NATIONAL CENTER FOR INFANT AND EARLY CHILDHOOD HEALTH POLICY

JULY 2005

CLINICAL INTERVENTIONS TO ENHANCE INFANT MENTAL HEALTH: *A Selective Review*

PAULA D. ZEANAH, PHD, MSN, RN
BRIAN STAFFORD, MD, MPH
CHARLES H. ZEANAH, MD

UCLA CENTER
FOR HEALTHIER CHILDREN,
FAMILIES AND COMMUNITIES

ASSOCIATION OF MATERNAL
AND CHILD HEALTH PROGRAMS

JOHNS HOPKINS BLOOMBERG SCHOOL of PUBLIC HEALTH
WOMEN'S AND CHILDREN'S
HEALTH POLICY CENTER

ACKNOWLEDGEMENTS

This brief was prepared by authors from the Tulane University School of Medicine for the National Center for Infant and Early Childhood Health Policy at the University of California, Los Angeles. Paula Zeanah, PhD, MSN is an Associate Professor of Psychiatry and Pediatrics; Brian Stafford, MD, MPH is an Assistant Professor of Psychiatry and Pediatrics; and Charles Zeanah, MD is a Professor of Psychiatry and Pediatrics, and is Director of Child and Adolescent Psychiatry at the Tulane University School of Medicine.

This work was conducted as part of a Cooperative Agreement between the National Center for Infant and Early Childhood Health Policy and the Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB), 5U05-MC00001-02.

The National Center for Infant and Early Childhood Health Policy supports the federal Maternal and Child Health Bureau and the State Early Childhood Comprehensive Systems Initiative by synthesizing the policy relevance of important and emerging early childhood health issues, conducting policy analysis on systems-building and programmatic issues, and disseminating the latest research findings to increase the visibility of early childhood policy issues on the national agenda.

The authors and the National Center would like to acknowledge our project officers at the Maternal and Child Health Bureau for their review and support of this project, and Laura Thomas of the American Academy of Pediatrics for detailed information about the *Bright Futures Guidelines*. The report was edited by Thomas Rice and designed by Martha Widmann.

This and other reports related to infant mental health are available for download at www.healthychild.ucla.edu.

SUGGESTED CITATION:

Zeanah, P, Stafford B, Zeanah, C. *Clinical Interventions to Enhance Infant Mental Health: A Selective Review*. National Center for Infant and Early Childhood Health Policy at UCLA; 2005.

The rapid growth of research showing the profound impact of early caregiving experiences on a child's early and later social, emotional, behavioral, and cognitive development has generated enormous interest in the development of interventions that strengthen the parent-infant relationship. Because parents and infants have a variety of needs, and service sectors vary in the types of services they provide (Zeanah et al, 2000), a continuum of infant mental health (IMH) services is necessary. Considerable variability in the current delivery of interventions exists, and includes:

- Intervention site (e.g., clinic, home, child care setting),
- Type of provider (e.g., nurse, paraprofessional, mental health clinician), and
- Severity of problem (e.g., no problem/prevention, parenting or family problems, severe child behavior/emotional problems).

Nevertheless, there are overarching goals across the continuum of services:

1. To enhance the ability of caregivers to nurture young children more effectively;
2. To expand the ability of non-family caregivers to identify, address, and prevent social-emotional problems in early childhood; and
3. To minimize or avert suffering, and ensure that families in need of more intensive services can obtain them.

The unique focus of infant mental health interventions is most often the caregiver-infant relationship, rather than the traditional approach of focusing specifically on the child or caregiver. Because a relationship approach to assessment and treatment is new, the development of evidence-based approaches is still in its own infancy. Furthermore, as described by Shonkoff and Phillips (2000), there are a number of challenges in developing the evidence-base for infant mental health interventions **(Exhibit One)**. Few interventions approach state of the art methodology to determine their short- and long-term effects (e.g., randomized controlled trials), but a number of promising approaches have shown significant improvements on social-emotional development and/or parent-infant relationships.

This brief describes selected programs that represent current approaches in infant mental health. This is not an exhaustive review; rather, illustrative programs are selected that:

a) Focus on the parent-infant relationship as a target of intervention.
b) Have been implemented in primary, focused, or tertiary care settings, with low to high risk families.
c) Demonstrate evidence of short or long term improvement in parent-infant relationships.

As discussed in the report, *Addressing Social-Emotional Development and Infant Mental Health in Early Childhood Systems* (Zeanah, Stafford, Nagle, & Rice 2005), the Infant Mental Health service continuum is conceptualized as three broad levels of intervention, ranging from preventive approaches, to focused interventions for high risk groups, to tertiary intervention (psychotherapeutic treatment) **(Exhibit Two)**.

