, RN, PNP for co-facilitating our ACEs Aware Professional Learning Collaborative with SBHCs.

Background

Adverse Childhood Experiences (ACEs)[1] and toxic stress represent an urgent public health issue in the United States (Bhushan et al., 2020). Into the third decade of research on ACEs, the science is clear that:

SCIENCE SAYS

- ACEs are common and frequently co-occur;
- ACEs are associated in a dose-response fashion with many leading causes of poor health in children and adults;
- safe, stable, and nurturing relationships and environments can buffer the harmful effect of ACEs; and
- while ACEs affect all communities, some populations are disproportionately impacted based on race, ethnicity, class, gender, sexuality, and educational attainment.

Other stressors that are rooted in structural and systemic factors (e.g., poverty, racism and other forms of discrimination, and exposure to community violence) may increase the likelihood of experiencing ACEs, increase risk of toxic stress, and reduce the availability of buffering supports (Bhushan et al., 2020).

Findings from the 2016 National Survey of Children's Health estimate that 46% of U.S. children under 18 years have been exposed to at least one childhood adversity, and 30% have been exposed to two or more (C. Bethell et al., 2017). On average, half of the students in a classroom are expected to have experienced one or more potentially traumatic events (Perfect et al., 2016). When left unaddressed or without the buffering support of safe, stable, and nurturing relationships and environments, the toxic stress that results from childhood adversity can have immediate and lifelong adverse effects on social, emotional, and physical well-being (C. D. Bethell et al., 2017; Maynard et al., 2019; Shonkoff & Garner, 2012), including academic success (Perfect et al., 2016).

Despite the high prevalence of ACEs and their effect on child health and wellbeing, young people often do not receive necessary health services, particularly among historically excluded and underserved youth (Koball et al., 2021; Larson et al., 2017; Soleimanpour et al., 2017). Schools have increasingly become an important point of contact for prevention, identification, and treatment of physical and mental health needs for children and adolescents because of their availability and accessibility to students. Some studies indicate that school mental health services provide more access to services for youth than any other setting (Farmer et al., 2003; Kataoka et al., 2007; Lyon et al., 2013). School staff are often the first to identify student mental health problems and connect youth to mental health services, especially those who are unable or unlikely to access services in primary care or specialty mental health care settings (Green et al., 2013). In addition, given that academic problems are often related to mental and physical health difficulties (McLeod et al., 2012), schools are a compelling setting for integrated care models that address physical, mental health, and academic support services for youth.

SCIENCE SAYS

School-based health centers (SBHCs) constitute an important mechanism to improve access to and utilization of physical and mental health services, especially for medically underserved populations of youth (Farmer et al., 2003; Juszczak et al., 2003; Kataoka et al., 2007; Larson et al., 2017; Soleimanpour et al., 2010). SBHCs are located on school grounds and often employ multidisciplinary health and mental health professionals (e.g., nurses, psychologists and social workers) who consult regularly with school- and community-based supports for students (Larson et al., 2017; Weist et al., 2012) to help identify students and

1 The term ACEs comes from the landmark 1998 study conducted among more than 17,000 adult patients by the Centers for Disease Control and Prevention (CDC) and Kaiser Permanente, referred to as the ACE Study (Felitti et al., 1998). ACEs are potentially traumatic events that occur in childhood (up to age 18). Though often used colloquially to refer to a variety of adversities in childhood, when capitalized, the term ACEs specifically refers to 10 categories of adversities in three domains – abuse (physical, emotional, or sexual), neglect (physical or emotional), and household challenges (growing up in a household with incarceration, mental illness, substance dependence, absence due to parental separation or divorce, or intimate partner violence). This paper uses the terms childhood adversity or potentially traumatic events when referring to research on adverse childhood experiences beyond the original 10 ACEs.

SCIENCE SAYS

assure that students get needed services. SBHCs are convenient, culturally responsive and youth friendly, and eliminate structural barriers to service use such as transportation, cost, language barriers, available hours, and lack of confidential services for adolescents (Allison et al., 2007; Amaral et al., 2011; Juszczak et al., 2003; Larson et al., 2017). Additionally, SBHCs tend to have a schedule that allows for more time with patients and easier access to patients for follow-up care. SBHCs have demonstrated the ability to increase school attendance, improve academic scores, decrease school dropout, and provide high-quality care, and adolescents have favorable attitudes towards their use (Larson et al., 2017).

Through California's ACEs Aware initiative, the Office of the California Surgeon General and the California Department of Health Care Services lay out a roadmap to address ACEs in California through systemic reforms designed to prevent and screen for ACEs and treat toxic stress. The ACEs Aware initiative offers Medi-Cal providers training, screening tools, clinical protocols, and payment for screening children and adults for ACEs (***www.acesaware.org***). Of the 293 SBHCs in California, approximately 70% are eligible to bill for Medi-Cal services (California School-Based Health Alliance, 2021), positioning SBHCs in a critical role for reaching California's most structurally disadvantaged youth. However, there is limited research on the implementation of ACE screening within this setting. With funding from the ACEs Aware initiative, this practice paper aims to describe some emerging practices and barriers and facilitators to implementing trauma-informed care, ACE screening, and care coordination for the prevention and treatment of toxic stress in SBHCs. Future practice and research recommendations are also provided.

Methods

We conducted the following four activities that informed the contents of this practice paper:

- four virtual **listening sessions** with 110 attendees of the California School-Based Health Alliance State Conference in October 2020, including a wide range of school health professionals (e.g., school nurses, mental health providers, clinicians, administrators), the majority of whom were not yet implementing ACE screening in a SBHC setting and who self-selected into the conference session;
- a six-session virtual **professional learning collaborative** with nine SBHC providers (including two physicians, four nurse practitioners, one school counselor, one lead school nurse, and one clinical therapist) who applied to participate in the learning collaborative, were implementing or planning to implement ACE screening in a SBHC setting in the next year, and represented a diversity of SBHCs and providers based on location, youth demographics, and provider experience and role;
- **in-depth interviews** with 10 key stakeholders across four SBHC sites all actively implementing ACE screening (including five SBHC medical providers, two SBHC-affiliated mental health providers, one SBHC medical assistant, one county mental health provider, and one wellness navigator); and
- a comprehensive **literature review and environmental scan.**

Appendix A includes a more detailed description of these activities. Key themes across all the above activities were synthesized for this practice paper. However, most findings and illustrative quotes presented in this practice paper draw primarily from the professional learning collaborative transcripts and in-depth interviews which represent a total of six agencies in California that collectively serve around a dozen urban, suburban, and rural high schools and urban middle schools. Therefore, these findings are not representative of the 293 SBHCs in California, but rather lift up the experiences of a small handful of SBHCs that are early adopters of ACE screening.

Trauma-Informed Care in SBHC Settings

"Trying to implement trauma-specific clinical practices without first implementing trauma-informed organizational culture change is like throwing seeds on dry land."
- Sandra Bloom, MD

Addressing ACEs and trauma in a clinical setting begins with an organizational culture of trauma-informed care. Adapted from the Substance Abuse and Mental Health Services Administration (SAMHSA), the ACEs Aware initiative defines trauma-informed care as a framework that involves: *Understanding* the prevalence of trauma and adversity and their impacts on health and behavior; *Recognizing* the effects of trauma and adversity on health and behavior; *Training* leadership, providers, and staff on *responding* to patients with best practices for trauma-informed care; *Integrating* knowledge about trauma and adversity into policies, procedures, practices, and treatment planning; and *Resisting re-traumatization* by approaching patients who have experienced ACEs or other adversities with non-judgmental support. Though not explicit in the ACEs Aware framework, trauma-informed care is applied at the level of the organization (e.g., policies and procedures), in professional relationships (e.g., between providers within clinics and across specialties or organizations), in relationships with patients, and in relation with oneself. The ACEs Aware initiative also promotes the following key principles of trauma-informed care which serve as a guide for all health care providers and staff:

1 - Establish the physical and emotional **safety** of patients and staff;

2 - **Build** trust between providers and patients;

3 - **Recognize** the signs and symptoms of trauma exposure on physical and mental health;

4 - Promote **patient-centered, evidence-based care**;

5 - Ensure provider and patient **collaboration** by bringing patients into the treatment process and discussing mutually agreed upon goals for treatment;

6 - Provide care that is sensitive to the patient's **racial, ethnic, and cultural background, and gender identity.**

Drawing from the listening sessions, learning collaborative, network of care interviews, and literature scan, this section describes current practices and barriers and facilitators for implementing trauma-informed care in SBHC settings.

TRAUMA-INFORMED CARE: CURRENT PRACTICES

SBHCs are youth-centered, relationship-driven, reflective of the community needs, and well positioned to increase understanding of trauma and adversity and their impacts on health and behavior among students, family, and staff. SBHC staff have the ability to connect with students and provide universal education both in the clinical and school settings. They are also able to offer ongoing training, consultation and support to the adults that interact with students every day. Therefore, implementation of trauma-informed care in SBHCs often extends beyond the clinic and into the culture and climate of the school.

That said, most SBHC providers we spoke with could not readily point to a specific framework or policies when asked about trauma-informed care at their site. However, they often described specific practices that aligned with trauma-informed care principles when describing the clinical care they provide. ***Table 1*** summarizes trauma-informed care practices that we heard from SBHC providers during our grant activities that align with the ACEs Aware principles, supplemented with practices culled from the literature (Barnett et al., 2020; Machtinger et al., 2015; Miller, 2019; Raja et al., 2015).

