

---

# Enhancing Developmental Trajectories for Louisiana's Youngest Children: The Critical Importance of Increasing & Supporting Evidence-Based Services

---

*APRIL 2021*



---

**LSU Health**  
NEW ORLEANS

School of Medicine  
Department of Psychiatry



TULANE UNIVERSITY  
DEPARTMENT of PSYCHIATRY  
& BEHAVIORAL SCIENCES



**Cecil J. Picard Center for Child  
Development & Lifelong Learning**

200 East Devalcourt Street | Lafayette, LA 70506  
O: (337) 482-1567 | [picardcenter@louisiana.edu](mailto:picardcenter@louisiana.edu)

*Université des Acadiens*

## AUTHORS & SPONSORS

### AUTHORS

**Paula D. Zeanah, Ph.D., MSN, RN**

LGMC/OLOL Eminent Scholar Endowed Chair College of Nursing and Allied Health Professions  
Director of Research  
Picard Center for Child Development Chair, Early Trauma Treatment Task Force  
University of Louisiana at Lafayette, Lafayette, LA

**Julie A. Larrieu, Ph.D.**

Professor of Psychiatry  
Clinical Associate Professor of Pediatrics  
Chief, Division of Clinical Psychology  
PI, Early Trauma Treatment Network, Tulane Site  
Department of Psychiatry and Behavioral Sciences  
Tulane University School of Medicine  
New Orleans, LA

**Joy D. Osofsky, Ph.D.**

Paul J. Ramsay Chair of Psychiatry  
Barbara Lemann Professor of Child Welfare  
Director, LSUHSC Harris Center for Infant Mental Health Louisiana State University Health Sciences Center  
PI, Early Trauma Treatment Network, LSUHSC Site  
New Orleans, LA

**Amy B. Dickson, Psy.D.**

Assistant Professor  
Deputy Chief of Psychology  
Co-Director,  
LSUHSC Harris Center for Infant Mental Health  
Department of Psychiatry  
Louisiana State University Health Sciences Center  
New Orleans, LA

**Charles H. Zeanah, Jr., MD**

Mary Peters Sellars-Polchow Chair of Psychiatry  
Vice Chair, Child and Adolescent Psychiatry  
Professor of Psychiatry and Pediatrics  
Executive Director, Infant Institute  
Tulane University School of Medicine  
New Orleans, LA

### SPONSORS

Preparation of this document was supported in part by Substance Abuse and Mental Health Administration (SAMHSA), U.S. Department of Health and Human Services (HHS) Grant No. 5U79SM08003, *Early Trauma Treatment Network: Improving Access and Standard of Care for Young/Preschool Children* (Alicia Lieberman, PI) and in-kind contributions of the authors. The views and opinions expressed in this report are those of the authors and do not necessarily reflect those of SAMHSA, HHS, or the authors' respective institutions. The report is disseminated at no charge to interested organizations, agencies, and individuals.

**SUGGESTED CITATION:** Zeanah, P., Larrieu, J., Osofsky, J., Dickson, A., & Zeanah, C.H. (2021). *Enhancing Developmental Trajectories: The Critical Importance of Increasing & Supporting Evidence-Based Services for Louisiana's Most Vulnerable Citizens*. White Paper available at [www.picardcenter.louisiana.edu](http://www.picardcenter.louisiana.edu) and from [infantinstitute@tulane.edu](mailto:infantinstitute@tulane.edu).

**CORRESPONDING AUTHORS:** Paula Zeanah ([paula.zeanah@louisiana.edu](mailto:paula.zeanah@louisiana.edu)), Amy Dickson ([ADicks@lsuhsc.edu](mailto:ADicks@lsuhsc.edu)), Julie Larrieu ([jlarrie@tulane.edu](mailto:jlarrie@tulane.edu)), Joy Osofsky ([JOsofs@lsuhsc.edu](mailto:JOsofs@lsuhsc.edu)), and Charley Zeanah ([czeanah@tulane.edu](mailto:czeanah@tulane.edu)).

## ACKNOWLEDGEMENTS

---

We acknowledge the support of Dr. Alicia Lieberman of the University of California, San Francisco, as overall director of the Early Trauma Treatment Network for support of the Early Trauma Treatment Task Force in Louisiana. We also appreciate the invaluable help of Megan Bergeron, MS, CRA, of the Cecil J. Picard Center for Child Development and Lifelong Learning at the University of Louisiana at Lafayette in preparing this manuscript.

# TABLE OF CONTENTS

---

- EXECUTIVE SUMMARY ..... 5**
- INTRODUCTION AND STATEMENT OF PURPOSE..... 5**
  - Context: Urgency, Risk, And Louisiana’s Youngest Children ..... 6
- IMPORTANCE OF EARLY EXPERIENCES ..... 7**
  - Brain Development ..... 7
  - Adverse Childhood Experiences ..... 7
  - Special Populations of Young Children at Risk ..... 8
    - Young Children Who Have Experienced Maltreatment ..... 8
    - Young Children Expelled from Childcare, Preschool and Kindergarten ..... 9
    - Young Children Exposed to Intimate Partner Violence (IPV) ..... 9
    - Young Children Whose Parents Have Mental Health Disorders ..... 9
    - Young Children Whose Parents Have Substance Use Disorders ..... 10
- PSYCHOPATHOLOGY IN YOUNG CHILDREN .....11**
  - Attention Deficit Hyperactivity Disorder (ADHD)..... 11
  - Posttraumatic Stress Disorder..... 12
  - Aggressive Behavior Disorders ..... 12
- EVIDENCE-BASED THERAPIES FOR YOUNG CHILDREN AND THEIR FAMILIES .....12**
  - Attachment Bio-Behavioral Catch-Up (ABC) ..... 13
  - Child-Parent Psychotherapy (CPP) ..... 13
  - Parent-Child Interaction Therapy (PCIT) ..... 14
  - Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) ..... 14
  - Circle of Security Treatment ..... 14
  - Video-Feedback Intervention to Promote Positive Parenting—Sensitive Discipline (VIPP-SD)15
  - Triple P Parenting (Triple P) ..... 15
- BARRIERS TO EVIDENCE-BASED TREATMENT IMPLEMENTATION .....15**
  - Length And Rigors Of Training..... 15
  - Costs..... 16
- BENEFITS OF ENHANCED REIMBURSEMENT FOR EVIDENCE-BASED TREATMENTS for Young Children .16**
  - Benefits for Infants and Caregivers ..... 16
  - Benefits for Providers..... 17
  - Benefits for Communities ..... 17
- STRATEGIES FOR ENHANCING REIMBURSEMENT FOR SERVICES.....18**
  - Making EBPs More Available..... 18
- CONCLUSIONS & RECOMMENDATIONS .....19**
- REFERENCES .....21**
- APPENDIX.....29**
  - Tables & Charts ..... 29
  - Websites and Additional Resources ..... 31

## EXECUTIVE SUMMARY

Considerable research powerfully demonstrates that the experiences of young children during the earliest years of life are significant and consequential for their immediate well-being as well as their long-term outcomes. The first three years of life is a period in which brain development is profoundly affected by risk and protective experiences that the young child has—especially caregiving experiences. Adequate nurturance, language and cognitive stimulation, responsiveness to distress, and protection from threatening or harmful experiences set the young child on a trajectory of healthy brain development, but inadequacies in these areas or presence of threatening or harmful input sets them on a trajectory of inadequate brain development. In Louisiana, too many young children are exposed to adversities that are known to compromise their developmental potential. Harmful or inadequate experiences in young children not only increase risk for subsequent developmental difficulties, but also may lead to psychiatric difficulties and poor long-term health outcomes. Further, adverse experiences most often occur in combination, with risk increasing proportionately as more types of adversity occur.

In addition to the high prevalence of risk conditions for many of Louisiana’s young children, research also documents that severely impairing psychiatric disorders are almost as prevalent in 2- to 5-year-old children as in older children, adolescents and adults. Fortunately, there are a number of evidence-based interventions available to treat disorders in young children. Unfortunately, these interventions are not available in most parts of Louisiana for two main reasons: 1) the paucity of trained providers and 2) inadequate ongoing support including low reimbursement rates for these services.

Increasing the availability of providers trained to deliver these needed interventions is an urgent priority for Louisiana. The barriers to enhancing availability of evidence-based interventions include the costs, length, and rigors of training as well as having structures in place to support providers in delivering the services. Inadequate training of providers in basic principles of infant and early childhood mental health also is a factor.

An approach that has been successful in increasing access for other mental health interventions in Louisiana and in other states is enhanced, cost-based Medicaid rates for providers who are trained and who provide evidence-based interventions. Increased reimbursement provides a needed incentive for providers to seek training and for agencies to invest in the training that make needed treatments available.

State policymakers, Medicaid, and Managed Care Organizations are urged to implement specific recommendations to grow the Louisiana evidence-based practice (EBP) provider workforce and ensure greater access to EBPs for children and families throughout Louisiana, now, and into the future.

### **Recommendations:**

1. Support EBP service delivery through increased Medicaid reimbursement rates.
2. Develop policies that incentivize EBP trained mental health providers to remain in the Medicaid workforce.
3. Prioritize and integrate managed care processes to support EBPs for young children.

## INTRODUCTION AND STATEMENT OF PURPOSE

This paper outlines the urgent need to enhance the mental health and well-being of Louisiana’s youngest and most vulnerable citizens by increasing the availability of evidence-based, trauma informed treatments for young children who are on maladaptive developmental trajectories, experiencing impaired

functioning, and suffering as a result. Increasing the work force is critical to meet these urgent needs. While increasing the workforce is a long-term process, interim steps are possible and necessary.

We recently completed a statewide survey to identify current understanding and needs regarding adverse childhood experiences (ACEs). Mental health services for children exposed to ACEs (which include household members with mental health problems, substance abuse, criminal activity; exposure to interpersonal violence; experiences of physical, emotional and sexual abuse and physical and emotional neglect, Felitti et al, 1998) and other traumas were repeatedly identified as a need, and there was a clear interest among mental health respondents in deepening and expanding their knowledge about trauma-informed therapy. However, few of the mental health respondents indicated they were fully trained, confident, or actively using specific, trauma-focused, evidence-based therapies for young children (Zeanah et al., 2020). Many factors contribute to the limited availability and expertise in evidence-based, trauma-informed practice; however, improving reimbursement has been shown to significantly increase the availability of providers (Beidas et al., 2016; Hagele, Potter & Seifert, 2020; Phillippi et al., 2013; Roundfield & Lang, 2017).

The purpose of this White Paper is to make the case for providing financial incentives to increase the availability of evidence-based, trauma-informed services for young children. The document may be used to inform stakeholders, including legislators, Medicaid Care Organizations (MCOs), private insurance providers, and others who are concerned about the need to address the immediate behavioral and emotional needs (that is, alleviate the current suffering) of young children and to prevent future mental and physical health issues that are so costly to Louisiana's overall well-being.

