Literature Review: Preventing Adverse Childhood Adverse Childhood Experiences (ACEs)

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Definition: Adverse Childhood Experiences were defined in the original investigation by Anda and Felitti (1998) as childhood experiences that were judged to be stressful for the developing child. This is still a widely used definition today.

Target Population: Children and families who are at risk of experiencing or who have experienced adverse childhood experience. Specifically, infants and children up to age 5 and their family.

Description: The Bernalillo County Behavioral Health Business Plan (CPI, 2015) describes ACEs as linking childhood trauma to long-term health and social issues. The CPI goes on to state that prevention and early intervention programs for this population need to have a wide scope and include efforts such as age-appropriate assessments, dyadic therapy, trauma-informed care, play therapy and wrap-around services to support families/caregivers. These items are in line with what the literature on preventing ACEs and early intervention of children and families says are needed to be effective. Examples of models utilizing these items are described in the research summary. The CPI recommends developing a pilot program to address the needs of infants and children 5 years old and younger and their families, with a specialized, home-based treatment program. The "Preventing Adverse Childhood Experiences" proposal by Bernalillo County proposes to expand early childhood interventions in Bernalillo County by contracting providers that implement evidence-based services or bona-fide promising practices that reduce ACEs in Bernalillo County children. The literature is in line with what the CPI and task force recommend, and states that the suggested efforts are part of an effective program.

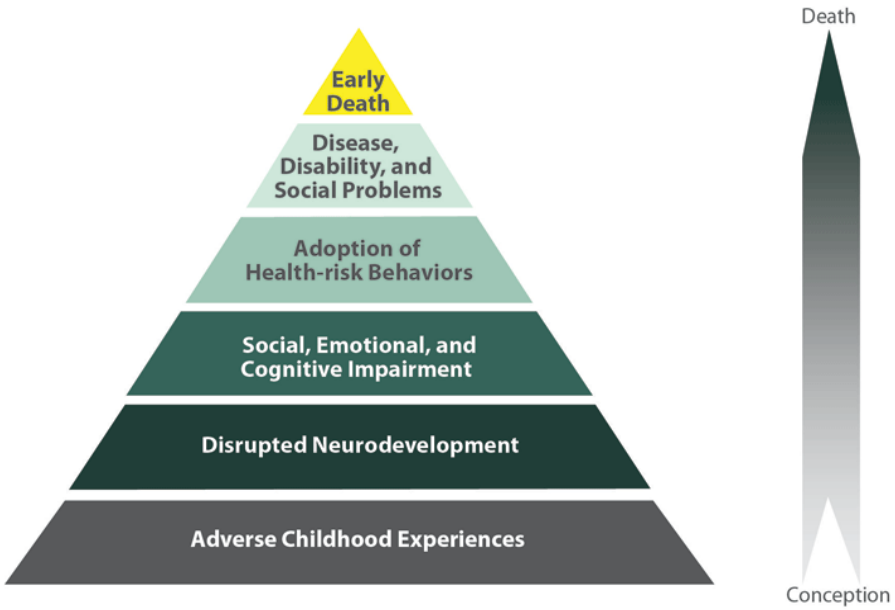
Research Summary: This research summary focuses on information about preventing ACEs from occurring or minimizing the effects of ACEs in children. It does not focus on treatment or intervention of negative health outcomes caused by ACEs in adulthood. Children from birth to age 5 are at a particularly high risk for exposure to potentially traumatic events due to their dependence on parents and caregivers (Lieberman & Van Horn, 2009). These traumatic events are known as Adverse Childhood experiences. According to the Center for Disease Control and Prevention (https://www.cdc.gov/violenceprevention/acestudy/about.html), ACEs are categorized into three groups: abuse, neglect, and family/household challenges. Each category is further divided into multiple categories of 10 childhood experiences identified as risk factors for chronic disease, mental health issues and early death in adulthood. Under the category of Abuse is emotional abuse, physical abuse, and sexual abuse. Under the category of Household Challenges is mother treated violently, household substance abuse, mental illness in household, parental separation or divorce, and incarcerated household member. Under the category of Neglect is emotional neglect and physical neglect. A more complete description can be found at: https://www.cdc.gov/violenceprevention/acestudy/about.html under Data and Statistics and ACEs Definitions.

Because the CPI recommended developing a specialized, home-based treatment pilot program to serve the needs of infants and children 5 years old and younger and their families our research summary begins with a review of home-visiting programs. This is followed by a review of school-based models and other approaches

Today it is widely accepted that children have the capacity to perceive and remember traumatic events (De Young et al., 2011). From birth, the tactile and auditory senses of a child are similar to those of an adult, which suggests that a child can experience stressful events (De Young et al., 2011). At 3 months of age, a child's visual sensory development increases exponentially. A study by Gaensbauer (2002) suggested that infants as young as 7 months of age can remember and reenact traumatic events for up to 7 years. By 18 months of age, children begin to develop autobiographical memory (Howe, Toth, & Cicchetti, 2006).

