Primary and Secondary Prevention of Child Trauma

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KEYWORDS

• Trauma • Child maltreatment • Adverse childhood experiences (ACEs) • Prevention • Primary • Secondary • Universal • Targeted

KEY POINTS

- Childhood trauma prevention is a well-established field focused on reducing risk factors and increasing protective factors to support safe, nurturing environments and mitigate downstream effects.
- Prevention efforts are categorized by their focus area and level of focus: family versus community versus organization, primary versus secondary, and universal versus targeted.
- Psychiatrists have a significant role to play in preventing childhood trauma.

INTRODUCTION

The postmortem for a problem can be the preamble to a solution.
—Dan Heath, Upstream: The Quest to Solve Problems before They Happen (2020)[1]

Preventing childhood trauma is a critical—as well as complex—clinical, community, and scholarly endeavor. In essence, it is the pursuit of solutions to a problem that has vexed the psychiatric, pediatric, psychological, social work, and public health community for millennia, going upstream to identify and remove the challenges and perturbations that set children and families on the course to trauma and maltreatment.

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Abbreviations	
ACEs	adverse childhood experiences
AHT	abusive head trauma
HHS	US Department of Health and Human Services
NFP	Nurse Family Partnership
PFL	paid family leave
RCT	randomized controlled trial
SAMHSA	Substance Abuse and Mental Health Services Administration
SDOH	social determinants of health
SEEK	Safe Environment for Every Kid
SNAP	supplemental nutrition assistance program

In this article, we endeavor to describe and classify the approaches used and extant literature regarding traditional and emerging programs to address this public health problem, as well as to provide guidance for psychiatrists on how to apply lessons learned from this field to their current practice. We begin by setting the stage for prevention work with a brief overview of definitions of related terms, the prevalence and burden of trauma, and its identified root causes. Next, we review theoretic frameworks used to guide the study of prevention of childhood trauma. We then share a review and specific examples of empirically based prevention models grounded in these frameworks. We conclude with applications for psychiatrists in the field.

Background

Definitions

Trauma can be defined in numerous ways. At a broad level, the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text-Revision[2] defines traumatic events (Criterion A) as "exposure to actual or threatened death, serious injury, or sexual violence" either through directly experiencing, witnessing, learning about an event that occurred to a close other, or experiencing repeated exposure to aversive details about an event (American Psychiatric Association, 2022, p. 271).[2] For children aged 6 years or younger, these events or threats particularly include witnessing harm to or learning about traumatic events for the caregivers on whom they depend.[2] Trauma can be experienced as acute (ie, single event, limited time) or chronic (ie, multiple events over time). Scholars have begun to consider complex trauma in childhood as exposure to multiple, chronic traumas from an early age, particularly when caused by the child's caregivers.[3,4] Child maltreatment is one type of childhood trauma, defined by the Child Abuse Prevention and Treatment Act Reauthorization Act of 2010[5] as "any recent act or failure to act on the part of a parent or caretaker which results in death, serious physical or emotional harm, sexual abuse or exploitation; or an act or failure to act, which presents an imminent risk of serious harm." Subtypes of maltreatment include physical abuse, sexual abuse, psychological maltreatment, sex trafficking, medical neglect, and neglect.[6]

Experiences of these varied types of trauma are overlapping. Frequently, they are not experienced as a singular risk; rather, multiple forms of maltreatment or trauma can cooccur. The cumulative nature of trauma has implications for outcomes, such that the more childhood traumas experienced, the worse the behavioral and emotional outcomes.[7,8] The concept of the cumulative role of trauma is inherent in the body of research studying adverse childhood experiences or ACEs. This research indicates that more exposure to adverse or traumatic events in childhood (eg, abuse, neglect,

household dysfunction, and living with someone with untreated mental illness) is associated with an increased risk of a variety of maladaptive health and mental health outcomes.[9–15] Additionally, studies of ACES have moved beyond the additive nature of these experiences to a more unanced understanding of the patterns and synergistve effects among ACES.[15]