## **CONTEXT: URGENCY, RISK, AND LOUISIANA'S YOUNGEST CHILDREN**

Despite numerous efforts to improve the health and well-being of Louisiana's children and families, Louisiana has languished at the bottom of child health, educational, and social outcomes for years. The most recent Save the Children report (2020) ranked Louisiana last in the U.S. across areas of hunger, dropping out of school, teenage pregnancy and early death due to poor health, accident, murder or suicide. Similarly, the Annie E. Casey Foundation (AECF) ranked Louisiana 48<sup>th</sup> for overall child well-being, 49<sup>th</sup> in Family and Community, 47<sup>th</sup> in Education, and 43<sup>rd</sup> in Health (AECF, 2020). Contributing to these poor outcomes is the lack of adequate mental health services, especially for children. Louisiana is designated a mental health provider shortage area, with only 25% of overall mental health needs being met (Kaiser Family Foundation, 2019). Not only are there limited providers, but many child-focused, evidence-based practices are inadequately implemented (Phillippi et al., 2020, Zeanah et al., 2020). We argue that making these services available to very young children is an essential step toward improving Louisiana's health, educational, and social outcomes (Phillippi et al. 2020, Zeanah et al., 2020).

## IMPORTANCE OF EARLY EXPERIENCES

Recent research has demonstrated the urgency of developing effective methods for intervening with children in the earliest years of life when they are on maladaptive developmental trajectories. In this section, we highlight important findings from several different bodies of research.

### **BRAIN DEVELOPMENT**

Human brain development begins soon after conception and continues for much of the first three decades. Nevertheless, it is well established that the first three years of life are critically important for establishing healthy brain development.

The developing brain is especially sensitive to environmental influences. At birth, the brain consists of billions of nerve cells or neurons; the connections between neurons which allow the neurons to communicate with each other (synapses) are formed primarily through experience. The most rapid growth of synapses occurs during the first few years of life, and by 5 or 6 years of age, the human has more synapses than at any other time of life. Initially, synapses are not tightly bound connections; if they are stimulated repeatedly, the synapses consolidate or strengthen. If not repeatedly stimulated, the synapses are pruned away (eliminated). Neuroscientists call this the principle of “use it or lose it.” The developing brain’s ability to adapt to a wide variety of environmental conditions is called brain plasticity.

Brain development is stimulated by all of the infant’s experiences, including sensory stimulation (e.g., visual, auditory, kinesthetic, taste, touch, smell) and internal states (e.g., hunger, pain, comfort). Importantly, *caregiving experiences in the early years provide the most important environmental context in which brain development unfolds*, but this is a two-edged sword. If the infant is cared for well, that is, his/her needs are met, the infant is safe, nurtured and receives adequate stimulation, the chances of proper brain development are likely. If the infant receives inadequate care or stimulation, or is exposed to excessively frightening or traumatic experiences, brain development may be adversely affected. Experiences in the earliest years lay the foundation for later healthy or unhealthy brain development that becomes increasingly difficult to change. Brain plasticity diminishes precipitously during the early years and continues to decrease across the lifespan. From a neuroscience perspective, this means that the physiological effort required to overcome established brain circuits becomes increasingly difficult as time passes. From an economic standpoint, it becomes increasingly costly to undo or alter maladaptive developmental and behavioral trajectories (Knudsen et al., 2006).

The adaptability of the brain to environmental and caregiving influences in the earliest years of life also means the developing nervous system is vulnerable to stressors that affect the development of neurochemical, hormonal and other physiological processes. Mild and tolerable stress in early childhood can create opportunities for learning, growth and self-regulation, especially when scaffolded by sensitive and responsive caregiving. However, overwhelming stressful events from too little (neglect) or too much (threatening/harsh/abusive) input, especially when safe and responsive caregiving is lacking, is harmful and leads to poor long-term outcomes, even after physical safety is no longer jeopardized. Effective treatment for young children who have experienced trauma, deprivation, or other adversities is crucial to buffer and prevent these long-lasting effects.

### **ADVERSE CHILDHOOD EXPERIENCES**

In a well-known landmark study, Vincent Felitti and Robert Anda surveyed 17,000 patients being seen at the San Diego Kaiser Permanente HMO about adverse experiences in their childhood prior to age 18. They identified ten key types of adversities: physical abuse, sexual abuse, emotional abuse; physical neglect,



emotional neglect, parental separation or divorce; witnessing violence against the mother; and living with household members who were substance abusers, mentally ill or suicidal, or ever imprisoned, and they designated these as adverse childhood experiences (ACEs). Importantly, they demonstrated that the total number of these experiences was related linearly to increased risk, not only for adult mental health outcomes such as depression, anxiety, and suicide, but also a wide variety of unhealthy behaviors (e.g., substance use, multiple sexual partners, smoking) and physical health outcomes, including cancer, ischemic heart disease, chronic pulmonary disease, among others (Felitti et al., 1998).

Subsequent research has replicated and extended these findings. For example, the original ACE study findings seem to hold for a wide range of populations (Bellis et al, 2019; Wade et al., 2016). Second, prospectively collected ACEs have been shown to predict adult health outcomes (Reubin et al., 2016). Third, mothers' reports of ACEs are associated with their young children's behavior problems and biological adaptation (Esteves et al., 2020). Fourth, a broader appreciation for important adverse experiences beyond the original ten has demonstrated the impact of community adverse events and social determinants of health (Ellis & Dietz, 2016; Pinderhughes et al., 2015). Racism (Geronimus, 1992; Paradies et al., 2015), corporal punishment (Taylor et al., 2010; Afifi et al., 2017), neighborhood disorganization (Theall et al., 2013), and exposure to community violence (Osofsky & McAlister Groves, 2018) are all associated with subsequent adverse developmental, health, and mental health effects.

Even when restricting the lens to the original ten ACEs, Louisiana's children experience significantly more than children nationwide. In a recent study conducted by Johns Hopkins University's Child and Adolescent Health Measurement Initiative (Bethell et al., 2017), nearly 54 percent of Louisiana children ages 0-17 have experienced one or more ACEs, compared to 46 percent of children nationwide. In addition, 28.2 percent of Louisiana children have experienced at least two adverse events, up from the national average of 21.7 percent. For young children ages 0-5, 37% have experienced one or more ACEs. Of the children who experienced one or more ACEs, more than 30% have chronic health conditions and nearly 14% have emotional or behavioral disorders. This study also found that less than 28% of children ages 0-5 years in Louisiana have consistent routines and habits which can protect from adversity and foster resilience, such as daily reading, family meal-sharing, limited screen time, no tobacco use in the home, or were ever fed breast milk. While this White Paper is concerned primarily with increasing the availability of effective treatments for young children who are suffering as a result of early adverse experiences, it is important to emphasize that ACEs are related to all of the major adult health outcomes associated with Louisiana's poor overall health status. For example, Osofsky, et al (2021) conducted a study at University Medical Center in New Orleans to examine the association of pregnant women's ACEs with symptoms of depression, anxiety, posttraumatic stress, and substance use. The experience of ACEs contributed to mental health symptoms and substance abuse over and above the effects of concurrent life stressors. Notably, women who reported higher levels of resilience were less likely to experience PTSD symptoms despite exposure to significant household dysfunction. Recognizing the impact of ACEs and implementing effective early interventions are likely to have the long-term effect of improving Louisiana's overall health.

## **SPECIAL POPULATIONS OF YOUNG CHILDREN AT RISK**

Certain populations of young children are especially vulnerable to unhealthy developmental trajectories, given the clusters of ACEs they have experienced. We highlight selected examples of these risk groups, although we recognize that they often co-occur.

### *Young Children Who Have Experienced Maltreatment*

In 2019, there were 3,527 children in foster care in Louisiana with 7,016 children being served by the Department of Children and Family Services (DCFS) (DCFS, 2019a). Notably, almost 54% of children in



foster care in Louisiana are under the age of 6 years (Children’s Bureau, 2018). By definition, children in foster care have experienced numerous adverse and traumatic experiences, including physical, sexual and/or emotional abuse, neglect, domestic and community violence, parental substance abuse, and/or incarceration of one or both parents, increasing their risk for a variety of immediate negative health and developmental outcomes. Various types of maltreatment often co-occur and may be compounded by additional exposure to community violence. For example, a recent study of child-welfare involved children, ages 18-71 months, found that 98.1% had experienced at least one ACE, but the average was 3.6 for these young children. For each additional ACE reported, there was a 21% increased odds of having a chronic medical condition, 32% increased odds of having a behavior problem, and a 77% increased odds of having difficulties with socialization (Jimenez et al., 2016). This study did not take into account the impact of environmental stressors such as poverty and exposure to community violence.

Without early intervention and effective treatment, these children are more likely to continue the negative social, health, and developmental trajectories that lead to costly long-term outcomes, not only for themselves but for Louisiana at large. For example, 20% of children who remain in foster care until aging out at 18 years will become homeless. Only 58% will graduate from high school by age 19 (compared to 87% of all 19-year-olds in Louisiana), and they are significantly more likely to experience alcohol abuse, substance dependence and substance abuse than those still in care. More than 70% of these young women become pregnant by 21 years of age, and these young adults face higher rates of unemployment, criminal conviction, public assistance and involvement in the child welfare system as parents. Further, 25% will be involved in the justice system within two years of leaving the foster care system (DCFS, 2019b).

#### *Young Children Expelled from Childcare, Preschool and Kindergarten*

In Louisiana, during the 2018-2019 school year, 1,260 students were expelled from their preschool, Pre-K or Kindergarten classrooms (Louisiana Department of Education, 2018-2019; Skyles, 2020). The most common reasons to put these young children out of school were defacing school property, “willful disobedience” (subjective, teacher-determined behaviors), and treating an authority figure with disrespect. Unfortunately, the number of expelled children in Louisiana has been consistently high, and the 2018-2019 statistics represented an increase from the prior school year. Further, children of color are disproportionately suspended and expelled (Gilliam et al., 2006), and implicit bias seems to play a significant role in these disparities (Gilliam et al., 2016).

#### *Young Children Exposed to Intimate Partner Violence (IPV)*

Louisiana’s rate of women murdered by men is 77% higher than the national average; with 2.26 homicides per 100,000 females, Louisiana ranks 5<sup>th</sup> in the nation (Louisiana Coalition Against Domestic Violence, 2020). Many of the murdered women were mothers of young children. It is estimated that over 15.5 million children in the U.S. are exposed annually to adult interpersonal violence at home, with young children especially likely to be involved when families seek police involvement for intimate partner violence. Factors such as parental violence history, socioeconomic status, substance use, and neighborhood characteristics are significant predictors of IPV in homes with children (Capaldi et al., 2012). Exposure to intimate partner violence is associated with significantly increased risk for emotional and behavioral disturbances and psychiatric disorders in children (Howell et al., 2016).

#### *Young Children Whose Parents Have Mental Health Disorders*

Infants and young children whose parents or caregivers experience mental health disorders are at increased risk for a variety of negative health, social, and developmental outcomes (Pierce et al., 2020; Manning & Gregoire, 2009). There are many pathways leading to poorer outcomes for children, including genetic transmission, intrauterine stress, environmental stressors, and poor parent-child relationships

(Manning & Gretoire, 2009). Particularly for young children, parental mental health problems can interfere with the parent's ability to provide responsive, sensitive, safe and protective care for the child. Maternal depression has received the most research attention (Pierce et al., 2020). A recent meta-analysis of the effects of prenatal depression and anxiety (Madigan et al., 2018) found significant effects of prenatal anxiety and depression on subsequent social-emotional development, including difficult temperament and emotional dysregulation for children up to age 18, but the effects were stronger for prenatal depression, especially if depression was more severe or occurred within the context of social disadvantage. Postnatal depression, which occurs in approximately 10-20% of women, also impacts a range of child outcomes, including cognitive and social and emotional problems (Murray et al., 2018), child safety (even with low levels of maternal depression) (Conners-Burrow, 2013), and a number of child health outcomes (Pierce, et al., 2020).

