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Supporting Parents Through Relationship-Based Interventions

FEATURED IN THIS ISSUE:

The Newborn Behavioral Observations (NBO) System as a Form of Intervention and Support for New Parents

Understanding the Baby and Supporting Parents Worldwide: Examples of the Value and Potential of the NBO in the U.S., Norway, Australia, and UK

Building a Model Program for Substance-Exposed Newborns and Their Families

Modification of the *Preventing Child Abuse and Neglect* (PCAN) Curriculum for IDEA Part C Providers

This Issue and Why It Matters

Supporting the relationship between parents and their young children is a primary task for early childhood professionals. Strong relationships are at the foundation of healthy child development and family functioning. This issue of *Zero to Three* highlights several approaches to strengthening families. J. Kevin Nugent, the director of the Brazelton Institute, and his colleagues from several countries prepared a collection of articles that feature the Newborn Behavioral Observations (NBO) system, a relationship-based tool that offers individualized information to parents about infant development and how their baby communicates. The NBO is being used in communities around the world to engage parents in learning about infant development and to strengthen the relationship between infants and parents.

Two additional articles explore strategies to address specific challenges to the bond between children and parents. In one article, the authors sought to understand the circumstances of mothers with substance-exposed newborns. The article describes the process of developing Project NESST® (Newborns Exposed to Substances: Support and Therapy), an interview study to learn about the experiences and treatment needs of this fragile population. In another article, the authors address the lack of specific focus on child maltreatment prevention or intervention to support and strengthen families and prevent maltreatment within the early intervention system. To address this gap, the authors conducted a study to determine whether the professional development curriculum *Preventing Child Abuse and Neglect: Parent–Provider Partnerships in Child Care* (PCAN; Seibel, Britt, Gillespie, & Parlakian, 2006), designed for an early care and education workforce, could be successfully modified specifically for an early intervention workforce.

ZERO TO THREE's efforts to support parents has recently been enhanced through a new Parent Portal on the ZERO TO THREE website at **www.zerotothree.org/parenting-resources**. The Parent Portal features resources grounded in science that are designed to help parents and other caregivers understand the needs of young children and learn effective strategies to build strong, nurturing relationships.

Stefanie Powers, Editor
spowers@zerotothree.org

Seibel, N. L., Britt, L., Gillespie, L. G., & Parlakian, R. (2006). *Preventing child abuse and neglect: Parent–provider partnerships in child care.* Washington, DC: ZERO TO THREE.

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The Newborn Behavioral Observations (NBO) System as a Form of Intervention and Support for New Parents

J. Kevin Nugent
Brazelton Institute, Boston Children's Hospital
Harvard Medical School

ABSTRACT

The period covering the first 3 months of life consists of a series of pivotal, life-changing transitions for the infant, for the parents, and for the emerging parent–child relationship. The Newborn Behavioral Observations (NBO) system is a relationship-based tool that offers individualized information to parents about their baby's communication strategies and overall development, in order to strengthen the relationship between infants and parents. The content and uses of the NBO, the theoretical framework on which it is based, and the growing evidence for its effectiveness as form of support for parents and families will be discussed.

The First Months of Life–An Intervention Point *par Excellence*

Although the newborn period and the first 3 months of life make up a very short phase—in chronological terms at least—compared with the whole life span or even with the years from birth to 3 years old, there is compelling evidence to indicate that this period involves a series of life-changing transitions for the child, for the parents, for the parent–child relationship, and also for the family system and indeed for the whole community network into which the child is born (Als et al., 2012; Barnard & Sumner, 2002; Bedford, Pickles, Sharp, Wright, & Hills 2014; Brazelton, 2009; Bruschweiler-Stern, 2009; Feldman & Eidelman, 2006; Landsem, Handegård, Ulvund, Kaaresen, & Rønning, 2015; Lubbe, Van der Walt, & Klopper, 2012; Trevarthen, 2001, 2003: Tronick, 2007). Although there is an equally strong body of research to show that basic clinically relevant issues such as self-regulation, trust, attachment, and individuation are life course issues, (Center on the Developing Child at Harvard University, 2010; Osofsky & Thompson, 2000; Sameroff, 2010; Sheridan, Fox, Zeanah, McLaughlin, & Nelson, 2012; Thompson, 2012; Zeanah, 2009), the underlying assumption of the approach to intervention described in this article is that these issues are being actively negotiated by the infant and parents from the very beginning.

The psychological process of preparation for an infant and a future family does not begin at the moment of birth, as there is compelling evidence of a link between maternal psychological functioning during pregnancy that primes the maternal brain for the challenges of motherhood (Mayes, Rutherford, Suchman & Close, 2012). Although the focus of the Newborn Behavioral Observations (NBO) system approach (Nugent, Keefer, Minear, Johnson, & Blanchard, 2007; described in the next section) is primarily on the reciprocal nature of the parent–child relationship during the postnatal period, this system builds on an appreciation of the effects of the prenatal environment on both fetus and mother, as well as their reciprocal influences (Bruschweiler-Stern, 2009; DiPietro, 2004; Glynn & Sandman, 2011; Monk, Spicer, & Champagne, 2012; Parfitt & Ayers, 2014; Slade, Grienenberger, Bernbach, Levy, & Locker, 2005).

This accumulated body of evidence has shown that early relationships and parental caregiving play a critical role in the development of the child's brain; influence social, emotional, and cognitive development; and even mediate life-long health outcomes (Shonkoff, Boyce, & McEwen, 2009). The newborn period and the first months of life make up a significant stage in the development of the parent–infant relationship and in the infant's behavioral adaptation to his new environment, which, in turn, involves a major transformation in many neural functions, because brain growth and maturation support the formation of the early parent–infant relationship (Als et al. 2012; Champagne, 2015; Klaus, Kennell, & Klaus, 1995; Mayes et al., 2012; McAnulty et al., 2013). There is evidence to suggest that the same adult brain networks involved in emotional and social interactions are already present in immature and incomplete forms in the infant (Parsons, Young, Murray, Stein, & Kringelbach, 2010).

There is the possibility then, that these early months of life may be the intervention point *par excellence* across the lifespan, not just because this stage comes first in time in the infant's life but because it is also a major transition stage in the lives of both

infants and their parents, so that it presents clinicians with a unique opportunity to affect change at what can be called a critical transition stage in the development of the parent–infant relationship and, indeed, in the development of the family itself (Belsky & Kelly, 1994; Blanchard, 2009; Brazelton, 2009; Browne & Talmi, 2005; Bruschweiler-Stern, 2009; Clark & Fenichel, 2001; Cowan & Cowan, 1995; Gomes-Pedro, 2009; Gomes-Pedro et al., 1995; Klaus et al., 1995; Nugent & Brazelton, 1989, 2000; Olds et al., 1997; Paul, 2015; Shaw, Deblois, Ikuta, Ginzburg, Fleisher, & Koopman, 2006; Stern, 1995; Tronick, 2007).

