National Center for Injury Prevention and Control

Adverse Childhood Experiences Prevention Strategy

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Background on Adverse Childhood Experiences

Safe, stable, nurturing relationships and environments are essential to children's health and wellbeing. However, many children do not have these types of relationships or do not live in these types of environments, placing them at risk for adverse childhood experiences with the potential for immediate and long-term negative health and social impacts. While all children are at risk for adverse experiences, numerous studies have documented inequities in such experiences attributed to the historical, social, and economic environments in which some families live (Merrick et al., 2019).

Adverse childhood experiences, or ACEs, are preventable, potentially traumatic events that occur in childhood (0-1 7 years) such as neglect, experiencing or witnessing violence, and having a family member attempt or die by suicide. Also included are aspects of a child's environment that can undermine their sense of safety, stability, and bonding, such as growing up in a household with substance use; mental health problems; or instability due to parental separation or incarceration of a parent, sibling or other member of the household (Figure 1) (CDC, 2019; Felitti et al., 1998). Importantly, these examples do not comprise an exhaustive list of all childhood adversities, as there are other potentially traumatic experiences, such as bullying, experiencing racism, and the death of a parent, that can also impact health and wellbeing. Consideration of these forms of childhood trauma and their negative impact on health over time also supports the National Center for Injury Prevention and Control's (Injury Center's) strategic focus on the intersection of ACEs, suicide, and overdose as critical threats to public health that are interrelated and preventable (Hulsey et al., 2020; Pham, Porta, and Biernesser, 2018). In addition, conditions such as living in under-resourced or racially segregated neighborhoods, frequently moving, being subjected to homelessness, or experiencing food insecurity can be traumatic and exacerbate the effects of other ACEs. Finally, historical and ongoing traumas due to systemic racism and discrimination or the impacts of multigenerational poverty resulting from limited educational and economic opportunities intersect and exacerbate the experience of other ACEs, leading to disproportionate effects in certain populations (Nurious, Logan-Greene, and Green, 2012).

Figure 1. What are Adverse Childhood Experiences?

ABUSE	NEGLECT	HOUSEHOLD CHALLENGES	
Physical	Physical	Mental Illness	Divorce
Emotional	Emotional	Parent Treated Violently	Incarcerated Relative
Sexual			Substance Abuse
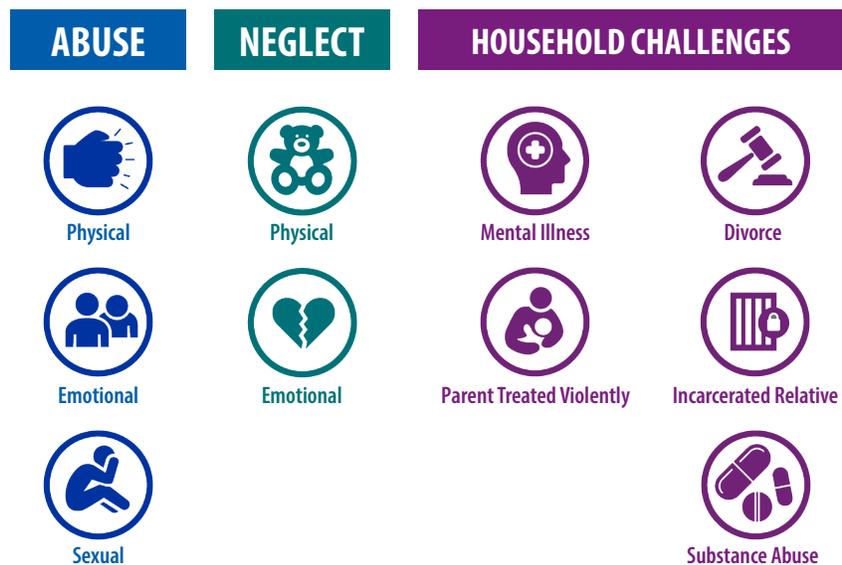
The childhood years, from the prenatal period to late adolescence, are the "building block" years that help set the stage for adult relationships, behaviors, health, and social outcomes throughout the lifespan. While some degree of stress and adversity is normal and an essential part of human development, exposure to frequent and prolonged adversity, especially in the absence of protective factors, can result in toxic stress (i.e., prolonged activation of the stress-response system). A large and growing body of research indicates that toxic stress during childhood can harm the most basic levels of the nervous, endocrine, and immune systems and that such exposures can even alter the physical structure of DNA (epigenetic effects) (Shonkoff & Phillips, 2000; Shonkoff, Garner, et al., 2012). Changes to the brain from toxic stress can affect such things as attention, impulsive behavior, decision-making, learning, emotion, and response to stress (Shonkoff, Garner, et al., 2012).