Table 1. SBHC Practices Applying Principles of Trauma-Informed Care

1 - Establish the physical and emotional safety of patients and staff

- Use positive and welcoming signs, including clearly displayed safe space signage
- Clearly lay out directions and expectations, i.e., "check in here" and how the appointment will go and who will be seen
- Use a non-judgmental approach and establish routines and predictability when coming to the clinics
- Ensure patient understands their choice in all decisions and paperwork
- Provide confidential and private space for filling out forms and discussing material
- Display adolescent confidentiality rules in exam rooms
- Maintain emotional safety by approaching patients who have experienced ACEs and other adversities with non-judgmental support

2 - Build trust between providers and patients

- Recognize and build upon patient strengths, be supportive, and avoid judgmental statements or actions
- Show you are available, and schedule follow up appointments
- Provide clear descriptions for what the patient will experience to minimize anxiety
- Share informed consent policies up front
- Provide supportive, compassionate responses to trauma histories of ACEs or other adversities without eliciting specific details (primary care context)

3 - Recognize the signs and symptoms of trauma exposure on physical and mental health

- Recognize that maladaptive coping may be related to trauma history
- Recognize the signs of professional burnout and vicarious trauma

4 - Promote patient-centered, evidence-based care

- Ask every patient what can be done to make them more comfortable during the appointment
- Provide universal psychoeducation on stress, trauma, resilience and self-regulation to all staff, patients, and students
- Include patient voice in treatment planning and draw upon strengths in treatment plan
- Empower patients by providing education on simple things they can do every day, at home, to recognize how stress shows up in their bodies and help regulate their stress response system and buffer the negative impacts of toxic stress
- Refer patients to mental health providers who are trained in evidence-based trauma-specific therapy, if necessary
- Facilitate group interactions for sharing healing, resilience and lived experiences
- Include peer supports as a part of the team of health professionals

5 - Ensure provider and patient collaboration by bringing patients into the treatment process and discussing mutually agreed upon goals for treatment

- Create an atmosphere that allows patients to feel validated and affirmed at each contact
- Ensure that a patient's rights to information, privacy, bodily integrity, and participation in decision-making are respected and promoted
- Offer choices throughout the visit
- Assess for, recognize, and integrate patient strengths and experiences into a jointly formulated treatment plan
- Solicit and incorporate family and patient voices into practices and policies
- Include patients in planning and evaluating services
- Implement interprofessional collaboration

6 - Provide care that is sensitive to the patient's racial, ethnic, and cultural background, and gender identity

- Engage patient population early and often (e.g., advisory boards, focus groups, coffee circles/meals, stakeholder meetings)
- Reflect on biases and the ways racial, cultural, and social identity inform thinking and actions
- Understand how sociocultural factors and structural adversities such as racism impact a person's experience and stress response
- Recognize that stress (e.g., time pressure) exacerbates implicit bias
- Hire professionals that reflect the patient population and are committed to cultural humility and continued self-reflection
- Ensure signs and forms are inclusive of gender identity
- Provide materials in different languages

7 - Cross-cutting policies, practices, and procedures

- Ensure all staff are trained on stress, trauma, and resilience, from front desk staff to top levels of leadership
- Establish an organizational culture that supports providers and attends to stress and burnout
- Provide flexibility in staff work schedules to support staff caring for their work/life balance
- Morning huddles with team to increase connection and mindfulness
- Include relational supervision for staff directly involved with patients, i.e., for medical assistants providing screening
- Practice compassionate resilience to maintain provider well-being while caring for patients to be able to combat compassion fatigue, burnout, secondary traumatic stress, vicarious trauma, and related concerns.

TRAUMA-INFORMED CARE: IMPLEMENTATION BARRIERS

SBHC stakeholders we spoke with in our professional learning collaborative and network of care interviews highlighted the following barriers to implementing trauma-informed care rooted in clinic infrastructure and resource availability.

BARRIER
Leadership buy-in

Agency leadership structure and buy-in. SBHCs are varied in their make-up and have no governing body to dictate practices. Practices are often determined by the lead agency sponsoring the SBHC (i.e., community health centers, school districts, county health departments, hospitals/medical centers, mental health agencies, nonprofit community-based organizations, and private physician groups). These lead agencies may adhere to different values and priorities, governing laws and policies, and billing mechanisms. Buy-in from the lead agency is necessary to establish policies and procedures that promote trauma-informed care and dedicate the time and resources for ongoing staff training.

BARRIER
Funding and reimbursement

Reimbursement mechanisms. Many SBHCs rely on reimbursement mechanisms for billable visits to create their sustainability. The current billing reimbursement model for health care creates barriers to investing time and resources for staff training, developing and maintaining partnerships, implementing work across systems, and supporting staff that would be able to create connections for students (e.g., community health workers, care coordinators, wellness navigators, etc.).

BARRIER
Ongoing training opportunities

Ongoing training and professional development. Ongoing training for leadership, providers, and staff at all levels of the clinic is essential for implementing trauma-informed care. The SBHC providers we spoke with during our professional learning collaborative and network of care interviews were all early adopters of trauma-informed care. Many were themselves key champions who secured grant funding for trauma-informed care training or pursued their own personal professional development. However, these champions noted that ongoing training and professional development in trauma-informed care were not always available or accessible for all staff. The patchwork of grant-dependent training can leave gaps in staff knowledge and does not build sustained capacity as staff transition.

> *"There was a good timeline of trauma-informed grants that happened up to 2020, then COVID happens, and a lot of things went away. It'd be great if there was a grant opportunity so we can hire another health educator again, pending budgeting obviously, because I think budgets are a bit tight now for a lot of sites to be sustainable for the next fiscal year."*
>
> *- SBHC Nurse Practitioner*

For some, available training was often virtual and not especially engaging, particularly for non-clinical staff who may have experienced trauma.

> *"[Training is] often online, but really that's not super exciting for some people. They'd just feel like, "Yeah, whatever," and you skip through, it's boring... It'd be nice if it was an actual person, either in-person or a Zoom thing where you can interact and ask questions or say something."*
>
> *- SBHC Nurse Practitioner*

Additionally, the need surfaced for training across sectors such as education and health so that all staff who interact with youth on a school campus have a shared understanding and language of trauma-informed care.

TRAUMA-INFORMED CARE: IMPLEMENTATION FACILITATORS

Despite these barriers, the following organizational characteristics of SBHCs facilitated implementation of trauma-informed care.

FACILITATOR
Key champions

Key champions. Trauma-informed care is often initiated by key champions, and leadership buy-in is essential. Among the SBHCs implementing trauma-informed care that participated in our professional learning collaborative and network of care interviews, all mentioned having leadership buy-in and support.

Often, providers themselves championed trauma-informed care at their clinic, and some actively advocated to integrate community voice into clinical practices to best serve their patient populations.

> *"It's just been something that our clinical director had really felt was important. And so she's really worked to make sure that all of us as providers are on board and coming to work every day with that."*
>
> *- SBHC Pediatrician*

FACILITATOR
Youth-centered care

Orientation towards social justice and youth-centered care. SBHCs inherently have some foundation in trauma-informed care as they are often grounded in youth development principles and ensure students feel both physically and emotionally safe. They are often clear around students' choices and rights and skilled at communicating with students in ways that are respectful and take into account the whole child. Often the clinical providers who are drawn to work in SBHCs have a social justice lens and trauma-informed care is implicit in the care they provide.

> *"School is a hard place for many young people. They might be labeled as 'low achieving' or 'angry,' 'apathetic' or 'defiant.' When these young people come into a space that lifts up their hopes and dreams, they are able to re-position themselves in their own lives and within the school community as activists, artists, advocates and leaders. This chance to matter, to be an agent of change, has a profound impact on young people's sense of themselves and their imaginative capacity to hold a positive future."*
>
> *- SBHC Director*

FACILITATOR
Community health workers

Community health workers. SBHCs often employ community health workers or wellness navigators who are individuals without formalized health or mental health training but reflect the community of the people they are serving and are able to provide culturally and linguistically appropriate, ongoing care and connection to resources that can help the whole child (Barnett et al., 2020). During the pandemic, SBHCs that had community health workers reported being able to support students' whole child needs such as food, housing support, access to technology and safe spaces to do their schoolwork.

ACE Screening in SBHC Settings

Despite national recommendations for pediatric clinics to screen for ACEs and treat toxic stress, the majority of pediatric clinics have yet to adopt this recommendation (Barnes et al., 2020; Bright et al., 2015). There is no data to illustrate the percentage of SBHCs that currently conduct ACE screening. However, among the school-based health providers we spoke with through our grant activities, a small percentage were early adopters of ACE screening. Here we describe some barriers shared by SBHCs providers to adopting ACE screening, some emerging ACE screening models in SBHCs, and barriers and facilitators to ACE screening implementation in SBHC settings.

ACE SCREENING: BARRIERS TO GETTING STARTED

During our listening sessions in October 2020, school-based health providers stated a number of reasons for not yet adopting ACE screening in their clinical practice; many of these reasons were consistent with what has been cited in the literature (Barnes et al., 2020; Gillespie, 2019; Marsicek et al., 2019). One of the most stated concerns was the lack of behavioral health services and resources to adequately respond to identified needs. Many stated that they already have long waitlists and are navigating more budget cuts for mental health services. So, the pervasive question was, "What happens after receiving a high ACE score?" Other barriers to adopting ACE screening shared during the listening sessions included: fears about the potential for unintended negative consequences of ACE screening (e.g., fears that ACE screening could pathologize structurally marginalized youth, negatively impact provider-patient relationships, increase risk of system involvement, or increase risk of deportation for undocumented families); too much paperwork/use of other screening tools (e.g., Staying Healthy Assessment, trauma and social determinants of health screens); wanting to know more about ACE screening in the context of confidential adolescent care; and postponing plans to implement screening due to COVID-19 school shutdowns. Despite these barriers to screening adoption, providers also expressed interest in the ACEs Aware initiative and wanted more information about whether and how to implement ACE screening in the SBHCs.

ACE SCREENING: EMERGING PRACTICES

The ACEs Aware initiative provides a how-to-guide for ACE screening implementation with guidance on integrating ACE screening into the clinical workflow and responding to toxic stress through patient education, interventions, and access to additional support services (***https://www.acesaware.org/implement-screening/***). Through our professional learning collaborative and network of care interviews, we spoke with several SBHC providers that had started implementing ACE screening in the last one to three years (and were currently using the Pediatric ACEs and Related Life-events Screener, PEARLS). These providers shared three models for how they have integrated ACE screening into their clinical workflow.

EMERGING PRACTICE
Provider screening model

Provider screening model. In this model, ACE screening is integrated into the standard clinical workflow like other pediatric screening tools. The screen is commonly administered by medical staff (e.g., medical assistants) and reviewed by the medical provider during the clinical visit. During the visit, the provider discusses the results of the screen and provides the patient with education about toxic stress and/or intervention and support services as appropriate. The providers we spoke with who used this model typically screened patients during the well-child visits, sports physicals and/or new patient visits.

EMERGING PRACTICE
Universal, mass screening model

Universal, mass screening model. This model is like the provider screening model above, with the exception that the clinic coordinates with school and community partners to systematically screen every student. Mass screening is conducted in phases (e.g., one group or classroom of students visits the clinic at a time) to ensure that the clinical staff have the capacity to respond to all student needs. The SBHC site we interviewed that uses this model implements both the Rapid Adolescent Prevention Screening (RAAPS) and the de-identified ACE screen. Students visit the clinic and meet with clinical staff who explain the purpose of the screen and provide verbal and written information using handouts from ACEs Aware about ACEs, toxic stress and

protective factors, and resources in their community. Staff explain that screening is confidential and voluntary. Following the screen(s), students meet with a medical provider for a clinical assessment. Medical providers discuss the screen and the student's protective factors and determine the appropriate clinical response, which may include referrals to behavioral health, social services, or academic support. This screening model is beneficial for identifying and responding to the needs of the entire student population and familiarizing students with the SBHC. However, it requires significant person power, preparation, collaboration and coordination. The site we interviewed that utilized this model collaborates with nursing students and AmeriCorps interns to sufficiently staff the clinic during mass screening events.