According to the Behavioral Risk Factor Surveillance System (BRFSS) report (Henderson & Magana, 2019), 23.1% of adults in Louisiana experience depression (vs. 18.2% nationally) and the rates are higher for women (26.9% in LA, vs 19.1% nationally), those with less than high school education (35.9%, vs 17.9% of college graduates), and those with household annual incomes less than \$25,000/year (33.5%, vs 14.7% with incomes >\$75,000) (Henderson & Magana, 2019). Data on prenatal and postpartum depression in Louisiana are somewhat limited, but the Louisiana Department of Health's (LDH) Pregnancy Risk Assessment and Monitoring System (PRAMS, 2017, 2018) provides some insight. Nearly 14% of Louisiana women described significant depression symptoms in the prenatal period, and nearly 16% (1 in 7) describe depression symptoms in the year following delivery. Childcare teachers and fathers of young children also have elevated rates of depression (Paulson & Bazeman, 2010; Roberts et al., 2019). Early identification and intervention are essential to disrupt the short- and long-term impacts of maternal depression on fetal, infant, and child health and development.

### *Young Children Whose Parents Have Substance Use Disorders*

Parental substance abuse is another significant risk factor for infants and young children. The opioid crisis, nationally and in Louisiana, has drawn the attention of the health and social services systems in Louisiana. Based on data provided in the Louisiana Substance Use In Pregnancy Tool Kit (<https://www.laaap.org/wp-content/uploads/2018/06/LA-DCFS-SubstanceUseInPregnancyToolkit.pdf>, n.d.), Louisiana ranked 11<sup>th</sup> in the nation for overall deaths from opioid overdose, though specific data on pregnant women was not reported. However, the rate of Neonatal Abstinence Syndrome (NAS), withdrawal symptoms in the newborn reflecting intrauterine exposure to opioids, quadrupled in Louisiana from 2005-2015. Newborns with NAS show symptoms including irritability and high-pitched cry, difficulties with feeding and sucking, loose stools, failure to thrive, trouble sleeping, exaggerated reflexes, tremors, and tight muscle tone, autonomic symptoms such as yawning, sweating, nasal stuffiness and sneezing, increased heart rate, and difficulty interacting. These symptoms make care difficult and their caregivers need support to respond effectively to these young infants.

At this point, clear data related to the long-term consequences of NAS for infants in Louisiana are not available. However, previous research has clearly established that prenatal substance exposure is associated with expensive neonatal hospitalizations, deleterious long-term cognitive and educational performance, and neurodevelopmental sequelae (Fill et al., 2018; McQueen & Murphy-Oikonen, 2016; Patrick et al., 2012). Many of these children also end up in the foster care system and drug exposed newborns are at risk for subsequent abuse (Puls et al., 2019).

Opioid use is not the only substance use problem facing parents of young children in Louisiana. Approximately 51% of women of childbearing age report some consumption of alcohol, with 14.5% reporting binge drinking. Furthermore, 10.1% of pregnant women ages 15-44 report binge drinking during

the first trimester of pregnancy, with an estimated 1-2 infants per 1,000 live births being diagnosed with Fetal Alcohol Syndrome and 3-6 infants/1,000 showing symptoms of Fetal Alcohol Spectrum Disorder. In addition, maternal tobacco use during pregnancy increases the risk for child behavior problems (Cornelius & Day, 2009).

Children who grow up with a family member struggling with addiction are four times more likely than peers who do not live in a home with addiction to become drug or alcohol abusers themselves (SAMHSA, 2019). Furthermore, many of these children struggle in school, develop physical and emotional problems, and witness or are the target of family violence or sexual abuse (SAMHSA, The CBHSQ Report, August 24, 2017). Children impacted by a family member's addiction are at far greater risk than their peers to suffer from depression and anxiety as well as health and learning challenges (Anda et al., 2002; Boris et al., 2019).

## PSYCHOPATHOLOGY IN YOUNG CHILDREN

It is often underappreciated that young children are diagnosed with psychiatric disorders at rates roughly comparable to older children and adolescents (Egger & Angold, 2006). In fact, the *Diagnostic Classification of Mental Health and Developmental Disorders of Infancy and Early Childhood (Zero to Three, 2016)* a nosology of early childhood disorders derived from several decades of research, is in wide use internationally. Neurodevelopmental disorders, sensory processing disorders, anxiety and mood disorders, obsessive/compulsive and related disorders, sleep, feeding and crying disorders, trauma, stress and deprivation disorders and relational disorders are all defined in this manual. Significant distress and/or impairment in functioning is required for all diagnoses in young children.

We selectively highlight several of the more common disorders of early childhood that compromise the development of young children in Louisiana and for which evidence-based treatments exist.

### **ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD)**

Symptoms of ADHD, which can appear as early as the second year of life, are one of the most common reasons for referral to a mental health professional in early childhood. The symptoms of inattention, impulsivity, and overactivity/hyperactivity interfere with the child's interactions with parents, family, teachers and peers, and increase the risk for accidents and physical injuries. Nationally, the prevalence of ADHD for children ages 2-6 years ranges from 0.4% to 8.8% (Zero to Three, 2016). Early intervention is important, as children with ADHD are more likely to have developmental problems such as problems with motor coordination, and cognitive and learning deficits which place them at risk for poor academic outcomes, including being expelled from preschool and kindergarten. Furthermore, children with ADHD may have co-occurring mood, anxiety, and other behavioral dysregulation disorders including Oppositional Defiant Disorder (Gleason & Humphreys, 2019).

Based on a review by Kumar and Gleason (2019), Louisiana has a disproportionate number of children diagnosed with ADHD: across the US, approximately 9-11% of children are diagnosed with ADHD compared to 15.8% in Louisiana. Of more concern is that children on Medicaid, especially boys, are more likely to be prescribed medication for these symptoms. Overall, 10.4% of Louisiana children are medically treated for ADHD, but 12.9% of children on Medicaid receive medications; in the US, 12% of boys receive medication for ADHD versus 19% in Louisiana, and 22% of boys receiving Medicaid. Both child and adolescent psychiatrists (Gleason et al., 2007) and the American Academy of Pediatrics (Wolraich et al., 2019) assert that behavioral management/parent management training is the first line of treatment for children under age 6. This includes evidence-based therapies such as Parent Child Interaction Therapy

(PCIT; Thomas et al., 2017) and Triple P Parenting (de Graaff et al., 2008), for which training is available in Louisiana, yet the number of therapists trained in these therapeutic modalities is inadequate.

## **POSTTRAUMATIC STRESS DISORDER**

Although posttraumatic stress disorder (PTSD) has been identified in young children for several decades, it was recognized in DSM-5 (American Psychiatric Association, 2013) as the first ever defined developmental subtype of a psychiatric disorder. Essentially, the disorder manifests in young children with the same clusters of signs of re-experiencing the traumatic events, avoidance of reminders of the trauma, negative thoughts and feelings following the trauma, and signs of hyperarousal of the central nervous system seen in older children and adults, but the ways these symptoms manifest is different for young children. A recent systematic review and meta-analysis indicated that PTSD is even more common following traumatic exposure for young children than it is in older children if developmentally appropriate criteria are used (Hitchcock et al., in press).

Additionally, several therapies specifically reduce PTSD symptoms in traumatized young children, including Child Parent Psychotherapy [CPP] (Lieberman et al., 2005) and Trauma-Focused Cognitive Behavioral Therapy [TF-CBT] (Cohen & Mannarino, 1996; Deblinger, Stauffer & Steer, 2001; Scheeringa et al., 2011). In the absence of evidence-based treatments, PTSD symptoms in young children persist, as indicated by the control groups in these studies as well as naturalistic studies (DeYoung et al., 2012; Meiser-Stedman et al., 2008; Scheeringa et al., 2005). Though more research is needed, some research indicates that untreated PTSD may lead to subsequent externalizing symptoms and even antisocial behavior (Kerig & Becker, 2010).

## **AGGRESSIVE BEHAVIOR DISORDERS**

Systematic research in the past two decades has addressed disruptive or externalizing behaviors in young children, long recognized as one of the most common reasons for seeking treatment and for preschool expulsion (Gilliam & Shabar, 2006). Defining features of disruptive behaviors include problems regulating emotions and behaviors and resistance or insensitivity to rules or norms. Because these behaviors are common in young children (e.g., the “terrible twos”), it is fortunate that recent research has delineated normal tantrums and aggression from behaviors that lead to sustained impairment and long-term harm (Biedzio & Wakschlag, 2019).

The challenges of aggressive behavior have been the subject of treatment studies for at least four decades. Table 1 includes descriptions of a number of therapies that have been shown to effectively reduce aggression and other externalizing behaviors and are implemented by mental health therapists in Louisiana. These include Parent-Child Interaction Therapy [PCIT] (Thomas et al., 2017), Triple-P Parenting (de Graaff et al., 2008), the Incredible Years (Taylor et al., 1998), and Video--Feedback Intervention to Promote Positive Parenting and Sensitive Discipline (Bakersman-Karnenburg, Juffer & van IJendoorn, 2019). However, the number of therapists with adequate training in these modalities is limited.

## **EVIDENCE-BASED THERAPIES FOR YOUNG CHILDREN AND THEIR FAMILIES**

In this section we describe briefly a range of evidence-based therapies for young children and their families. The primary focus of treatment varies by therapy and includes improving parent-child relationships, addressing trauma symptoms, and addressing behavioral problems. However, as shown below, the therapies also can be effective for associated concerns (for example, a focus on improving the

parent-child relationship may also improve child behavior problems). These treatments are all being used in Louisiana and for most, training is also offered in Louisiana (See Table 1).

Adequate statewide dissemination of these therapies would allow for (1) the creation of a network of providers throughout the state enabling families to seek services within their communities and easily transition services if they relocate to other areas of the state; (2) therapist access to ongoing training supports and resources needed to ensure fidelity to the intervention model; (3) training of providers who interface with other child serving systems in best practices for childhood trauma, thus increasing knowledge among key stakeholders responsible for serving the state's most vulnerable children; and (4) support for the therapists to counteract the threat of secondary and vicarious trauma.

### **ATTACHMENT BIO-BEHAVIORAL CATCH-UP (ABC)**

ABC (Dozier & Bernard, 2019) is an in-home intervention designed to enhance parents' nurturing care, especially when children fail to elicit it and/or such caregiving does not come naturally to parents. Because children who have experienced early adversity are often dysregulated biologically and behaviorally, ABC coaches parents to behave more responsively -- primarily by learning how to follow the child's lead during interactions. They also learn to reduce frightening and frightened behaviors that potentially dysregulate the child's behavior. Designed for parents of children from birth to 24 months, the intervention generally involves 10 sessions of guided video reviews of interactions between parents and young children. Three randomized controlled trials (RCT's) have demonstrated positive effects of ABC on children's behavior and physiology as well as on parenting behaviors compared to a psychoeducational control intervention.

