Realizing the Promise of Well-Being: Longitudinal Research from an Effective Early Intervention Program for Substance Exposed Babies and Toddlers Identifies Essential Components

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ABSTRACT

The University of Miami Linda Ray Intervention Program (LRIP) is a Part C early intervention program for children under the age of three, with verified developmental delays located in Miami-Dade County that has established a strong link and referral process from the Juvenile Court as well as local community-based care agencies. Creating a system where early intervention communicates well with the court system is paramount in changing the well-being trajectories of these vulnerable children. This article describes the growing need for early intervention services as well as the results of one successful early intervention-court partnership that has shown promising short and long-term results for developmentally-delayed children who were born prenatally exposed to cocaine.
INTRODUCTION

It’s first thing Monday morning at a neighborhood early intervention program. Dimitri and Kayla, three-year-old twins who have been in the program since they were infants, come bounding into their classroom with smiles and laughter and hugs for the early intervention specialists awaiting their arrival. They move to the tables where a hearty breakfast awaits them and then hurriedly eat so they can move to their first activities. Dimitri picks a puzzle from the shelf, carefully carrying it to the table. Kayla thoughtfully picks a book, and settles into a bean bag chair to “read.” The classroom assistants position themselves adjacent to the children ready to be available as needed one-on-one. The teacher observes, developmental checklist in hand, marking off developmental milestones for the twins, checking off tasks that have been learned, and marking ones that have not yet been acquired. To anyone observing the twins, their prior history as being born cocaine exposed would not be evident, nor would the fact that they are in foster care; they present as typical three-year-olds, curious and ready to learn, who have reaped the benefits of having been referred for screening and assessment in accordance with the Child Abuse Prevention and Treatment (CAPTA) and meeting eligibility for an evidence-based early intervention program.

CAPTA AND PART C

CAPTA requires states to maintain provisions and procedures for referring children under three who are involved in substantiated cases of child abuse or neglect to early intervention services under Part C of the Individuals with Disabilities Education Act (IDEA) [42 U.S.C. 5106a, Sec. 106(b)(2)(A)(xxi)]. CAPTA provides federal funding to states for prevention, assessment, investigation, prosecution, and treatment activities. For many states, the Department of Health is the state’s lead agency with the primary responsibility of delivering services under Part C. In Florida, for example, the Early Steps program is designed to ensure that children under the age of three who are involved in substantiated cases of child abuse or neglect and are potentially eligible for early intervention services are referred for assessment as well as potential intervention. In Miami-Dade County a seamless linkage has been in place for a decade between the Dependency Division and the Early Steps provider network to assure timely referrals for screenings and assessments and early intervention services for young children meeting eligibility.

CHILD WELFARE AND PARENTAL SUBSTANCE ABUSE

According to the U.S. Department of Health and Human Services, between one and two-thirds of child welfare cases involve a substance abusing parent to some degree.

Florida in 1976 with departmental honors in political science and received a juris doctor degree from the University of Miami Law School in 1979.
Studies have also found links between substance abuse and child maltreatment (Hogan, Myers & Elswick, 2006; Smith, Johnson, Pears, Fisher & DeGarmo, 2007). Substance abuse has been shown to have a negative impact on both children’s physical and emotional development (Zuckerman, 1994). Cocaine is one drug that can cause harm to children, whether they are exposed prenatally or the parent is a post-natal user. One indicator for high risk of developmental delays is drug use during pregnancy. These studies have found that the teratogenic effect of prenatal cocaine exposure is more limited than expected, but environmental factors surrounding the substance abuse place a child at-risk for later developmental and academic delays (Azuma & Chasnoff, 1993; Messinger et al., 2004). Some risk factors associated with prenatal exposure are poor nutrition, health, and medical care as well as maternal smoking, alcohol, and drug use (Chan, Wingert, Wachsman, Schuetz & Rogers, 1986; Hulse et al., 1997). Studies have also found that prenatal drug exposure is correlated with low birth weight, which in turn is associated with later developmental delays (Hulse et al., 1997). Post-natally, parental drug abuse is linked to key indicators of poor caregiving, such as unresponsiveness and neglect, child maltreatment, unstable care, and insecure attachment (Beeghly & Tronick, 1994; Kelley, 1992; Murphy et al., 1991; Rodning, Beckwith & Howard, 1991). Also, many severe drug abusers experience poor mental health (Rounsaville et al., 1998) and were also often abused as children (Jantzen, Ball, Leventhal & Schottenfeld, 1998; Johnson & Leff, 1999). Finally, children prenatally exposed to cocaine should be considered high-risk, and therefore would likely benefit from intervention and prevention services (Lester, Boukydis & Twomey, 2000; LaGasse et al., 1999), specifically from a center-based modality in a quality early intervention program.