In the absence of factors that can prevent or reduce toxic stress, children growing up under these conditions often struggle to learn and complete schooling (National Scientific Council on the Developing Child, 2010; Shonkoff, Garner, et al., 2012). They are often at increased risk of becoming involved in crime and violence (Duke, Pettingell, et al., 2010; Fox, Pereza, et al., 2015), using alcohol or drugs (Dube, Anda, et al., 2002; Dube, Felitti, et al., 2003), and engaging in other health-risk behaviors (e.g., early initiation of sexual activity; unprotected sex; and suicide attempts) (Hillis, Anda, et al., 2001; Hillis, Anda, et al., 2004; Dube, Anda, et al., 2001; Duke, Pettingell, et al., 2010). They are susceptible to disease, illness, and mental health challenges over their lifetimes (Shonkoff, Garner, et al., 2012; Edwards, Anda, et al., 2005; Gilbert, Breiding, et al., 2015). Children growing up with toxic stress may have difficulty forming healthy and stable relationships (Hughes, Bellis, et al, 2017; Merrick et al, 2019; Shonkoff et al, 2012). They may also have unstable work histories as adults and struggle with finances, family, jobs, and depression throughout life—the effects of which can be passed on to their own children (Shonkoff, Garner, et al., 2012; Chapman, Anda, et al., 2004; Felitti, Anda, et al., 1998; Metzler, Merrick, et al., 2017). Importantly, as the number of ACEs a person experiences increases, so does the risk for negative health and life outcomes (Felitti et al, 1998; Merrick et al, 2019). To date, ACEs have been associated with more than 40 such outcomes, including health risk behaviors, chronic health conditions, infectious diseases, limited educational and economic opportunity, and early death (Figure 2).

Figure 2. Negative Health and Life Outcomes Associated with ACEs

Research consistently shows that ACEs are common. A 2019 CDC analysis of Behavioral Risk Factor Surveillance System (BRFSS) data from 25 states found that almost two-thirds of surveyed adults experienced at least one ACE (61%), with nearly 1 in 6 adults experiencing 4 or more ACEs. Women and most minority race/ethnicity groups were more likely to have experienced 4 or more ACEs. Additionally, those who experienced 4 or more ACEs were at increased risk for lower educational attainment and unemployment (Merrick et al, 2019). Other studies have also found that those who identify as gay, lesbian, bisexual, transgender, queer or questioning may be at higher risk for having experienced ACEs (Andersen & Blosnich, 2013; Johns et al, 2019; Schnarrs et al, 2019). Fortunately, we know that ACEs are preventable and that actions can also be taken to mitigate the harms of ACEs among those who have already experienced them. Multiple studies have documented that substantial reductions in ACEs are possible and can have broad and sustained benefits (CDC, 2019; Fortson et al., 2016; Marie-Mitchell & Kostolansky, 2019). For example, ACEs prevention strategies are associated with higher academic achievement and reductions in depression, suicidal behavior, arrest and incarceration rates, and substance use in adolescence and adulthood (CDC, 2019). A recent analysis by CDC (Merrick et al, 2019) estimated that preventing ACEs could lead to substantial reductions in chronic health conditions, ranging from approximately 2% for overweight or obesity to 44% for depressive disorder. Substantial reductions were also estimated for health risk behaviors including current smoking (33%) and heavy drinking (24%). Preventing ACEs could also lead to reductions in socioeconomic challenges, ranging from a 4% reduction in the number of medically uninsured people to a 15% reduction in the number of unemployed people (Figure 3).