The NBO System: Background

The NBO system was developed as an interactive relationship-building tool to strengthen the relationship between infants and parents beginning in the newborn period (Nugent et al., 2007). The development of the NBO was inspired by almost 40 years of experience working with Berry Brazelton and the Neonatal Behavioral Assessment Scale (NBAS; Brazelton, 1973; Brazelton & Nugent, 1995, 2011; Nugent, 1985; Nugent & Brazelton, 1989, 2000). Research with the NBAS has contributed to an appreciation of the richness and complexity of the newborn's behavioral repertoire, on the one hand, but it has also contributed to an understanding of these early months of life as characterized by a series of transformative developmental challenges for both infants and parents, which in turn, present clinicians with a unique opportunity for preventive intervention at this early stage of life (Als, 1982; Bruschweiler-Stern, 2009; Keefer, Johnson, & Minear, 2009; Nugent, Blanchard, & Stewart, 2007; Nugent & Brazelton, 2000; Redshaw, 2011).

The NBO is above all a developmental or relationship-based care model. It is strength-based and is primarily guided by the principle that the quality of early experiences drives brain development and functional outcomes. It can be used to support parents at a time when the very bases for parental functioning are being established. The NBO describes the infant's capacities in such a way that the parents can begin to see their baby as a person, better appreciate their baby's unique competencies and vulnerabilities, and learn to understand and respond to their baby in a way that meets the baby's unique developmental needs. Moreover, the NBO can easily be integrated into a range of clinical practices and is used in hospital, clinic, or home visit settings by pediatric professionals such as nurses, doctors, psychologists, social workers, midwives, physical and occupational therapists, doulas, child life specialists, lactation specialists, home visitors, and other early intervention professionals.

Although it can be used effectively at hospital discharge on a once-only basis, the NBO is designed to be conducted serially either weekly, fortnightly, or monthly from birth through the third month of life, depending on the individual needs of the infant and family and the program goals and capacities. Over the course of these observations, the NBO yields an individualized profile of the infant's behavior so that the clinician and parents can discuss the implications of the baby's responses for the management of sleep, feeding, and crying in addition to identifying the kind of interaction that is best suited to the infant's behavioral threshold and style.

Photo: Matthew Lee

Baby turns to Mom's voice during the Newborn Behavioral Observations before discharge from the neonatal intensive care unit.

The NBO—Content and Uses

The NBO system consists of 18 neurobehavioral observations (see box Newborn Behavioral Observations (NBO) System Items) and is designed for use from birth through the third month of

Newborn Behavioral Observations (NBO) System Items

1. Habituation to light (sleep state)
2. Habituation to sound (sleep state)
3. Muscle tone in legs and arms
4. Rooting
5. Sucking
6. Hand grasp
7. Shoulder and neck tone
8. Crawling response
9. Visual tracking (red ball)
10. Visual response to face
11. Visual response to face and voice
12. Orientation to sound (rattle)
13. Orientation to voice
14. Crying
15. Soothability
16. State regulation
17. Response to stress—color change, startles, tremors
18. Activity level

Source: Adapted from Nugent, Keefer, Minear, Johnson, & Blanchard (2007), *Understanding newborn behavior and early relationships: The Newborn Behavioral Observations (NBO) system handbook.* Baltimore, MD: Brookes.

Photo: Matthew Lee

Two-day-old baby turns to Dad's voice during the Newborn Behavioral Observations.

life. These items are designed to show that newborns possess a wide range of visual, auditory, and perceptual abilities that allow them to explore the world around them and to engage in face-to-face, eye-to-eye mutual exchange. This readiness to engage and connect with her caregivers is made possible by a rich behavioral repertoire that is present at birth (Brazelton, 2009; Trevarthen 2003). But the NBO is not designed to simply list these discrete abilities for parents but attempts to integrate them in a way that reveals the baby's very personhood, individuality, and the potential impact of this information on the emerging relationship between parent and child.

The 18 items include observations of the infant's capacity to habituate to external light and sound stimuli (sleep protection); the quality of motor tone and activity level; the capacity for self-regulation (including crying and consolability); response to stress (indices of the infant's threshold for stimulation); and the infant's visual, auditory, and social–interactive capacities (degree of alertness and response to both human and non-human stimuli). The NBO can be used to track the process of self-regulation as the infant attempts to stabilize his autonomic, motor, and state behavior and prolong his periods of alertness and social availability over the first weeks and months of life. These weeks and months make up a special period of developmental change and reorganization in the patterns of infant attention and emotion, which are captured by the NBO.

Theoretical Framework

Over the first few months of life, newborns face a series of hierarchically organized tasks in self-regulation that are in some ways similar to stages (Als, 1982; ; Lawhon, 1997; McManus, Magnusson, & Nugent, 2014; Nugent et al., 2007). From this developmental perspective, the newborn infant is seen to confront a series of tasks or challenges as she attempts to adapt to her new extrauterine world, both the world or objects and the world of people. This includes the infant's capacity to first regulate her physiological or autonomic system, her motor behavior, then her state behavior, and finally her affective interactive behavior, which develop in a stage-like epigenetic progression over the first 2 to 3 months of life (McManus et al., 2014). These tasks are summarized by the acronym AMOR, for **A**utonomic, **M**otor, **O**rganization of state, and **R**esponsiveness, as shown in box Challenges Facing the Newborn: AMOR.

The first developmental task for the newborn is to organize his autonomic, or physiological, behavior. It involves the tasks of stabilizing breathing, reducing the number of startles and tremors, and being able to maintain temperature control. When this adjustment has been achieved, the newborn can move on to the second task: regulating motor behavior. This means gaining control over random motor movements, developing good muscle tone and control, and reducing excessive motor activity. Organization of state, or state regulation, includes the ability to develop strong and predictable sleep and wake states, as well as what could be called sleep protection, or the ability to screen out negative stimuli, such as noise, while asleep. State control also means that the infant is able to deal with stress, either by crying to gain the caregiver's help or engaging in such self-comforting behaviors as placing a hand in the mouth. The final developmental task for the newborn is the regulation of attentional–interactive, or social, behavior. This involves the capacity to maintain prolonged alert periods, to attend to visual and auditory stimuli, and to seek out and engage in social interaction with the caregiver. The framework enables practitioners and caregivers to interpret and attribute meaning to the behaviors and communication cues they observe in the context of the NBO.

Challenges Facing the Newborn: AMOR

Over the first few months of life, newborn infants face a series of hierarchically organized tasks in self-regulation, which involve the integration of autonomic, motor, state, and social interactive behavior. These tasks are summarized by the acronym **AMOR**, for **A**utonomic, **M**otor, **O**rganization of state, and **R**esponsiveness.

Autonomic/physiological stability—stabilization of breathing, temperature regulation, reducing tremors and startles, etc.