QUALITY EARLY INTERVENTION FOR CHILDREN IN CHILD WELFARE

The need for quality caregiving for this population of young children has been well established. Shonkoff and Phillips (2000) write that “the positive relation between childcare quality and virtually every facet of children’s development that has been studied is one of the most consistent findings in developmental science” (p. 23). Research has found not only that high quality programs can significantly help children, but that strong effects can be seen among children from families who are under great stress and have few resources (Shonkoff & Phillips, 2000).

Reports such as the second National Survey of Child and Adolescent Well-Being, a longitudinal study that examined the functioning, service needs, and service use of children who are involved with the child welfare system (Casanueva, Wilson, Smith, Dolan, Ringeisen & Horne, 2012) show the impact of early intervention, or its lack, on the vulnerable population of maltreated children. This comprehensive study included 5,872 children ranging in age from birth to 17.5 years old. Most notably, this study found that children reported for maltreatment in 2008 fell below the same-aged general child population average on cognitive, social-emotional, behavioral, language, daily
living skills, and social skill-based domains (Casanueva, Wilson, Smith, Dolan, Ringeisen & Horne, 2012). More specifically, children in child welfare scored one standard deviation below the mean in cognition on the Battelle Developmental Inventory, 2nd Edition (BDI-2). Also, boys were significantly more likely than girls to have lower cognition scores (Casanueva, Wilson, Smith, Dolan, Ringeisen & Horne, 2012). Overall language scores for the child welfare children also fell one standard deviation below the mean on the Preschool Language Scale-3. The high-risk nature of children in the child welfare system calls for a stronger link among the court system, the case management agencies, and early intervention providers to create a system of care that can improve child outcomes in all developmental areas.

THE LRIP: ONE SUCCESSFUL EARLY INTERVENTION PRACTICE MODEL WITHIN EARLY STEPS

The impact of substance abuse nationwide in the late 1980s and early 1990s and the burgeoning number of babies being born exposed to drugs in utero were areas of concern for both researchers and educators in the fields of early childhood development and early intervention. Initially, the LRIP was designed in 1993 to examine three levels of early intervention on the developmental outcome of children who had gestational cocaine exposure. The program sought to prevent subsequent developmental problems for this population (Claussen et al., 2004). At the time, the LRIP focused efforts on the child because residential drug treatment programs for mothers were available in the community, but no services or attention was paid to their children during the parent treatment and recovery stages. Many children whose parents had substance abuse issues were placed with relatives or foster families (Hawley et al., 1995; Kelley, 1992). Focusing on the child as intervention client was a new concept which allowed the LRIP to provide the intervention services continuum even if the child changed caregivers (Claussen et al., 2004; Scott, Urbano & Boussy, 1991).

Since its inception, the LRIP has been funded through a three-party agreement among Miami-Dade County Public Schools Pre-k Program for Children with Disabilities, The Early Steps System (Children’s Medical Services), and the University of Miami. The LRIP is a Part C early intervention program for children under three who have verified developmental delays. Children who are assessed and meet eligibility attend the center-based modality five days a week, five hours a day, 12 months a year from enrollment (typically at 6 months of age) through three years of age. The Outcome curriculum (Scott & Scott, 1992) (http://www.socio.com/eipardd06.php), used at the LRIP, includes activities organized in the domains of social/emotional, language, cognitive, fine motor, gross motor, and self-help development (Scott & Scott, 1992). The Outcome curriculum was created by program developers and staff and has since been published with Sociometrics Corporation as an effective early intervention program curriculum, along with other notable early childhood curriculum such as The Abecedarian Approach curriculum and The Infant Health and Development Program (Sociometrics, http://www.socio.com/eipardd.php). The Outcome curriculum is targeted
for risk factors during pregnancy, premature infants or low birth weight, and low socioeconomic status.

Meals and snacks for the children are provided through the Department of Health’s Free and Reduced Cost Childcare Meal Program (United Stated Department of Agriculture Food and Nutrition Service, http://www.fns.usda.gov/cnd/care/cacfp/aboutcacfp.htm).