Figure 3. Potential Reduction of Negative Outcomes in Adulthood
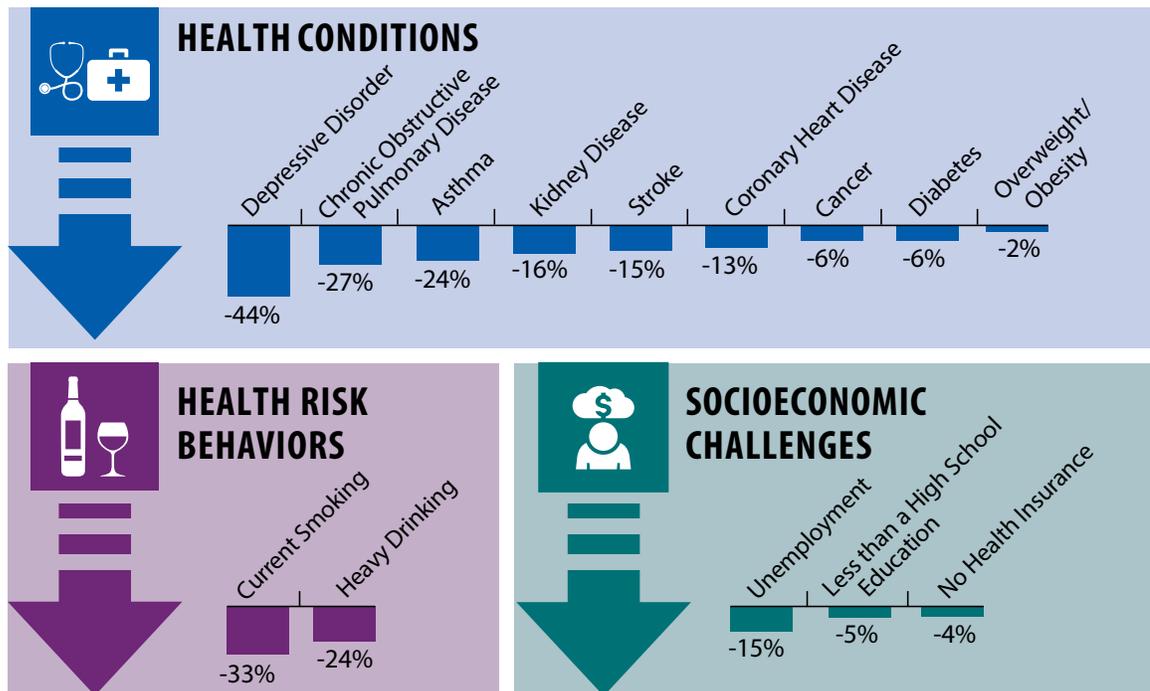
Source: Merrick et al, 2019 (ACEs Vital Signs)

CDC's comprehensive approach to preventing adverse childhood experiences uses multiple strategies derived from the best available evidence. Outlined in the prevention resource tool, [Preventing Adverse Childhood Experiences (ACEs): Leveraging the Best Available Evidence](), these strategies focus on primary prevention but also include strategies to mitigate the long-term consequences of ACEs. The six strategies are: 1) strengthening economic supports for families (e.g., earned income tax credits, family-friendly work policies); 2) promoting social norms that protect against violence and adversity (e.g., public education campaigns to support parents and positive parenting, bystander approaches to support healthy relationship behaviors); 3) ensuring a strong start for children (e.g., early childhood home visitation, high quality and affordable child care, preschool enrichment programs); 4) enhancing skills to help parents and youths handle stress, manage emotions, and tackle everyday challenges (e.g., social emotional learning programs, safe dating and healthy relationship skill programs, parenting skill and family relationship approaches); 5) connecting youths to caring adults and activities (e.g., mentoring and after school programs); and 6) intervening to lessen immediate and long-term harms (e.g., through enhanced primary care to identify and address ACEs exposures with screening, referral, and support, victim-centered services, and advancement of trauma-informed care for children, youth, and adults with a history of exposure to ACEs).