Prevalence and burden

For years, epidemiologic research has documented concerning rates of trauma exposure among children and adolescents. The now classic US Great Smoky Mountains study estimated that 25% experience at least one potentially traumatic event by the age of 16 years, with rates varying by the number of risk factors for trauma.[16] Child maltreatment affects a large portion of children every year. Child welfare services investigated reports of maltreatment for approximately 3.1 million children in 2023,[6] 546,159 of whom were found to by child welfare agencies have experienced maltreatment.[6] Moreover, many more children experience maltreatment than are brought to the attention of child welfare agencies.[17] When considering the broader spectrum of ACEs, a recent meta-analysis estimated that 60% of all adults have experienced at least 1 ACE,[18] although prevalence varies by race with individuals in minoritized racial groups experiencing a higher prevalence of 4 or more ACEs than White individuals.[18]

Child maltreatment is associated with numerous deleterious outcomes across the life course. In addition to the immediate health and safety concerns, children who experience maltreatment are also at an increased risk of poor cognitive, behavioral, and health outcomes. Specifically, experiences of child maltreatment have been associated with increased rates of low educational attainment, behavioral concerns in childhood/adolescence, posttraumatic stress disorder, depression, criminal behavior, and obesity.[19] Similarly, as previously mentioned, ACEs are associated with poor behavioral and health outcomes across the life course, including substance use and addiction, involvement in the criminal justice system, homelessness, and mental health conditions.[18] In addition to the negative individual impact, child maltreatment and ACEs have a huge economic impact. It has been estimated that the average lifetime cost per individual who experiences nonfatal child maltreatment is US$210,012 (in 2010 US dollars)[20] and that the average lifetime cost per individual associated with ACEs is US$2.4 million.[21]

PREVENTION FRAMEWORKS

There are 2 classification frameworks that are particularly helpful when considering strategies to prevent child trauma. The first classifies strategies based on the *timing of intervention*. A strategy is considered *primary prevention* if it is designed to avoid the disease or condition (in this case, childhood trauma) from developing in the first place. *Secondary prevention* refers to strategies that identify and treat the disease or condition early, prior to obvious symptoms developing. Strategies are classified as *tertiary prevention* when they treat the overt symptoms and outcomes of a disease or condition.[22]

Another useful classification system refers to the *population that is the focus of the intervention*. The focal population for *universal prevention* strategies is the entire population (national, state, county, school, and so forth) regardless of actual risk status. *Selective (or targeted) prevention* strategies focus on subgroups who are at-risk of developing the disease (eg, age, gender, occupation, and family history), but the individuals in those groups do not currently have the disease or condition. *Indicated prevention* strategies are focused on individuals who have the risk factor, condition/

disease, or anomaly that places them at high risk of developing the condition or disease.[23]

In order to think about preventing trauma and maltreatment, we must consider the context in which they arise—the concurrent situations and experiences (and their root causes) —to identify where to act or begin. Risk factors are those characteristics linked with child maltreatment and trauma, though they may or may not be direct causes. Protective factors, on the other hand, are those that buffer or reduce the risk of trauma. A useful framework when considering prevention strategies is the ecological-transactional model. Adapted from Urie Bronfenbrenner's ecological systems theory,[24,25] this model posits that factors at multiple levels within the surrounding environment (expanding concentrically around an individual) influence an individual's health and well-being. The first level is the individual level where biological and behavioral factors, such as age, developmental stage, income, education, and substance use, increase the likelihood of developing a condition/disease (in this case, trauma and its sequelae). The second level is the interpersonal level (or microsystem) where factors, such as friends, family, peers, coworkers, religious networks, and health care providers, influence the likelihood of developing a disease or condition. The next level, the exosystem, includes organizational factors such as service systems (eg, health care and insurance) and work sites as well as community factors such as neighborhood and school characteristics that influence the development of disease or conditions. The final level is the macrosystem or policy level where factors such as laws, discrimination, and social norms influence the likelihood of developing a disease or condition.

From a developmental perspective, risk and protective factors within each of these systems interact and transact over time to result in an individual's outcome. Applied to the field of child maltreatment and trauma, the ecological-transactional framework posits that maltreatment or childhood trauma (and its related maladaptive outcomes) could result when risk factors for trauma (such as a child's neurodevelopmental features, parental psychopathology, parental history of being maltreated, interpersonal violence in the home, financial stressors) in a child's ecological network outweigh the protective factors (such as secure parent–child attachment, positive social support, marital harmony, stable living environment).[25] Guided by this framework, preventing childhood trauma involves increasing protective factors and reducing risk factors in children's ecological systems. Each of these levels provides an opportunity for prevention and intervention. For example, a universal strategy at the organizational level (exosystem) could be a policy within a clinical practice to screen all patients for traumatic experiences or posttraumatic symptoms at every appointment.

