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Getting Ready for Preschool: Linking Early Intervention and Family Mental Health for Infants and Toddlers with Developmental Delay

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Eleven years after the 1975 Individuals with Disabilities and Education Act, Congress passed the Part C amendment encouraging states to create a comprehensive early intervention (EI) system of care for infants and toddlers with developmental delay (DD; Hebbeler, Spiker, & Kahn, 2012). The focus on EI reflected mounting data on the significance of early experiences on brain development and need to enhance early learning opportunities, particularly for high-risk families (Ramey & Ramey, 1998).

Parent-Infant/Toddler Interactions, Family Mental Health, and Preschool Readiness

Approximately 13% of infants and toddlers (0 to 3 years) have a DD (Rosenberg, Zhang, & Robinson, 2008), reflecting failure to meet expected milestones (e.g., communication, cognitive; First & Palfrey, 1994). They are at considerable risk for dysregulation (Olson, Bates, Sandy, & Schilling, 2002), peer problems (Guralnick, Hammond, Connor, & Neville, 2006), disruptive behavior (Feldman, Hancock, Rielly, Minnes, & Cairns, 2000), and academic failure (Sonnander & Claesson, 1999) that begin early and persist over time. Their parents are at heightened risk for depression (Olsson & Hwang, 2001) and maltreatment (Vig & Kaminer, 2002), reflecting, in part, increased parenting stress and caregiver strain (Plant & Sanders, 2007). Families impacted by delay, especially underrepresented minority families, are more likely to live in poverty, exacerbating mental health needs through multiple direct and indirect pathways reflected in homes (e.g., resources, parenting), daycare (e.g., instruction, turnover), and community disorganization (e.g., underemployment, neighborhood violence), as reviewed by Cappella and colleagues (2008).

Negative parent-infant/toddler interactions predict child regulatory and behavior problems (Shaw, Owens, Giovannelli, & Winslow, 2001) and parent distress and psychopathology (Postert, Averbek-Holocher, Achtergarde, Müller, & Furniss, 2012). Child and parent mental health are bi-directionally associated (Bagner, Pettit, Lewinsohn, Seeley, & Jaccard, 2013) and predictive of preschool success (Denham, 2006). Early academic success is among the strongest predictors of healthy functioning (La Paro & Pianta, 2000; Schulting,

Malone, & Dodge, 2005) especially for low-income children (Masten et al., 1999); thus, increased attention has focused on preparing children for kindergarten (Rimm-Kaufman & Pianta, 2000). For children with early DD, however, readiness for kindergarten is too late given the cascade of mental health problems and increased risk for early reading and math deficits (Ahlgrim-Delzell, Browder, Harris, Spooner, & Wakeman, 2008) that initiate a trajectory toward academic failure. Instead, *readiness for preschool* is likely to have the greatest impact (Figure 1).

Early Intervention: Research, Policy, and Practice

Lead agencies (e.g., Social Services) in each state manage Part C referrals, eligibility evaluations, provider training/certification, and EI service planning and delivery. While federal regulations help ensure service availability, flexibility around implementation leads to variability in care. A developmental specialist is the primary service provider, and although education and licensing requirements vary by state, most require a master's degree in early childhood or bachelor's degree with post-baccalaureate coursework coupled with clinical experience.

EI is delivered in home to promote development in contextually relevant situations (Fox et al., 2002) and intervene within natural family routines (Campbell & Sawyer, 2009). Providers coach caregivers using modeling, prompting, problem solving, and performance-based feedback (Peterson, Luze, Eshbaugh, Jeon, & Kantz, 2007). Economically-disadvantaged and under-represented minority families report more negative experiences and lower satisfaction with EI (Bailey et al. 2004, 2005), likely reflecting overall variability in service quality and content (Fleming et al., 2011). Though resources (e.g., funding, time) for professional development are inadequate (Hebbeler et al., 2012), positive EI outcomes (Guralnick, 1998) reflect efforts to reduce risks associated with DD and highlight its promise as a model for mental health promotion.

Research on effective EI components has been methodologically weak (White, Taylor, & Moss, 1992). Though evidence is limited for infant programs (Olds, Sadler, & Kitzman, 2007), two suggest promise. First, home-based Nurse Family Partnerships for low-income, first-time mothers focus on maternal functioning (e.g., diet, substance use), relationships, and referrals. Three large-scale randomized clinical trials show improved caregiving (e.g., fewer child injuries) and maternal well-being (e.g., fewer subsequent pregnancies; Olds, 2006). Second, the Family Check-Up is a brief preventive intervention based on motivational interviewing to reduce risk of conduct problems. Two large-scale randomized clinical trials with low-income toddlers showed improved parenting and toddler behavior (Dishion et al., 2008; Gardner, Shaw, Dishion, Burton, & Supplee, 2007). Despite widespread use, program features related to number of sessions, duration of program, staff credentials, time and resources for training and supervision, and reliance on external funding limit their reach, generalizability, and scalability.