Six Strategies for Preventing Adverse Childhood Experiences

Strengthen economic supports for families

Promote social norms that protect against violence and adversity

Ensure a strong start for children

Enhance skills to help parents and youths handle stress, manage emotions, and tackle everyday challenges

Connect youths to caring adults and activities

Intervene to lessen immediate and long-term harms

Injury Center Strategy for ACEs Prevention, Identification, & Response

Preventing, identifying, and responding to ACEs are strategic priorities for the Injury Center and aspects of this comprehensive ACEs strategy cut across the Injury Center's topic areas, including overdose, suicide, and other forms of violence and injury. More specifically, in addition to preventing later involvement in multiple forms of violence, prevention of ACEs may reduce risk for both suicide and overdose in the long term. And, parental substance use and having a parent die by suicide are ACEs themselves, so preventing these adverse outcomes helps disrupt the intergenerational transmission of ACEs. By addressing these three strategic priorities with a coordinated and comprehensive approach, we can maximize our prevention impact for all three.

To date, a comprehensive strategy that connects and expands the Injury Center's ACEs work across research, surveillance, practice, communications, policy, and partnerships has not been developed. Recognizing the potential for substantial public health impact that could be realized as a result of implementing a coordinated, comprehensive strategy for the prevention of ACEs, the Injury Center's Office of Strategy and Innovation (OSI) convened an internal working group comprising a diverse group of leaders and subject matter experts from across the Injury Center to develop the first ACEs Prevention Strategy.

This report reflects the results of the working group's discussions and planning efforts and outlines specific goals and objectives for ACEs prevention and response in the Injury Center. The goals and objectives aim to **prevent** ACEs before they happen, **identify** those who have experienced ACEs, and **respond** using trauma-informed approaches in order to create the conditions for strong, thriving families and communities where all children and youth are free from harm and all people can achieve lifelong health and wellbeing. This report also serves to affirm our commitment to understanding and addressing the social and structural inequities that put some children at greater risk for experiencing ACEs and that exacerbate the impact of those ACEs when they do occur.

The Injury Center's four strategic goals are:

1. Support surveillance of ACEs and data innovation to guide ACEs prevention, identification, response, and evaluation efforts;

2. Expand the ACEs evidence base by conducting and supporting innovative research and evaluation;

3. Build local, state, tribal, territorial, and key partner capacity to implement ACEs prevention and response policies, programs, and practices based on the best available evidence; and

4. Increase awareness and understanding among key partners of the public health approach to preventing, identifying, and responding to ACEs.

Goal 1 | Support surveillance of ACEs and data innovation to guide ACEs prevention, identification, response, and evaluation efforts.

A critical first step in preventing ACEs is conducting surveillance, which allows us to understand the scope of the problem, where and when ACEs are most likely to occur, and who is at greatest risk for experiencing ACEs and their related health and social impacts. One component of CDC's funding and technical assistance for ACEs prevention focuses on building a surveillance infrastructure that ensures the capacity to collect, analyze, and use ACEs data to inform state and community ACEs prevention and response activities.

Innovations in surveillance and data should focus on better assessing the frequency and intensity of ACEs. Traditional measures provide data on the prevalence of exposure to each adverse experience, but do not capture the timing of onset, duration or severity of exposure, or relative impact of each exposure. Better data on these dimensions of ACEs will catalyze additional research and insight to hone our prevention and response efforts. We will also pursue innovations in surveillance to facilitate monitoring and understanding of Positive Childhood Experiences (PCEs), which may mitigate or offset the harmful impact of ACEs.