UNIVERSAL AND PREVENTIVE APPROACHES

Most young children and their families frequent health care, early care and education, and family support settings. In these settings, interventions may include assessment, education, and counseling about typical as well as problematic behaviors, referral, and in some cases, care management (Zeanah et al, 2005; Halfon et al, 2003). Examples of programs that use universal and preventive approaches include Healthy Steps, Bright Futures, Touchpoints, and mental health consultation.

Healthy Steps

The Healthy Steps program is a promising approach for addressing social-emotional development, as well as emerging behavioral and relationship problems, within a primary health care setting. Healthy Steps places a specially trained child developmental specialist, nurse, or social worker in a pediatric setting. This approach was designed to respond to pediatric providers' lack the time and feeling that they

EXHIBIT ONE

Challenges and Opportunities in Providing Early Intervention Services

1. In general, there is a lack of data on timing, intensity, and duration of intervention, as well as the requisite provider knowledge and skills necessary for working with specific targeted populations.
2. There is a need for more descriptive, exploratory investigations regarding the family-centered, community-based coordination of services-oriented programs.
3. There are significant problems with drop out rates that impact both service delivery and evaluation of programs.
4. There may be inadequate resources and lack of commitment to undertaking rigorous methods for evaluating programs, including random assignment.
5. Determining and achieving cultural competence, and the ability to respond to the needs of specific subgroups, is often lacking.
6. The infrastructure for providing services may be inadequate, and may result in services not reaching targeted populations (e.g., decreased accessibility related to costs, language, culture, citizenship status, transportation, eligibility standards, program scheduling, stigma associated with labeling, etc.) It is important to characterize the influence and assess the impact of post-intervention environments."
7. Cost-effectiveness studies are needed to make choices among early childhood investments.

From Shonkoff & Phillips, 2000.

are under-prepared to assess and intervene regarding many social-emotional issues (AAP, 2000). The specialist addresses social, emotional, physical, and cognitive growth and development during the first three years of life by forging a strong, positive relationship with the parent(s) and uses a holistic, family-centered approach. Available services include individual guidance, a telephone information line, informational materials, home visits, parent groups, child health and family health checkups, and links to community services.

Initial outcome studies found that

- Healthy Steps parents were more likely to discuss developmental concerns, be satisfied with the care, and engage in more preventive health care practices compared to non-Healthy Start families (Minkovitz et al, 2003b).
- Healthy Steps families were less likely to use harsh discipline strategies such as spanking, yelling, and slapping (Guyer et al, 2003).
- Mothers in the Healthy Steps program were more likely to discuss feelings of sadness with someone in the pediatric practice compared to mothers in control groups. (Minkovitz, et al, 2003a).

More information about Healthy Steps and the Healthy Steps program evaluation can be found at www.healthysteps.org.

Bright Futures

The Bright Futures Guidelines for Health Supervision (Green & Palfrey, 2000) emphasizes psychosocial development within the context of child health visits. The 2002 edition builds on the success of the 1994 edition with updated scientific information. In addition, the *Bright Futures in Practice: Mental*

Health (Jellinek, Patel & Froehle, 2002) guidelines emphasize the relationship between the infant and caregiver when addressing issues about common concerns during infancy and early childhood, such as temperament, feeding, sleep, and infant distress. The mental health guidelines provide information on family relationships, attachment, obtaining appropriate child care, socialization and peer relationships, and common behavioral problems. Outcome and evaluation studies are currently underway.

The preparation of the *Bright Futures Guidelines for Health Supervision, 3rd Edition*—expected release in Fall 2006—is underway. The Guidelines are centered around 11 themes, including Promoting Mental Health and Emotional Well-being. Four multidisciplinary expert panels are charged with a comprehensive revision of the 2nd edition, and are recommending content for well-child care visits. The expert panels were divided by the age stages of infancy, early childhood, middle childhood, and adolescence. Members of the panels include pediatricians, nurse practitioners, nutritionists, pediatric dentists, parents and parents with CSHCN, mental health providers, family physicians, and public health representatives. The panels' recommendations have undergone extensive review by professionals from various disciplines and organizations. For example, the Substance Abuse and Mental Health Services Administration has reviewed the mental health content of the infancy and early childhood recommendations. The development process also includes a team of experts on health research that analyzes the evidence supporting the recommendations.

Bright Futures Guidelines is being designed to expand on the tradition of clear recommendations for child health practitioners as well as parents. The accompanying Bright Futures ToolKit will assist practitioners in addressing the implementation challenges and opportunities they can expect.

Numerous materials related to the current edition of the *Bright Futures Guidelines* are available and include materials focused on mental health, physical activity, oral health, nutrition, and other topics. These materials can be found at the American Academy of Pediatrics Bright Futures website (http://www.brightfutures.aap.org/web/).