Strengthening EI toward Family Mental Health Promotion and Readiness for Preschool

Directing EI to prepare children for preschool aligns with national priorities, supports fundamental EI service goals, and leverages workforce strengths. EI providers are an educated and experienced workforce whose generalist training, coaching role, and home visiting approach offer a unique opportunity to strengthen parent-infant/toddler interactions and reduce risks for mental health problems. EI providers report limited use or understanding of evidence-based practice (Stahmer et al., 2005) but favorable attitudes toward learning and utilizing empirically-supported interventions (Stahmer & Aarons, 2009). Recent efforts to develop and implement professional development for EI providers were moderately well received (Fleming et al., 2011).

Consistent with research highlighting the importance of university-community collaboration to create structures and processes by which innovation can be adopted and sustained (e.g., Proctor et al., 2009), we recently initiated a Research-Practice Partnership (Garland, Plemmons, & Koontz, 2006) with a regional EI office in Miami, which refers eligible families, many from high poverty neighborhoods, to one of 36 local agencies, three of which are contributing to the development of a model for training, supervision, and quality assurance. We broadly operationalized parent-infant/toddler interactions to include the parent-infant/toddler relationship, parent-infant/toddler reading, and parent emotion regulation and identified three corresponding treatment components that operate as levers of change – Child-Directed Interaction, Dialogic Reading, and Cognitive-Behavioral Support. Components were selected because they are evidence-based; culturally sensitive; align with the EI provider role and needs of families; brief and easy to train and implement (to promote adoption and implementation); flexible (to encourage ongoing use by families); and clear and specific for providing supervision (to promote quality assurance). Collaborating agency directors and front-line providers report enthusiasm for their specificity, detail, and ecological validity.

Child-Directed Interaction (CDI) is first of two phases in Parent-Child Interaction Therapy (PCIT), an empirically-supported parenting intervention, based in attachment and social learning, effective for young children with disruptive behavior (Eyberg et al., 2001; Schuhmann, Foote, Eyberg, Boggs, & Algina, 1998) and DD (Bagner & Eyberg, 2007; Bagner, Sheinkopf, Vohr, & Lester, 2010). Recent feasibility and outcome data support a home-based adaptation of CDI for at-risk infants (Bagner, Rodríguez, Blake, & Rosa-Olivares, 2013). In CDI, therapists actively coach parents to follow their child's lead in play by increasing use of nondirective PRIDE skills (*P*raise, *R*eflect verbalizations, *I*mitate play, *D*escribe behavior, use *E*njoyment), minimizing directive and negative statements (e.g., commands, criticisms), and ignoring undesirable behaviors. Based on our conversations with EI agency directors and providers and national data (Hebbeler et al., 2007), CDI aligns well with the EI model, suggesting high potential for adoption and implementation.

Dialogic Reading is an empirically-supported method of parent-child picture book reading to improve letter and sound identification (Whitehurst et al., 1999a), expressive language (Whitehurst et al., 1994), writing (Whitehurst et al., 1999b), and preschool behavior

(Bierman et al., 2008). Literacy gains are reported for children from low-income minority families (Zevenbergen, Whitehurst, & Zevenbergen, 2003) and with language delays (Hargrave & Sénéchal, 2000). For children below 2 years (Schickedanz & Collins, 2012), parents create routines (e.g., time, place for reading), emphasize the value of reading (e.g., storage, gentle handling of books), and initiate positive interactions (e.g., enthusiasm, physical closeness) to facilitate early literacy (e.g., letter naming, sounds) and social skills (e.g., joint attention, social referencing). Consistent with research and informed by the child's developmental level, EI providers can work with families to select books (e.g., from home, agency, or library) that are predictable and repetitive, include vivid pictures and limited words, and emphasize letter names and sounds, numbers, shapes, colors, and spatial relations.

Cognitive-behavioral strategies – cognitive restructuring, problem solving, and interpersonal skills training – are associated with reducing stress and depressive symptoms for parents of children with DD (Hastings & Beck, 2004). Cognitive restructuring (Beck, 1963) helps parents identify and change cognitive distortions (e.g., “My child can’t communicate” to “My child communicates better with gestures than words”). Problem solving (D’Zurilla & Goldfried, 1971) includes identifying problems, generating solutions, evaluating consequences, and making choices (e.g., finding childcare for respite). Interpersonal skills training (Bellack & Hersen, 1979) includes assertiveness and behavioral rehearsal to help families navigate complex intervention and educational service systems.

Summary

We propose that EI presents a unique opportunity to strengthen family interactions, minimize mental health problems, and prepare infants and toddlers with DD for preschool. Accordingly, we are collaborating with EI agencies and providers to examine usability, feasibility, acceptability, and outcome of infusing empirically-supported mental health treatment components within the state-funded EI service model. These efforts align with current national priorities, reflected by early intervention components of the Affordable Care Act, and are proposed to reduce mental health disparities and improve outcomes for families at highest risk.

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Figure 1.
Conceptual model of Parent-Infant/Toddler Interactions, Family Mental Health, and Preschool Readiness.