The availability of state and local ACEs and PCEs data can help to:

- Understand the burden of ACEs in our communities and in families, including intergenerational transmission of ACEs

- Understand the burden among subgroups at greatest risk, variation in the types of ACEs experienced, trends over time, and connections with other forms of violence and substance use;

- Understand the role of social determinants of health and other factors that increase risk for, or protection against, ACEs;

- Build public and policymaker support for ACEs prevention; and

- Understand the prevalence and variation in PCEs by population, and generate insight as to how our efforts can facilitate PCEs and capitalize on their protective potential

To date, it has been difficult to assess the incidence and prevalence of ACEs experienced by youth and adolescents. The primary source of ACEs data comes from the Behavioral Risk Factor Surveillance System (BRFSS), and the limitations of this these data are well recognized, in particular the assessment of ACEs, which is retrospectively assessed across the life course among adults rather than among youth who are more proximal to ACEs exposure. Thus, there is a need to identify alternative data sources for ACEs surveillance, research, and evaluation. Administrative and clinical data have been identified as additional sources that could provide important data on ACEs, but they have not been fully explored. These data also have their own challenges in that individual types of ACEs traditionally exist in different administrative data sets (e.g., criminal justice data, vital statistics, substance use disorder treatment data, child welfare data) and these datasets are not typically linked. Additionally, the occurrences of many ACEs often do not come to the attention of social services and public health systems and are therefore not captured by publicly available administrative data. Consequently, little data on the frequency, intensity, chronicity, and contextual circumstances of ACEs among youth are available.

The current limitations of ACEs data sources constrain our ability to fully understand the following: changes in ACEs over time; how to focus prevention strategies most effectively; and the relationships among ACEs, suicide, substance use and overdose, and other health outcomes. The use of improved surveys of adults and the expansion of youth-based surveys, administrative data, syndromic data, and nontraditional data such as social media data could help provide a more comprehensive ACEs picture to inform more targeted and effective ACEs prevention and response strategies. Strategies for linking these data can be explored to amplify the insights offered by each individual dataset.

Objectives for Goal 1

1.1 Support the development and validation of improved ACEs measurement to inform data collection efforts.

1.2 Support the development and validation of PCE measurement

1.3 Evaluate the utility of administrative data to estimate the incidence, prevalence, and impacts of ACEs, with ACEs assessed both collectively and separately by type.

1.4 Build capacity to link administrative data sources as an innovative approach to both surveillance of ACEs and understanding the connection between ACEs and other population health outcomes.

1.5 Build and enhance the infrastructure for national, state, local, and tribal level collection, analysis, and application of ACEs-related surveillance data that can be used to a) understand the incidence, prevalence, characteristics, and impacts of ACEs; b) the links between ACEs and other violence and injury prevention topics (e.g., suicide, overdose); c) monitor trends in ACEs and other violence and injury topics and health and social outcomes over time; d) identify populations at greatest risk for experiencing ACEs and their related health and social impacts; and e) develop, inform, and tailor ACEs prevention activities.

1.6 Expand the use of innovative data collection strategies (e.g., youth-based and internet-based samples), syndromic surveillance, and data science methods to collect, analyze, and utilize ACEs-related data, and provide technical assistance to partners in using these surveillance strategies.

Goal 2

Expand the ACEs evidence base by conducting and supporting innovative research and evaluation.

The Injury Center is committed to expanding the evidence base on ACEs prevention, identification, and response strategies and enhancing knowledge about how to tailor and scale up effective policies, programs, and practices with fidelity. Important research gaps remain, including opportunities to expand understanding of the potentially traumatic experiences that can be considered ACEs, environments that contribute to or exacerbate ACEs, protective factors that reduce the likelihood of ACEs occurring or mitigate their consequences, linkages between ACEs and other forms of violence and substance use, effects of ACEs-specific and cross-cutting prevention activities, and strategies to enhance uptake and sustainability of effective approaches. Following from the data and surveillance innovations pursued under Goal 1 to better measure the more nuanced dimensions of ACEs (e.g. onset, frequency, and severity), innovative research can explore the relative impact and centrality of those dimensions on later outcomes, thereby facilitating more precise prevention and response strategies. The necessary etiological, evaluation, and dissemination research can be conducted through intramural and extramural activities, including activities conducted by the Injury Control Research Centers (ICRCs), the National Centers of Excellence in Youth Violence Prevention (YVPCs), and other recipients conducting research on violence, substance use, and suicide impacting children and youth. Research should be informed by the latest surveillance data and by programmatic initiatives, including the Core State Violence and Injury Prevention Program (Core SVIPP) funded and unfunded programs, Essentials for Childhood funded and unfunded programs, Preventing Adverse Childhood Experiences funded sites, and Tribal initiatives.