Motor regulation—development of good motor control and feeding skills; ability to maintain a controlled activity level

Organization of state—ability to cope with stress; able to regulate state and develop predictable sleep-wake patterns

Responsiveness—development of a growing awareness of the environment and the capacity to process visual and social information and engage in social interaction

Source: Adapted from Nugent, Keefer, Minear, Johnson, & Blanchard (2007). *Understanding newborn behavior and early relationships: The Newborn Behavioral Observations (NBO) system handbook.* Baltimore, MD: Brookes.

MEETING THE BABY

Whether the NBO takes place in a bustling hospital ward or a busy apartment, the clinician needs to create a psychologically safe holding environment for the parents, a space that is respectful and non-judgmental and where the outside word—for now at least—is set aside, as parents, siblings, grandparents, family, and friends are invited to gather around and "meet" the baby. Maintaining the same stage metaphor, the baby remains at center-stage throughout the NBO. The clinician, by eliciting the baby's behaviors, is the choreographer, who not only draws out the baby's capacities through sensitive handling but also draws in the parents as the baby's primary caregivers as part of the baby's on-stage supportive cast. When it comes to the actual eliciting of the items, in the hands of an experienced clinician, items such as the hand-grasp or the baby's response to the voice are elicited in such a seamless way that the parents see the baby and not a maneuver or series of maneuvers. The individually elicited items disappear, so to speak, and the baby is revealed, so that the items of the NBO are merely scaffolding, which support the emergence of the baby as a person. Following the principles of reflective functioning, the clinician needs to be able to develop his own capacity for embodied mentalizing, that is, to be able to read the baby's communication cues and respond thoughtfully and in a reciprocal embodied way (Fonagy, Gergely, Jurist, & Target, 2002; Paul, 2015).

The invitation to the participants in the NBO setting is framed in a phrase such as, "Let's see what this little baby can tell us about herself" or "Let's see what she would like us to know about herself, about what kind of care she needs." The specific challenge for the NBO clinician is to make it possible for the parents to recognize the baby's communication repertoire, so that they can learn to anticipate the baby's state of mind and reliably meet the baby's needs (Gilkerson, 2004; Paul, 2015; Shahmoon-Shanok & Stevenson, 2015; Slade et al., 2005; Weatherston, Kaplan-Estrin, & Goldberg, 2009; Weigand, 2007; Winnicott, 1967).

THE NBO SESSION AS IT UNFOLDS

The baby's behavior shapes the direction and thrust of the NBO session, so that the order of presentation is always predicated on the baby's behavioral state. Because it is a "baby-led" session, the clinician needs to be flexible enough to allow the baby's behavior to guide the order of presentation of the items. The NBO session typically begins with a shared observation of the baby's initial state. If the baby is asleep, the clinician then administers the light and sound stimuli to observe the infant's capacity for sleep protection, which may lead to a discussion of the implications of the baby's response for caregiving. In a neonatal intensive care unit setting, or even in a home visit setting, many practitioners have found that this series of sleep observations and perhaps some of the motor behaviors may make up the whole NBO session, as the baby may remain in a deep sleep throughout. Even this brief set of observations can still provide grist for the reflection mill and set the stage for further exploration of the baby's sleep patterns as parents and clinician anticipate the challenges of sleep organization of the first months of life. Bedsides, when the NBO is conducted as a series of either weekly or fortnightly visits over the early months, there will be an opportunity to see how the patterns of sleep organization unfold over time and what parents may need to do to facilitate this level of self-regulation.

Photo: Matthew Lee

Newborn tracks the red ball during Newborn Behavioral Observations.

As the clinician begins to elicit the behaviors, he remains at the parent's side as part of the surrounding circle. If the baby is no longer in a sleep state, the clinician then elicits—or guides the parents to elicit—motor behaviors such as hand-grasp, sucking and rooting, and crawling, and together they discuss the implications of the baby's responses for touch and skin-to-skin contact, feeding cues, and even sleep positions. The quality of motor tone and activity level is observed, followed by observations of the infant's capacity to respond to the face and voice and inanimate visual (red ball) and auditory stimuli (rattle) and the opportunity to engage in face-to-face interaction. During the session, the clinician and the parents together continue to formulate caregiving strategies or handling techniques based on their observations of the baby's behavior in terms of the level of stimulation that is appropriate for and meets the needs of this baby. If the infant cries, the amount of crying and the ease or difficulty of consolability is recorded, while the infant's overall state regulation and response to stress is examined. All the while, particular attention is paid to the infant's threshold levels and what level of stimulation may be overstimulating and stressful. Every behavior is of import—this is the baby's only way of communicating her needs (see box Lifting the Veil).

Management of crying and sleep are two of the most overwhelming concerns of parents in these early months (Gilkerson et al. 2012) which means the NBO can be used as a tool in providing guidance to parents on the most appropriate ways to manage sleep and crying behavior, in a way that is responsive to their individual baby's needs. Providing this behavioral profile of the infant's strengths and challenges can help the parents develop the kind of confidence they need to support their baby's development and enjoy the experience of being a new parent.

Lifting the Veil—Giving the Baby and Family a Future

Sarah was born at 36 weeks gestation and admitted to the neonatal intensive care unit with upper respiratory difficulties. She also had reduced poor muscle tone, which resulted in feeding problems, but with good developmental care, her breathing and feeding had improved and she was ready for discharge after 10 days. As part of the transition to home plan, the Newborn Behavioral Observations (NBO) system was requested on the day of discharge.

The clinician introduced himself and explained the NBO by simply asking the mother and father if they would like to join him to look at Sarah's behavior in order to see what she would like them to know about herself before going home—so that she could tell them what support she might need from them as they prepared to leave the hospital.

Sarah was in a low alert state at the beginning of the NBO, but when the clinician demonstrated the muscle tone in her legs and arms, she became slightly more alert. They then looked at her rooting and sucking responses and found that while the suck was still a little weak, Sarah's mother reported that she was now better able to feed. The father was then asked if he would like to place his finger in her hand. "She is so strong," he said, beaming, as her fingers curled around his. When she was placed on her belly to see the crawl response, she moved her legs and arms and moved her head to one side to free up her airways, which reassured her parents in terms of sleep positioning. "She is able to free up her breathing," said the mother. At this stage, Sarah was becoming more alert and, as the clinician looked at her, she was now able to focus on his eyes. She was engaged. "She is so alert." Then Sarah's mother was invited to call her name. Sarah stilled and her eyes brightened as she listened. As the mother continued to call her name, Sarah began to search for her mother's voice, first with her eyes and then with her head and eyes. When their eyes met, her mother picked up her hand and kissed it. "Oh, Sarah, you already know me!" There were tears in the mother's and father's eyes as the mother drew the baby to her.

When the session ended, the clinician and parents sat together side by side to summarize what they had observed, from Sarah's point of view. They singled out Sarah's alertness and her improved sucking, and they were impressed at how calm she remained while she was being handled. They could also see that maintaining a good suck was still challenging and, while she was alert, she took a while to respond, so that the parents knew they could not rush her if they wanted to have more social interaction with her. "She is so social," said the mother as she looked into her eyes, "but I want to be sure not to overwhelm her."