EMERGING PRACTICE
Medical social worker screening model

Medical social worker screening model. In this model, a medical social worker conducts the ACE screen with patients during their well-child visit with a medical provider. Following an initial assessment by the medical provider, the medical provider introduces the patient to the medical social worker during the clinical visit. The medical social worker explains the purpose for the ACE screening, that it is confidential and voluntary, and implements the screen. The medical social worker provides basic education on toxic stress and coping skills. If the patient is ready, they are also able to provide brief therapy. The medical social worker then makes any necessary referrals to social services and manages linkages to care. In this model, a care team (medical social worker, behavioral health provider, and medical provider) regularly debrief to discuss the patient's care plan. Compared with the other two screening models, the medical social worker often spends much more time with the patients to implement and discuss the screen.

ACE SCREENING: IMPLEMENTATION BARRIERS

Across these different screening models, providers shared several barriers to screening implementation. Some of these barriers cut across the three models, and others were unique to a particular screening model. Many of the barriers shared were consistent with those that have been cited in the literature (Gillespie, 2019; Marsicek et al., 2019).

BARRIER
Available mental health and social services

Lack of resources and capacity to respond to identified needs. The most common barrier to ACE screening mentioned by SBHC providers across all three implementation models was the lack of resources and capacity to adequately respond to the identified mental health and social service needs. For most sites, their decision to start implementing ACE screening was contingent upon having sufficient resources, often the result of years of planning and additional grant funding to secure a network of behavioral health providers, case managers, health educators, and community partners. In some cases, these supports still felt inadequate.

> *"There's only one of me and there's many young people that we need to see. And so, it's really hard to prioritize and to know who to prioritize, when we should be seeing all young people. And we should be seeing every single person that comes into the clinic and doing the screenings with them."*
>
> *- Medical Social Worker*

BARRIER
Resources tailored for adolescents

Concerns about adolescent-friendly, confidential care. There is very little research or resources for providers implementing ACE screening with adolescent populations in the context of confidential care (Pardee et al., 2017; Soleimanpour et al., 2017). There are even fewer resources tailored for special populations of adolescents such as those who have been in the foster care system, those who have been incarcerated, homeless youth, sexually trafficked youth, and/or LGBTQ+ youth (Soleimanpour et al., 2017). Providers expressed concerns about ACE screening in the context of adolescent confidential care, including the need to center **youth relationships,** the need to protect patient **privacy and confidentiality,** and the need for **adolescent friendly scripts and resources.**[2]

SBHCs are typically youth-centered settings that are viewed by young people as a source of positive, trusting adult relationships (Stone et al., 2013). Some providers we interviewed were concerned about the problem-focused nature of ACE screening and the potential to pathologize structurally vulnerable populations. They

2 *At the time of this writing, ACEs Aware released on their website pediatric scripts that include adolescent specific scripts, which are available at:* https://www.acesaware.org/wp-content/uploads/2021/09/ACEs-Aware-Sample-Scripts-for-Pediatric-Clinical-Teams.pdf

expressed the importance of a holistic assessment that balances ACEs with positive childhood experiences or other protective factors.

> *"I worry that it will negatively impact the relationships they have with their patients who are already so vulnerable and already don't have a lot of adults that they trust…. We're working so hard to get adolescents into medical care. We don't want them to come one time, get an ACE screen and then not come back."*
>
> *- SBHC Behavioral Health Provider*

BARRIER
Confidentiality concerns

Providers also stated the need to ensure both privacy and confidentiality in the context of screening. This was particularly true for clinics implementing a more traditional provider screening model where medical staff often provided patients with the ACE screen to complete in the waiting room. In settings where caregivers accompanied youth for clinical visits, they noted cases where caregivers were seen looking over the adolescent's shoulder and even changing answers. Providers also noted that adolescents may not know the confidentiality laws around mandated reporting, and if they are filling out a screening form prior to a clinical conversation, they may not be aware of mandated reporting requirements.

Finally, providers had questions about evidence-based, adolescent oriented scripts for ACEs education and best practices for screening and brief interventions in the context of a clinical visit.

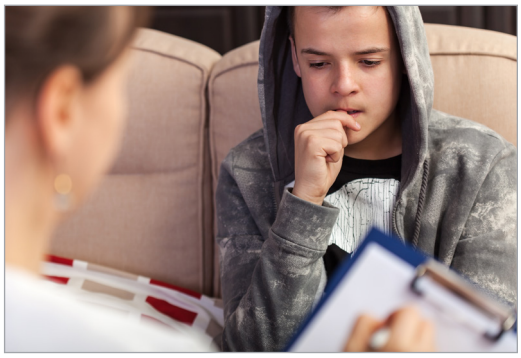
> *"I think explaining it to a teen is additionally really challenging if you're just talking to the teen and relating it to them on a level that they can understand. So I think one of the first barriers is just getting them to buy into this thing that you're talking about and understanding it."*
>
> *- Nurse Practitioner*

> *"We meet once a month with providers to just talk about whatever… Sometimes we do get on the topic of ACEs and we talk about how we respond and everyone seems to do it differently. I always try to address it with them to say, "Thanks for filling out this form, it has a lot of personal questions. You might wonder why we're asking all these personal questions and this is the reason why," and I'll explain to them. My form of trying to explain the ACEs to a teenager, which by no means probably has been validated in terms of their ability to understand it. But I do think that would be really awesome to have some form of training in which we can… Maybe it's even like teaching teens about ACEs and then learning from those teens how they understood it, and what information we need to communicate to them that helps them understand ACEs. At what point is it too much information for them? Do you go into all the cortisol and hormones and all of that, or is it more on just a basic level?"*
>
> *- Nurse Practitioner*

Concerns about reactions, perceptions, and unintended consequences for parents/caregivers.

BARRIER
Unintended consequences

Providers shared several concerns about potential negative consequences of ACE screening on parents and caregivers. These concerns varied. In a more rural setting, one provider we spoke with described a more conservative culture in which parents/caregivers would react negatively to questions perceived to invade family privacy and stressed the need for parent buy-in prior to adopting practices that address sensitive health topics among children and adolescents in the SBHC setting. Although legally, minors 12 years of age and older have the right to sensitive health services, the co-location of the SBHC on the school campus subjects the clinic to greater community scrutiny. Another provider talked about the stigma of addressing mental health in some communities, and particularly structural vulnerable communities with historic distrust of medical institutions. They stressed the need for more culturally responsive protocols and resources to facilitate patient-centered care. Other SBHC providers expressed concerns about the impact of ACE screening on immigrant families



and whether Child Protective Services (CPS) reports would result in deportation for undocumented parents/caregivers.

BARRIER
Additional training for clinicians and staff

Training for clinical providers and staff. Medical providers (e.g., nurse practitioners and pediatricians) implementing ACE screening in a more traditional provider screening model expressed a need for more training, professional development, and support at the provider and staff levels. Primary care providers reflected on the lack of their own mental health training as a barrier to effectively implementing ACE screening. Beyond educating about ACEs and making mental health referrals, several medical providers we interviewed worried that they did not have the skills to adequately respond to mental health needs.

> *"I can triage and do some general education about mental health care, but beyond that, it's really hard… Sometimes you're like, "Oh, I'm just in over my head here, and I'm not a therapist. And what do I say to this?"… You worry about these kids. So just to have the skills to deal with them. So that's hard."*
>
> *- Nurse Practitioner*

Additionally, some medical providers expressed a need for more training and support for clinic staff (e.g., front desk staff and medical assistance) who are responsible for administering the ACE screen with patients. This need was two-fold. First, clinic staff may not have the skills to effectively educate on the purpose of the ACE screen, explain confidentiality, or confidently navigate patient questions. Second, front line staff often do not have a support system to debrief their own experiences with hearing about others' trauma, putting them at risk for secondary traumatic stress.

BARRIER
Time and paperwork

Issues of time and paperwork. Some of the more frequently cited barriers to screening heard from nearly all learning collaborative participants and interview respondents were the issues of time and paperwork, which is consistent with findings from ACEs Aware (ACEs Aware, 2021). This was particularly challenging for teen well-child visits where patients are asked to complete multiple, sometimes overlapping screens (e.g., Staying Healthy Assessment, HEADSS Assessment, screening for depression, anxiety, PTSD, substance use, consent, and other paperwork). Providers shared common experiences of patients completing paperwork during, or even after the clinical visit, and screens not being addressed with patients because the forms were not filled out in time.

Providers also noted the challenge of time to respond to high ACE scores. This was particularly challenging with adolescent populations with whom providers stressed the importance of time needed to build supportive and trusting relationships and to respond to emotionally charged disclosures. Some providers opted to only bring up the ACE screen during the clinical visit if the score was positive.

> *"In the ACEs Aware literature, it keeps emphasizing how ACE screening only takes five minutes and that really hasn't been a lot of people's experience, especially if they screen at four or more and patients are at risk for toxic stress. I think it's really hard to have that kind of bundled up into a little four-minute speech… I don't always do the best job of education. I've been trying to do a little bit better, but again, yesterday my schedule was just too crazy and I don't want to open up a can of worms. I don't want to elicit a strong emotional response if I can't bring them down. So you just have to make a decision."*
>
> *- SBHC Pediatrician*

> *"Because as I am a social worker, I see the need of being able to assess and be able to ask more questions, follow-up questions, to ensure safety, to ensure stability, to ensure the young person's needs. And so, I can see it being a barrier if we are just focusing on completing or getting young folks to complete the screenings and not necessarily assessing what their needs are and making sure that they are safe at this very moment in time and also being able to give them the opportunity to process their trauma."*
>
> *- Medical Social Worker*

ACE SCREENING: IMPLEMENTATION FACILITATORS

Despite these barriers, SBHC providers also shared factors that facilitated ACE screening implementation within their SBHC.

FACILITATOR
Key champions

Key champions. SBHCs implementing ACE screening all had a champion within the clinic and leadership support to spearhead the effort. In some cases, the agency leadership were champions themselves, and in others, the leadership supported the SBHC champions with the flexibility and freedom to implement ACE screening as a new practice. One provider shared that the agency leadership was interested in using the SBHCs as a pilot for how to expand ACE screening at other sites. Although not explicitly stated by the providers and key stakeholders we spoke with, the $29 payment for conducting ACE screenings for child and adult patients with full-scope Medi-Cal was also an implied facilitator of screening implementation.

FACILITATOR
Stakeholder engagement

Stakeholder education, input, and feedback. Several clinics gathered input from key stakeholders prior to implementing screening and continued to collect feedback on screening implementation from youth and families. One SBHC engaged a Youth Advisory Board prior to implementing ACE screening to learn more from their adolescent population about how to implement ACE screening in a youth-centered manner. They learned that youth really wanted to know who would see their personal information, where it would be stored, and how it would be used. Youth gave advice on how they wanted the screen presented to them and role-played scenarios with clinical providers. This preparation was instrumental for supporting providers when starting to implement ACE screening. Another SBHC included an introduction letter, community resource list, understanding ACEs handout, and feedback form with the administration of the PEARLS. They reported a 95% percent completion rate and positive feedback by both parents and teens.