Research needs to continue to expand on resilience at the individual level, such as PCEs, which include positive interpersonal experiences with family and friends, and in school/the community (Bethell, Jones, et al., 2019). More research is needed on how PCEs prevent ACEs and mitigate the impacts of ACEs when they have already occurred, how the interactions between ACEs and PCEs impact wellbeing outcomes, and how PCEs can be fostered.

Given that suicide and overdose prevention are the other two strategic priorities of the Injury Center, we need to expand the evidence base on how ACEs and these violence and injury topics are connected, and how interventions preventing and responding to overdoses and suicides overlap with ACEs prevention strategies. The Injury Center is also interested in furthering research on the connections between ACEs and the social determinants of health and adverse community experiences (e.g., institutionalized and systemic racism, poverty, and community violence).

Objectives for Goal 2:

2.1   Develop a research agenda to identify gaps in the evidence base of ACEs prevention and response strategies, with a focus on the connection between ACEs and other injury and violence topics (e.g., overdose and suicide) and health and social outcomes.

2.2   Support partners to expand the evidence base on ACEs prevention through extramural funding, multisector collaborations, and dissemination and application of research findings.

2.3   Rigorously evaluate innovative ACEs prevention strategies that have not yet been evaluated or have not been evaluated in specific at-risk populations and communities.

2.4   Continue to update and translate CDC's Preventing Adverse Childhood Experiences (ACEs): Leveraging the Best Available Evidence.

2.5   Leverage existing data on social, economic, and structural environments in which ACEs occur to better understand and address how those environments influence both the likelihood and impact of ACEs.

2.6   Identify the potential benefits of suicide and overdose prevention strategies for the prevention of ACEs.

2.7   Use data and research to guide decisions about which prevention strategies are most appropriate to use in specific locations to address the needs of the local population.

2.8   Use data to explore the relationships among various dimensions of ACEs (e.g. onset, frequency, severity) and later negative outcomes.

2.9   Use data to explore the relationships among specific exposures to childhood adversity and their relative impact on negative outcomes.

<table>
<tr><td>**Goal 3**</td><td>**Build local, state, tribal, territorial, and key partner capacity to implement ACEs prevention and response policies, programs, and practices based on the best available evidence.**</td></tr>
</table>

Local, state, tribal, and territorial health departments and other community partners working on the frontlines with the public are best positioned to take the lead on advancing a comprehensive approach to ACEs prevention, due to their focus on social determinants of health (e.g., safe housing, job opportunities, social support, access to health care services including substance use disorder treatment and mental/behavioral health services, education) and shared risk and protective factors (Wilkins, et. al., 2014). State, local, tribal, and territorial health departments also have a long-standing role as community conveners to address complex health challenges and as essential service providers to their communities (CDC, 2018).

One of the Injury Center's main goals is supporting the implementation of a comprehensive, data-driven, evidence-based public health approach to preventing, identifying, and responding to ACEs within communities and states, as well as providing technical support to ensure this approach is implemented with fidelity. The existing evidence base of effective ACEs prevention policies, programs, and practices promotes safe, stable, and nurturing relationships and environments for children and families. The CDC-developed prevention resource, Preventing Adverse Childhood Experiences (ACEs): Leveraging the Best Available Evidence, includes a series of ACEs prevention strategies and can inform health departments and community partners as they pursue evidence-based ACEs prevention efforts. Technical assistance will focus on strengthening surveillance efforts; promoting linkages to ACEs prevention resources; deepening the understanding of the connection between ACEs and other forms of violence and injury (e.g., suicide, interpersonal violence, overdose) and health and social outcomes; and aligning ACEs policy, programmatic, and practice strategies among partners.

CDC will also help partners build capacity to leverage multi-sector partnerships and resources (including data managers, education sector partners, business sector partners, tribal healthcare workers, non-governmental organizations, faith-based organizations, youth-serving and family-serving organizations, policymakers, substance use disorder treatment providers and healthcare providers, local and state health departments, statewide domestic violence coalitions, courts and justice-serving organizations, medical associations, psychological associations, and others who may already be implementing or are poised to begin implementing these types of strategies) to improve ACEs surveillance infrastructures and the coordination and implementation of ACEs prevention and response strategies.