In later discussion, we offer a review and examples of prevention programs for childhood trauma. We organize our review of prevention strategies in accordance with these frameworks, specifying the timing of the approach (primary vs secondary), the population level of focus (universal vs targeted), and the ecological level of focus of the strategy (family vs community).

PREVENTION STRATEGIES

Evidence for Trauma Prevention Effectiveness: What Do We Know?

Trauma and child maltreatment prevention efforts, along with research efforts to document their effectiveness, have been underway for decades. The vast literature in this area is complex and has yielded mixed results. Recent meta-analyses, systematic reviews, and umbrella syntheses provide insights into the state of the extant literature and the need for further research. A 2009 systematic review of reviews revealed

that of the 7 main types of preventive interventions (home visiting, parent education, child sexual abuse prevention, abusive head trauma prevention, multicomponent interventions, media-based interventions, and support groups), 4 (home visiting, parent education, abusive head trauma prevention, and multicomponent intervention) showed promise in preventing confirmed maltreatment while others (home visiting, parent education, and child sexual abuse prevention) reduced maltreatment associated risks.[26] An umbrella synthesis comparing numerous meta-analyses including thousands of studies and nearly 1.5 million participants demonstrated modest intervention effectiveness (specifically, an effect size of d = .23 for programs targeting parental child abuse risk and d = .27 for those measuring changes in officially reported child maltreatment).[27] Programs that included parent training (vs support only) were more likely to be effective in reducing child maltreatment. One study included in the umbrella synthesis that aimed to identify the most effective components of child maltreatment preventive interventions reported that shorter interventions (less than 6 months), those focused on parent skill and self-confidence, and those delivered by trained professionals yielded the most success, and that the effect sizes of preventive interventions tended to increase over time.[28] The general conclusion across many of these studies is that our current capacity to prevent childhood maltreatment and trauma is weak (or as one author group described it, "deplorable").[27] Future scientific study of theoretically driven combined interventions (eg, family-based interaction interventions plus large-scale economic policies like unconditional cash transfers)[27] may yield more impactful results and unlock more productive solutions to this challenging problem.

Examples of Evidence-Based and Evidence-Informed Prevention Models

Despite the somewhat bleak state of the overall literature, we highlight here several promising prevention models. As described earlier in the "Prevention frameworks" section, child maltreatment prevention models and programs are classified by the different levels of target and reach: family versus community versus organizational, primary versus secondary, and universal versus targeted. Although due to space limitations we are unable to review the full range of available options, in the following discussion, we feature some examples of well-supported programs that exemplify the different levels. These particular programs may or may not be available in every reader's community. To locate these and other evidence-based programs, readers are referred to online resources such as the Title IV-E Prevention Services Clearinghouse (https://preventionservices.acf.hhs.gov/) and the California Evidence-Based Clearinghouse for Child Welfare (https://www.cebc4cw.org/), which provide an overview of the research on numerous programs and guidance for selecting and implementing practices (eg, links to manuals, training contact information).

Family-level prevention programs

Period of PURPLE Crying. The Period of PURPLE Crying is a primary, universal prevention approach to address abusive head trauma (AHT). It educates all parents and caregivers about the normalcy of infant crying, particularly that it starts to increase during the second week of life and typically peaks around 5 to 6 weeks of age[29] and that the crying spells can last for hours.[30] As caregiver frustration due to incessant infant crying is typically cited as the reason for AHT, the goal of this program is to reduce this frustration by increasing caregiver knowledge about crying through a 3 dose approach.[31] The first dose consists of education provided by a trained educator or provider to all parents within the first 2 weeks after birth.[31] The second dose reinforces the message at physician offices, health departments, or home visiting programs throughout the

first 3 months of life.[31] The third dose is a public education campaign designed to inform the community at-large about the normalcy of infant crying.[31] There have been several evaluations of the Period of PURPLE Crying program to assess its effectiveness in preventing AHT, with mixed results. An evaluation of the program in North Carolina did not find that the Period of PURPLE Crying reduced rates of AHT in the state.[32] Alternatively, a study conducted in British Columbia found that the program reduced hospital admissions for AHT by 35% among children aged less than 24 months.[33] Of note, they did not find significant reductions among children aged less than 12 months.[33] There are several reasons why the results between these 2 studies could be different, including that British Columbia provides universal home visiting and paid family leave (PFL) to all residents, indicating that the context in which individuals are parenting may be just as, if not more, important as the parenting education they receive.