### **CHILD-PARENT PSYCHOTHERAPY (CPP)**

CPP is widely used in infant and early childhood mental health (Lieberman et al., 2015; Lieberman et al., 2005; 2006). It is an evidence-based intervention designed for infants, young children and their families/caregivers who have been exposed to trauma (Lieberman et al., 2006; Toth et al., 2002). The child, although very young, may experience problems with attachment, behavior or emotional regulation, and even display mental health problems. The major philosophy underlying CPP is that the attachment system is the organizer of children's responses and that problems in infancy are best addressed in the context of the attachment relationship. CPP is designed to support and strengthen the relationship to help the young child's cognitive, behavioral and emotional development. The focus is on restoring a sense of safety, healthy attachment, appropriate affect regulation, and normalization of the trauma-related response with the goal of helping the child return to a normal developmental trajectory. Attention to the cultural values of the family and expectations for their child are interwoven into the treatment process. Clinicians are encouraged to modify their strategies for engagement and treatment depending on the needs and background of the family while at the same time maintaining the core components of the intervention and treatment. CPP works with the parent/caregiver and child to facilitate increased emotional and behavioral regulation. By also addressing the traumatic experiences from the parents' past, CPP integrates an understanding of how previous relationships through "ghosts in the nursery" (Fraiberg et al., 1975) as well as "angels in the nursery" (Lieberman, et al., 2005) may affect the adult caregiver's relationship with the young child. The clinician assists the parent in understanding how his or her traumatic and protective childhood experiences influence the parent's ability to relate positively to his/her young child and play an important role in the young child's being able to form relationships later in life.

## **PARENT-CHILD INTERACTION THERAPY (PCIT)**

PCIT, a dyadic behavioral intervention that is evidence-based for children (ages 2 – 7 years) and their parents or caregivers, focuses on decreasing externalizing child behavior problems (e.g., defiance, aggression), increasing child social skills and cooperation, and improving the parent-child attachment relationship. It teaches parents traditional play-therapy skills to use as social reinforcers of positive child behavior and traditional behavior management skills to decrease negative child behavior. Parents are taught and practice these skills with their child in a playroom while coached by a therapist. The coaching provides parents with immediate feedback on their use of the new parenting skills, which enables them to apply the skills correctly and master them rapidly. PCIT is time-unlimited; families remain in treatment until parents have demonstrated mastery of the treatment skills and rate their child's behavior as within normal limits on a standardized measure of child behavior. Therefore, treatment length varies but averages about 14 weeks, with hour-long weekly sessions (Eyberg & Funderberk, 2011; Eyberg et al., 2013).

## **TRAUMA-FOCUSED COGNITIVE BEHAVIORAL THERAPY (TF-CBT)**

TF-CBT or Preschool Posttraumatic Treatment (PPT; Scheeringa et al., 2011) is an evidence-based treatment for children ages 3 through 6 years (and their non-offending caregivers) who are experiencing trauma symptoms following trauma exposure. There are three RCT's of preschool children (and many more including older children) demonstrating better outcomes across multiple types of trauma compared to control conditions (see Miron & Sturdy, 2019). Statewide dissemination of the preschool version of TF-CBT has the potential to significantly improve outcomes for children and families by providing a standard practice of accessible, evidence-based and effective therapy for children who have experienced trauma and subsequent symptoms. Because TF-CBT is a brief therapy (conducted in approximately 12-16 sessions), it has the capacity to positively alter the developmental trajectory of mental health functioning of young children thereby reducing the potential for secondary adversities.

## **CIRCLE OF SECURITY TREATMENT**

The Circle of Security intervention began as a 20-week group treatment for parents of young children. Now referred to as Circle of Security-Intensive (COS-I), parents learn a framework for understanding the attachment needs of their young children, children's needs to explore and to seek closeness, and how and why children may cue and miscue their needs. Parents also learn to recognize problematic responses to their children's needs ("shark music") and how to override their problematic reactions. Research on the Circle of Security-Intensive demonstrates positive changes in how parents' view their children, their ability to reflect on their children's needs, and improvement in the parents' emotional availability during interactions (Cassidy et al., 2011). Additionally, young children show increased attachment security and decreased attachment insecurity (Huber et al., 2015; Hoffman et al., 2006). A recent meta-analysis of the efficacy of Circle of Security demonstrated a medium effect size for child attachment security, quality of caregiving, and reduction of caregiver depression, and a large effect size for improved caregiver self-efficacy (Yaholkoski, 2016).

An 8-session parent education video version, Circle of Security-Parenting (COS-P) reviews similar topics to the intensive intervention, and can be delivered individually or in a group format. COS-P provides the framework and vocabulary for parents to understand the behavior and needs of their young children, as well as parents' reactions to their children. It has been effectively used in clinic settings as well (Mothander et al., 2018)

## **VIDEO-FEEDBACK INTERVENTION TO PROMOTE POSITIVE PARENTING—SENSITIVE DISCIPLINE (VIPP-SD)**

VIPP-SD is an intervention developed by the Centre for Child and Family Studies at Leiden University in the Netherlands. The VIPP-SD is a short-term intervention for caregivers of children from ages 1 to 6 years. The intervention is generally conducted in the family's home and consists of 7-8 sessions of approximately 2 hours each. VIPP-SD encourages caregivers to take into account the child's perspective and signals when providing discipline. Videos are used to coach caregiver behavior to promote sensitive responsiveness and sensitive discipline by increasing caregivers' knowledge of child development, skill in observing and responding to their children's signals, empathy for their children, and use of appropriate discipline strategies. VIPP-SD is also adapted for specific target populations, including families with infants, families with children who have autism, and young children in foster care. To date, 12 RCTs in different countries have been completed, demonstrating positive outcomes among different target groups (Bakermans-Kranenburg et al., 2019).

## **TRIPLE P PARENTING (TRIPLE P)**

Triple P is an intervention designed to teach caregivers simple and practical skills for more effective behavior management. Triple P uses a multi-tiered approach to address parenting needs across the continuum from general psychoeducation, multi-media and self-directed modules, and professional consultation including treatment by trained mental health professionals. Here we focus on the levels involving treatment by trained mental health professionals (Levels 4 and 5). Triple P may be offered with single families (Standard Triple P) or in groups (Group Triple P). Both of these approaches use didactic presentations, individual or small group activities, and homework. Major goals are to help parents identify possible causes of young children's misbehavior and to develop specific goals for behavior change. Parents are encouraged to use differential reinforcement, communication skills, effective consequences for misbehavior, and planned activity scheduling. Enhanced Triple P includes additional modules aimed at specific needs of parents, including Practice (to identify and resolve problems using new parenting strategies), Coping (to assist with parental issues such as depression or anxiety), and Partner Support (to address problems with communication, relationships, or co-parenting). Triple P has substantial research supporting its effectiveness, including more than 100 RCT's (Nowak et al., 2008), and can be delivered by a wide variety of trained practitioners from different disciplines. The practitioner has great flexibility to use what is needed for each caregiver to help caregivers become more effective parents (Sanders et al., 1998).

## **BARRIERS TO EVIDENCE-BASED TREATMENT IMPLEMENTATION**

In this section, we consider barriers that continue to limit availability of evidence-based treatments for young children in Louisiana, including the length and rigors of training and the costs of making training available to providers.

### **LENGTH AND RIGORS OF TRAINING**

The initial investment of resources for training providers in evidence-based practices is significant because of the depth and length of the training process. For example, the length of training for Child-Parent Psychotherapy (CPP) is typically 18 months, including several days of didactic and case-based instruction, as well as twice-monthly in-depth consultations with the trainees on the details of the clinical work with a young child and caregiver. For Parent-Child Interaction Therapy (PCIT), the length of the training process is typically one year, including didactics and co-therapy or live supervision, although it may take longer



since the clinical trainee must complete two cases to successful completion or “graduation.” For Attachment and Biobehavioral Catch-Up (ABC), training is one full week with a credentialed trainer followed by a year of supervision and attaining mastery in the protocol implementation (see Table 1 for more details and examples).

## **COSTS**

Financial costs of training are barriers for many clinicians and agencies, which is why a number of practitioners and organizations seek funding through a variety of state agencies (e.g., Department of Mental/Behavioral Health), federal agencies (e.g., Substance Abuse Mental Health Services Administration), national organizations (e.g., Zero to Three), or private funders. Costs include the trainers’ fees, resources including manuals, books, and equipment needed, including specific toys, as well as the trainees’ time to attend training, supervision/consultation with the trainers and to complete necessary documentation.

One study examined the dissemination of CPP and PCIT in private, nonprofit mental health centers throughout Los Angeles County (Skale et al., 2020). Funding for training in CPP and PCIT was provided by the Los Angeles County Department of Mental Health and by grants. The biggest challenges to implementing and sustaining the EPBs were the length and cost of the training and high staff turnover (Skale et al., 2020). Despite these challenges, the agencies surveyed demonstrated their commitment to implementing these EBPs. At the time the study was conducted, they had successfully sustained the use of PCIT and CPP for several years. One key to the ongoing use of EBPs in these agencies is access to regularly scheduled supervision, which the majority of these agencies provided in-house. The biggest barrier to the use of CPP and PCIT was the length of time to be trained to fidelity. Senior leadership also indicated the lack of foundational knowledge in infant and early childhood mental health as a challenge.

An implication of this work is that providing core knowledge about infant and early childhood development, relationships with caregivers, and infant mental health principles is essential to uptake and maintenance of EBPs in the birth to five age group. Another important component is effective communication across agencies as they acquire training and begin to implement EPBs, to increase the likelihood of meeting the complex needs of families in their areas and to allow greater networking and support.

## **BENEFITS OF ENHANCED REIMBURSEMENT FOR EVIDENCE-BASED TREATMENTS FOR YOUNG CHILDREN**

In this section, we consider the potential benefits of increased availability of evidence-based treatments for infants and caregivers, for providers and for communities across the state.

### **BENEFITS FOR INFANTS AND CAREGIVERS**

Despite the challenges, the benefits of being able to offer evidence-based services with fidelity to families who have experienced trauma are substantial. Positive outcomes for families include a reduction in symptomatology and distress, improved adaptive functioning, and better quality of relationships. Preschool Posttraumatic Stress Disorder Treatment (PPT) for 3 – 6 year-old children has been shown in randomized clinical trials to reduce symptoms of PTSD, depression, separation anxiety disorder, and oppositional defiant disorder (Cohen & Mannarino, 1996; Scheeringa et al., 2011). The evidence base for Child-Parent Psychotherapy (CPP), derived from randomized controlled trials, demonstrates that for children, the treatment reduces behavior problems and trauma symptoms, improves mood, increases

cognitive functioning and learning, and improves biological stress responses (Cicchetti et al., 2000; Cicchetti et al., 2011; Lieberman et al., 2005; Lieberman et al., 2006). For caregivers, it improves mood, reduces trauma symptoms, reduces parenting stress and distress, and improves relationships with partners (Lieberman et al., 2005; Lieberman et al., 2006; Peltz et al., 2015). Of utmost importance is the finding of improving the quality of parent-child relationships (Guild et al., 2017). Having a secure attachment relationship is protective for children exposed to adversity, and predicts positive functioning across all domains of development (Finelli et al., 2018; Rosenblum et al., 2018). Similarly, randomized controlled and quasi-experimental trials of Parent-Child Interaction Therapy (PCIT) indicate that this intervention significantly reduces children's defiance, aggression, hyperactive behavior, and anxiety. For caregivers, it reduces parenting stress (Thomas et al., 2017). Thus, at the level of the family, being able to access evidence-based treatment not only reduces suffering in the short-term, it also is protective in optimizing well-being and healthy functioning for the long-term.