It was only then the mother told the clinician that Sarah had a Trisomy 21 diagnosis. They had been devastated by the news. But, because of this experience with the NBO, she said, all had changed. That their baby had Down Syndrome no longer mattered or rather mattered less, as now they saw her as their baby, as a person with her own personality and her own temperament. No longer a baby defined by her Down diagnosis, they could now think about a future together. The parent–child attachment process had now begun. The veil had been lifted. The future was beckoning.

An Infant-Focused and Family-Centered Relational Approach

Although the NBO session involves the systematic observation and interpretation of the newborn's behavior, it must be pointed out that the baby's behavior is never objective data in the sense that it stands on its own and is self-explanatory. While it may be interpreted by the clinician, the clinician must be aware of the mother's psychic processes and should recognize that her representations of herself and of her baby will shape her understanding of the baby's behavior during the NBO session (Bruschweiler-Stern, 2009; Paul, 2015; Stern, 1995). Mayes and colleagues pointed out that clinicians need to think of adult brain and psychological development as occurring simultaneously with infant brain and mind development, which means that intervention needs to focus on helping parents understand the changes in their own psychology as well as those of their infant (Mayes et al. 2012). For those reasons, the NBO stance toward parents is based on the assumption that this period constitutes a major transition stage in the parent's own development as well being a pivotal period in the development of their relationship with their infant (Emde & Robinson, 1979; Rutherford, Potenza, & Mayes, 2012; Sander, Stechler, Burns, & Lee, 1979; Stern, 2004).

Although the NBO itself is designed to capture the "baby's story", clinicians try to provide parents with the relational space so that they feel free in sharing "the family story" (McDonough, 2004). In this way, clinicians can learn more about the parents' own cultural capital, their hopes, and their fears as they face the challenge of becoming attached to this new baby (Weatherston, 2010). As clinicians attempt to engage the baby in the presence of his parents they build on what can still be very fragile capacity for parental reflective function (Fonagy et al. 2002; Paul, 2015; Slade et al., 2005). As a result, the emerging portrait of the baby becomes a jointly constructed endeavor.

The NBO in Practice—Selected Evidence

Although the NBO is still in its infancy as an intervention approach and much more research needs to be done with larger samples and with follow-up outcome measures, a growing number of studies have demonstrated its effectiveness as a form of support. These studies provide evidence to show that the NBO is associated with enhanced mother–infant engagement, a greater understanding of the baby's communication cues, increased levels of confidence among parents, positive perceptions of their interactions with their high-risk infants in early intervention settings, a reduction of postpartum depressive symptomatology, increased levels of father involvement, and higher perceived confidence among service providers in working with low- and high-risk newborns and their families (Alvarez- Gomez, 2007, 2014; Cheetham & Hanssen, 2014; Fishman et al., 2007: Gibbs, 2015; Holland & Watkins, 2015; Kashiwabara, 2012; McManus & Nugent, 2011, 2012; Nugent & Alhaffer, 2006; Nugent et al., 2007; Nugent, Dym-Bartlett, & Valim, 2014; Nugent, Dym-Bartlett, Von Ende,

Killough, & Valim, 2015; Paul, 2015; Paul, Nicolson, Thomas, Chapman, Salo, & Judd, 2014; Sanders & Buckner, 2006; Savage-McGlynn & Hawthorne, 2014; Subramaniam & Plant, 2014).

Conclusion

The goal of the NBO, therefore, is to place the baby at the center of intervention and support work with families at this particularly sensitive time in the parents' own transition to parenthood across the first months of life. By sensitizing parents to their baby's strengths and communication cues, the NBO makes it possible for the infant to reveal herself as an individual and provide a powerful motive for positive change in the parents themselves and strengthen the emerging parent–infant bond. Thus it is the capacity of the infant—in all her individual richness—to change and transform all who come into her orbit that is at the heart of the NBO approach to working with families. From this perspective, the baby, as Selma Fraiberg points out, "stands for the renewal of the self; his birth can be experienced as a psychological rebirth for his parents" (Fraiberg, 1980, p. 54).

The individualized developmental nature of the NBO provides the baby with a "voice," with a "signature." It gives the baby an opportunity to tell the caregiver who he is, what his preferences are, what his vulnerabilities might be, and in what areas he may need support across the first months of life. The inherent capacity of the baby to motivate caretaking behavior in the human, which has the evolutionary function of enhancing offspring survival, is a key concept in this strength-based relational approach to early intervention work with new parents. As the Irish writer George

Learn More

Books for Parents

Your Baby Is Speaking to You: A Visual Guide to the Amazing Behaviors of Your Newborn and Growing Baby
K. Nugent (photographs by A. Morell), (2011)
Boston, MA: Houghton-Mifflin

Touchpoints: Birth to Three
T. B. Brazelton & J. Sparrow (2006)
Cambridge, MA: Da Capo Press

The Picador Book of Birth Poems
K. Clanchy (Ed.), (2012)
London, UK: Picador

Keeping Your Child in Mind: Overcoming Defiance, Tantrums, and Other Everyday Behavior Problems by Seeing the World Through Your Child's Eyes
C. M. Gold (2011)
Cambridge, MA.: Da Capo Press

Books for Professionals

The Newborn as Person: Enabling Healthy Infant Development Worldwide
J. K. Nugent, B. Petrauskas & T. B. Brazelton (Eds.), (2009)
Hoboken, NJ: John Wiley and Sons

The Baby as Subject: Clinical Studies in Infant-Parent Therapy
C. Paul & F. Thomson-Salo (Eds.), (2013)
London, UK: Karnac Books

Infant and Early Childhood Mental Health
K. Brandt, B. D. Perry, S. Seligman, & E. Tronick (Eds.), (2013)
New York, NY: American Psychiatric Publishing

The Development of Children and Adolescents
P. Hauser-Cram, J. K. Nugent, K. Thies, & J. F. Travers (2013)
Hoboken, NJ.: John Wiley and Sons

Primary Care of the Premature Infant
D. Brodsky & M. A. Oullette (2008)
Philadelphia, PA.: Elsevier

Nurturing Children and Families: Building on the Legacy of T. Berry Brazelton
B. Lester & J. Sparrow (Eds.), (2010)
Hoboken, NJ.: John Wiley and Sons

Valuing Baby and Family Passion: Towards a Science of Happiness
J. Gomes-Pedro (Ed.), (2014)
Lisboa, Portugal: Fundacao Calouste Gulbenkian

The Birth of a Mother: How the Motherhood Experience Changes You Forever
D. Stern, N. Bruschweiler-Stern, & A. Freeland (1998)
New York, NY: Basic Books

Your Amazing Newborn
M. Klaus & P. Klaus (2000)
Cambridge, MA: Da Capo Press

Case Studies in Infant Mental Health
J. Shirilla & D. J. Weatherston (2002)
Washington, DC: ZERO TO THREE