Safe Environment for Every Kid. Safe Environment for Every Kid (SEEK) is a secondary, universal program implemented in pediatric primary care offices. At regular check-ups between ages 0 to 5 years, parents complete a brief evidence-based screening questionnaire that asks about psychosocial problems that are risk factors for child maltreatment.[34] Parents are asked about parental depression, substance use, stress, intimate partner violence, food insecurity, and harsh punishment. Prior to implementing the screener, primary care professionals must participate in training that prepares them to address these psychosocial issues, identify and capitalize on families' strengths and resources, and engage in motivational interviewing to help involve parents in developing a plan to address any issues identified by the screening tool.[34] In some primary care settings, behavioral or mental health professionals are available to help address problems identified by the screening tool and refer patients to community resources. The SEEK program also provides parents handouts for each of the psychosocial problems identified through the screening tool.[35] The SEEK program has been found to reduce rates of reports to child protective services, medical neglect (as measured by nonadherence to treatment, timely immunizations), and fewer instances of self-reported harsh discipline.[36,37] Additionally, a recent cost-effectiveness analysis determined that implementation of SEEK would save approximately US$2.2 million in health care costs for 29,610 children.[38]

Family Connects. Family Connects (FC) is a primary, universal program designed to prevent child maltreatment at the transition to parenthood. The audience for this home visiting program is birthing families and their newborn infants. The program has evolved from randomized controlled trial (RCT) implementation in one community (Durham, NC) to being implemented in 60+ communities around the United States.[39] All birthing parents in a community are recruited at birthing hospitals within 24 hours of birth. One to three comprehensive in-home visits are provided, including newborn and birth parent health assessments, education about newborn care (eg, breastfeeding), and assessment of family strengths and needs using a high inference model examining 12 factors empirically linked to child maltreatment.[40] Resources and referrals are tailored to individual family needs. Follow-up phone calls and visits are offered as needed to conduct additional assessment and ensure community connection. An 18 month RCT demonstrated that infants who received FC had significantly fewer emergency medical care at 6, 12, and 24 months after birth,[40–42] as well as a 39% reduction in child maltreatment investigations by the age of 60 months.[43] Additionally, intervention effects were found on multiple areas of family functioning that serve as risk factors for child maltreatment, such as reduced maternal anxiety, more positive

parenting behaviors, and better family connections to health and community resources such as higher quality child care.[40]

Nurse Family Partnership. Nurse Family Partnership (NFP) program is a targeted, secondary prevention program with some of the strongest evidence for child maltreatment prevention. These findings have resulted in widespread implementation of the program, with NFP being implemented in 40 states and the US Virgin Islands.44 A series of 3 RCTs have been conducted on the model in 3 different cities (Elmira, NY, Memphis, TN, and Denver, CO). The target NFP audience is young, low-income, unmarried, primiparous mothers who are enrolled during pregnancy and receive the nurse home visiting intervention from the second trimester of pregnancy through the child's second birthday. Nurses assist mothers in accessing prenatal care, promoting health (eg, nutrition and substance use), learning about child development, coping with stress and behavior, and achieving self-sufficiency.[45]

NFP studies have measured a wide range of research-driven and theory-driven outcomes (child abuse and neglect as well as parental health behavior, sensitive parenting, health, behavior, and development of child, maternal self-sufficiency). Within the Elmira study, the intervention group had significantly lower rates of child abuse and neglect by the age of 2 years as well as reductions in emergency room visits and injuries.[46] These results were confirmed at a 15 year follow-up,[47] with home visited mothers being 48% less likely to have been identified as perpetrators of maltreatment over this period. Positive impacts on other maternal and child outcomes (eg, fewer subsequent pregnancies and arrests in mothers; fewer language delays, behavioral problems, and arrests among children)[48] demonstrate its effectiveness in reducing other risks for detrimental outcomes. Results were not consistent across all subgroups, however. For example, reduction in child maltreatment was moderated by the presence of domestic violence, although program effects of other maternal and child functioning remained.[49]