### **BENEFITS FOR PROVIDERS**

Benefits of being able to provide EBPs have been shown at the provider and agency levels as well. The network of support among providers is one of the advantages built into the system for EBPs that use a Learning Collaborative model of training. This model is based on implementation science and offers training to multiple organizations that bring teams of senior leaders, supervisors and clinicians together to create a network for learning, implementing, and sustaining the EBP (Norona & Acker, 2016). This network provides a context for the acquisition of knowledge and skills, discussion of ideas, brainstorming solutions to difficulties, and creation of an ongoing support system which is maintained and expanded as more and more agencies learn and implement the EBP. Sponsoring organizations may include state Departments of Health and Hospitals or Offices of Mental or Behavioral Health, academic institutions, or State Associations/Alliances of Infant Mental Health. When using the Learning Collaborative Model or a similar group-based cooperative educational format, at the successful conclusion of the training period, clinicians who meet the requirements of the training can become rostered (CPP) or certified (PCIT). Doing so may offer access to a range of ongoing resources, such as low- or no-cost trainings, consultation, and informal support, all of which are provided for clinicians rostered in CPP. These processes increase motivation and commitment since they provide support and guidance in continuing the rewarding but challenging work of intervening with families who have experienced trauma. These clinicians are able to maintain their rostering status should they move location.

Another advantage of participating in a Learning Collaborative network is its focus on solving challenges that occur during implementation of the EBP and discussing ways to sustain the practice, including developing organizational policies and infrastructure to support the provision of the EBP (e.g., ongoing reflective supervision) and troubleshooting funding challenges. In addition to being able to participate in this network, some states are working toward garnering increased rates of reimbursement for having achieved rostered and/or certified status.

### **BENEFITS FOR COMMUNITIES**

There are numerous benefits to the state in providing access to quality mental health care to young children and their families. Not only can Louisiana's children and their caregivers enjoy less suffering and better short-term and long-term functioning, enhancing outcomes in all aspects of development, communities can reap benefits from having better functioning citizenry who contribute to their neighborhoods and the state. Investing in early childhood reaps benefits educationally, with distal outcomes of better work performance and income.

An innovative program was formed in 2017 to meet the needs of Louisiana’s families receiving Medicaid coverage, 60% of whom could not access quality mental and behavioral health care. This program, *The Center for Evidence to Practice*, is a partnership between LSU Health Sciences Center School of Public Health - Behavioral and Community Health Sciences Program and the Louisiana Department of Health - Office of Behavioral Health (<https://laevidencetopractice.com/about-us/>). The Center supports the state and its agencies, organizations, and providers in the acquisition and implementation of evidence-based interventions for children and families with the goal of enhancing behavioral health outcomes. It also works to solve challenges to providing and sustaining excellent mental health services to Louisiana families. The Center enhances collaboration through workforce development, increasing providers’ knowledge and skills, thus creating more access to evidence-based practices for families. Other collaborators include Managed Care Organizations, Medicaid, the Office of Behavioral Health, other state agencies, universities, service providers, and communities.

## STRATEGIES FOR ENHANCING REIMBURSEMENT FOR SERVICES

Several states in the U.S., including Minnesota, Nevada, New Mexico, North Carolina, and Tennessee, are exploring initiatives through which being trained (including being certified/rostered) in an evidence-based practice for young children and caregivers will result in increased rates of reimbursement from Medicaid and private insurers. One state, Arkansas, has achieved this goal. Enhanced reimbursement is used for clinicians providing evidence-based, dyadic services to children ages birth through 4 years who have Medicaid as their payer source. In order to be able to provide Medicaid-reimbursable mental health services to any child ages 0-4 years, clinicians in Arkansas must be Infant Mental Health Certified (which consists of educational/licensure requirements, DC:0-5 training, training in at least one dyadic evidence-based EBP, and continuing education credits centered on infant and early childhood mental health).

### **MAKING EBPs MORE AVAILABLE**

There are several different state approaches to advancing the dissemination and use of EBPs at scale. These have ranged from top-down approaches with states mandating specific, limited EBPs (e.g., Washington) to bottom-up grassroots community approaches that identify local needs and fit specific EBPs to those needs (e.g., California). The former has speed but has been criticized for not addressing gaps and needs of local communities, as well as not attending to local cultural nuances. The latter address these concerns, but has been shown to be a slower process. Louisiana has been lauded for merging these two approaches effectively in the national *Journal of Community Practice*, and two reports by the organization *Advancing Evidence Based Practice*. Specifically, Louisiana achieved the rank of second nationally for advancing two EBPs per capita in 2012 and 2014. Louisiana had never emerged in the top 25 of these lists prior to a targeted, strategic implementation combining local need analyses and matching state-supported EBP dissemination efforts. Louisiana has maintained that 1<sup>st</sup> and 2<sup>nd</sup> rank for the use of Functional Family Therapy and Multisystemic Therapy nationally ever since. One key consideration for this implementation and sustained treatment availability is that the Medicaid rate for these services in Louisiana is more than double usual rates. FFT and MST are reimbursed at approximately \$150 an hour while other psychotherapy services are reimbursed at approximately \$64 an hour.

Rate enhancement is just one of a variety of payment approaches that have been used by states and MCOs to reimburse care. Reimbursement rates that account for the actual cost of delivering EBPs (see North Carolina Child Treatment Program a., b., n.d.) is one approach. Other approaches include increased fee-for-service rates (e.g., Louisiana MST and FFT) and longer-range performance payments that are tied to delivery and outcome metrics. The latter strategy, although used in medical models, would require

Louisiana to develop agreed child behavioral health performance measures and would need to be implemented over time since immediate action is needed to support Louisiana's EBP implementation and this is a sustainability strategy for established providers. Thus, changes to reimbursement rates would immediately support and stabilize the EBP workforce while other strategies are aligned.

## CONCLUSIONS & RECOMMENDATIONS

The first three years of life is a period in which brain development is profoundly affected by risk and protective experiences that the young child has—especially caregiving experiences. Adequate nurturance, language and cognitive stimulation, responsiveness to distress and protection from threatening or harmful experiences set the young child on a trajectory of healthy brain development. However, inadequate caregiving and protection from threatening or harmful experiences lead to increased risk for health and developmental difficulties as well as longer-term psychiatric difficulties and poorer health and social outcomes. Because experiences that young children have in the earliest years of life are so consequential for their immediate well-being and long-term outcomes, there is an urgency to not only prevent the effects of risk conditions, but also to treat young children who are suffering as a result.

Louisiana's youngest citizens are particularly vulnerable. With the second highest child poverty rate in the U.S. (28% of 0-5 year olds vs 18% U.S. average) Louisiana's young children are more likely to experience the effects of food and housing insecurity, inadequate or unavailable child care, and limited health services (Save the Children, 2020; Annie E. Casey, 2020; Kaiser Family Foundation, 2019). Louisiana's children experience high rates of adverse childhood experiences (Bethell et al., 2017). Too many of Louisiana's young children witness interpersonal violence (Louisiana Coalition Against Domestic Violence, 2020), have parents impaired by mental illness or substance use disorder (Henderson & Magana, 2019; Louisiana Department of Health, 2018), are expelled from preschool and kindergarten (Louisiana Department of Education, 2018-2019) and experience physical and sexual abuse and neglect (DCFS, 2019a; Children's Bureau, 2018). Louisiana's children, especially those served by the Medicaid system, are more likely to be diagnosed with ADHD and receive medication, even though behavioral management therapies are considered the first line of treatment (Kumar & Gleason, 2019). Specific data for Louisiana are lacking, but there is growing evidence that severely impairing psychiatric disorders are almost as prevalent in 2- to 5-year-old children as in older children, adolescents and adults. Contrary to popular belief, young children may not "outgrow" such behavior problems. Left untreated, disorders of mood and aggression, as well as posttraumatic stress disorder (PTSD), can persist and result in significant long-term impairment in development, learning, and well-being.

Although there are a number of evidence-based interventions for treating disorders in young children, these interventions are not available in most parts of Louisiana because of a paucity of trained providers. Barriers to enhancing availability of evidence-based interventions include the costs, length and rigors of training. Inadequate training of providers in basic principles of infant and early childhood mental health also is a factor. Not only are there limited providers, but many child-focused, evidence-based practices are inadequately implemented (Phillippi et al., 2020; Zeanah et al., 2020). Increasing the availability of providers trained to deliver these interventions, especially for young children and their caregivers, is an urgent priority for Louisiana (Phillippi et al., 2020; Zeanah et al., 2020).

Successful implementation of evidence-based programs requires changes at the clinical, organizational, and system levels. In partnership with the Louisiana Office of Behavioral Health and the Center for Evidence to Practice, Louisiana providers are making strides in building capacity to deliver EBPs for children and families. However, these efforts are constrained by a fiscal and policy context that does not reflect this priority. Current reimbursement rates do not account for the investments necessary to scale

up and sustain these high-value services, such as regularly scheduled supervision, availability of consultation for complex cases, and follow-up training to maintain fidelity to model. Failing to account for the increased direct and indirect costs required to deliver evidence-based practices and the importance of retaining the specially trained EBP workforce threatens the investments made in EBP training and hampers progress toward increasing access and volume of these services in the Medicaid provider network.

Implementation researchers have identified financial factors as notable barriers to EBP implementation and sustainment (Lang & Connell, 2016; Roundfield & Lang, 2017; Stewart et al., 2016) and Louisiana providers are echoing that challenge. For EBPs to be successfully integrated within a behavioral health system, the regulatory and fiscal context must be aligned with EBP service requirements and costs. Therefore, state policymakers, Medicaid, and Managed Care Organizations are urged to recognize the urgency of addressing the mental health needs of Louisiana's youngest citizens by committing to and implementing the following recommendations:

**Support EBP service delivery through increased Medicaid reimbursement rates.** Reimbursements must account for the costs of delivering these higher quality services. This includes increasing rates to compete with non-Medicaid rates for outpatient psychotherapy services in Louisiana and the Medicaid rates offered by our neighboring states. For example, Mississippi currently pays providers (including those traveling across state lines from Louisiana) approximately \$110 per hour for outpatient psychotherapy and does not require it to be an EBP. This compares to a rate of only \$69 for outpatient Medicaid providers in Louisiana. Additionally, for providers who remain in Louisiana, the outpatient rates from private healthcare insurance (not Medicaid) are between \$85 and \$110 for the same psychotherapy. The current rates offer little incentive for provider to stay in the Medicaid system much less offer EBPs.

**Develop policies that incentivize EBP trained providers to remain in the Medicaid workforce.** The trained workforce should have clear incentives and means for development within the behavioral health system funded by Medicaid. Thinking beyond reimbursement rate increases, which are critical, policies should focus on retaining trained providers in the Medicaid system. Affording opportunities for clinicians working toward licensure to provide EBPs, while under supervision, would help the next generation workforce emerge. Additionally, opportunities for experienced EBP clinicians to advance, to become supervisors, or possibly be agency trainers should be part of a larger workforce development strategy. Finally, ongoing resources should be available to support and sustain practitioners who are trained and delivering EBPs to children and families covered by Medicaid such as by ongoing consultation groups.

**Prioritize and integrate managed care processes to support EBPs.** Referrals to treatment should emphasize EBPs when clinically indicated. After referral, streamlining authorization, documentation, and quality assurance processes to make the use of EBPs across managed care organizations more efficient would demonstrate the state's trust in practices already shown, by rigorous research, to more consistently produce better outcomes for children and families.

These steps are essential to expanding the Louisiana EBP provider workforce, ensuring greater access to EBPs for young children and families, and assuring their health and development now and into the future.