Web Sites

The Brazelton Institute, Division of Developmental Medicine, Boston Children's Hospital
www.brazelton-institute.com

NBONBAS International— (coming soon)
This website is designed for practitioners who use the NBO and NBAS in their practice.
https://nbonbasinternational.wordpress.com

Boston Children's Hospital
Ab Initio International—the on-line publication of the Brazelton Institute designed to promote the discovery, dissemination, and application of knowledge about developmental processes in the first years of life, with an especial emphasis on the use of the NBO and NBAS in prevention and treatment.
www.childrenshospital.org/AbInitio

Developmental Medicine Center
www.childrenshospital.org/centers-and-services/developmental-medicine-center-program/programs-and-services

Brazelton Touchpoints Center
www.brazeltontouchpoints.org

Center on the Developing Child
http://developingchild.harvard.edu

Bernard Shaw put it, "Life is a flame that is always burning itself out, but it catches fire again every time a child is born" (Shaw, 1933). Clinicians who work with infants and families have the privilege of coaxing this fire into life, and the NBO can help stoke and fan that fire until it bursts into life.

J. Kevin Nugent, PhD, is director of the Brazelton Institute in the Division of Developmental Medicine at Boston Children's Hospital, where he has worked since 1978. He is lecturer in psychology at Harvard Medical School and is also professor emeritus at the University of Massachusetts at Amherst, where he taught courses in infant and child development for 25 years. He is author of several books and scientific articles and is co-author with Dr. Brazelton of the *Neonatal Behavioral Assessment Scale* and first author of the *Newborn Behavioral Observations (NBO) system*, which is the focus of the series of articles in this issue of *Zero to Three* journal. He has also written a book for parents, *Your Baby Is Speaking to You*. Professor Nugent's areas of research include studies of the cultural and historical context of infant development, the effects of the NBO as a form of preventive intervention, the transition to parenthood, early intervention, the role of fathers, the origins of temperament, and the effects of a range of prenatal teratogens on neonatal and developmental outcome. (Visit: www.drkevinnugent.com and www.brazelton-institute.com)

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Integration of the Newborn Behavioral Observations (NBO) System Into Care Settings for High-Risk Newborns

Beth M. McManus
University of Colorado

ABSTRACT

Research suggests that early self-regulatory difficulties among high-risk newborns can lead to poor interactional difficulties and negative long-term cognitive and social–emotional outcomes if not identified and treated early. This article describes why an individualized, developmentally supportive, relationship-based program, such as the Newborn Behavioral Observations (NBO) system, should be standard of care and how to implement such programming for high-risk newborns and their families. The NBO is an intervention that helps parents of newborns read their baby's self-regulatory cues with the goal of promoting parent–infant interaction and infant development.

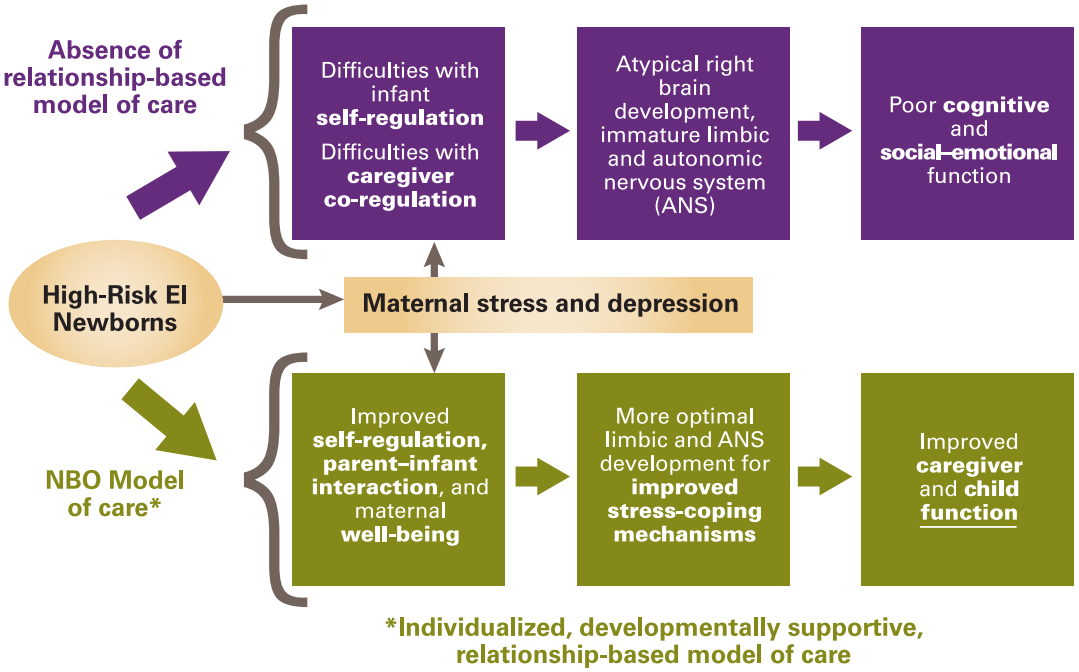
The newborn period is a critical stage in the infant's behavioral adaptation to his environment and an important transition in the parent–infant relationship. This article examines these attributes of the newborn period with an eye toward understanding the unique needs of families of high-risk infants who demonstrate vulnerability due to developmental, social, or medical risk factors.

Theoretical Rationale for Use of the Newborn Behavioral Observations (NBO) System With High-Risk Newborns

An infant's ability to demonstrate an optimal behavioral adaptation to her new environment is the cornerstone of self-regulation. In accordance with developmental systems theory (Thelen & Smith, 1994), *regulation* describes the interaction of contextual demands and internal organization. This interaction occurs through hierarchically organized systems of physiological, neurological, behavioral, and emotional processes. These processes integrate to interpret, adapt, cope, and reinterpret changing contexts to allow the infant to master the environment. The hierarchical ordering dictates that compromised functioning at lower levels negatively influences higher order processes (Bronson, 2000).