Touchpoints Program

Another effort to prepare pediatric and other providers in social-emotional development has been led through the Touchpoints Program, developed by T. Berry Brazelton. Trainings are available for individuals, communities via multidisciplinary teams, and early child care and education professionals.

The Touchpoints training curriculum is based on the concept of building relationships between children, parents and providers around the framework of "Touchpoints," or key points in early development. Professionals learn how to use relationship-building and communication strategies when they deliver care and interact with children and families. Trainings are offered periodically at the Brazelton Touchpoints Center in Boston. Attendees typically include many different professionals, including social workers, nurses, early care and education providers, and other professional who work with young children and their families. More information is available at www.touchpoints.org.

One study finds that the Touchpoints model increases the parenting self-confidence of adolescent parents (Percy et al, 2001).

Mental Health Consultation in Child Care Settings

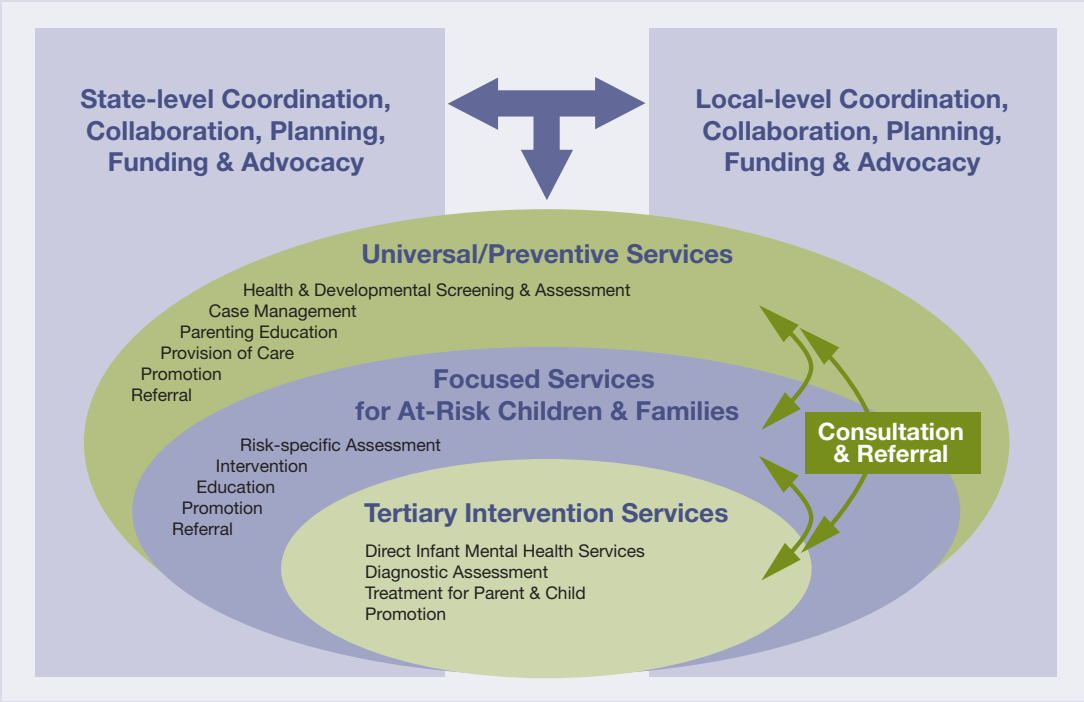
Child care sites can provide information to parents about social and emotional development, as well as cognitive development and learning styles. Information about resources and referral services should be readily available. Screening and/or observational assessments regarding social and emotional development can be provided in child care settings if there is adequate staff training and support. Some child care centers, including many Head Start programs, are obtaining mental health consultation on a regular basis to provide guidance to staff, and assistance in the identification and management of behavioral and social/emotional issues that are present in the child care setting (Johnson, Knitzer, & Kaufman, 2002; Fenichel, 2001). To date, there are few efficacy data available regarding these programs.

First 5 San Francisco, through the San Francisco Department of Public Health, funds community-based mental health consultation services for young children and their families at participating child care settings. DPH contracts with six local agencies to provide a continuum of early childhood mental health care services in child care. Each year, the program serves at least 800 children and their families in center-based child care programs and at least 80 family childcare providers (http://www.sfkids.org/programs/grantees.htm).

Although the above four programs address the need for early intervention services in IMH, many challenges and opportunities remain. Zeanah et al describe the challenges and opportunities in detail in their report "Addressing Social-Emotional Development and Infant Mental Health in Early Childhood Systems".

EXHIBIT TWO

Levels of Infant Mental Health Care



These are discussed at length in the report *Addressing Social-Emotional Development and Infant Mental Health in Early Childhood Systems* (Zeanah, Stafford, Nagle, & Rice 2005).