FACILITATOR
Trust

SBHCs are a trusted source of care. Many providers mentioned that the positive, trusting relationships the SBHC had established with patients contributed to patient openness with ACE screening and disclosures of personal adversities and trauma. Providers described relational trust based on proximity to the community, frequent contacts (with youth in particular), and the investment of time during clinical visits to intentionally build relational trust. In SBHCs with integrated behavioral health and/or medical social workers/community health workers, providers also expressed the importance of being able to follow-up with young people at school to ensure youth were connected to care and to meet the needs identified through screening.

> *"I think there's a level of trust. A lot of families tell me things that, as far as their trauma, that they might not have told anyone about. So I think trust is a success. If they're scoring positive and they're giving me information, they trust that this is something that we might be able to help them with."*
>
> *- SBHC Pediatrician*

> *"I think what has made our clinic work so well is the relationships that young people build with their medical providers and the trust. And one of the things for where we are, for some of our young people, they just don't have that consistent adult presence or enough protective adult relationships… It's a heightened level of importance, that attachment."*
>
> *- SBHC Behavioral Health Provider*

FACILITATOR
Integrated care

Integrated behavioral health care and collaboration with mental health providers. All but one of the SBHCs represented in our professional learning collaborative and network of care interviews had on-site integrated behavioral health care. For medical providers implementing ACE screening, the ability to make a warm hand-off to a behavioral health provider allayed their concerns about not having the time or capacity to respond to more sensitive mental health needs that surfaced from a positive ACE screen during their clinical visit. A multidisciplinary team facilitates the holistic needs of the patient. While medical providers can help the patient regulate stress hormones and treat neurologic, endocrine and immune dysfunction that may result from toxic stress, mental health providers support and address unmet mental health and social needs.

Positive patient response. Despite having concerns that ACE screening would negatively impact patient relationships, the providers that we spoke with unanimously shared positive stories of patients responding favorably to ACE screening, including both caregivers and youth, supporting other studies that demonstrate

FACILITATOR
Patient receptiveness

acceptability of ACE screening among caregivers of school-age youth (Koita et al., 2018; Marie-Mitchell et al., 2019). Providers shared that ACE screening and universal education on ACEs and toxic stress has helped to normalize the discussion of mental health, increase patient awareness of the connection between what has happened to them and their health, increase awareness of parenting practices, and provide a safe space for patients to talk about their adverse experiences and get support. In some cases, the conversation with patients that resulted from screening helped to deepen relational trust.

> *"One of the successes I think is that we're normalizing this discussion in the primary care setting, which I think is great and I feel very honored that these families often share with me some very private things in their lives that they probably wouldn't share with a lot of people in their lives."*
>
> *- SBHC Pediatrician*

> *"I think there is a range of meeting with young people anywhere from three hours to maybe 30 minutes. And then discussing their trauma with them and what their needs are and what they can do and giving them coping skills around that. I also think, because I'm able to create these dialogues and these conversations with young people, that's revolving around them and their trauma and things that they've experienced, has created really meaningful relationships within the clinic itself. And just having young people keep coming back.*
>
> *- SBHC Medical Social Worker*

> *"It's brought to light a lot of things and a lot of kids have felt like they had a voice to at least express themselves in a safe place and get linked to services, if necessary, they needed to."*
>
> *- SBHC Nurse Practitioner*

Treatment and Care Coordination in SBHC Settings

Many SBHCs are responsive to the needs of their patient populations due to integrated medical and behavioral health services and broad networks of care. Care coordination often extends beyond the clinic walls, pushing into schools and communities as part of both prevention of and response to ACEs. Here we describe integrated care models utilized by the SBHCs that participated in our professional learning collaborative and network of care interviews, their care coordination with school partners, and overall barriers and facilitators to care coordination.

CURRENT PRACTICES: INTEGRATED CARE MODELS UTILIZED BY SBHCS

Integrated care models, defined as care provided by a team of health professionals working together to coordinate and deliver services are increasingly popular as a result of their ability to increase accessibility and effectiveness of care for youth (Asarnow et al., 2005; Kolko et al., 2010; Richardson et al., 2014). These models combine medical and behavioral health services to more fully address the spectrum of patient needs in the most acceptable and effective way to yield the best results for the patient (Gilgoff et al., 2020). Several models of integrated care have been studied among pediatric youth populations and found to enhance treatment of behavioral health symptoms in youth (Asarnow et al., 2015).

The SBHCs that participated in our grant activities all utilized one of three different configurations for integrated care: **coordinated** (primary care providers communicate with community-based behavioral health providers via phone/web; referrals between organizations), **co-located** (primary care and behavioral health providers are co-located in the same setting or nearby) and **collaborative** (multidisciplinary teams work together; managing care coordinator) (Elkin et al., 2017; Lyon et al., 2016).

CURRENT PRACTICE **Coordinated care model**

Coordinated SBHC models. One rural SBHC that participated in our grant activities utilized a coordinated care model. The SBHC as well as all other schools, probation, and hospital services in the county use a single referral form for county mental health services and other social services. The county mental health services employ 1-2 therapists and two case managers for all youth in the county funded by Medi-Cal and Mental Health Services Administrations (MHSA). Therapists travel to schools and homes to offer groups and individual counseling, and they occasionally consult with educators to support individual students. County case managers provide transportation to services, provide psychoeducation, and connect youth and families with other social resources. Key stakeholders within this network of care lauded the strength of the coordination but were challenged by the limited resources and services available to meet the identified needs.

> *"We do coordinate a lot. That's one nice thing about a small community. As long as I get parental consent, and I can talk to the school, they can talk to me and we can coordinate like, 'This kid's really having a hard time. Let's keep an eye on them.' So we do a lot of coordination, which is really awesome because it's a small community."*
>
> *- SBHC Nurse Practitioner*

CURRENT PRACTICE **Co-located care model**

Co-located SBHC models. Several SBHCs that participated in our grant activities utilized co-located models of care offering both medical and behavioral health services on site. All described the ability and capacity to do warm hand-offs with a behavioral health professional as a critical component of care and particularly important for teens resistant to any kind of therapy. If a student needs external services (e.g., dental services, social services), then these referrals are managed by someone in a case management role such as a community health worker or an AmeriCorps intern.

> *"Often, we do warm handoffs. A lot of those. Because again, that's the hook, because I'll see kids are kind of hesitant. And it's like, "Well, how about if you just meet one of the counselors? You don't have to commit to anything." Or, if they are not there, it's like, "Well, let's just schedule you an appointment, and if you don't like it, you don't come back?" And usually they find the person that they are going to talk to is not scary. A lot of the kids love having someone who's going to listen just to them."*
>
> *- SBHC Nurse Practitioner*

CURRENT PRACTICE **Collaborative care model**

Collaborative SBHC models. Several SBHCs that participated in our grant activities also described collaborative care models where medical and behavioral health teams consult on individual patient care or where SBHCs collaborate with the school's coordination of services team (COST), a team of staff members who come together on a regular basis, often weekly, to discuss how the school is providing services to

students in need of additional support. In collaboration with COST, SBHCs sometimes receive referrals to see students, or if a student seen by the SBHC has an academic need, then a clinic community services manager may refer the student to COST and provide updates to COST on anything that is HIPAA compliant. Some SBHC behavioral health staff also provide consultation and coaching to teachers on how to work with students in the classroom.

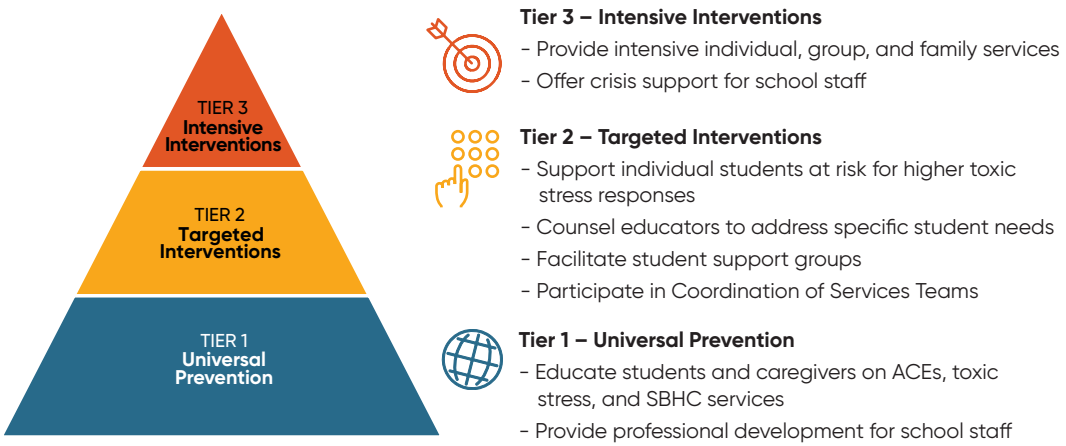
> *"We've become more integrated with the schools with the services we provide as well as being more of a collaborative partner with the staff. We are really embedded in the school's meetings and their coordination of care... And so, I've gotten referrals straight through or from the school."*
>
> *– SBHC Medical Social Worker*

CURRENT PRACTICES: CARE COORDINATION WITH SCHOOLS THROUGH MULTI-TIERED SYSTEMS OF SUPPORT

ACEs Aware promotes a tiered clinical response framework for addressing toxic stress in individual patients that includes primary prevention (efforts to prevent harmful exposures that could lead to toxic stress), secondary prevention (efforts to reduce accumulation of risk factors for toxic stress), and tertiary prevention (efforts to lessen the severity, progression, or complications from toxic stress and ACE-associated conditions).[3] Similarly, schools also use a Multi-Tiered Systems of Support (MTSS) framework for organizing school-based approaches to emotional, behavioral and academic needs of the entire student population (Bruns et al., 2016; Fazel et al., 2014). Like the ACEs Aware clinical response framework, MTSS is organized across three tiers. Universal interventions are delivered to all students at Tier 1. Students who are identified as needing additional help receive targeted support at Tier 2. Those who continue to need support are provided with intensive, individualized, Tier 3 interventions (Bruns et al., 2016).

As part of their tiered clinical response, SBHCs are in a unique position to collaborate with schools to address various levels of students' need for prevention and intervention. The examples below highlight the various ways that SBHC providers we spoke with coordinated care with schools across these tiers of support.

Figure 1. Strategies for Addressing Toxic Stress Through Multi-Tiered Systems of Support in Schools



CURRENT PRACTICE
Universal prevention and education

Tier 1 – Universal Prevention. In schools, Tier 1 services include universal prevention and education for students, caregivers, and school staff. Clinical providers (both medical and mental health providers) are often invited to go into classrooms to provide outreach and information about available SBHC services and education on various health topics. Clinic staff have also led education and prevention groups for students in partnership with the school, including lessons on mindfulness, sleep, and nutrition. Students conduct projects for class related to these health topics. In one district, the clinic is made aware of the health topics covered on the academic calendar, and they coordinate their health education offerings so that students are learning about a similar topic in school and through the clinic.