The autonomic–motor–organization–responsivity (AMOR) framework (Nugent, this issue, p. 2; Nugent, Keefer, Minear, Johnson, & Blanchard, 2007) is used to identify infants' neurobehaviors for the purpose of acknowledging an infant's attempts, successes, and vulnerabilities with self-regulation. Per Dr. Heidelise Als' synactive theory, healthy full-term infants most often demonstrate "organized" neurobehaviors (Als, 1986). These might include smooth respirations, even skin coloring, and a stable gastrointestinal system (**A**utonomic); smooth movements and optimal muscle tone (**M**otor); predictable state transitions and well-developed self-soothing skills (**O**rganization of state); and ability to respond to visual and auditory stimuli (**R**esponsivity). Conversely, high-risk infants demonstrate more frequent "disorganized" neurobehaviors (Als, 1986). These might include uneven respirations, substantial color changes, and frequent spitting up; high or low muscle tone; difficulty being awake and alert; and limited ability to engage with visual or auditory stimuli. To this end, infants communicate their capacity for behavioral adaptation to their new environment (i.e., self-regulatory difficulties) through more frequent disorganized neurobehaviors. As such, reading and responding appropriately to infant's neurobheviors should be the cornerstone of any developmentally supportive intervention for high-risk newborns (Figure 1). Indeed, early self-regulatory difficulties in high-risk newborns contribute to later adverse cognitive and social–emotional function (Feldman, 2009; Feldman & Eidelman, 2009). Although this association is complex and has many mechanisms, research suggests the importance of emerging neural organization of the right brain stress centers. In fact, right brain maturation is dependent on quality experiences, which in turn influence children's attachment and capacity to cope with stressful situations (Schore, 2002; Schore 2000a; Wittling, 1997). In early infancy, the developing right hemisphere is deeply interconnected into the autonomic, limbic, and arousal systems (i.e., AMOR neurobehavioral subsystems), and

FIGURE 1. **Conceptual Model of the Effects of Newborn Behavioral Observations (NBO) Program**



plays a crucial role in processing of social–emotional information (Schore, 2000b), including the parent–infant interaction.

As noted above, the newborn period is a critical transition for the parent–infant relationship. For families of high-risk newborns, this transition can be fraught with vulnerability for infants and their parents (Davis, Edwards, Mohay, & Wollin, 2003). The birth of a high-risk newborn is a non-normative transition that requires an individualized, developmentally supportive approach to care that will promote self-regulation and mitigate developmental vulnerability. To this end, the Newborn Behavioral Observations (NBO) system is a relationship-based intervention that involves a shared observation of the infant with the parent and includes elicited maneuvers with the purpose of (a) identifying infant neurobehaviors, (b) interpreting these neurobehaviors in the context of the parent–infant interaction and infant self-regulation and intentions, with the goal of enhancing the parent–infant relationship (Nugent et al., 2007).

The NBO is also a flexible intervention tool that can be readily adapted to a variety of care settings for high-risk newborns. Beyond the individual clinical and neurobehavioral considerations for designing interventions for families of high-risk newborns, several systems-level attributes warrant discussion. Often, providers working with high-risk newborns are ill-prepared to appropriately address the unique needs of high-risk families. For example, providers working with high-risk newborns often lack proper training and mentoring in a neurobehavioral model of care. Evaluation instruments typically used by providers working with high-risk infants do not measure infants' adaptive or self-regulatory skills (Blanchard & Mouradian, 2000; Nugent, Blanchard, & Stewart, 2008). Taken together, this lack of information about infants' self-regulatory skills undermines providers' ability to develop and implement a neurobehavioral model of care (McManus & Nugent, 2011). Moreover, the same circumstances surrounding the non-normative transition for families that influence the parent–infant interaction can also strain the parent–provider relationship. In order to most effectively promote emotional contingency between infants and their caregivers, clinicians working with high-risk newborns need to be astutely aware of the infant's varying levels of autonomic arousal (Blanchard & Øberg, 2015). In fact, during play interactions, clinicians and infants show parallel autonomic responses (i.e., increases or decreases in heart rate) that directly correspond to each other's facial expressions (e.g., reciprocal smiles; Schore, 2002). In this way, the parent or caregiver co-regulates the infant's developing autonomic functions, which subsequently influences that infants' developing stress coping skills (Schore, 2001). Taken together, providers working with high-risk infants can support the development of the infant's brain by attending to their self-regulation attempts during their interactions, by observing and interpreting the infant's behaviors in the presence of parents (Blanchard & Øberg, 2015).

In summary, current models of care are not well-suited to the unique needs of families of high-risk newborns. High-risk families need a model of care that supports infant self-regulatory capacities, parent–infant interaction, and maternal emotional health. Previous research suggests these developmental or relationship-based models of care improve infant neurodevelopment, parental well-being, and quality of life of families (Als, Lawhon, Duffy, McAnulty, Gibes-Grossman, & Blickman, 1994; Als et al., 2012; Als et al., 2004; Browne & Talmi, 2005). Yet, they are not standard of care to date. The next section describes how traditional high-risk newborn care settings could adopt an NBO-model of care.

Flexibility and Feasibility of Using the NBO in Different Care Settings for High-Risk Newborns

I consider three different care settings: special care nursery, infant follow-up clinics, and home visiting programs for high-risk newborns (summarized in Table 1).

NEONATAL INTENSIVE CARE UNITS AND SPECIAL CARE NURSERIES

Many high-risk neonates will be hospitalized in a neonatal intensive care unit (NICU) or a special care nursery. A March of Dimes report (March of Dimes Perinatal Data Center, 2011) suggested that, among the more than 180,000 newborns studied, 14% had a neonatal care admission. Of the babies admitted for neonatal care, about half were born preterm (i.e., less than 37 weeks gestation) and half were full-term. Moreover, the study reports an average length of neonatal hospitalization was approximately 13 days. These data suggest that the NICU is perhaps an important entry care point to meet many families of high-risk newborns.

Indeed, there is also a scientific rationale and evidence-base supporting implementing a developmentally supportive, relationship-based model of care into neonatal hospital care. Parents who have an infant hospitalized in the NICU experience high rates of depression and anxiety that appear to persist at least until the NICU graduates are school-aged (Johnson, Ring, Anderson, & Marlow, 2005; Melnyk et al., 2006). Several correlates of higher rates of depression and anxiety have been identified. Parents who report worse family functioning, lower levels of social support, and lower perceived control tend to have higher rates of depression and anxiety (Doering, Moser, & Dracup; 2000). Indeed, neurobehavioral interventions focused on helping parents read and respond contingently to their baby's adaptive behaviors

TABLE 1. **Description of a Newborn Behavioral Observations (NBO) Model of Care in Different Care Settings for High-Risk Newborns**

Care Setting	Rationale	Current Models	Implementation Considerations
Neonatal Intensive Care Unit (NICU) and Special Care Nursery	High rates of parental depression and anxiety Physical separation of the parents and infant Environmental barriers to self-regulation Developmentally supportive, relationship-based care is associated with improved infant and family outcomes	One model that has been piloted by the author includes administering the NBO up to weekly with families of NICU and special care nursery infants >33 weeks gestational age Integrating the NBO into: ▪ discharge evaluation and planning ▪ "hand-off" to community based providers (e.g., developmental specialist or physical therapist)	Staff training and mentoring Documentation considerations Barriers to parental visitation
NICU Infant Follow-up Program	Conduct a multidisciplinary evaluation Provide anticipatory guidance, care coordination, referral to early intervention, and access to providers who specialize in care of NICU graduates Early self-regulatory skills predict later cognitive and social–emotional outcomes	Many NICU follow-up programs conduct the Bayley Scales of Infant Development (Bayley, 1993) and some have begun administering the Bayley adaptive behavior scale For most follow-up clinics, the first visit is 4–6 months corrected gestational age	Provider training and mentoring Systems-level change from a sole focus on evaluation to a relationship-based model of care Seeing babies earlier than 4–6 months corrected gestational age
Home Visits **Part C Early Intervention**	Federal program mandates require home visiting programs to: ▪ include evidence-based models of care ▪ be family-centered, including parent support and education components	Administering the NBO weekly up to the newborn is 12 weeks old (corrected for prematurity). Integrating the NBO into: ▪ the initial EI eligibility evaluation ▪ the individualized family service plan ▪ home visits during the newborn period	Staff and provider training and mentoring Requires systems-level change and adoption of a new model of care (e.g., neurobehavioral approach to evaluation, intervention, and all aspects of service delivery for families of high-risk infants)

Photo: Matthew Lee

Using the Newborn Behavioral Observations to study the baby's capacity to deal with bright lights.

during their baby's NICU care have been associated with more optimal maternal emotional well-being and parent–infant interaction (Hane et al., 2015; Melnyk et al., 2006).