FOCUSED/INDICATED INTERVENTIONS

A number of preventive interventions have targeted social-emotional development in children from high-risk families. Most of these services are provided by non-mental health or para-professionals. The best-developed of these programs is the Nurse Family Partnership (NFP) program. This intervention program was designed originally as a randomized controlled trial, and has been successfully replicated at three demographically diverse sites (Kitzman et al, 1997; Olds et al, 1988, 1986, 1998). Positive outcomes are found 15 years after the birth of the first child, including:

- Lower rates of being identified as perpetrators of child abuse and neglect,
- Fewer subsequent births,

- Larger gaps of time between birth of first and second child,
- Less time receiving AFDC,
- Lower rates of criminal behavior (Olds et al, 1997).

In these focused interventions, targeted outcomes vary, but may include the caregiver-child relationship, secure attachment, family mediators of child well-being, parenting skills acquisition, improving infant behaviors, subsequent school achievement, and improving parent educational, work and mental health outcomes. Notably, many of these interventions address a variety of family issues, and are not short-term.

In **Exhibit Three**, six examples of focused and indicated intervention models are described in detail, including the target population and program outcomes.

TERTIARY CARE-PSYCHOTHERAPEUTIC APPROACHES

Infant mental health is also a new mental health service, and training in infant mental health assessment and intervention techniques is uncommon in most mental health training programs. In addition to lack of training, other issues impact the development of treatments, such as a lack of:

- Baseline data about which problems require intervention;
- Agreement about diagnostic criteria;
- Comprehensive, well-integrated services;
- Longitudinal outcome studies;
- Well defined outcome criteria; and
- The need for multiple informants for assessment and treatment.

Nevertheless, a number of psychotherapeutic approaches have been developed to modify either the interactions between caregiver and child and/or the caregiver's expectations of, feelings, and reactions to the infant. Several approaches appear to be useful in addressing severe relationship and social-emotional problems in young children and their caregivers. Validation studies are being undertaken to assure effectiveness. Six examples of tertiary care-psychotherapeutic approach models are described in **Exhibit Four**.

LESSONS LEARNED

In their summary of IMH interventions, Egeland and Bosquet (2001) identify several lessons learned:

1. Interventions with high-risk families are more successful when they address not only the parent-child relationship, but also the extenuating problems parents face, such as poverty, unemployment, housing, and substance abuse.
2. The caregiver's relationships with other family members and partners also need to be addressed, as they impact the mother's relationship with the infant.
3. Interventions should begin as early as possible, preferably during pregnancy so that the parent can rely on a relationship with an established provider before having to support her infant.
4. Early intervention programs need to be of sufficient length and intensity, including frequency of services, length of therapeutic engagement, and complete duration of services, in order to be effective.

In addition, Shonkoff and Phillips (2000) emphasize the need for individualized services that also target the everyday experiences of the child and caregiver, as well as the importance of interventions targeting the caregiver-child relationship, rather than either the parent or the child.

SUMMARY

This review describes many interventions designed to influence the development of healthy parent-infant relationships and infant social-emotional development. Despite the current limitations, the field is continuing to evolve and demonstrate short and long-term interventions that show positive outcomes. Although many interventions to date do not change attachment classifications, they often do seem to improve parent-infant interactions, as well as other influences that may negatively impact the child's social-emotional development.

EXHIBIT THREE: FOCUSED/INDICATED SERVICES

INTERVENTION TITLE / MODE	TARGET POPULATION	PROVIDER	INTERVENTION LENGTH OF INTERVENTION
Nurse Family Partnership (1)* (NFP)	First-time, poor mothers	Registered Nurses	Weekly or bi-weekly home visits by specially trained nurses Pregnancy to age 2 years
Steps Toward Enjoyable, Effective Parenting (2) (STEEP)	New Mothers	Parenting facilitator	Home visits to develop relationship. Group time with dyadic play. Discussion of common stressors and supports, developmental expectations, sensitive responses to infant cues, child care Pregnancy through age 3
Promoting First Relationships (3)	Homeless mothers and infants	Trained child care providers and nurse consult-ants	Attachment based training in practical, effective strategies to promote secure relationships between mothers and babies; reviews of videotaped mother-infant interaction and discussion of emotional needs Eight week duration
Sensitivity Coaching (4)	Mothers of irritable infants	Trained professionals	Coaching mother to be more sensitive using videotapes three-five sessions
Home Visiting Family Support Program (5)	Poor mothers and their infants with histories of validated abuse/ neglect, psychiatric hospital stay or depression	Trained professionals and para-professionals (lay home visitors)	Providing an accepting and trustworthy relationship, increasing families' competence in accessing resources, modeling and reinforcing more interactive, positive and developmentally appropriate exchanges between mother and infant, and decreasing social isolation through participation in weekly group 47 visits over 18 months
UCLA Family Development Project (6)	First-time, poor mothers	Trained professionals	Positive, trusting, and working relationship with a weekly home visitor as well as a mother infant group

*Each program is numbered to assist the reader to identify relevant citations in the Intervention References Section.