Organizational-level prevention programs

Stewards of Children: Darkness to Light. Stewards of Children: Darkness to Light is a primary and secondary universal sexual abuse prevention program aimed at adults, including parents, childcare professionals, and adults in youth serving organizations. It includes a training workshop regarding the prevention, identification, and response to child sexual abuse. The training focuses on 3 skills: (1) making choices that protect children; (2) taking risks to minimize danger to children; and (3) supporting each other. These skills help adults keep children safe in their communities, organizations they attend, and families.[50] An evaluation has found promising results regarding the effectiveness of this program. An RCT of childcare professionals determined that the program increased knowledge of child sexual abuse (eg, prevalence, consequences, risk factors, and prevention steps), decreased belief in myths and stereotypes regarding child sexual abuse, and increased prevention behaviors, specifically limiting one-to-one interactions between older and younger children and sharing information about child sexual abuse prevention with another adult.[51]

Policy

There is a growing body of literature indicating that policies that address family economic stability are effective child maltreatment prevention strategies. Specifically, research has shown that the PFL policy (a primary, universal prevention approach) in California was associated with a significant decrease in AHT hospital admissions among children aged less than 2 years.[52] Additional research demonstrated that states with higher minimum wages (a targeted, primary approach) had significantly

fewer neglect reports to child welfare agencies.[53] Of note, minimum wage levels were particularly effective in reducing neglect reports among children aged 0 to 5 years. The study did not find an association between minimum wage and the rate of physical abuse reports, reports of other abuse, the substantiation rate, or the rate of foster care placement.[53] Similarly, Medicaid expansion (a targeted, primary approach) has been associated with significant reductions in rates of reported child neglect but not reported physical abuse.[54] Additional research has shown that increasing access to affordable housing through the low-income housing tax credit program is associated with reductions in reports of child neglect, as are broad-based categorical eligibility supplemental nutrition assistance program (SNAP) policies.[55,56]

DISCUSSION

Unfortunately, experiences of childhood adversity and trauma are quite common and are associated with negative health and well-being outcomes across the life course. Taken together, what does this mean for psychiatrists? How can lessons learned in this field be applied in clinical practice of psychiatry? Given the prevalence of child maltreatment and ACEs, and the increased risk for mental health conditions among individuals who have experienced early trauma, it is likely that during their careers, psychiatrists will treat numerous patients with a history of early childhood adversity or other risk factors that may put them at risk for experiencing trauma. Given the negative sequelae associated with experiences of early adversity, it is important to prevent it before it occurs. Fortunately, there are several effective primary and secondary evidence-based prevention strategies.

Applications to Clinical Practice

Psychiatrists interact with families at key points in their lives when stressors are high and risks for trauma may be prevalent, meaning they have ripe opportunities for making an impact. Options for engaging in preventive activities can range from small, low-lift efforts (eg, clinic staff training, patient screening efforts) to larger organizational and practice shifts (eg, implementing cross-disciplinary models in practice settings). Engagement beyond the walls of one's practice through community connections, referrals, and advocacy can also elevate the chances of preventing childhood trauma and maltreatment.

Applying the Principles and Lessons Learned

Principles from the evidence-based and evidence-informed programs described earlier and the lessons learned from the empirical systematic reviews may guide clinicians in their practice. For example, home visiting interventions are rooted in the principle of providing early support to caregivers as they transition to becoming parents. As a central aspect of clinicians' relationships with patients is the support of their well-being, providing support for functioning within parental relationships is a natural outgrowth of this study. The essential prevention element of family education/parent training (as seen in PURPLE as well as home visiting programs like Family Connects and NFP) also aligns with clinicians' roles of providing patients with the tools and information they need to thrive. Additionally, engagement of natural community supports is a prevention principle addressed in many prevention programs as well as a critical factor in the success of psychiatric care, with the goal of reducing isolation and increasing social support in times of stress.