In addition to parental mental health issues, further contributing to parent–infant interactional difficulties in the NICU is the physical separation of the parents and infant (Davis et al., 2003). Enormous strides have been made to promote family-centered care in the NICU. In many NICUs, family visiting hours are 24 hours per day, some NICUs have space for parents to room in throughout their infant's hospital stay, and some NICUs have no restrictions on the frequency and duration of kangaroo-mother care. Yet, these policies are not universal, and many families face barriers to optimal interaction with their infant. As a result, parents face prolonged physical separation from their infant. Yet, policies that promote family-centered care (e.g., rooming in, no limitations on kangaroo-mother care) are associated with improved infant neurobehavior (Montirosso, Del Prete, Bellu, Tronick, & Neonatal Adequate Care for Quality of Life Study Group, 2012). And, when parents are facilitated to actively engage with their infant, parent–infant interaction improves (Hane et al., 2015; Melnyk et al., 2006). This underscores the importance of family-centered interventions in the NICU that promote parental confidence and parent–infant bonding.

Further complicating the physical separation of NICU families are the environmental barriers to self-regulation in the NICU. Often, NICUs have bright lights and loud noises that far exceed recommendations for safe levels of light and sound and contribute to infants' self-regulatory difficulties (White, Smith, & Shepley, 2013). Yet, clinical experience shows that interventions that support and educate parents about strategies to modify the infant's immediate physical environment (e.g., blocking bright lights or providing more physical support through swaddling) can promote infants' self-regulation. To this end, interventions that are individualized to address an infant's particular environmental and task demands in light of his self-regulatory strengths and vulnerabilities should be best practice in the NICU. In sum, developmentally supportive, relationship-based care is associated with improved infant and family outcomes and should be standard of care.

The NBO is appropriate for medically stable infants in the NICU who can tolerate the NBO maneuvers, with modifications as appropriate. Generally speaking, this includes infants who are at least 33 weeks gestation, allowing for individual differences among infants. That is, some infants at 32 weeks are very robust, while other infants who are 35 weeks gestational age are still quite medically fragile. In accordance with the NBO principles described previously in this issue (Nugent, p. 2), the NBO is a relationship-building tool that provides a "snapshot" of the infant's successes and vulnerabilities with self-regulation, at a given moment, with the goal of promoting the parent–infant interaction (Nugent et al., 2007). To this end, the ideal NICU-NBO model would entail repeated NBO encounters with NICU families throughout the latter part of their NICU hospitalization. For example, NICUs can use a model in which a consistent member of the therapeutic or developmental care team administers the NBO weekly with the NICU-hospitalized newborn and her family. This allows for the opportunity of shared observations over time, which has several advantages. It provides opportunities for the NICU clinician to promote ongoing discussion with parents about how the infant's self-regulatory skills are emerging and developing with new tasks (e.g., transitioning to greater amounts of oral feeding). Similarly, it allows the parent–infant interaction to emerge and develop with repeated opportunities for the NICU clinician to address changing family needs for emotional support with new successes and challenges. These positive, repeated interactions also contribute to strengthening the parent–provider relationship over the course of the infant's NICU hospitalization.

In addition to providing up to weekly administration of the NBO, the NICU clinician can integrate the NBO into discharge planning. Research suggests that NICU parents feel quite ill-prepared for discharge home (Sneath, 2009). In fact, parents report wanting more strategies to be able to read their baby's cues and promote optimal development. Research suggests parents report wanting information delivered in an individualized manner that involves hands-on facilitation to learn the material (Cleveland, 2008). The NBO's principles and mode of administration are consistent with parental needs and priorities for discharge planning. The NBO is a shared observation that actively engages parents to assist them in reading their baby's cues in order to promote optimal parent–infant interaction, which can assist with parental psychological well-being during the transition from NICU to home and beyond.

From a systems perspective, integrating the NBO into discharge planning can also benefit the family when the NICU clinician provides the infant's NBO summary to the community-based developmental and therapeutic care team. The NBO summary provides rich information about the baby's unique strengths and continued challenges that can assist with community-based intervention planning during the newborn period (described in

more detail later in the section Post-Hospitalization Therapeutic and Developmental Services for NICU Graduates).

Despite all of the strengths of implementing a NICU-NBO model of care, it is not without its challenges. As with any systems change in a care setting, a NICU-NBO model requires education and training not only for staff who will be administering the NBO, but also for all providers to become familiar with what the NBO entails and why it is being implemented in the NICU. A strategy to achieve these goals is to provide intensive 2-day training for NICU clinicians (e.g., bedside nurses and members of the therapeutic and developmental care team) who will become NBO-certified and will be responsible for administering the NBO consistently with families in the NICU. In addition, training should include a shorter (e.g., 2-hour) overview of the theoretical rationale of the NBO as well as specifics of how it will be implemented and overseen in the NICU. The latter, ideally, would be reach all staff including nurse management, bedside nurses, neonatologists, neonatal nurse practitioners, and respiratory therapists.

Moreover, establishing a NICU-NBO model as standard of care requires consistent mentoring of the NICU-NBO team. More details about optimal mentoring programs are presented in the article by Slinning and Vannebo in this issue (p. 40).

Another implementation consideration is documentation. For example, what is the best way to integrate the documentation of the NICU-NBO model of care into an existing electronic health record? Currently, the documentation for the NBO consists of an 18-item, 3-point scale that records the baby's neurobehaviors along a continuum of self-regulatory skills (i.e., *with great difficulty* to *with ease*). In addition, the clinician completing the NBO recording form writes an assessment summary of the baby's neurobehaviors within the context of emerging self-regulatory skills and parent–infant interaction. Thus, this form is flexible and could readily be incorporated into an existing electronic health record system that would allow for drop-down menus to record the "score" for each individual item as well as a free-text area to complete the neurobehavioral assessment summary and recommendations for therapeutic and developmental interventions that can be accessed readily by any member of the infant's care team.