OUTCOMES	EVIDENCE BASE
Decreased a variety of child health and development problems, including child abuse and neglect, accidents, and injuries. Long-term outcomes in both child and maternal behavioral indices	Randomized controlled trials in three sites by the same investigative team
Reduced stressful life events experienced by families, promoted realistic expectations about child development and parenting, decreased social isolation and improved the quality of the child's environment	Two randomized controlled trials by two different groups
Providers reported improved positive, contingent, and instructive interactions with parents. Mothers more contingent, socially and emotionally responsive with infants.	Subjects as their own controls, pre- and post-intervention measures
Increased security of attachment in infants of mothers who received training	Three randomized controlled trials compared to no intervention by three investigative groups
Enhanced secure attachment and reduced disorganized attachment in intervention group compared to two control groups. Bayley scores were 10 points higher (2/3 of a standard deviation in intervention groups); effects most apparent in context of maternal depression	Case comparison of intervention versus community controls and a high-risk untreated comparison group
Intervention group showed increased partner and family support for mothers, increased maternal responsiveness, and increased secure attachment in intervention group, all at infant age 12 months. Mothers of infants age 24 months showed more developmentally appropriate maternal control.	Randomized controlled trial comparing intervention to pediatric follow-up

EXHIBIT FOUR: TERTIARY AND PSYCHOTHERAPEUTIC SERVICES

INTERVENTION TITLE / MODE	TARGET POPULATION	PROVIDER	INTERVENTION LENGTH OF INTERVENTION
Relational Psychotherapy Mother's Group (7)*	Substance abusing mothers with self-identified parenting problems	Trained psycho-therapists along with substance abuse counselor	Supportive group therapy with relational focus and insight-oriented parenting skill facilitation 24-week integrated intervention
Interaction Guidance (8)	Clinic-referred infants and their parents	Trained psycho-therapists	Strengths-based treatment that emphasizes caregiver involvement. Includes videotaped interactions between caregiver and child, and dyadic, reflective discussions between caregiver and supportive therapist Focus on here and now interactions between caregiver and child 12 sessions, four to six month duration
Tulane Infant Team (9)	Abused and neglected infant and toddlers in foster care	Trained psycho-therapists	Integrated clinical team approach to assessment and treatment of child, foster and birth parents, as well as a systems intervention aimed at child protective services and juvenile court Average treatment 18 months
Early Intervention Foster Care Program (10)	Abused and neglected three-six year old children in foster care	Trained professionals	Intensive training of foster parents, consultant assigned to provide support and supervision, foster parent group, behavioral intervention with children, medication by psychiatrist as needed 6-9 months
Infant/Child - Parent Psychotherapy (11)	Immigrant, depressed, domestic violence dyads	Trained psycho-therapists	Emotional support, concrete assistance, developmental guidance, and insight-oriented psychotherapy Average of 12 months
Cognitive behavioral psychotherapy (12)	Sexually abused preschool girls	Trained psycho-therapists	Parent and child sessions focused on educational aspects of trauma coupled with efforts to reduce child's symptoms through titrated exposure to safety education and assertiveness training, identification of appropriate versus inappropriate touching, attributions regarding the abuse, ambivalent feelings toward the perpetrator, regressive and inappropriate behaviors, and fear and anxiety. 12 sessions for parent and child

*Each program is numbered to assist the reader to identify relevant citations in the Intervention References Section.

OUTCOMES	EVIDENCE BASE
Decreased maltreatment risk, improved affective and instrumental interaction, and improved adherence to drug treatment	One randomized controlled clinical trial compared to standard drug treatment. Expanding to a new toddler program
Reduced symptoms in children—indistinguishable from alternative intervention	One randomized controlled trial of clinic referred infants and toddlers (interaction guidance vs. psychoanalytic psychotherapy)
Reduced recidivism in index group (child less likely to be maltreated again and mother less likely to return with a subsequently maltreated child)	Case-cohort comparison
Reduced failed placements in index children	Randomized controlled trial comparing to usual services
Enhanced attachment, reduced symptoms in mothers and children	Three randomized controlled trials by two different investigative teams
Reduced symptoms in sexually abused girls immediately after treatment and at one year follow-up	Randomized controlled trial comparing cognitive behavioral psychotherapy to non-directive therapy with child

REFERENCES

American Academy of Pediatrics. *Fellows Survey.* Elk Grove Village, IL: AAP; 2000.