3 *See the ACEs Aware Overview: A Tiered Clinical Response Framework for Addressing Toxic Stress available at:* https://www.acesaware.org/wp-content/uploads/2021/09/An-Overview-A-Tiered-Clinical-Response-Framework-for-Addressing-Toxic-Stress.pdf

SBHC staff also provide professional development opportunities with school staff around ACEs and their impact on students and families. They have helped to establish calming corners in school classrooms. One clinic has also offered luncheons with school staff to provide ACEs education. SBHC mental health professionals will attend weekly teacher's meetings to share some trends they are seeing with students and get information about what is happening in the school context.

> *"During COVID, SBHC providers went into the classrooms… to talk to them about how to get services and talk to them a little bit about the impact of, I guess, I did that trauma informed stuff about, like, 'This is really weird. I imagine for you guys at your age, this is a lot more stressful and strange and isolating.'"*
>
> *- SBHC Nurse Practitioner*

> *"I know that there was some education done for the school by the LCSWs talking about calming corners that they integrated into the schools as well as doing their own mini professional development on trauma-informed care to keep them up to date. What we started trying to do is [follow the district's] calendar of health topics, usually every month or quarterly, so we try to mimic that so that kids are learning about something in school, they're also learning about it in the health center… in the last two years, we've been able to do peer education groups. We have AmeriCorps interns as well as myself or a behavioral health clinician supporting the groups. This year, it's with sixth graders and the peer education … They learn about sleep hygiene, mental health, mindfulness, nutrition and, at the end, they end up doing a project education session to teach back to us. That's been really successful".*
>
> *- SBHC Nurse Practitioner*

CURRENT PRACTICE **Targeted interventions**

Tier 2 – Targeted Interventions. Tier 2 interventions are for individual students or groups of students identified as needing extra support beyond the universal prevention and strategies. Health educators, case managers, and/or clinical staff (both physical health and mental health staff) may follow-up with individual students or facilitate student groups on topics such as yoga and mindfulness, mental health, anxiety and other mental health issues, LGBTQ groups, and others. These groups can be coordinated in response to collective student needs for the prevention and treatment of toxic stress.

> *"So all of the school counselors have my phone number and they'll reach out like, "Hey, can you call me?" And I call and they're like, "so and so is having a bad day today, do you have any extra time?" And if I do, I go over. If I don't, then I typically make an appointment to go the very next day or follow up with them after school."*
>
> *- Behavioral Health Provider*

CURRENT PRACTICE **Intensive interventions**

Tier 3 – Intensive Interventions. In coordination with schools, Tier 3 interventions that extend beyond medical treatment typically involve co-located behavioral health services or referrals to external behavioral health providers. Some clinics do therapy sessions with students at the school, at their home, or through telehealth. One of the SBHCs we spoke with also sees patients that are not affiliated with the school – often for confidential family planning services through the Family PACT program. They have a taxi voucher system where they can transport students from other schools to the clinic to receive mental health counseling or birth control services.

> *"I can only offer short term therapy. So roughly anywhere from 10 to less sessions, one to 10 sessions. And so, there's young people who will come in and have very complex trauma and need, I feel clinically, they need long term services. And so, just having to connect with all these other agencies and seeing what is open, connecting to the access line, connecting with our behavioral health team to see if we have the capacity to take them on. So there's a lot of coordination of care that comes with that one screening afterwards."*
>
> *- SBHC Medical Social Worker*

TREATMENT AND CARE COORDINATION: BARRIERS

SBHCs overcome many barriers to accessing treatment and coordination of care due to their integrated care models, geographic location, partnerships with schools and community organizations, and by reducing cultural barriers to care (Kjolhede et al., 2021). However, many barriers still exist, including geographical disparities in service accessibility, and mental health care workforce shortages (Mongelli et al., 2020). Current financing models are also seen as a potential barrier, because they often do not support restructured roles, partnership development, and the work to sustain upstream efforts to address toxic stress and community resilience (Ellis & Dietz, 2017).

Through our professional learning collaborative and network of care interviews, SBHC providers and key stakeholders also identified the following barriers to treatment and coordination of care.

BARRIER
Capacity for mental health services

Lack of resources and capacity to address mental health needs. As stated previously, SBHC staff and stakeholders identified not having the resources/capacity to adequately address mental health needs of their youth. For some SBHCs this lack of capacity is due to lack of any mental health providers on site, whereas other sites noted not having enough mental health providers to meet the overall need identified through screening. Lack of funding for all students to receive needed services and lack of resources to support billing student insurance, if available, is also a barrier. One SBHC noted that for a while, they were able to offer any patient any needed services for free due to grant funding. However, since the funding ended, they now need to refer insured patients to their primary care provider for select services, which can be a barrier to them actually receiving confidential mental health care.

> *"That's been one of my challenges since starting the school-based health center. And not having mental health services there, and limited mental health services here in general is how much depression and anxiety I'm seeing at the school clinic and feeling like, "Where do I refer these people, and what do I do?"*
>
> *- SBHC Nurse Practitioner*

BARRIER
Data sharing restrictions

Lack of coordination and data sharing across care providers and schools. The federal laws that govern data sharing and confidentiality are different for health providers and school-based health providers, and educators. The federal Family Educational Rights and Privacy Act (FERPA) governs education data while the federal Health Insurance Portability and Accountability Act of 1996 (HIPAA) governs health data. A SBHC's service records are subject to FERPA if the program is funded, administered, and operated by or on behalf of a school or education institution but can be subject to HIPAA if it is funded, administered and operated by or on behalf of a public or private health, social services, or another non-educational agency. Lack of understanding of how these laws limit and/or facilitate sharing of information on student needs and progress monitoring is one barrier to coordination of care in SBHC settings. Some examples of how lack of data sharing impact care coordination include: coordination of care including communication about whether students connect to care providers after a referral; lack of information to referrers (e.g., teachers, principals) on student progress can create tension or lack of trust between SBHC providers and school staff; and difficulty coordinating care in student assistance meetings where data between agencies and schools cannot be disclosed freely. One of the SBHCs discussed how they are working on developing a multi-disciplinary team meeting hosted by the school to coordinate care, but they need legal help to figure out how to coordinate care across medical and educational services.

> *"And we do weekly MDT meetings (multi-disciplinary team meetings) with CPS, and probation. We have a wraparound program too. So that happens every single week and then monthly my supervisor meets with, at least he's scheduled to meet, with the school counselors and kind of have an MDT meeting with them. We have very strict rules around our MDT meetings… Everyone signs a contract about what data they can/cannot share for MDT meetings. If we were at a meeting and we hadn't had all that stuff set in place, we couldn't give any more than one identifier."*
>
> *- SBHC Nurse Practitioner*

TREATMENT AND CARE COORDINATION: FACILITATORS

FACILITATOR
Integrated care

Integrated behavioral health care and collaboration with mental health providers. All the SBHC providers we spoke with had some kind of integrated behavioral health care within their clinic ranging from coordinated, co-located, and collaborative models. These integrated care models help to ensure that students' needs are adequately identified and addressed. In addition, some SBHCs we spoke with also received grant funding for positions dedicated to care coordination (e.g., wellness navigators, community

health workers, medical social workers) to help bridge the gaps between referrals to behavioral health resources and to promote communication between schools, SBHC providers, and external community providers.

"So I think the warm handoff was definitely a success. I think that was a really awesome piece, integrated mental health services within the clinic. I think without that, it would be really hard to have implementation of ACE screening."

- SBHC Nurse Practitioner

"Yeah. I mean, I think that is the benefit of having in-house, right? You have a relationship with the mental health provider. You can collaborate. I think that's a really awesome thing to have, so that was definitely positive. And we would with the warm handoffs, they would usually come and be like, "This patient doesn't really seem ready, or this is actually where they need support. This is what I'm going to do and I would get that follow up."

– SBHC Nurse Practitioner

Positive relationships between SBHC staff and school staff. Across the board we heard that good working relationships between SBHC staff and school staff is essential for connecting students to services, treatment planning, and care coordination. We learned that while lack of buy-in related to school health services can be a barrier, staff support and buy-in related to school health services is a facilitator to treatment and care coordination. SBHC staff who are persistent in working with school staff in aligning health services with educational priorities were more successful in their efforts to integrate and coordinate care in schools.

FACILITATOR
Good working relationships

"The school loves us. They'll bring kids over for counseling… We have different therapists in different levels. They'll go over ACEs with them. The teachers even have our mental health people come into their classes and talk about this stuff, which is fabulous. The teachers, because of all this now, have tours. They'll bring in the ninth graders… well, again, before COVID… to introduce them to the clinic, and that they can see a mental health person without their parent's knowledge, and that's huge."

- SBHC Nurse Practitioner

Practice Recommendations

Based on our findings, we make the following recommendations at the state- and clinic-levels to support SBHCs to prevent and address ACEs and promote child well-being.

STATE-LEVEL RECOMMENDATIONS

1. Continue to fund and sustain an infrastructure to provide ongoing training and capacity building for trauma-informed systems and networks of care. Implementing trauma-informed systems of care requires ongoing training and support across sectors (e.g., education, health services, social services, behavioral health, caregivers and families) from leadership to frontline staff to establish a common language and personalized understanding about the science of ACEs and thriving as well as strategies for prevention and healing (C. D. Bethell et al., 2017). The ACEs Aware initiative currently offers trainings, webinars, learning collaboratives and toolkits to support capacity building around trauma-informed care, ACE screening, and treatment of toxic stress. Links to these and additional training resources are available in ***Appendix B***. The key stakeholders we engaged in our grant activities elevated the following additional training and capacity building needs to address barriers to ACE screening and treatment of toxic stress in SBHCs:

RECOMMENDATION
Fund and sustain capacity building infrastructure

- in-person training opportunities for front desk staff and medical assistants who may be less familiar with the science of ACEs and trauma-informed care in order to effectively implement relationship-centered screening, explain patient confidentiality, the purpose for ACE screening, how the screening data will be used and stored, and that screening is voluntary;
- training for medical providers to increase their comfort and confidence to address and respond to sensitive issues and mental health needs that surface when implementing ACE screening during clinical visits, particularly for medical providers in under resourced or rural settings without strong networks of care or behavioral health support;
- training for medical providers working specifically with adolescent populations to provide universal ACE education that is effective, youth-friendly, and responsive to adolescent developmental needs and concerns (including adolescent-friendly scripts and resources - also see ***Appendix B*** for some adolescent-friendly tools and resources that surfaced during our grant activities);

- support for clinical providers and non-clinical staff implementing ACE screening to process patient experiences and vicarious trauma reactions that surface in the process of screening for ACEs; and
- ongoing opportunities for professional learning communities to share in real-time current practices, challenging cases, and lessons learned to build the evidence-based and identify best practices for ACE education, screening implementation, and care coordination.