## REFERENCES

- Afifi, T.O., Ford, D., Gershoff, E.T., Merrick, M., Grogan-Kaylor, A., Ports, K.A., MacMillan, H.L., Holden, G.W., Taylor, C.A., Lee, S.J., Peters Bennett, R. (2017). Spanking and adult mental health impairment: The case for the designation of spanking as an adverse childhood experience. *Child Abuse & Neglect*, *71*, 24-31. doi: 10.1016/j.chiabu.2017.01.014. Epub 2017 Jan 23. PMID: 28126359; PMCID: PMC7983058.
- American Psychiatric Association. (2013). *DSM-5: Diagnostic and statistical manual of mental disorders*. Washington, DC: Author.
- Anda, R. F., Whitfield, C. L., Felitti, V. J., Chapman, D., Edwards, V. J., Dube, S. R., & Williamson, D. F. (2002). Adverse childhood experiences, alcoholic parents, and later risk of alcoholism and depression. *Psychiatric Services*, *53*(8), 1001–1009.
- Annie E. Casey Foundation (2020). *Kids Count Data Profile-Louisiana*. Retrieved October 7, 2020, from [https://www.aecf.org/m/databook/2020KC\\_profile\\_LA.pdf](https://www.aecf.org/m/databook/2020KC_profile_LA.pdf).
- Bakermans-Kranenburg, M.J., Juffer, F., & van IJzendoorn, M.H. (2019). Reflections on the mirror: On Videofeedback to Promote Positive Parenting in infant mental health. In C.H. Zeanah (Ed.). *Handbook of Infant Mental Health* (4th ed., pp. 527-542). Guilford Press.
- Beidas, R.S., Adams, D.R., Kratz, H.E., Jackson, K., Berkowitz, S., Zinny, A., Cliggitt, L.P., DeWitt, K.L., Skriner, L., Evans, A. (2016). Lessons learned while building a trauma-informed public behavioral health system in the City of Philadelphia. *Eval Program Plann.* *59*, 21-32.
- Bellis, M.A., Hughes, K., Ford, K., Rodriguez, G.R., Sethi, D., & Passmore, J. (2019). Life course health consequences and associated annual costs of adverse childhood experiences across Europe and North America: A systematic review and meta-analysis. *The Lancet Public Health*, *4*, 10, e517-e528. [https://doi.org/10.1016/S2468-2667\(19\)30145-8](https://doi.org/10.1016/S2468-2667(19)30145-8).
- Bethell, CD, Davis, MB, Gombojav, N, Stumbo, S, Powers, K. (2017, October). *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, <http://www.cahmi.org/projects/adverse-childhood-experiences-aces>.
- Biedzio, D. & Wakschlag, L. (2019). Developmental emergence of disruptive behaviors beginning in infancy: Delineating normal-abnormal boundaries to enhance early identification. In C.H. Zeanah (Ed.). *Handbook of Infant Mental Health, 4th edition*, pp. 407-423. New York, Guilford Press.
- Boris, N.W., Renk, K., Lowell, A. & Kolomeyer, E. (2019). Parental substance use. In C.H. Zeanah (Ed.). *Handbook of Infant Mental Health, 4th edition*, pp. 187-202. New York, Guilford Press.
- Capaldi, D. M., Knoble, N. B., Shortt, J. W., & Kim, H. K. (2012). A systematic review of risk factors for intimate partner violence. *Partner Abuse*, *3*(2), 231–280.
- Cassidy, J., Woodhouse, S.S., Sherman, L.J., Stupica, B., & Lejuez, C.W. (2011). Enhancing infant attachment security: An examination of treatment efficacy and differential susceptibility. *Journal of Development and Psychopathology*, *23*, 131-148.
- Children’s Bureau (2018). *Child Welfare Outcomes Report Data, 1*. Retrieved from: <https://cwoutcomes.acf.hhs.gov/cwodatasite>.
- Cicchetti, D., Rogosch, F.A., & Toth, S.L. (2000). The efficacy of Toddler-Parent Psychotherapy for fostering cognitive development in offspring. *Journal of Abnormal Child Psychology*, *28*, 135-148.

- Cicchetti, D., Rogosch, F.A., Toth, S.L., & Sturge-Apple, M.L. (2011). Normalizing the development of cortisol regulation in maltreated infants through preventive interventions. *Development and Psychopathology, 23*, 789-800.
- Cohen, J., & Mannarino, A. (1996). A treatment outcome study for sexually-abused preschool children: Initial findings. *Journal of the American Academy of Child and Adolescent Psychiatry, 35*, 42–50.
- Conners-Burrow, N.A, Fussell, J.J., Johnson, D.L., et al. (2013). Maternal low- and high-depressive symptoms and safety concerns for low-income preschool children. *Clinical Pediatrics, 52* (2), 171-177. doi:10.1177/0009922812473776.
- Cornelius, M. D., & Day, N. L. (2009). Developmental consequences of prenatal tobacco exposure. *Current Opinion in Neurology, 22*(2), 121–125.  
<https://doi.org/10.1097/WCO.0b013e328326f6dc>.
- de Graaf, I., Speetjens, P., Smit, F., de Wolff, M., & Tavecchio, L. (2008). Effectiveness of the Triple P Positive Parenting Program on behavioral problems in children: A meta-analysis. *Behavior Modification, 32*(5), 714–735. <https://doi.org/10.1177/0145445508317134>.
- De Young, A.C., Kenardy, J.A., Cobham, V.E., & Kimble, R. (2012). Prevalence, comorbidity and course of trauma reactions in young burn-injured children. *Journal of Child Psychology and Psychiatry, 53*(1), 56-63.
- Deblinger, E., Stauffer, L., Steer, R.A. (2001). Comparative efficacies of supportive and cognitive behavioral group therapies for young children who have been sexually-abused and their nonoffending mothers. *Child Maltreatment, 6*(4), 332-343.
- Department of Children and Family Services (2019a). Fact sheet: State with Regions, [dcfs.louisiana.gov](http://dcfs.louisiana.gov), 1-11.  
[http://www.dcfslouisiana.gov/assets/docs/searchable/Reports/DCFS\\_2019\\_FactSheet\\_State\\_withRegions\\_021220.pdf](http://www.dcfslouisiana.gov/assets/docs/searchable/Reports/DCFS_2019_FactSheet_State_withRegions_021220.pdf).
- Department of Children and Family Services (2019b). Louisiana should extend foster care to age 21 for all youth, Task Force recommends, 1-3. Retrieved from:  
<http://www.dcfslouisiana.gov/news/894>.
- Dozier, M. & Bernard, K. (2019). Attachment and biobehavioral catch-up. In C.H. Zeanah (Ed.). *Handbook of Infant Mental Health, 4th edition*, pp. 514- 526. New York, Guilford Press.
- Egger, H.L. & Angold, A. (2006). Common emotional and behavioral disorders in preschool children: presentation, nosology, and epidemiology. *Journal of Child Psychology and Psychiatry, 47*, 313-337.
- 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*, S86-S93.
- Esteves, K.C., Jones, C.W., Wade, M., Callerame, K., Smith, A.K., Theall, K.P. & Drury, S.S. (2020). Adverse childhood experience: Implications for offspring telomere length and psychopathology. *American Journal of Psychiatry, 177*, 47-57.
- Eyberg S.M. & Funderburk, B.W. (2011). Parent-Child Interaction Therapy Protocol. Gainesville, FL: PCIT International.
- Eyberg, S.M., Nelson, M.M., Ginn, N.C., Bhuiyan, N. & Boggs, S.R. (2013). *Dyadic Parent-Child Interaction Coding System (DPICS): Comprehensive Manual for Research and Training*. 4th ed. Gainesville, FL: PCIT International.



- Felitti, V.J., Anda, R.F., Nordenberg, D., Williamson, D.F., Spitz, A.M., Edwards V. & Marks, J.S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) study. *American Journal of Preventive Medicine*, 14, 245-258.
- Fill, M.M.A., Miller, A.M., Wilkinson, R.H., Warren, M.D., Dunn, J.R., Schaffner W. & Jones, T.F. (2018). Educational disabilities among children born with neonatal abstinence syndrome. *Pediatrics*, 142 (3) e20180562; DOI: <https://doi.org/10.1542/peds.2018-0562>.
- Finelli, J., Zeanah, C.H., & Smyke, A.T. (2018). Attachment disorders in early childhood. In C.H. Zeanah (Ed.), *Handbook of Infant Mental Health* (4th ed., pp. 452-466). Guilford Press.
- Fraiberg, S., Adelson, E., & Shapiro, V. (1975). Ghosts in the nursery. *Journal of the American Academy of Child Psychiatry*, 14(3), 387-421.
- Geronimus A.T. (1992). The weathering hypothesis and the health of African-American women and infants: evidence and speculations. *Ethnicity and Disease*, 2(3), 207-221. PMID: 1467758.
- Gilliam, W.S. & Shahar, G. (2006). Preschool and child care expulsion and suspension rates and predictors in one state. *Infants & Young Children*, 19, 228-245.
- Gilliam, W.S., Maupin, A.N., Reyes, C.R., Accavitti, M. & Shic, F. (2016). Do early educators' implicit biases regarding sex and race relate to behavior expectations and recommendations of preschool suspension and expulsion? Yale Child Study Center Research Brief. [https://medicine.yale.edu/childstudy/zigler/publications/Preschool%20Implicit%20Bias%20Policy%20Brief\\_final\\_9\\_26\\_276766\\_5379\\_v1.pdf](https://medicine.yale.edu/childstudy/zigler/publications/Preschool%20Implicit%20Bias%20Policy%20Brief_final_9_26_276766_5379_v1.pdf).
- Gleason, M.M. & Humphreys, K.L. (2019). Hyperactivity, impulsivity and inattention in young children. In: C.H. Zeanah (Ed.), *Handbook of Infant Mental Health*, (4th ed., pp. 301-312). New York, Guilford Press.
- Gleason, M.M., Egger, H.L., Emslie, G.J., Kowatch, R.A., Lieberman, A.F, Luby, J.L., Owens, J., Scahill, L., Scheeringa, M.S., Stafford, B., Wise, B., & Zeanah, C.H. (2007). Psychopharmacological treatment for very young children: Contexts and guidelines. *Journal of the American Academy of Child and Adolescent Psychiatry*, 46, 1532-1572.
- Greenwood, P., Welsh, B., & Rocque, M. (2012, December). *Implementing Proven Programs for Juvenile Offenders: Assessing State Progress*. Downington, PA: Association for the Advancement of Evidence-Based Practice. Retrieved from <http://www.advancingebp.org/wp-content/uploads/2012/01/AEBP-assessment.pdf>.
- Greenwood, P., Welsh, B., Rocque, M., & Delavega, J. (2012, June). *State Progress in Implementing Proven Programs for Juvenile Offenders*. Panel presented at the National Institute for Justice Annual Conference, Arlington, VA. Retrieved from <http://www.advancingebp.org>.
- Guild, D. J., Toth, S. L., Handley, E. D., Rogosch, F. A., & Cicchetti, D. (2017). Attachment security mediates the longitudinal association between child-parent psychotherapy and peer relations for toddlers of depressed mothers. *Development and Psychopathology*, 29, 587-600.
- Hagele, D., Potter, D. & Seifert, H.T. (2020). *Clinical service delivery time model for trauma-focused cognitive behavioral therapy (TF-CBT)*. North Carolina Child Treatment Program Evidence-Based Treatment Service Delivery Time Model Series. <https://www.ncchildtreatmentprogram.org>. Accessed April 16, 2021.