Researchers have demonstrated that infants and young children have the perceptual ability and memory to be impacted by traumatic events (De Young et al., 2011 and Howe et al., 2006).

Researchers have focused on how trauma during early childhood impacts mental and physical health later in life. Symptoms of mental illness can manifest immediately after a trauma, but in some cases symptoms do not emerge until years later. PTSD, anxiety disorders, behavior disorders and substance abuse have all been linked to traumatic events experienced during early childhood (Kanel, 2015). The types and frequencies of traumatic events and whether they were directly or indirectly experienced also can have various effects on physical and mental health later in adulthood. In a review of literature, Read, Fosse, Moskowitz and Perry (2014) described support for the traumagenic neurodevelopmental model. This model proposes that brain functioning changes following exposure to trauma during childhood. These biological factors often lead to psychological issues and physical and mental health concerns in adulthood. The original and most widely cited study on ACEs was conducted at Kaiser Permanente from 1995 to 1997 with two waves of data collection. Over 17,000 Health Maintenance Organization members from Southern California receiving physical exams completed confidential surveys regarding their childhood experiences and current health status and behaviors. Study findings repeatedly found a strong graded dose-response relationship between ACEs and the negative health and well-being outcomes across the course of life in the study participants. This means that the higher number of ACEs a participant experienced, the higher the risk for negative health and well-being in adulthood was found (Felitti et al., 1998). The following diagram represents the conceptual framework for the ACE study and shows ACEs strong relation to the development of risk factors for disease and well-being throughout the life course (https://www.cdc.gov/violenceprevention/acestudy/about.html).



Mechanism by Which Adverse Childhood Experiences Influence Health and Well-being Throughout the Lifespan

Model 1: Home Visiting Models

Home-visitation programs are interventions that provide voluntary, family-focused services in the family's primary residence and can provide services that address health, social service, or educational needs, although the program generally has 1 primary service orientation. Whether the program uses a set curriculum or plans the number of visits based on family needs, services promote eventual self-sufficiency. A trained home visitor who forms a professional, supportive relationship with the family and acts as a resource person and provides education and referrals to address the family's health and social service needs provides these services (De La Rosa, et al, 2009). Home-visitation programs continue to receive broad interest because of their ability to circumvent barriers to service usage, namely, visiting families in their homes provides the home visitor with a natural

opportunity to learn about a family's home environment and enable the home visitor to gain a broader understanding of the home and neighborhood context affecting the family. Moreover, through individuation of service delivery, home visitors can tailor services to the specific circumstances of each family. Most importantly, the delivery of social services in the client's home maximizes the opportunity to develop trust in the working relationship (De La Rosa, et al, 2009). There are eight outcome domains for the Home Visiting Model listed and described in the Home Visiting Evidence of Effectiveness website (http://homvee.acf.hhs.gov/outcomes.aspx). These eight domains are:

- Child development and school readiness
- Family economic self-sufficiency
- Maternal health
- Reductions in child maltreatment
- Child health
- Linkages and referrals
- Positive parenting practices
- Reductions in juvenile delinquency, family violence, and crime

These domains are part of a larger review of home visiting research literature on the effectiveness of home visiting program models that target families with pregnant women and children from birth to age 5 conducted by Mathematica Policy Research (Mathematica) funded and guided by the federal Department of Health and Human Services (HHS).

An example of a program using the Home Visiting Model is the First Born Program (FBP). FBP is a unique home visiting program designed to meet the needs of first-time families. Through weekly home visits, families identify their personal goals and learn to build upon their strengths, recognize challenges and opportunities for growth, and establish healthy relationships (firstbornprogram.org). The success of the program is based on several key characteristics. FBP is community based and works toward meeting local priorities through community involvement and collaboration. It is evidence based, with strong medical community support, rigorous staffing requirements, and clinical training protocols. The program uses family education resources, including three core curricula: First Born Prenatal Curriculum, First Born First Year of Life Curriculum, and First Born Toddler Curriculum. Additionally, the program has clearly articulated theory, implementation protocols, culturally sensitive components, program fidelity, high retention rates, and integrity. FBP was named one of the nation's 10 most innovative and exemplary prevention programs in 2002 by the Substance Abuse and Mental Health Services Administration and by the Center for Substance Abuse Prevention. A study was done on the FBP that examined outcome measures of a home-visitation program that provided services to firstborn children and their parents. Home-visitation workers conducted pretest–posttest assessments for prenatal and postpartum periods for 109 families. Program participants displayed significantly higher posttest scores on social support, caregiver characteristics, family interaction measures, and a reduction in personal problems affecting parenting. Improved scores were significantly related to increased numbers of home-visitation services (De La Rosa, et al., 2009). The RAND Corporation is currently conducting an evaluation of the First Born Program model. Another example of a Home Visiting Model is a local home visiting program called Children's Health Initiatives St. Joseph's Children Home Visiting Program. They use a hybrid of the FBP model that incorporates a variety of enhancements which includes Family Liaison/Registrar Intake Specialists, a Registered Nurse, and Enhanced Referral Specialists in addition to the Home Visitors. The Institute for Social Research is beginning a long-term longitudinal evaluation of this hybrid model.