Egeland B, Bosquet M. Emotion Regulation in Early Childhood: The Role of Attachment-Oriented Interventions. In: Zuckerman EB, Lieberman A, Fox N, eds. *Emotional Regulation and Developmental Health: Infancy and Early Childhood*. Johnson & Johnson Pediatric Roundtable Series 4; 2001: 101-124.

Fenichel E, ed. Infant Mental Health and Early Head Start: Lessons for Early Childhood Programs. *Zero to Three.* August/September 2001; 22(1).

Green M, Palfrey MS. *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents.* National Center for Education in Maternal and Child Health: Georgetown University; 2000.

Guyer B, Barth M, Bishai D, Caughy M, Clark B, Burkom D, Genevro J, Grason H, Hou W, Huans K, Hughart N, Jones AS, McLearn KT, Miller T, Minkovitz C, Scharfstein D, Stacy H, Strobino D, Szanton E, Tang C. Health Steps: The First Three Years. Hughart and Genevro, eds. Women's and Children's Health Policy Center, Department of Population and Family Health Sciences, Johns Hopkins Bloomberg School of Public Health: Baltimore, Maryland; 2003.

Halfon N, Regalado M, McLearn KT, Kuo A, Wright K. *Building a Bridge from Birth to School: Improving Developmental and Behavioral Health Services for Young Children*. New York: The Commonwealth Fund; May 2003.

Jellinek M, Patel BP, Froehle MC. *Bright Futures in Practice: Mental Health-Volume 1. Practice Guide.* Arlington, VA: National Center for Education in Maternal and Child Health; 2002.

Johnson K, Knitzer J, Kaufmann R. *Making Dollars Follow Sense: Financing Early Childhood Mental Health Services to Promote Healthy Social and Emotional Development in Young Children*. New York: National Center for Children in Poverty, Mailman School of Public Health, Columbia University; 2002.

Kitzman H, Olds DL, Henderson CR, Hanks C, Cole R, Tatelbaum R, McConnochie KM, Sidora K, Luckey DW, Shaver D, Engelhardt K, James D, Barnard K. Effect of prenatal and infancy home visitation by nurses on pregnancy outcomes, childhood injuries, and repeated childbearing: A randomized controlled trial. *JAMA*. 1997;278:644 652.

Kitzman H, Olds DL, Sidora K, Henderson CR, Hanks C, Cole R, Luckey DW, Cole K, Glazner J. Enduring effects of nurse home visitation on maternal life courses: A 3-year follow-up of a randomized trial. *JAMA*. 2000;283:1983-1989.

Minkovitz CS, Hughart N, Strobino D, et al. A practice-based intervention to enhance quality of care in the first 3 years of life. *JAMA*. 2003;290:3081-3091.

Minkovitz CS, Strobino D, Hughart N, Scharfstein D, Hou W, Miller T, Bishai D, Guyer B. Developmental specialists in pediatric practices: Perspectives of clinicians and staff. *Ambulatory Pediatr.* 2003;3:295-303.

Olds DL, Eckenrode J, Henderson CR, Kitzman H, Powers J, Cole R, Sidora K, Morris P, Pettitt LM, Luckey D. Long-term effects of home visitation on maternal life course and child abuse and neglect: Fifteen-year follow-up of a randomized trial. *JAMA*. 1997;278:637-643.

Olds DL, Henderson CR, Kitzman H, Eckenrode J, Cole R, Tatelbaum R. The promise of home visitation: Results of two randomized trials. *J Community Psychol*. 1998;26:5-21.

Olds DL, Henderson CR, Tatelbaum R, Chamberlin R. Improving the delivery of prenatal care and outcomes of pregnancy: A randomized trial of nurse home visitation. *Pediatrics.* 1986;78:65-78.

Olds DL, Henderson CR, Tatelbaum R, Chamberlin R. Improving the life course development of socially disadvantaged mothers: A randomized trial of nurse home visitation. *Am J Public Health*. 1988;78:1436-1445.

Percey MS, McIntyre L. Using Touchpoints to promote parental self-competence in low-income, minority, pregnant, and parenting teen mothers. *J Pediatr Nurs.* 2001;16(3):180-186.

Shonkoff JP, Phillips D. *From Neurons to Neighborhoods: The Science of Early Childhood Development*. Washington, DC: National Research Council, Institute of Medicine. 2000.

www.touchpoints.org

Zeanah PD, Larrieu JA, Zeanah CH. *Training in Infant Mental Health. In: Zeanah CH, ed. Handbook of Infant Mental Health, 2nd Ed.* New York: Guilford Press; 2000.