Children are served in age-appropriate classroom settings with trained early intervention teachers and paraprofessional support, with activities such as small/large group activities (art, functional, and symbolic play) and developmentally appropriate, structured activities corresponding to their Individual Family Support Plan (see IDEA for Part C documents) goals for the children. To provide continuity of care that may not have been prevalent in their home environments, children are assigned to the same early intervention teacher and paraprofessional team throughout their enrollment at the LRIP, rather than moving them from infant to toddler classrooms based on chronological age, as many non-intervention or childcare programs do. This program design is in place to strengthen the child’s bond with at least one, potentially more, secondary attachment figures (Raikes, 1993).

**CORE COMPONENTS OF LRIP**

- Focus on child as intervention client provides ongoing care regardless of placement or caregiver changes during the life of the case
- Center-based model; 25 hours/week; 12 months/year
- Outcome curriculum driven (an evidence-based early intervention curriculum)
- Balanced nutrition provided
- Continuity of intervention caregivers with training and experience meeting the needs of the population
- Established link and referral process from Juvenile Court and partnerships with community-based care agencies handling case management

**EVALUATION METHODOLOGY OF THE LRIP: CONTINUOUS SELF-MONITORING FOR EFFECTIVENESS**

The LRIP’s demonstrated success is supported by research and evaluation that has examined the program’s impact in several ways since its inception in the early 1990s. First, evaluations focused on differing levels of intervention (Center-based modality, Home-based modality, and Primary Care) and are cited in the *Journal of Early Intervention* (Bono et al., 2005; Claussen et al., 2004). More recently, researchers examined the developmental outcomes of children who graduated from 2008-2013 as well as rates of exit from special education services at age three (Part C to Part B transition rates). Finally, a longitudinal analysis of a sample of LRIP graduates from 2000-2004 who are now in middle school was examined to determine the long-term impact of these early intervention services. Following is a description of the comprehensive program evaluations which support the effectiveness of the model.
0-36 MONTH OUTCOMES: IMPACT OF HOME AND CENTER-BASED MODALITY

Evaluations of the LRIP initially examined developmental differences between those children in the home (3 hours a week), center-based (25 hours a week) modalities, and primary care (no intervention). Highlights of these 0-36 months-of-age analyses include the following:

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<th>PRIMARY FINDINGS: 0-36 MONTHS OF AGE</th>
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<td>• Children showed improved developmental outcomes in cognition, language, and behavior over a 36 month period for children in the two intervention groups (Bono et al., 2005; Claussen et al., 2004).</td>
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<td>• Children in the center-based modality showed higher cognition and language scores at the end of LRIP center-based program than the non-intervention control group (Bono et al., 2005).</td>
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<td>• Children in the center-based modality exhibited significantly better language outcomes than children in the home-based modality (Claussen et al., 2004).</td>
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In sum, these evaluations indicated that the LRIP center-based modality was more effective in improving child outcomes for this population than the lower dosage, home-based modality.

0-36 MONTH OUTCOMES: CENTER-BASED DEVELOPMENTAL OUTCOMES AND TRANSITIONS FROM PART C TO PART B

In 2012, the LRIP examined the developmental outcomes for 121 children graduating between the years 2008 and 2013 at three years of age.

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<th>PRIMARY FINDINGS: LRIP CENTER-BASED MODALITY</th>
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<td>• The majority of the LRIP children (60 percent) were enrolled directly into regular Head Start classrooms or community prekindergarten programs and were classified as typically developing at age three.</td>
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<td>• Nineteen percent also entered regular Head Start with only speech therapy for 1 hour per week.</td>
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<td>• Twenty-one percent transitioned to Part B special education services.</td>
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<td>• The overall group had statistically significant gains across all 5 developmental domains (adaptive, personal-social, communication, motor, and cognition) as measured by the BDI-2.</td>
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<td>• Examination of pretest BDI-2 scores showed that although girls entered the program with stronger BDI-2 scores in communication and BDI-2 total scores, the boys closed the gap in each of these areas by posttest.</td>
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In sum, the LRIP children graduating over the past five years demonstrated statistically significant gains in every developmental domain and most of these graduates exited early intervention (Part C). Gains in all developmental areas indicate that the early intervention model was successful in positively changing child outcomes, and that the intervention outcomes were equally positive for both boys and girls. Figure 1 illustrates the developmental gains from pretest to posttest across all developmental domains.