Model 2: School Based Models

The School Based Model for prevention/intervention encompass programs aimed at reaching children and families through schools. Many traumatized young children may not be identified as such and are not often found in mental health systems (Holmes, 2015). However, young children and their families are often connected with other community services such as child care, early education/Head Start, and pediatricians among others which offer effective avenues for extending mental health consultation and services, as well as raising awareness on the effects of trauma and need for mental health supports (Lieberman et al. 2011; Osofsky and Lieberman 2011). Thus the School Based Model focuses on using early education/Head

Start as a method of identifying and reaching the target population for the services. Children affected by trauma need a safe, caring, and consistent environment (Swick et al. 2013). Preschool programs, such as Head Start, provide an ideal setting through which to identify these children and provide early on-site treatment and prevention (Bratton et al. 2012). The impact of trauma on developmental trajectories and school readiness produces an impetus for Head Start programs to play a role in early identification and intervention (Garro et al. 2011; Lieberman et al. 2011).

An example of a program using the School Based Model is the Head Start Trauma Smart (HSTS). HSTS is an early education/mental health cross-systems partnership designed to work within the child's natural setting; in this case, Head Start classrooms. The goal of HSTS is to decrease the stress of chronic trauma, foster age-appropriate social and cognitive development, and create an integrated, trauma-informed culture for young children, parents, and staff (Holmes, 2015). Created from a community perspective, the HSTS program emphasizes tools and skills that can be applied in everyday settings, thereby providing resources to address current and future trauma. HSTS is unique in its attempt to develop a trauma-informed culture among the multiple caregivers (parents, teachers, and others) who influence a child's development. Training is offered by HSTS therapists to the various people who touch the life of the child, including Head Start staff in all positions, the child's parents, and the child's broader network: close neighbors, grandparents, and informal day care providers. Program evaluation findings indicate preliminary support for both the need for identification and intervention and the potential to positively impact key outcomes (Holms, 2015)

An HSTS program evaluation looked at results from 81 children who were referred to the HSTS program. Children were identified for referral to the program by either the child's teacher or parent, and typically, although not always, were referred due to the child's externalizing behaviors. Children in this group of 81 received the following components: intensive trauma-focused intervention which involved approximately 12-24 weekly sessions of 30-45 min as well as approximately 6 hours a month of classroom consultation (Holms, 2015). Pre and post assessments were completed with the children and parents (when available). Results showed that improvements were seen in children's the ability to pay attention, which is an important ability for receiving classroom instruction. Improvements were also seen in externalizing behavior and oppositional defiance. Parents noted positive changes in both internalizing and externalizing behaviors. The study by Holms (2015) provides positive results that are promising, however the report acknowledges that a more rigorous randomized control study needs to be done on HSTS.

Other Approaches:

Several clinical approaches are identified by the federal Centers for Disease Control (CDC) that serve to intervene in order to lessen harm and prevent future risk posed by child abuse, neglect, and associated risks. Behavioral parent training programs are programs that are intended to reduce the recurrence of child abuse and neglect, while providing parents with skills to build a healthy and safe environment for the child. Such programs typically take place in a family or group settings (CDC, 2016). A study conducted in 2004 by Chaffin et al., found that the "parent-child interaction therapy" based behavioral parent training program was effective in reducing physical abuse recurrence in households (Chaffin, et al., 2004). Other approaches recommended by the CDC include enhanced primary care services in a primary care setting, which would include a more thorough assessment to identify and address potential psychosocial problems in the family by primary care providers. The University of Maryland conducted a randomized control trial to determine if the Safe Environment for Every Kid (SEEK) model, which provides enhanced primary care services in a primary care setting, could reduce the occurrence of child maltreatment (Dubowitz, et al., 2009). The results showed that families who received the enhanced care had lower rates of child maltreatment in all of the outcome measures (Dubowitz, et al., 2009). The last approach listed by the CDC is therapeutic treatment services such as treatment for children and families aimed at lessening the harms of abuse and neglect exposure, and preventing problem behavior and later involvement in violence (CDC, 2016). Therapeutic treatment services are provided by a highly trained medical professionals in a one-on-one group setting, over the course of multiple sittings.

There is a need to have a model that can fit into various natural settings (home, school, community, etc.) that recreate the child's environment and have applied tools that can be shared across the various caregivers—parent, teacher, therapist, and administrators, among others. This is why HSTS integrates three evidence-informed modalities (Training Based on the

Attachment, Self-Regulation, and Competency (ARC) Model, Trauma-Focused Cognitive Behavioral Therapy, and Early Childhood Mental Health Consultation) to create a model that includes training, classroom consultation, intensive therapy, and peer mentoring (for parents and teachers).

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