Zeanah P, Nagle G, Stafford B, Rice T. *Addressing Social-Emotional Development and Infant Mental Health in Early Childhood Systems.* In: Halfon N, Rice T, Inkelas M, eds. *Building State Early Childhood Comprehensive Systems Series, No. 12*. National Center for Infant and Early Childhood Health Policy; 2004.

INTERVENTION REFERENCES

These references are numbered according to their appearance in **Exhibit Three** and **Exhibit Four**.

1) NURSE FAMILY PARTNERSHIP (NFP) (www.nursefamilypartnership.org)

Kitzman H, Olds DL, Henderson CR, Hanks C, Cole R, Tatelbaum R, McConnochie KM, Sidora K, Luckey DW, Shaver D, Engelhardt K, James D, Barnard K. Effect of prenatal and infancy home visitation by nurses on pregnancy outcomes, childhood injuries, and repeated childbearing: A randomized controlled trial. *JAMA*. 1997;278:644 652.

Kitzman H, Olds DL, Sidora K, Henderson CR, Hanks C, Cole R, Luckey DW, Cole K, Glazner J. Enduring effects of nurse home visitation on maternal life courses: A 3-year follow-up of a randomized trial. *JAMA*. 2000;283:1983-1989.

Olds DL, Eckenrode J, Henderson CR, Kitzman H, Powers J, Cole R, Sidora K, Morris P, Pettitt LM, Luckey D. Long-term effects of home visitation on maternal life course and child abuse and neglect: Fifteen-year follow-up of a randomized trial. *JAMA*. 1997;278:637-643.

Olds DL, Henderson CR, Tatelbaum R, Chamberlin R. Improving the delivery of prenatal care and outcomes of pregnancy: A randomized trial of nurse home visitation. *Pediatrics.* 1986;78:65-78.

Olds DL, Henderson CR, Tatelbaum R, Chamberlin R. Improving the life course development of socially disadvantaged mothers: A randomized trial of nurse home visitation. *Am J Public Health*. 1988;78:1436-1445.

Olds DL, Henderson CR, Kitzman H, Eckenrode J, Cole R, Tatelbaum R. The promise of home visitation: Results of two randomized trials. *J Community Psychol.* 1998;26:5-21.

2) STEPS TOWARD ENJOYABLE, EFFECTIVE PARENTING (STEEP)

Egeland B, Erickson MF. Rising above the past: Strategies for helping new mothers break the cycle of abuse and neglect. *Zero to Three.* 1990;11(2):29-35.

Egeland B, Erickson MF. Attachment Theory and Findings: Implications for Prevention and Intervention. In: Parens H, Kramer S, eds. *Prevention in Mental Health*. Northval, NJ: Jason Aronson; 1993.

Egeland B, Erickson MF. Lessons from STEEP: Linking Theory, Research and Practice on the Well-Being of Infants and Parents. In: Sameroff A, McDonough S, Rosenblum K, eds. Treating Parent-Infant Relationship Problems. New York, NY: Guilford Press; 2004: 213-242.

Egeland B, Weinfield NS, Bosquet M, Cheng VK. Remembering, Repeating and Working Through: Lessons from Attachment-Based Interventions. In: Osofsky JD, Fitzgerald HE, eds. *WAIMH Handbook of Infant Mental Health: Vol. 4, Infant Mental Health in Groups at High Risk*. New York: John Wiley & Sons, Inc; 2000: 35-89.

Erickson MF, Egeland B. The STEEP program: Linking theory and research to practice. *Zero to Three.* Oct/Nov 1999; 20: 11-16.

Erickson MF, Egeland B, Rose TK, Simon J. *STEEP Facilitator's Guide.* Minneapolis: Regents of the University of Minnesota; 2002.

Erickson MF, Kurz-Riemer C. *Infants, Toddlers, and Families: A Framework for Support and Intervention*. New York: Guilford Press; 1999.

3) PROMOTING FIRST RELATIONSHIPS (www.ncast.org)

Kelly J. *Promoting First Relationships Program*. Unpublished manuscript; 2005. www.son.washington.edu/centers/pfr/index.html

Kelly JF, Buehlman K, Caldwell K. Training personnel to promote quality parent-child interactions in families who are homeless. *Top Early Child Special Educ.* 2000; 20: 174-185.

4) SENSITIVITY COACHING FOR IRRITABLE INFANTS

van den Boom DC. The influence of temperament and mothering on attachment and exploration: An experimental manipulation of sensitive responsiveness among lower-class mothers with irritable infants. *Child Dev.* 1994; 65: 1457-1477.

5) HOME VISITING FAMILY SUPPORT PROGRAM

Lyons-Ruth K, Connell DB, Grunebaum HU. Infants at social risk: Maternal depression and family support services as mediators of infant development and security of attachment. *Child Dev.* 1990; 61: 85-98.