In addition to the above topics, some providers we spoke with also raised tensions around potential unintended consequences of ACE screening that require opportunities for deeper reflection and dialogue to increase provider confidence with screening implementation. For example, some providers that we spoke with in our listening sessions, professional learning collaborative, and network of care interviews expressed a concern about the increase in identification of CPS cases that may result from ACE screening or the risk of deportation for undocumented caregivers. While CPS is intended to support children in families, some providers expressed distrust of the handling of CPS cases in their community and/or concern about racial bias that may disproportionately affect people of color. Training and capacity building opportunities that address these concerns across networks of care and that are substantiated with outcome-oriented data are needed. At the time of this writing, ACEs Aware released guidance for ***California's Mandated Reporting Requirements and ACE Screening*** which helps to address this issue.

2. Increase funding and sustainability of mental health providers in SBHCs to advance the goal of ACEs Aware to both prevent and address the impact of ACEs and toxic stress. The current ACEs Aware initiative aims to train clinical teams to screen children and adults for ACEs in primary care settings and to treat the impacts of toxic stress with trauma-informed care and evidence-based interventions. As trusted health care providers with frequent touchpoints with children and families through well-child visits, medical providers

play a critical role in the education, prevention, and treatment of toxic stress – particularly for opening the door to a conversation about ACEs and health, reducing mental health stigma, and treating the physical manifestations of toxic stress.

However, increased funding for school-based mental health providers is also necessary to achieve this goal. SBHCs are located in some of California's most under-resourced schools with complex physical health, mental health, and social service needs. The school-based health providers we spoke with stated that the availability of integrated mental health services was one of the most important factors for initiating and sustaining ACE screening and treatment in the SBHC setting. Yet these resources often fell short of the actual need. Increasing the number of mental health providers affiliated with SBHCs ensures that students can access beneficial care and support they need.

RECOMMENDATION
Fund prevention and mental health care

School-based mental health providers also find that a lot of their time is taken up by "non-billable" services such as building relationships with community partners and providing education and workshops for school staff and students in classrooms. School-based mental health providers are able to push into schools to provide universal education to an entire school community about ACEs and toxic stress, what students and staff can do to mitigate the impact of toxic stress, and available resources. Universal education ensures all students receive beneficial education prior to a clinical ACE screen and can help health professionals build trust with and support special populations that are more likely to have experienced ACEs (e.g., justice involved youth, youth in foster care, immigrant youth, etc.) without requiring disclosure about ACEs. Reimbursement for these services would greatly increase the sustainability of mental health providers in SBHCs.[4]

3. Expand telehealth resources and training for rural settings. Providers in the professional learning collaborative talked about the benefits of telepsychiatry support for primary care providers such as the University of California, San Francisco (UCSF) Child Adolescent Psychiatry Portal (CAPP) program. It is recommended that providers across California have access to tele-consultation for children's psychiatry in order to provide more mental health support to children and families particularly in rural communities where access to children's psychiatry can be limited. There is also potential for increased use of telehealth to provide behavioral health in SBHCs in more rural settings where fewer behavioral health providers reside. See ***Appendix B*** for telehealth consultation resources.

RECOMMENDATION
Expand telehealth

SBHC-LEVEL RECOMMENDATIONS

1. Develop a holistic education, screening and intervention plan that includes comprehensive support and is responsive to the needs of the community. Before starting any screening protocol, it is important to develop a comprehensive plan that is responsive to the needs of the community. ACEs Aware provides a how-to-guide for implementing ACE screening and a network of care roadmap to support building a comprehensive network of care within communities and health care teams to address ACEs and toxic stress (see these and other useful planning tools in ***Appendix B*****).** As part of the school community, SBHCs are uniquely situated to be a part of a comprehensive support system for students.

RECOMMENDATION
Develop a holistic and responsive plan

Following the stages outlined in the ACEs Aware Implementation How-To Guide, we recommend considering these successful strategies SBHCs have used in their planning and implementation process. In ***Stage 1: Preparing the Foundation,*** it is important to include input from individuals directly impacted by screening (e.g., students and families) early and often when developing, planning, and implementing screening. Families and students can help shape the screening process and increase community and school investment and support. Engaging Youth Advisory Boards or Youth Health Workers is an excellent strategy for gathering student and community input into the screening protocol. Input should include what to screen for, what instrument(s) to use, how school staff will respond to positive screens, how to configure appropriate follow-up, and how to manage data and protect privacy/confidentiality. Youth Advisory Boards or Youth Health Workers can also provide youth perspectives on how youth can best access the ACEs Aware recommended

4 *The California School-Based Health Alliance has developed a guide to help FQHCs increase the sustainability of their school-based behavioral health providers given the different ways behavioral health services are provided at schools than in community clinics.* http://www.schoolhealthcenters.org/wp-content/uploads/2021/08/CSHA-IBH-Sustainability-Guide-2021.pdf

stress busters (e.g., Meditation, Access to Nature, Physical Movement, Sleep, Quality Nutrition, Mental Health, Healthy Relationships) in their unique communities.

In ***Stage 2: Selecting Your Approach,*** when determining who and how you will screen, be sure to assess strengths and protective factors in addition to ACEs. Although this is an important step in the clinical protocol recommended by ACE Aware, it was sometimes overlooked or inconsistently implemented by the providers we spoke with since protective factors are not directly included in the ACE screening tool. SBHCs are also in a unique position to assess and address the social determinants of health that also impact the toxic stress response. While screening for ACEs, it is important to also take into consideration the social influencers of health that may be impacting the students on a campus.[5] By assessing social determinants of health, SBHCs can identify trends that may benefit from a community intervention rather than individual interventions. For example, SBHCs in our collaborative noticed that food insecurity was coming up for many students and incorporated a partnership with a local food bank to provide backpacks of fresh food that students have access to each week.

Also consider the strengths and limitations of the screening and integrated care models that emerged from our professional learning collaborative and network of care interviews when determining how you will screen and preparing your clinical response. For student populations with a lot of mental health and social service needs, co-located and collaborative care models were necessary for supporting medical providers to implement comprehensive treatment plans for patients in need of mental health and social services. Beyond integrated care models, SBHCs have advantages in creating networks of care that prevent and address ACEs due to their location and collaboration with the education staff on their campus. We recommend that SBHCs become involved in collaborative service provider meetings that take place at schools and leverage these meetings to develop access and referral pathways that can meet student needs. Additionally, schools and community partners can creatively address the ACEs Aware stress busters for entire student populations. For example, SBHCs can support school staff to develop supportive relationships with students; integrate mindfulness, exercise, and exposure to outdoor space into the school day; provide education about ACEs and toxic stress in health education classes; and host educational workshops for parents and caregivers about toxic stress.

5 Part II of the PEARLS includes some questions about social determinants of health.

Future Research

In the scientific literature, there is widespread agreement that ACEs are highly prevalent, associated with health risks that begin in childhood, and that early identification and intervention are important (Bhushan et al., 2020; Duffee et al., 2021). However, many questions about the clinical implementation of ACE screening remain (Barnes et al., 2020). While a comprehensive review of research questions is beyond the scope of this paper, the following questions surfaced from our grant activities:

Tool Development. SBHC providers had questions about: how ACE screening tools were perceived across cultures, contexts, and communities; whether and how to account for the timing and severity of ACEs; and how to streamline screening tools and measures to reduce redundancy with other required screeners (e.g. Staying Healthy Assessment) and improve efficiency.

Implementation Research. Numerous implementation questions surfaced in our grant activities, including: what is the most effective screening model for providing efficient and responsive relationship-centered care; what skills or competencies are needed by providers to implement ACE screening; should the ACE screen be paired with other screeners or implemented on its own to reduce burden; what are best practices for introducing ACEs to adolescents; what are effective messages, scripts and interventions for responding to positive ACE screens with adolescents; and how to improve communication, coordination and data sharing among networks of care (e.g., school staff, social service providers, mental health referrals).

Impact Evaluation. Finally, providers we spoke with wanted to know about the impact of ACE screening on patient outcomes, including a cost-benefit analysis. Studies have documented the feasibility and acceptability of ACE screening among caregivers and providers of school-age youth (DiGangi & Negriff, 2020; Koita et al., 2018; Marie-Mitchell et al., 2019; Marsicek et al., 2019; Selvaraj et al., 2019) and the impact of ACE screening on increasing referral rates (Selvaraj et al., 2019). However, more research is needed on the feasibility and acceptability of ACE screening with adolescents and in SBHC settings. Additionally, more rigorous studies are needed of the behavioral, mental, and physical health outcomes that result from ACE screening, across patient populations (e.g., race/ethnicity, gender identity, sexual orientation, developmental age, immigration status), settings, and screening and care coordination models.

While these research questions are applicable to all pediatric settings, it is worth noting that SBHCs often do not have sophisticated systems or capacity for implementation research and impact evaluation. Several providers stated that they track their own records in an excel spreadsheet in order to follow-up on patient referrals. Thus, investments in a research infrastructure to facilitate continuous learning about the value of ACE screening are also needed.

Conclusion

In summary, SBHCs are well-positioned to address childhood adversity for some of California's most medically underserved youth. The ACEs Aware initiative can overcome barriers SBHCs face in sustaining trauma-informed care and ACE screening by investing in systems that sustain ongoing training and capacity building, increase funding and sustainability of school-based mental health providers, increase access to telehealth consultation, provide tools and resources to strengthen planning and procedures at the clinical level, and invest in implementation research to build the evidence for methods that are feasible, efficient, and impactful.