**LRIP GRADUATES IN MIDDLE SCHOOL: LONG-TERM EFFECTS OF CENTER AND HOME-BASED MODALITIES**

To examine the LRIP’s long-term impact, researchers tracked 113 middle school children in Miami-Dade County Public Schools who were identified as having attended the LRIP between 2000-2004. Between the two early intervention groups (center vs. home-based modality) there were no significant demographic differences, indicating that the two groups equally represented gender, ethnicity/race, gestational age, income levels, and middle school quality. Figure 2 illustrates the differences in special education placement for the center-based and home-based modalities.

**PRIMARY FINDINGS: SPECIAL EDUCATION PLACEMENT IN MIDDLE SCHOOL**

- Children who participated in the center-based (25 hours per week) learning modality had a significantly lower rate of special education placement (14 percent) compared to the students in the home-based (3 hours per week) learning modality (30 percent) in middle school.
- A child was twice as likely to receive special education services in middle school if they had not been enrolled in the center-based learning modality.
- The higher dosage of intervention (25 hours/week vs. 3 hours/week) in the center-based modality and associated outcomes has strong evidence for this population of young children.
Each of these evaluations of the LRIP (outcome differences in learning modalities, 5-years transition rates, developmental outcome changes, and long-term evaluation of special education placement in public school) strongly indicate that full-time, early intervention for young children who were high risk and had developmental delays and whose parents have a history of substance abuse, is a key factor in changing developmental growth trajectories as well as reducing the need for later special education services. Considering that some studies have cited the prevalence of developmental delays in young children in child welfare as high as 80 percent (Jee et al., 2010) and that 30 percent of children in child welfare between 6 and 11 are accessing special education services (Leone & Weinberg, 2010), creating a system where early intervention communicates well early on with the court system is paramount in changing these trends.

**EARLY INTERVENTION PROGRAMS IN YOUR JURISDICTION**

Unfortunately, children in the child welfare system often do not receive early intervention services. Despite the CAPTA entitlement, many children do not receive the screenings to which they are entitled. The ultimate responsibility for compliance with CAPTA requirements falls to the court. Judges must take the lead in establishing early intervention partnerships if they do not already exist, with the Part C and Part B providers in their jurisdictions. In some states these providers are embedded in hospital settings or at universities and some may be connected to the Department of Health. By bringing these partners to the table, letting them know how much their services are needed and valued, judges can navigate the creation of a referral procedure for the children in court. Judges need to understand the strengths or weaknesses of the early intervention link to the court and must support a seamless connection of service providers to the children in the child welfare system. A system of reporting back to the court will
inevitably need to be developed. The needs of the child as determined by the Part C and Part B providers should be included in the child’s case plan.

In summary, judges must initiate and preside over discussions related to the screening, assessment, and eligibility criteria for services to determine the capacity of the current system, geographic availability of service access, and support, and to develop a plan of how developmental information will be brought to the court’s attention.

VIEW FROM THE BENCH

In the child welfare system, judicial leadership is essential. The tragedy that brings young children into the child welfare system can actually be an opportunity for a child. Judges must expect to see children with disproportionate developmental delays. Judges must search for developmental problems in young children by ordering screening of each child. The children often present with multiple problems that have gone undetected by unsophisticated parents, poor or non-existent medical care, and failure to have children in early learning settings. Sometimes just seeing the children and talking with them in the courtroom is enough to recognize children who do not speak enough words, do not know how to count or recognize colors, or hold a pencil. The judge and courtroom personnel must be observant whenever young children are in court.

Each child must be referred for a Part C or Part B examination. It is likely that the current referral system does not include children in the child welfare system, despite the fact that these children should be a priority. The judge must organize a referral system; referring the child is not enough. The judge must assure that each child has a timely examination and that the results of the examination are presented to the court. If children are found to be eligible, the services they need should be listed in their case plan and monitored by the court.

Children who are not Part C or Part B eligible are not necessarily delay free. Although criteria differ state by state, in most states a child must be VERY delayed to receive services under CAPTA or IDEA. Failure to meet eligibility does not mean the child does not need services. The court must scrutinize the screening instruments and reports to determine what the child’s exact needs are. Many children in the child welfare system have speech delays, for example, but not many meet eligibility for Part C services because the eligibility requirements are too high and the child’s need must be too severe.

There are so many points in the early entitlement system where malfeasance and nonfeasance can occur. The court must be vigilant child by child and system by system. The court cannot be yet another institution that fails the needs of young children. The cost of failure is too great and the opportunity to heal is too promising.

REFERENCES