- Henderson, M. & Magana, M. (December 2019). *Report on the 2018 Behavioral Risk Factor Surveillance System in Louisiana*, Prepared for the Louisiana Department of Health by the LSU Public Policy Research Lab, [https://ldh.la.gov/assets/oph/Center-PHI/BRFSS/2018\\_BRFSS\\_Report.pdf](https://ldh.la.gov/assets/oph/Center-PHI/BRFSS/2018_BRFSS_Report.pdf).
- Hitchcock, C., Goodhall, B., Sharples, O., Meiser-Stedman, R., Watson, P., Ford, T. & Dalgleish, T. (in press). Population prevalence of the posttraumatic stress disorder subtype for young children in nationwide surveys of the British general population and of children in care. *Journal of the American Academy of Child and Adolescent Psychiatry*.
- Hoffman, K., Marvin, R., Cooper, G., & Powell, B. (2006). Changing toddlers' and preschoolers' attachment classifications: The Circle of Security intervention. *Journal of Consulting and Clinical Psychology, 74*, 1017-1026.
- Howell, K.H., Barnes, S.E., Miller, L.E., & Graham-Bermann, S.A. (2016). Developmental variations in the impact of intimate partner violence exposure during childhood. *Journal of Injury & Violence Research, 8*(1), 43–57. <https://doi.org/10.5249/jivr.v8i1.663>.
- Huber, A., McMahon, C.A., & Sweller, N. (2015). Efficacy of the 20-week Circle of Security Intervention: Changes in caregiver reflective functioning, representations, and child attachment in an Australian clinical sample. *Infant Mental Health Journal, 36*, 556-574.
- Jimenez, M.E., Wade, R., Lin, Y., Morrow, L.M., & Reichman, N.E. (2016). Adverse experiences in early childhood and kindergarten outcomes. *Pediatrics, 137*:e20151839. doi: 10.1542/peds.2015-1839. E-pub 2016 Jan 14. <http://pediatrics.aappublications.org/content/early/2016/01/13/peds.20-1839>.
- Kaiser Family Foundation (2019). Mental health provider shortage area, Louisiana. <https://www.kff.org/other/state-indicator/mental-health-care-health-professional-shortage-areas-hpsas/?currentTimeframe=0&selectedRows=%7B%22states%22:%7B%22louisiana%22:%7B%7D%7D&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>.
- Kerig, P. K., & Becker, S. P. (2010). From internalizing to externalizing: Theoretical models of the processes linking PTSD to juvenile delinquency. In S. J. Egan (Ed.), *Posttraumatic stress disorder (PTSD): Causes, Symptoms and Treatment* (pp. 33-78). Hauppauge, NY: Nova Science Publishers.
- Knudsen, E., Heckman, J., Cameron, J. & Shonkoff, J. (2006). Economic, neurobiological and behavioral perspectives on building America's future workforce. *Proceedings of the National Academy of Sciences, 103*, 27, 10155-10162.
- Kumar, R., & Gleason, M.M. (2019). Pediatric attention-deficit/hyperactivity disorder in Louisiana: Trends, challenges, and opportunities for enhanced quality of care. *Ochsner Journal, 19*, 4, 357-368.
- Lang, J. M., & Connell, C. M. (2016). Measuring costs to community-based agencies for implementation of an evidence-based practice. *The Journal of Behavioral Health Services & Research, 44*(1), 122–134. <https://doi.org/10.1007/s11414-016-9541-8>.
- Lieberman, A. F., Ghosh Ippen, C., & Van Horn, P. (2015). Don't hit my mommy!: A manual for Child-Parent Psychotherapy with young children exposed to violence and other trauma. Washington, D.C.: Zero to Three Press.

- Lieberman, A. F., Ghosh Ippen, C., Van Horn, P. J. (2006). Child-Parent Psychotherapy: Six month follow-up of a randomized control trial. *Journal of the American Academy of Child and Adolescent Psychiatry*, 45(8), 913-918.
- Louisiana Coalition Against Domestic Violence (September 24, 2020). *Press release: Louisiana female homicide rate remains higher than average*. <https://lcadv.org/louisiana-female-homicide-rate-remains-higher-than-average>. Full press release: VPC 2020 Press Release.
- Louisiana Department of Education (2018-2019). Discipline action and rates, 1. Retrieved from: <https://www.louisianabelieves.com/resources/library/school-system-attributes>.
- Louisiana Department of Health [LDH] (2017). Louisiana PRAMS Surveillance Report 2017. [https://ldh.la.gov/assets/oph/Center-PHCH/Center-PH/maternal/LouisianaPRAMS/2017\\_PRAMS\\_Surveillance\\_Report.pdf](https://ldh.la.gov/assets/oph/Center-PHCH/Center-PH/maternal/LouisianaPRAMS/2017_PRAMS_Surveillance_Report.pdf).
- Louisiana Department of Health [LDH] (2018). Louisiana PRAMS Data report 2018, [https://partnersforfamilyhealth.org/wp-content/uploads/2018/12/2018PRAMSDataReport\\_9.4.2019\\_Final.pdf](https://partnersforfamilyhealth.org/wp-content/uploads/2018/12/2018PRAMSDataReport_9.4.2019_Final.pdf).
- Louisiana Department of Health [LDH] (2019). Report on the 2018 Behavioral Risk Factor Surveillance System in Louisiana, LSU Public Policy Research Center, [https://ldh.la.gov/assets/oph/Center-PHI/BRFSS/2018\\_BRFSS\\_Report.pdf](https://ldh.la.gov/assets/oph/Center-PHI/BRFSS/2018_BRFSS_Report.pdf).
- Madigan, S., Oatley, H., Racine, N., Fearon, R., Schumacher, L., Akbari, E., Cooke, J. E., & Tarabulsky, G. M. (2018). A meta-analysis of maternal prenatal depression and anxiety on child socioemotional development. *Journal of the American Academy of Child and Adolescent Psychiatry*, 57(9), 645–657.e8. <https://doi.org/10.1016/j.jaac.2018.06.012>.
- Manning, C. & Gregoire, A. (2009). Effects of parental mental illness on children. *Psychiatry*, 5, 10-12, <https://doi.org/10.1383/psyt.2006.5.1.10>.
- McQueen, K. & Murphy-Oikonen (2016). Neonatal abstinence syndrome. *New England Journal of Medicine*, 375, 2468-2479. DOI: 10.1056/NEJMra1600879.
- Meiser-Stedman, R., Smith, P., Glucksman, E., Yule, W., & Dalgleish, T. (2008). The post-traumatic stress disorder diagnosis in preschool-and elementary school age children exposed to motor vehicle accidents. *American Journal of Psychiatry*, 165(10), 1326–1337.
- Miron, D. & Sturdy, W. (2019). Posttraumatic stress disorder in young children. In: Zeanah, C.H. *Handbook of Infant Mental Health, 4th edition*, pp. 438-451. New York, Guilford Press.
- Mothander, P., Furmark, C., & Neander, K. (2018). Adding Circle of Security-Parenting to treatment as usual in three Swedish infant mental health clinics: Effects on parents' internal representations and quality of parent-infant interaction. *Scandinavian Journal of Psychology*, 59, 262–272.
- Murray, L., Halligan S. & Cooper, P. (2018). Postnatal depression and young children's development. In C.H. Zeanah (Ed.), *Handbook of Infant Mental Health* (4th ed., pp. 172-186.
- Noroña, C. R., & Acker, M. L. (2016). Implementation and sustainability of child-parent psychotherapy: The role of reflective consultation in the learning collaborative model. *Infant Mental Health Journal*, 37(6), 701–716.
- North Carolina Child Treatment Program (a, n.d.). *Evidence-based treatment service delivery time model series*. Clinical service delivery time model for Child Parent Psychotherapy (CPP)-DRAFT. <https://www.ncchildtreatmentprogram.org/wp-content/uploads/2020/03/CPP-Clinical-Service-Delivery-Time-Model-DRAFT.docx>.

- North Carolina Child Treatment Program (b, n.d.). *Evidence-based treatment service delivery time model series*. Clinical service delivery time model for Trauma-Focused Cognitive Behavioral Therapy (TF-CBT)-DRAFT. <https://www.ncchildtreatmentprogram.org/wp-content/uploads/2020/03/TF-CBT-Clinical-Service-Delivery-Time-Model-DRAFT.docx>.
- Nowak, C., & Heinrichs, N. (2008). A comprehensive meta-analysis of Triple P-Positive Parenting Program using hierarchical linear modeling: Effectiveness and moderating variables. *Clinical Child and Family Psychology Review*, 11, 114-144.
- Osofsky, J.D. & McAlister Groves, B. (Eds.) (August, 2018). Violence and trauma in the lives of children: Volume I: Understanding the impact and Volume II: Prevention and intervention. Praeger Publishers.
- Osofsky, J.D., Osofsky, H.J., Frazer, A., Fields-Olivieri, M. Many, M., Selby, M. Conrad, E., Holman, S. (2021). The importance of adverse childhood experiences during the perinatal period. *American Psychologist*, 76, 350–363 ISSN: 0003-066X <https://doi.org/10.1037/amp0000770>.
- Paradies Y, Ben J, Denson N, Elias A, Priest N, Pieterse A, Gupta, A., Kelaheer, M. & Gee, G. (2015) Racism as a determinant of health: A systematic review and meta-analysis. *PLoS ONE*, 10(9): e0138511. <https://doi.org/10.1371/journal.pone.0138511>.
- Patrick, S.W., Schumacher, R.E., Benneyworth, B.D., Krans, E.E., McAllister, J.M., Davis, M.M. (2012). Neonatal abstinence syndrome and associated health care expenditures: United States, 2000–2009. *Journal of the American Medical Association*, 307(18), 1934–1940.
- Paulson, J.F. & Bazemore, S.D. (2010). Prenatal and postpartum depression in fathers and its association with maternal depression: A meta-analysis. *JAMA*, 303(19), 1961–1969.
- Peltz, J. S., Rogge, R. D., Rogosch, F. A., Cichhetti, D., & Toth, S. (2015). The benefits of child-parent psychotherapy to marital satisfaction. *Family System Health*, 33, 372-382.
- Phillippi, S., Beiter, K., Thomas, C., & Vos, S. (2020). Identifying gaps and using evidence-based practices to serve the behavioral health treatment needs of Medicaid-insured children. *Children and Youth Services Review*, 115, 105089.
- Phillippi, S., Coccozza, J., & DePrato, D. (2013). Advancing evidence-based practices for juvenile justice reform through community development. *Journal of Community Practice*, 21 (4), 434-450.
- Pierce, M., Hope, H. F., Kolade, A., Gellatly, J., Osam, C. S., Perchard, R., Kosidou, K., Dalman, C., Morgan, V., Di Prinzio, P., & Abel, K. M. (2020). Effects of parental mental illness on children's physical health: Systematic review and meta-analysis. *The British Journal of Psychiatry: The Journal of Mental Science*, 217(1), 354–363.
- Pinderhughes, H., Davis, R., & Williams, M. (2015). *Adverse Community Experiences and Resilience: A Framework for Addressing and Preventing Community Trauma*. Oakland, CA: Prevention Institute. <https://www.preventioninstitute.org/publications/adverse-community-experiences-and-resilience-framework-addressing-and-preventing>.
- Puls, H.T., Anderst, J.D., Bettenhausen, J.L., et al. (2019). Newborn risk factors for subsequent physical abuse hospitalizations. *Pediatrics*. 143(2), e2018.
- Reuben, A., Moffitt, T.E., Caspi, A., Belsky, D.W., Harrington, H., Schroeder, F., Hogan, S., Ramrakha, S., Poulton, R., Danese, A. (2016). Lest we forget: Comparing retrospective and prospective assessments of adverse childhood experiences and adult health. *Journal of Child Psychology and Psychiatry*, 57, 1103-1112.