As a result of this goal, there will be increased local, state, territorial, and tribal capacity to develop and sustain an ACEs surveillance system that informs and helps guide implementation of ACEs prevention strategies that help to promote safe, stable, and nurturing relationships and environments where children live, learn, and play. The Injury Center's central programmatic mechanism for accomplishing this goal is the Preventing Adverse Childhood Experiences: Data to Action (PACE: D2A) cooperative agreement, which supports state health departments in growing their surveillance and prevention capacity, and in implementing evidence-based programs and policies. Expansion of this programmatic effort will be central in furthering the objectives of Goal 3.

Objectives for Goal 3:

3.1 Develop a partner strategy to advance the Injury Center's ACEs strategic goals with local, state, tribal, and territorial health departments, and other key partners

3.2 Translate the Injury Center's ACEs prevention tool [Preventing Adverse Childhood Experiences (ACEs): Leveraging the Best Available Evidence](#) into guidance to support implementation of policies, programs, and practices, (including those that overlap with overdose and suicide prevention) to prevent ACEs.

3.3 Provide targeted, culturally appropriate trainings and technical assistance to localities, states, tribes, and community partners on the use of data to inform program planning, implementation, and evaluation of ACEs prevention and response strategies.

3.4 Facilitate coordination and collaboration between health departments and other partners within a comprehensive ACEs prevention, identification, and response plan in order to guide the allocation of resources to the locations and populations with the greatest needs (as identified by data), align messages, and strengthen collective impact.

3.5 Disseminate lessons learned and recommendations for best practices and emerging challenges implementing comprehensive ACEs prevention and response strategies.
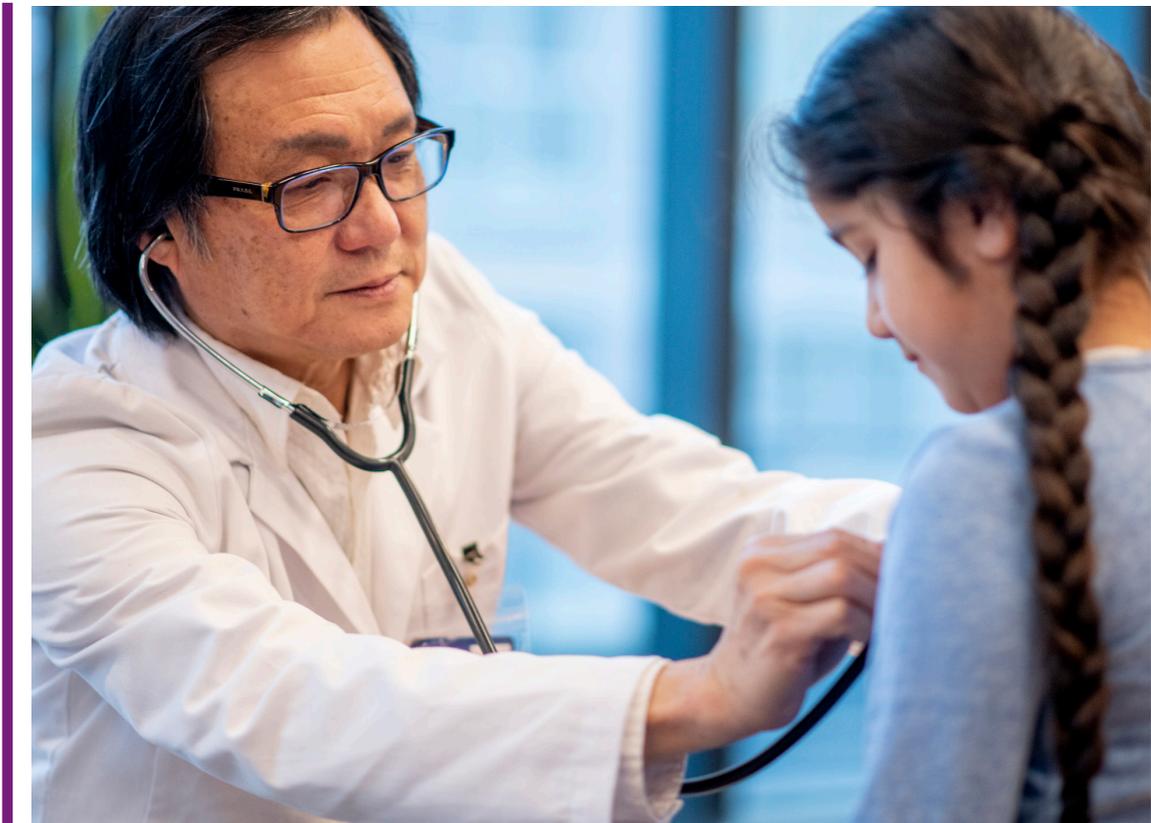
Goal 4