6) UCLA FAMILY DEVELOPMENT PROJECT

Heinicke CM, Fineman NR, Ruth G, Recchia SL, Guthrie D, Rodning C. Relationship-based intervention with at-risk mothers: Outcome in the first year of life. *Infant Mental Health Journal.* 1990; 20: 349-374.

Heinicke CM, Fineman NR, Ponce VA, Guthrie D. Relation-based intervention with at-risk mothers: Outcome in the second year of life. *Infant Ment Health J.* 2001; 22: 431-462.

7) RELATIONAL PSYCHOTHERAPY MOTHERS GROUP

Luthar SS, Sussman NE. Relational Psychotherapy Mothers' Group: A developmentally informed intervention for at-risk mothers. *Dev Psychopathol.* 2000; 12: 235-53.

Suchman N, DeCoste C, Schmitt N. *Mothers and Toddlers Program*. Presented at the Bienniel Meeting of the Society for Research in Child Development. Atlanta, Ga; 2005.

Suchman NE, McMahon TJ, Luther SS. Interpersonal maladjustment as a predictor of mother's response to a relational parenting intervention. *J Subst Abuse Treatment*. 2004; 27: 135-43.

8) INTERACTION GUIDANCE

McDonough SC. Promoting positive early parent-infant relationships through interaction guidance. *Child Adolesc Psychiatr Clin North Am*. 1993; 4: 661-672.

McDonough SC. Interaction Guidance: An Approach for Difficult to Engage Families. In: Zeanah CH, ed. *Handbook of Infant Mental Health, 2nd Ed*. New York: Guilford Press; 2000.

McDonough SC. Interaction Guidance: Promoting and Nurturing the Caregiving Relationship. In: Sameroff A, McDonough S, Rosenblum K, eds. *Treating Parent-Infant Relationship Problems: Strategies for Intervention*. New York: Guilford Press; 2004.

9) TULANE INFANT TEAM (www.infantinstitute.org)

Zeanah CH, Larrieu JA, Heller SS, Valliere J, Hinshaw-Fuselier S, Aoki Y, Drilling M. Evaluation of a preventive intervention for maltreated infants and toddlers in foster care. *J Am Acad Child Adolesc Psychiatry.* 2001; 40: 214-21.

10) EARLY INTERVENTION FOSTER CARE PROGRAM

Fisher PA, Burraston B, Pears K. The early intervention foster care program: Permanent placement outcomes. *Child Maltreatment*. 2005; 10: 61-71.

11) INFANT/TODDLER PARENT PSYCHOTHERAPY

Cicchetti D, Toth SL, Rogosch FA. The efficacy of toddler parent psychotherapy to increase attachment security in offspring of depressed mothers. *Attachment Hum Dev.* 1999; 1: 34-66.

Cramer B, Robert-Tissot C, Stern D et al. Outcome evaluation in brief mother-infant psychotherapy: A preliminary report. *Infant Ment Health J.* 1990; 11: 278-300.

Lieberman AF. Child-Parent Psychotherapy: A Relationship-Based Approach to the Treatment of Mental Health Disorders in Infancy and Childhood. In: Sameroff AJ, SC McDonough, Rosenblum KL, eds. *Treating Parent-Infant Relationships Problems: Strategies for Intervention*. New York: Guilford Press; 2004.

Lieberman AF, Van Horn P. Attachment, trauma, and domestic violence: Implications for child custody. *Child Adolesc Psychiatr Clin North Am*. 1998; 7: 423-443.

Lieberman AF, Weston DR, Pawl J. Preventive intervention and outcome with anxiously attached dyads. *Child Dev.* 1991; 62: 199-209.

Robert-Tissot C, Cramer B, Stern D et al. Outcome evaluation in brief mother-infant psychotherapies: Report on 75 cases. *Infant Ment Health J.* 1996; 17: 97-114.

12) COGNITIVE BEHAVIORAL THERAPY FOR SEXUALLY ABUSED PRESCHOOLERS

Cohen JA, Mannarino AP. A treatment model for sexually abused preschoolers. *J Interpersonal Violence.* 1993; 8: 115-131.

Cohen JA, Mannarino AP. A treatment outcome study for sexually abused preschool children: Initial findings. *J Am Acad Child Adolesc Psychiatry.* 1996; 35: 42-50.

Cohen JA, Mannarino AP. Factors that mediate treatment outcome of sexually abused preschool children. *J Am Acad Child Adolesc Psychiatry.* 1996; 35: 1402-1410.

UCLA Center for Healthier Children, Families and Communities

1100 Glendon Avenue, Suite 850
Los Angeles, California 90024
Phone: (310) 794-2583
Fax: (310) 794-2728
Email: chcfc@ucla.edu
Web Site: www.healthychild.ucla.edu