- Roberts, A.M., Gallagher, K.C., Daro, A.M., Iruka, I.U., Sarver, S.L. (2019). Workforce well-being: Personal and workplace contributions to early educators' depression across settings. *Journal of Applied Developmental Psychology, 61*, 4-12.
- Rosenblum, K. L., Dayton, C. J., & Muzik, M. (2018). Infant social and emotional development: Emerging competence in a relational context. In C.H. Zeanah (Ed.). *Handbook of Infant Mental Health* (4th ed., pp. 95-119). Guilford Press.
- Roundfield K.D. & Lang J.M. (2017). Costs to community mental health agencies to sustain an evidence-based practice. *Psychiatric Services, 68*(9), 876-882.
- Sanders, M. R., Markie-Dadds, C., & Turner, K. M. T. (1998). *Practitioner's manual for enhanced Triple P. Families International.*
- Save the Children (2020). The land of inopportunities: Closing the childhood equity gap for America's kids. U.S. Complement to the Global Childhood Report 2020. <https://www.savethechildren.org/content/dam/usa/reports/advocacy/us-childhood-report-2020.pdf>.
- Scheeringa, M. S., Weems, C. F., Cohen, J. A., Amaya-Jackson, L., & Guthrie, D. (2011). Trauma-Focused Cognitive-Behavioral Therapy for posttraumatic stress disorder in three through six year-old children: A randomized clinical trial. *Journal of Child Psychology and Psychiatry, 52*(8), 853-860. <https://doi:10.1111/j.1469-7610.2010.02354.x>.
- Scheeringa, M., Zeanah, C.H., Myers, L. & Putnam, F. (2005). Predictive validity in a prospective follow-up of PTSD in preschool children. *Journal of the American Academy of Child and Adolescent Psychiatry, 44*, 899-906.
- Skale, G., Perez, H., & Williams, M. E. (2020). Factors influencing implementation of evidence-based mental health interventions for infants and young children. *Journal of Behavior Health Services Research 47*, 493–508. <https://doi.org/10.1007/s11414-020-09694-5>.
- Skyles, B. (2020). *More Than 1,000 kindergartners were suspended from school in Louisiana last year, experts warn of detrimental consequences.* KSLA News, 1-11. <https://www.ksla.com/2020/01/03/more-than-kindergartners-were-suspended-school-louisiana-last-school-year-experts-warn-detrimental-consequences>.
- Stewart, R.E., Adams, D.R., Mandell, D.S., Hadley, T.R., Evans, A., Rubin, R., Erney, J., Neimark, G., Hurford, M.O., & Beidas, R.S. (2016). The perfect storm: Collision of the business of mental health and the implementation of evidence-based practices. *Psychiatric Services, 67*(2), 159–161. <https://doi.org/10.1176/appi.ps.201500392>.
- Substance Abuse and Mental Health Services Administration. (2019). Key substance use and mental health indicators in the United States: Results from the 2018 National Survey on Drug Use and Health (HHS Publication No. PEP19-5068, NSDUH Series H-54). Rockville, MD: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration. Retrieved from <https://www.samhsa.gov/data>.
- Taylor, C.A., Manganello, J.A., Lee, S.J., & Rice, J. (2010). Mothers' spanking of 3-year-old children and subsequent risk of children's aggressive behavior. *Pediatrics, 125*(5), e1057–e1065.
- Taylor, T.K., Schmidt, F., Pepler, D., & Hodgins, H. (1998). A comparison of eclectic treatment with Webster-Stratton's parents and children series in a children's mental health center: A randomized controlled trial. *Behavior Therapy, 29*, 221-240.

- Theall, K. P., Brett, Z. H., Shirtcliff, E. A., Dunn, E. C., & Drury, S. S. (2013). Neighborhood disorder and telomeres: connecting children's exposure to community level stress and cellular response. *Social Science & Medicine*, *85*, 50–58. <https://doi.org/10.1016/j.socscimed.2013.02.030>.
- Thomas, R., Abell, B., Webb, H.J., Avdagic, E., & Zemmer-Gemback, M.J. (2017). Parent-Child Interaction Therapy: A meta-analysis. *Pediatrics*, *140*(3):e20170352. <https://doi.org/10.1542/peds.2017-0352>.
- Toth, S.L., Maughan, A., Manly, J.T., Spagnola, M., & Cicchetti, D. (2002). The relative efficacy of two interventions in altering maltreated preschool children's representational models: Implications for attachment theory. *Developmental Psychopathology*, *14*, 877-908
- Wade, R., Cronholm, P.F., Fein, J.A., Forke, C.M., Davis, M.B., Harkins-Schwarz, M., Pachter, L.M., Bair-Merritt, M.H. (2016). Household and community-level adverse childhood experiences and adult health outcomes in a diverse urban population. *Child Abuse & Neglect*, *52*, 135-145.
- Wolraich M.L., Hagan J.F., Allan C., et al. Subcommittee on Children and Adolescents with Attention-Deficit/ Hyperactive Disorder (2019). Clinical practice guidelines for the diagnosis, evaluation, and treatment of Attention-Deficit/Hyperactivity Disorder in children and adolescents. *Pediatrics*, *144*(4): e20192528.
- Yaholkoski, A., Hurl, K., & Theule, J. (2016) Efficacy of the Circle of Security intervention: A meta-analysis. *Journal of Infant, Child, and Adolescent Psychotherapy*, *15*, 95-103.
- Zeanah, P., Cartier, J., Dick, S., Dickson, A., Larrieu, J., LaVine, C., Osofsky, J., & Zeanah, C. (2020). *A view from the field: Awareness, activities, and approaches for addressing Adverse Childhood Experiences (ACEs) in Louisiana*. Summary Report retrieved from [www.picardcenter.louisiana.edu](http://www.picardcenter.louisiana.edu).
- ZERO TO THREE (2016). *DC: 0-5TM: Diagnostic classification of mental health and developmental disorders of infancy and early childhood*. Washington, DC: Author.



## APPENDIX

### TABLES & CHARTS

Table 1. Early childhood evidence-based treatments in Louisiana

EBP	Age Range	Length of Intervention	Cost of Training
<b>Attachment-Biobehavioral Catchup</b>	Caregivers and infants 6 months to 24 months (ABC-infants); 24 to 48 months for ABC-Toddlers	10 sessions in home	\$7000 per person plus travel expenses for 2 day training plus year of phone supervision with video review.
<b>Child Parent Psychotherapy*</b>	Early infancy through 5 years	One year of weekly sessions in home or clinic	For a senior trainer, with a group of 15, an 18-month training (7 face-to-face training days and 18 months of consultation; 2 hours a month) range is \$38,000 - \$45,000.
<b>Circle of Security-Treatment</b>	12 months through 5 years	20 weeks	COS-Intensive training is not currently offered, as the training is being revamped.
<b>Video-Feedback to Promote Positive Parenting</b>	12 months through 6 years	8 sessions over 3 months	\$1800 (1500 Euros) Basic course (44 hours) : Practice family (37 hours), Supervision (5-20 hours)
<b>Parent Child Interaction Therapy (PCIT)*</b>	2.5 through 7 years	Weekly sessions involving <i>in vivo</i> parent coaching during parent-child play and behavior management strategies (3-6 months)	\$4900 per person for 5 days of in-person training, followed by 2x/month consultation (group format of 6-8) via web-conferencing and video review with written feedback
<b>Preschool PTSD Treatment (Trauma focused CBT)*</b>	3 to 6 years	12 weekly sessions	For one day training \$2250. For 6 months of phone supervision in small groups is an additional \$3000
<b>Triple-P Parenting Level 4* and Level 5</b>	Birth through 12 years (Teen version also available)	Usually 2-3 months	\$2500 for 3-day training and accreditation for Level 4; an additional \$2100 for 2-day training and one day accreditation for Level 5

\*\*Free training available through LSUHSC’s Center for Evidence to Practice for therapists who accept Medicaid (<https://laevidencetopractice.com/provider-resources/>).



## Enhancing Developmental Trajectories for Young Children: The Critical Importance of Increasing & Supporting Evidence-Based Services

### WHY FOCUS ON YOUNG CHILDREN?

- 95% of brain development occurs in the first 5 years of life; early experiences provide the foundation for brain development.
- Young children are especially vulnerable to adverse experiences of trauma and deprivation, which can result in long-term problems in development, learning, and health well into adulthood.
- Appropriate interventions can buffer the effects of adversity, alleviate current suffering, improve caregiver-child relationships, and lead to positive developmental and health outcomes.

#### THE NEED

- Young children experience behavioral and emotional problems at rates similar to older children and adults.
- Compared to other states, Louisiana’s young children have high rates of maltreatment, exposure to violence, parents with mental illness and substance abuse, expulsion from kindergarten/pre-k, poverty, and diagnoses such as ADHD, PTSD, and aggressive disorders.
- These conditions require an adequately trained and sized workforce who are incentivized to provide services to young children and their caregivers.

#### THE GOALS

- Alleviate suffering; improve adaptive functioning of young children.
- Relieve parenting stress and distress.
- Improve parent-child relationships.
- Enhance the overall well-being of our youngest and most vulnerable citizens (learning, peer relationships, health, development).
- Set a positive trajectory for long-term physical and mental health.
- Prevent more costly later problems by early investment.

#### THE BARRIERS

- Too few mental health providers with expertise in treating young children.
- Training in effective, evidence-based treatments (EBTs) is rigorous, requires time and a financial commitment.
- Retention of those trained in EBTs is poor and related to inadequate reimbursement and support.
- Poor retention is expensive because many of those trained do not end up providing services in absence of adequate remuneration.

#### THE SOLUTIONS

- Financial incentives for providers/agencies who provide EBTs for children less than 6 years of age, including:
- Cost-based reimbursements for EBP service and sustainability;
  - Support training in EBPs, especially for Medicaid network;
  - Integrate EBPs within managed care processes to reflect the priority and value of EBP services;
  - Support training in EBPs, especially for Medicaid network;
  - Integrate EBPs within managed care processes to reflect the priority and value of EBP services;
  - Ongoing support and supervision for EBP providers.

## WEBSITES AND ADDITIONAL RESOURCES

America's Health Rankings analysis of America's Health Rankings composite measure, United Health Foundation, AmericasHealthRankings.org.

[https://www.americashealthrankings.org/explore/annual/measure/Health\\_Status/state/LA](https://www.americashealthrankings.org/explore/annual/measure/Health_Status/state/LA).

Annie E. Casey Foundation (2020). *Kids Count Data Profile-Louisiana*.

[https://www.aecf.org/m/databook/2020KC\\_profile\\_LA.pdf](https://www.aecf.org/m/databook/2020KC_profile_LA.pdf).

Harvard Center on the Developing Child. <https://developingchild.harvard.edu>.

LSUHSC School of Public Health Center for Evidence to Practice: <https://laevidencetopractice.com>.

Save the Children (2020). *The land of inopportunity: Closing the childhood equity gap for America's kids. U.S. Complement to the Global Childhood Report 2020*.

<https://www.savethechildren.org/content/dam/usa/reports/advocacy/us-childhood-report-2020.pdf>.

ZERO TO THREE (2020). *State of Babies Yearbook: 2020. Louisiana (LA) - State of Babies Yearbook 2020*.

The 2021 State of Babies Yearbook will be available soon from [zerotothree.org](http://zerotothree.org).