Increase awareness and understanding among key partners of the public health approach to preventing, identifying, and responding to ACEs.

CDC's public health approach to preventing violence, including adverse childhood experiences, includes the following steps: defining and monitoring the problem; identifying risk and protective factors; developing and testing prevention strategies; and assuring widespread adoption of effective strategies. The Injury Center strives to build an awareness and understanding of this public health approach to preventing ACEs among key partners, including state and local health departments, non-government organizations (NGOs), other private sector partners, academic entities, community-based organizations, faith communities, and the public at large.

Helping these key partners learn about ACEs can:

- Galvanize partners to action to advance a public health approach to ACEs prevention;

- Help partners understand and address social determinants of health, such as systemic racism and structural inequality, and how they relate to ACEs prevention;

- Promote safe, stable, nurturing relationships and environments where children live, learn, and play;

- Shift the focus from individual responsibility to community solutions; and

- Reduce stigma related to getting help with parenting challenges or for substance use, depression or serious mental illness, or suicidal thoughts.

Through collaboration and coordination with key partners, increasing ACEs awareness will advance CDC's and public health's visibility and leadership in ACEs prevention, identification, and response. Further, CDC will deepen awareness and understanding with the public, decision makers, and other stakeholders about the effectiveness of a coordinated and comprehensive public health approach to ACEs prevention.

Objectives for Goal 4:

4.1 Finalize a communication plan to tailor messaging to audiences on the incidence, prevalence, and impact of ACEs; how ACEs can be prevented; and the link between ACEs and other injury and violence topics (e.g., suicide, interpersonal violence, opioid/drug use and overdose) and health and social outcomes, and how ACEs prevention will yield prevention of other negative outcomes as well.

4.2 Develop an ACEs prevention initiative (including outreach and communications materials) targeted for different audiences, leveraging key partners to reach the populations they serve.

4.3 Provide technical assistance and training materials to assist stakeholders in raising awareness, messaging, and communication around the burden and impact of ACEs and their link to other topics.

Conclusion

Adverse childhood experiences are common and have a tremendous impact on health and social outcomes. As such, they present a clear public health challenge with implications for the entire lifespan and every domain of health and wellbeing. They also present a critical opportunity for prevention, not only of the childhood adversity itself, but the host of negative physical, behavioral, and mental health outcomes that follow. The Injury Center is committed to recognizing and measuring the impact and burden of ACEs, and to building and propagating a coordinated, comprehensive, science-driven public health approach that engages essential partners from every sector of society. Our strategy to prevent, identify, and respond to ACEs in an equitable way will be accomplished by focusing on four strategic goals:

1. Support surveillance of ACEs and data innovation to guide ACEs prevention, identification, response, and evaluation efforts;

2. Expand the ACEs evidence base by conducting and supporting innovative research and evaluation;

3. Build local, state, tribal, territorial, and key partner capacity to implement ACEs prevention and response policies, programs, and practices based on the best available evidence; and

4. Increase awareness and understanding among key partners of the public health approach to preventing, identifying, and responding to ACEs.

This comprehensive approach will take us further toward our vision of ensuring that every child and family in every community have the safe, stable, nurturing relationships and environments they need to thrive and achieve maximum health and wellbeing.

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