These general principles align well with the Center for the Study of Social Policy's Strengthening Families Protective Factors Framework. This framework summarizes

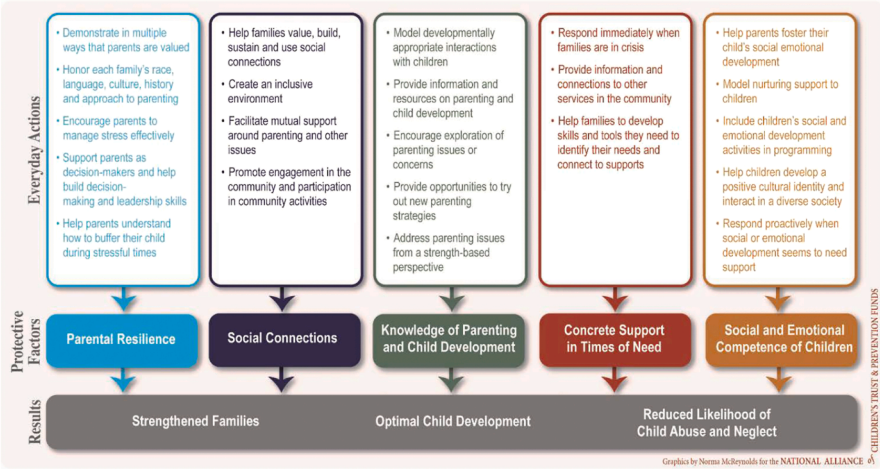

Fig. 1. Everyday actions that help build protective factors. From Center for the Study of Social Policy (CSSP). About Strengthening Families and the Protective Factors Framework, 2018. Available at: https://cssp.org/resource/about-strengthening-families-and-the-protective-factors-framework/ (Accessed 2 April 2025); with permission.

5 key protective factors demonstrated by developmental science to prevent child maltreatment and trauma: parental resilience, social connections, knowledge of parenting and child development, and social emotional competence of children.[57] Each factor translates readily into everyday actions that clinicians can take to build protective factors against childhood trauma, as summarized in **Fig. 1**. Taking brief, simple steps like these could be useful interventions targeting these key issues in the lives of children and families.

Where to Begin

With many avenues to explore for psychiatrists, a few suggested starting places may help practitioners to start on the road to elevating prevention in their clinics:

1. *Know the signs of child maltreatment and trauma, as well as the protective factors that can help buffer families in need.* Staff and clinicians may benefit from training opportunities offered by programs such as Prevent Child Abuse America or its state-level affiliates (www.preventchildabuse.org/), the Strengthening Families and the Protective Factors Framework through the Center for the Study of Social Policy (www.cssp.org), and Connections Matter (www.connectionsmatter.org).
2. *Screen for social determinants of health (SDOH).* Screening for the nonmedical contributors to health and well-being (ie, SDOH), in conjunction with connecting individuals to services to address them, may reduce the risk of child trauma and maltreatment. Therefore, clinic staff and psychiatrics should consider implementing universal screening for social determinants of health among their patients.
3. *Explore and implement integrated care models.* Children broadly, and those who have experienced trauma specifically, are more likely to engage in primary care than in specialty medical clinics. Therefore, psychiatrics interested in preventing child trauma and its negative sequelae should explore and consider implementing integrated care models where they work with primary care physicians to integrate psychological care into these settings.

4. *Connect patients to available community programs.* In addition to the critical role psychiatrists play within their own clinics, partnering with the community can extend the impact on families. As noted earlier, information on the evidence-based prevention programs reviewed here as well as many others are available in the HHS Title IV-E Prevention Services Clearinghouse (https://preventionservices.acf.hhs.gov/) and the California Evidence-Based Clearinghouse for Child Welfare (https://www.cebc4cw.org/). Additionally, local health departments and social service departments can connect families with economic supports (eg, SNAP, PFL, and Medicaid).
5. *Advocate for child maltreatment prevention efforts in the community.* Given that psychiatrists and physicians are viewed broadly as experts, psychiatrists could be especially influential in educating local representatives as well as state and federal legislators about the importance of these policies and programs in your community. Frequently, anecdotes and individual stories can add context that bring data to life for policymakers.

SUMMARY

In summary, child maltreatment is a significant public health problem that results in increased risks of mental health disorders across the life course. While the field of child maltreatment prevention continues to develop a wide range of effective strategies tailored to individual and community needs, there are several well-supported approaches that are available. As trusted experts to families as well as community leaders and policymakers, psychiatrists are uniquely positioned to prevent child maltreatment by implementing some of these strategies in their clinics, connecting families to evidence-based resources, and advocating for community change efforts.

CLINICS CARE POINTS

- Know the signs of child maltreatment and trauma, as well as the protective factors that can help buffer families in need.
- Screen for SDOH.
- Explore and implement integrated care models.
- Connect patients to available community programs.
- Advocate for child maltreatment prevention efforts in the community.

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