References

ACEs Aware. (2021). ACEs Aware Screening, Training, and Certification Progress: July 2021 Update. ACEs Aware. ACEs Aware Screening, Training, and Certification Progress: July 2021 Update. Available at: https://www.acesaware.org/wp-content/uploads/2021/07/July-ACEs-Aware-Data-Report.pdf

Allison, M. A., Crane, L. A., Beaty, B. L., Davidson, A. J., Melinkovich, P., & Kempe, A. (2007). School-Based Health Centers: Improving Access and Quality of Care for Low-Income Adolescents. *Pediatrics, 120*(4), e887–e894. https://doi.org/10.1542/peds.2006-2314

Amaral, G., Geierstanger, S., Soleimanpour, S., & Brindis, C. (2011). Mental health characteristics and health-seeking behaviors of adolescent school-based health center users and nonusers. *The Journal of School Health, 81*(3), 138–145. https://doi.org/10.1111/j.1746-1561.2010.00572.x

Asarnow, J. R., Jaycox, L. H., Duan, N., LaBorde, A. P., Rea, M. M., Tang, L., Anderson, M., Murray, P., Landon, C., Tang, B., Huizar, D. P., & Wells, K. B. (2005). Depression and role impairment among adolescents in primary care clinics. *The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine, 37*(6), 477–483. https://doi.org/10.1016/j.jadohealth.2004.11.123

Asarnow, J. R., Rozenman, M., Wiblin, J., & Zeltzer, L. (2015). Integrated Medical-Behavioral Care Compared With Usual Primary Care for Child and Adolescent Behavioral Health: A Meta-analysis. *JAMA Pediatrics, 169*(10), 929–937. https://doi.org/10.1001/jamapediatrics.2015.1141

Barnes, A. J., Anthony, B. J., Karatekin, C., Lingras, K. A., Mercado, R., & Thompson, L. A. (2020). Identifying adverse childhood experiences in pediatrics to prevent chronic health conditions. *Pediatric Research, 87*(2), 362–370. https://doi.org/10.1038/s41390-019-0613-3

Barnett, M. L., Kia-Keating, M., Ruth, A., & Garcia, M. (2020). Promoting equity and resilience: Wellness navigators' role in addressing adverse childhood experiences. *Clinical Practice in Pediatric Psychology, 8*(2), 176–188. https://doi.org/10.1037/cpp0000320

Bethell, C. D., Solloway, M. R., Guinosso, S., Hassink, S., Srivastav, A., Ford, D., & Simpson, L. A. (2017). Prioritizing Possibilities for Child and Family Health: An Agenda to Address Adverse Childhood Experiences and Foster the Social and Emotional Roots of Well-being in Pediatrics. *Academic Pediatrics, 17*(7S), S36–S50. https://doi.org/10.1016/j.acap.2017.06.002

Bethell, C., Davis, M., Gombojav, N., Stumbo, S., & Powers, K. (2017). *Issue Brief: A national and across state profile on adverse childhood experiences among children and possibilities to heal and thrive.* Johns Hopkins Bloomberg School of Public Health.

Bhushan, D., Kotz, K., McCall, J., Wirtz, S., Gilgoff, R., Rishi Dube, S., Powers, C., Olson-Morgan, J., Galeste, M., Patterson, K., Harris, L., Mills, A., Bethell, C., & Burke Harris, N. (2020). *The Roadmap for Resilience: The California Surgeon General's Report on Adverse Childhood Experiences, Toxic Stress, and Health.* Office of the California Surgeon General. https://doi.org/10.48019/PEAM8812

Bright, M. A., Thompson, L., Esernio-Jenssen, D., Alford, S., & Shenkman, E. (2015). Primary Care Pediatricians' Perceived Prevalence and Surveillance of Adverse Childhood Experiences in Low-Income Children. *Journal of Health Care for the Poor and Underserved, 26*(3), 686–700. https://doi.org/10.1353/hpu.2015.0080

Bruns, E. J., Duong, M. T., Lyon, A. R., Pullmann, M. D., Cook, C. R., Cheney, D., & McCauley, E. (2016). Fostering SMART Partnerships to Develop an Effective Continuum of Behavioral Health Services and Supports in Schools. *American Journal of Orthopsychiatry, 86*(2), 156–170. https://doi.org/10.1037/ort0000083

DiGangi, M. J., & Negriff, S. (2020). The Implementation of Screening for Adverse Childhood Experiences in Pediatric Primary Care. *The Journal of Pediatrics, 222,* 174-179.e2. https://doi.org/10.1016/j.jpeds.2020.03.057

Duffee, J., Szilagyi, M., Forkey, H., & Kelly, E. T. (2021). Trauma-Informed Care in Child Health Systems. *Pediatrics, 148*(2), e2021052579. https://doi.org/10.1542/peds.2021-052579

Elkin, T. D., Sarver, D. E., Wong Sarver, N., Young, J., & Buttross, S. (2017). Future Directions for the Implementation and Dissemination of Statewide Developmental-Behavioral Pediatric Integrated Health Care. *Journal of Clinical Child and Adolescent Psychology: The Official Journal for the Society of Clinical Child and Adolescent Psychology, American Psychological Association, Division 53, 46*(4), 619–630. https://doi.org/10.1080/15374416.2016.1152551

Ellis, W. R., & Dietz, W. H. (2017). A New Framework for Addressing Adverse Childhood and Community Experiences: The Building Community Resilience Model. *Academic Pediatrics, 17*(7), S86–S93. https://doi.org/10.1016/j.acap.2016.12.011

Farmer, E. M. Z., Burns, B. J., Phillips, S. D., Angold, A., & Costello, E. J. (2003). Pathways into and through mental health services for children and adolescents. *Psychiatric Services (Washington, D.C.), 54*(1), 60–66. https://doi.org/10.1176/appi.ps.54.1.60

Fazel, M., Hoagwood, K., Stephan, S., & Ford, T. (2014). Mental health interventions in schools in high-income countries. *The Lancet Psychiatry, 1*(5), 377–387. https://doi.org/10.1016/S2215-0366(14)70312-8

Gilgoff, R., Singh, L., Koita, K., Gentile, B., & Marques, S. S. (2020). Adverse Childhood Experiences, Outcomes, and Interventions. *Pediatric Clinics of North America, 67*(2), 259-+. https://doi.org/10.1016/j.pcl.2019.12.001

Gillespie, R. J. (2019). Screening for Adverse Childhood Experiences in Pediatric Primary Care: Pitfalls and Possibilities. *Pediatric Annals, 48*(7), E257–E261. https://doi.org/10.3928/19382359-20190610-02

Green, J. G., McLaughlin, K. A., Alegría, M., Costello, E. J., Gruber, M. J., Hoagwood, K., Leaf, P. J., Olin, S., Sampson, N. A., & Kessler, R. C. (2013). School mental health resources and adolescent mental health service use. *Journal of the American Academy of Child and Adolescent Psychiatry, 52*(5), 501–510. https://doi.org/10.1016/j.jaac.2013.03.002

Juszczak, L., Melinkovich, P., & Kaplan, D. (2003). Use of health and mental health services by adolescents across multiple delivery sites. *Journal of Adolescent Health, 32*(6), 108–118. https://doi.org/10.1016/S1054-139X(03)00073-9

Kataoka, S., Stein, B. D., Nadeem, E., & Wong, M. (2007). Who gets care? Mental health service use following a school-based suicide prevention program. *Journal of the American Academy of Child and Adolescent Psychiatry, 46*(10), 1341–1348. https://doi.org/10.1097/chi.0b013e31813761fd

Kjolhede, C., Lee, A. C., Duncan De Pinto, C., O'Leary, S. C., Baum, M., Savio Beers, N., Moran Bode, S., Gibson, E. J., Gorski, P., Jacob, V., Larkin, M., Christopher, R., & Schumacher, H. (2021). School-Based Health Centers and Pediatric Practice. *Pediatrics, 148*(4), e2021053758. https://doi.org/10.1542/peds.2021-053758

Koball, A. M., Domoff, S. E., Klevan, J., Olson-Dorff, D., Borgert, A., & Rasmussen, C. (2021). The impact of adverse childhood experiences on healthcare utilization in children. *Child Abuse & Neglect, 111,* 104797. https://doi.org/10.1016/j.chiabu.2020.104797

Koita, K., Long, D., Hessler, D., Benson, M., Daley, K., Bucci, M., Thakur, N., & Harris, N. B. (2018). Development and implementation of a pediatric adverse childhood experiences (ACEs) and other determinants of health questionnaire in the pediatric medical home: A pilot study. *Plos One, 13*(12), e0208088. https://doi.org/10.1371/journal.pone.0208088

Kolko, D. J., Campo, J. V., Kelleher, K., & Cheng, Y. (2010). Improving access to care and clinical outcome for pediatric behavioral problems: A randomized trial of a nurse-administered intervention in primary care. *Journal of Developmental and Behavioral Pediatrics: JDBP, 31*(5), 393–404. https://doi.org/10.1097/DBP.0b013e3181dff307

Larson, S., Chapman, S., Spetz, J., & Brindis, C. D. (2017). Chronic Childhood Trauma, Mental Health, Academic Achievement, and School-Based Health Center Mental Health Services. *The Journal of School Health, 87*(9), 675–686. https://doi.org/10.1111/josh.12541

Lyon, A. R., Ludwig, K. A., Stoep, A. V., Gudmundsen, G., & McCauley, E. (2013). Patterns and Predictors of Mental Healthcare Utilization in Schools and other Service Sectors among Adolescents at Risk for Depression. *School Mental Health, 5*(3). https://doi.org/10.1007/s12310-012-9097-6

Lyon, A. R., Whitaker, K., French, W. P., Richardson, L. P., Wasse, J. K., & McCauley, E. (2016). Collaborative Care in Schools: Enhancing Integration and Impact in Youth Mental Health. *Advances in School Mental Health Promotion, 9*(3–4), 148–168. https://doi.org/10.1080/1754730X.2016.1215928

Machtinger, E. L., Cuca, Y. P., Khanna, N., Rose, C. D., & Kimberg, L. S. (2015). From Treatment to Healing: The Promise of Trauma-Informed Primary Care. *Women's Health Issues, 25*(3), 193–197. https://doi.org/10.1016/j.whi.2015.03.008

Marie-Mitchell, A., Lee, J., Siplon, C., Chan, F., Riesen, S., & Vercio, C. (2019). Implementation of the Whole Child Assessment to Screen for Adverse Childhood Experiences. *Global Pediatric Health, 6,* 2333794X19862093. https://doi.org/10.1177/2333794X19862093

Marsicek, S. M., Morrison, J. M., Manikonda, N., O'Halleran, M., Spoehr-Labutta, Z., & Brinn, M. (2019). Implementing Standardized Screening for Adverse Childhood Experiences in a Pediatric Resident Continuity Clinic. *Pediatric Quality & Safety, 4*(2), e154. https://doi.org/10.1097/pq9.0000000000000154

Maynard, B. R., Farina, A., Dell, N. A., & Kelly, M. S. (2019). Effects of trauma-informed approaches in schools: A systematic review. *Campbell Systematic Reviews.* https://doi.org/10.1002/cl2.1018

McLeod, J. D., Uemura, R., & Rohrman, S. (2012). Adolescent mental health, behavior problems, and academic achievement. *Journal of Health and Social Behavior, 53*(4), 482–497. https://doi.org/10.1177/0022146512462888

Miller, E. (2019). Trauma-Informed Approaches to Adolescent Relationship Abuse and Sexual Violence Prevention. *Pediatric Annals, 48*(7), E274–E279. https://doi.org/10.3928/19382359-20190617-01

Mongelli, F., Georgakopoulos, P., & Pato, M. T. (2020). Challenges and Opportunities to Meet the Mental Health Needs of Underserved and Disenfranchised Populations in the United States. *FOCUS, 18*(1), 16–24. https://doi.org/10.1176/appi.focus.20190028

Pardee, M., Kuzma, E., Dahlem, C. H., Boucher, N., & Darling-Fisher, C. S. (2017). Current state of screening high-ACE youth and emerging adults in primary care. *Journal of the American Association of Nurse Practitioners, 29*(12), 716–724. https://doi.org/10.1002/2327-6924.12531

Perfect, M. M., Turley, M. R., Carlson, J. S., Yohanna, J., & Saint Gilles, M. P. (2016). School-Related Outcomes of Traumatic Event Exposure and Traumatic Stress Symptoms in Students: A Systematic Review of Research from 1990 to 2015. *School Mental Health, 8*(1), 7–43. https://doi.org/10.1007/s12310-016-9175-2

Raja, S., Hasnain, M., Hoersch, M., Gove-Yin, S., & Rajagopalan, C. (2015). Trauma informed care in medicine: Current knowledge and future research directions. *Family & Community Health, 38*(3), 216–226. https://doi.org/10.1097/FCH.0000000000000071

Richardson, L. P., Ludman, E., McCauley, E., Lindenbaum, J., Larison, C., Zhou, C., Clarke, G., Brent, D., & Katon, W. (2014). Collaborative care for adolescents with depression in primary care: A randomized clinical trial. *JAMA, 312*(8), 809–816. https://doi.org/10.1001/jama.2014.9259

Selvaraj, K., Ruiz, M. J., Aschkenasy, J., Chang, J. D., Heard, A., Minier, M., Osta, A. D., Pavelack, M., Samelson, M., Schwartz, A., Scotellaro, M. A., Seo-Lee, A., Sonu, S., Stillerman, A., & Bayldon, B. W. (2019). Screening for Toxic Stress Risk Factors at Well-Child Visits: The Addressing Social Key Questions for Health Study. *Journal of Pediatrics, 205,* 244-+. https://doi.org/10.1016/j.jpeds.2018.09.004

Shonkoff, J. P., & Garner, A. S. (2012). The Lifelong Effects of Early Childhood Adversity and Toxic Stress. *Pediatrics, 129*(1), E232–E246. https://doi.org/10.1542/peds.2011-2663

Soleimanpour, S., Geierstanger, S., & Brindis, C. D. (2017). Adverse Childhood Experiences and Resilience: Addressing the Unique Needs of Adolescents. *Academic Pediatrics, 17*(7), S108–S114. https://doi.org/10.1016/j.acap.2017.01.008

Soleimanpour, S., Geierstanger, S. P., Kaller, S., McCarter, V., & Brindis, C. D. (2010). The role of school health centers in health care access and client outcomes. *American Journal of Public Health, 100*(9), 1597–1603. https://doi.org/10.2105/AJPH.2009.186833

Stone, S., Whitaker, K., Anyon, Y., & Shields, J. P. (2013). The relationship between use of school-based health centers and student-reported school assets. *The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine, 53*(4), 526–532. https://doi.org/10.1016/j.jadohealth.2013.05.011

Weist, M. D., Mellin, E. A., Chambers, K. L., Lever, N. A., Haber, D., & Blaber, C. (2012). Challenges to collaboration in school mental health and strategies for overcoming them. *The Journal of School Health, 82*(2), 97–105. https://doi.org/10.1111/j.1746-1561.2011.00672.x

Appendix A: Methods

Listening Sessions: Through our Provider Engagement Peer-to-Peer grant, we hosted four virtual listening sessions with a total of 110 attendees of the California School-Based Health Alliance State Conference in October 2020. Attendees included a wide range of school health professionals (e.g., school nurses, mental health providers, clinicians, administrators) who self-selected into the conference session. Most of these participants were not currently implementing ACE screening in a clinical setting. The listening sessions gathered insights from school health staff on their awareness of the ACEs Aware Initiative; current practices, barriers and facilitators around trauma-informed care, ACE and trauma screening, and care coordination; the impact of COVID-19 on schools and SBHCs; and questions and technical assistance needs related to the implementation of ACE screening and trauma-informed care. Listening sessions notes were coded by key themes.

Virtual Professional Learning Collaborative: Through our Provider Engagement Peer-to-Peer grant, we hosted a virtual professional learning collaborative with nine school-based health providers (including two physicians, four nurse practitioners, one school counselor, one lead school nurse, one clinical therapist) and two public health researchers from our team. Participants were eligible to participate in the collaborative if they were currently implementing or planning to implement ACE screening in a SBHC setting and could commit to attending all six virtual sessions. Selected applicants represented a diversity of providers based on location (California region, urbanicity, school size), youth demographics (grade level, race/ethnicity, socio-economic status), and provider experience. Participants represented six counties across California serving rural and urban middle and high schools. Two participants represented SBHCs that had a sustained clinical practice of ACE screening; one participant recently started ACE screening in their SBHC, and the remaining participants were planning to implement ACE screening. The collaborative met monthly from November 2020 through April 2021. Sessions included a 50-minute presentation and discussion on a focal topic facilitated by our project team followed by a 30-minute case study presented by a learning collaborative participant. Recordings were transcribed and coded for key themes.

In-Depth Interviews: Through our Provider Engagement Network of Care Grant, we identified and invited four SBHCs currently implementing ACE screening to participate in network of care interviews to learn more about the coordination of care at their site. We interviewed ten stakeholders across these four sites, including five SBHC medical providers, two SBHC-affiliated mental health providers, one SBHC medical assistant, one county mental health provider, and one wellness navigator. We were unable to contact school representatives at each site. Three interviewees also participated in the Professional Learning Collaborative. Two participating SBHCs were located at urban high schools, one was located at an urban middle school, and one was located at a rural high school. Recordings were transcribed and coded for key themes.

Literature Review and Environmental Scan: We conducted a literature review and environmental scan to understand the landscape of trauma-informed approaches used in a school or pediatric clinical setting, as well as implementation of ACE screenings in these settings. We hoped to learn from the literature how trauma-informed care is implemented in SBHCs and among adolescent populations; barriers and facilitators to implementing trauma-informed care, ACE screening, or mental health services and interventions in a pediatric clinical setting or SBHC; and specific considerations for special populations (e.g., immigrant youth, youth in foster care, justice-involved youth, pregnant and parenting teens, etc.). Search Strategy: We conducted a keyword search on three databases: PubMed, PsycInfo and Web of Science. We conducted searches under the four categories of: broad trauma-informed approaches, buy-in or support to implementing ACE screening or sensitive practices in clinical settings, ACEs in school-based health centers, and screenings in school-based health centers (e.g., SBIRT - Screening, Brief Intervention and Referral to Treatment, or RAAPS - Rapid Assessment for Adolescent Preventive Services). Some keywords included: pediatrics, clinical care, school-based health centers, school wellness centers, trauma-informed, stakeholder, community, leadership, champions, readiness, engagement, support, ACEs, adverse childhood experiences, trauma-informed care, toxic stress, screening, assessment, SBIRT, RAAPS). Google Scholar and school mental health web resources were also scanned for relevant papers. After duplicates were removed, a total of 215 papers were identified. Inclusion Criteria: Studies were included if they described trauma-informed care or mental health screening in school-based or pediatric clinical settings. All studies were published in English. Included studies were published between 1997-2021. Coding and synthesis: Once studies were identified, titles and abstracts were screened for inclusion and categorized by topic of interest (e.g., trauma-informed care, ACE screening). Within each category, included studies were analyzed to understand barriers, facilitators and recommendations for screening implementation.

Appendix B: Additional Resources

Resource	*Description*	*Link*
Trauma-Informed Care and ACE Screening Planning Tools		
ACE Screening Implementation How-To Guide	Provides the information, tools, and resources you need to move your organization further along its ACE screening journey.	https://www.acesaware.org/implement-screening/
ACEs Aware Trauma-Informed Network of Care Roadmap	Provides health care clinical teams, community-based organizations, and social service agencies with guidance on the key elements and milestones for establishing a robust and effective system for responding to ACE screenings and mitigating the toxic stress response in their community.	https://www.acesaware.org/wp-content/uploads/2021/06/Aces-Aware-Network-of-Care-Roadmap.pdf
The National Council Fostering Resilience and Recovery: A Change Package	Provides information, action steps and tools to guide implementation of a trauma-informed primary care approach.	https://www.thenationalcouncil.org/fostering-resilience-and-recovery-a-change-package/
California School-Based Health Alliance Trauma-Informed Services at SBHCs Toolkit	Provides resources and lessons learned on how school-based health centers (SBHCs) can increase trauma-informed practices and student resilience	https://www.schoolhealthcenters.org/resources/sbhc-operations/trauma-informed-sbhcs/
Provider Training and Capacity Building Resources		
ACEs Aware	ACEs Aware offers "Becoming ACEs Aware in California," a free, two-hour online training that certifies eligible clinicians to receive Medi-Cal payment for ACE screenings.	https://www.acesaware.org/learn-about-screening/training/
Adolescent Health Initiative online course, *Trauma-Informed Care with Adolescent Patients*	Provides a brief outline of the impacts of trauma on adolescents, and shares strategies for practicing trauma-responsive care in a primary care setting.	https://www.umhs-adolescenthealth.org/improving-care/timely-topics/#tt_tic
Trauma Transformed	The only regional center and clearinghouse in the Bay Area that promotes a trauma-informed system by providing trainings and policy guidance to systems of care professionals and organizations	https://traumatransformed.org/
Healthy Environments and Response to Trauma in Schools (HEARTS)	HEARTS is a whole-school, prevention and intervention approach that utilizes a MTSS framework to address trauma and chronic stress at the student level, staff level, and school organizational level	https://hearts.ucsf.edu/
Child and Adolescent Health Initiative Training and Capacity Building Resources	Includes just a list of in-person and virtual training and capacity building resources	https://action.cahmi.org/docs/default-source/prop-64/recommendation-2-resource-brief.pdf?sfvrsn=ad8a5917_0
HIPAA/FERPA Guide	Toolkit to navigate HIPAA/FERPA laws to support coordination	https://www.schoolhealthcenters.org/resources/sbhc-operations/student-records-consent-and-confidentiality/california-guide/
Adolescent Friendly Resources		
Doze App	Teen sleep resource	dozeapp.ca
Adolescent Sleep Toolkit	Provider support for helping teens with sleep	https://sleepeducation.org/get-involved/campaigns/sleep-recharges/educator-resources/
The Mindfulness App	App for teens to increase mindfulness	https://themindfulnessapp.com/
Happy Not Perfect	Meditations for mood	https://happynotperfect.com/the-app
Mood Mission	Evidence based app to help manage depression and anxiety	https://moodmission.com/
Moodfit	App to help reduce stress and increase mental health	https://www.getmoodfit.com/
Telehealth Consultation Resources		
The Reach Institute	Evidence based mental health training for pediatricians and therapists	https://www.thereachinstitute.org/
Child Adolescent Psychiatry Portal	Real time child psychiatry consults for primary care providers	https://capp.ucsf.edu/