Lastly, when implementing a parent-focused (and infant-focused) intervention, NICU clinicians struggle to overcome the physical barriers separating parents from their infants. For example, many NICU parents may return to work to allow them to take a leave once the baby returns home. Parents may have other children at home and are balancing caring for those children with caring for their hospitalized infant. Finally, in NICUs where parents are not able to spend the night consistently, parents must overcome travel and parking-related barriers to be in the NICU. Therefore, NBO providers must be flexible and creative to best accommodate parents' visiting schedules. This might entail working evenings or very early in the morning when parents are present at the infant's bedside. This schedule may differ from traditional acute care rehabilitation models of service delivery,

Photo: Matthew Lee

A baby responds to his mother in the neonatal intensive care unit.

yet is critically important to promote optimal neurodevelopment of the NICU baby.

Yet, despite these implementation challenges, the research supporting the benefits of an individualized, developmentally supportive approach to care for the NICU infant (Als et al., 1994) such as the NICU-NBO model, reinforce its importance. In sum, I advocate for a NICU-NBO model of care as standard of care for intervention planning as well as optimal transition to the community-based development and therapeutic services. The next sections describe how the NBO can be used in the post-hospitalization period for high-risk infants.

POST-HOSPITALIZATION THERAPEUTIC AND DEVELOPMENTAL SERVICES FOR NICU GRADUATES

Post-hospitalization developmental and therapeutic services for NICU graduates typically occur either in outpatient or home settings (or a combination of the two). Outpatient services for NICU graduates can include a NICU infant follow-up clinic as well as clinic-based therapy (e.g., physical therapy) services.

NICU FOLLOW-UP CLINICS

The American Academy of Pediatrics (American Academy of Pediatrics Committee on Fetus and Newborn, 2008) and the National Institute of Child Health and Human Development (Vohr, Wright, Hack, Aylward, & Hirtz, 2004) recommended multidisciplinary follow-up care for preterm infants who are hospitalized in a Level III NICU (e.g., babies with a birthweight less than 1,000 grams). Indeed, the majority (93%) of Level III academic NICUs are affiliated with an infant follow-up clinic and 85% report having clinical guidelines in place for referral to infant follow-up programs (Kuppala, Tabangin, Haberman, Steichen, & Yolton, 2012). NICU follow-up programs are designed to provide continued access to medical providers who have specialized expertise in care of the NICU graduate, to provide care coordination with community pediatricians and follow-up

specialty services, provide anticipatory guidance to families, and refer families to Part C early intervention (EI, described in the section Part C EI; Bockli, Pellerite, & Meadow, 2014). However, it is not clear how many families are seen in NICU follow-up programs or to what extent such programs achieve their goals (i.e., care coordination and EI referral) or are perceived to be useful by families of NICU graduates. Typically, families will be seen at the NICU follow-up program beginning at around 4–6 months following their NICU discharge and lasting until the child is 24 months old, corrected for prematurity. In my experience, most multidisciplinary follow-up teams administer the Bayley Scales of Infant Development (BSID; Bayley, 1993). The BSID is a widely used assessment of infant neurodevelopment that includes three scales: the psychomotor, mental, and adaptive scales, all of which have excellent reliability (Bayley, 1993). Although the psychomotor and mental scales are routinely used in NICU follow-up programs, many programs are also beginning to use the adaptive scale. Indeed, understanding early adaptive or regulatory skills is critical for appropriate intervention planning as these skills have been shown to predict cognitive and social–emotional developmental function at school-age (Feldman, 2009). Yet, despite the strong rationale for infant follow-up programs, in practice there may be missed opportunities. For example, if many families do not access a follow-up program and those who do are not seen until 4–6 months following NICU discharge, there is a missed opportunity to promote coordinated care, EI referral, and parent support, education, and anticipatory guidance around themes often reported as distressing to parents of NICU graduates in the newborn period: feeding, sleeping, and self-soothing.

Often, providers working with high-risk newborns are ill-prepared to appropriately address the unique needs for high-risk families.

OUTPATIENT THERAPY SERVICES

Families may also choose to access therapeutic services (e.g., physical therapy) in an outpatient setting. It's not clear how many families choose this option. Typically, outpatient developmental and therapeutic services adopt a traditional medical model in which the patient sees a clinician more frequently (e.g., 2–3 times per week) for a relatively short period of time (e.g., 6 weeks) per health insurance coverage mandates. This model of care can have many benefits. In some care settings, the same NICU providers will see the infants in the outpatient setting, which promotes continuity of care. In addition, in some areas, initiation of EI services may be delayed (Roberts, Howard, Spittle, Brown, Anderson, & Doyle, 2008) so outpatient therapy services can bridge any gaps in services post NICU discharge.

An alternative model of outpatient care could include a more streamlined effort of care coordination between the NICU, NICU follow-up program, and outpatient care services where families are referred earlier (e.g., within 6 weeks of NICU discharge), receive a multidisciplinary evaluation (per AAP mandates), but also participate in an NBO. The goals of the outpatient-NBO would be to (a) identify the infant's self-regulatory capacities to supplement the findings of the multidisciplinary assessment (e.g., BSID, Bayley, 1993); (b) provide support and anticipatory guidance for families around issues related to sleep, crying, and feeding; and (c) ensure coordination of care with outpatient providers and EI professionals. Indeed, models of care that have coordinated NICU discharge and outpatient services for families of NICU graduates can improve coordination of care (Hussey-Gardner, McNinch, Anastasi, & Miller, 2002). As noted in the previous section, despite all of the strengths of implementing an integrated outpatient-NBO model of care, it is not without its challenges. Despite the benefits of the medical model of therapy care, there is often a missed opportunity to provide individualized, relationship-based care to families. Many pediatric therapists feel ill-prepared to implement neurobehavioral, relationship-based interventions. Moreover, the assessment instruments typically used in the outpatient settings (e.g., BSID) do not fully capture newborns' adaptive and self-regulatory capacities nor do they address parent–infant interaction (Blanchard & Mouradian, 2000). Finally, two additional implementation barriers include the systems-level changes required to change from a medical model to a relationship-based model of care, and related, the fact that families' encounters with outpatient developmental and therapeutic providers are relatively infrequent in the newborn period. Perhaps a more appropriate model would include frequent opportunities to connect with families within a care setting that is less of a medical model and more family-centered. The next section describes an EI-NBO model of care, which could mitigate the outpatient-NBO implementation challenges.

PART C EI

Nearly 1 in 5 infants participating in Part C EI experienced a NICU hospitalization (Hebbeler et al., 2007). The Individuals with Disabilities Education Act (IDEA), Part C (PL 108-446), authorizes states to provide EI services for infants and toddlers with developmental delays and disabilities using federal financial incentives.

The NBO is appropriate for use with high-risk infants up to 12 weeks old, corrected for prematurity. In accordance with EI federal mandates (PL 108-446), EI services typically include (a) an initial multidisciplinary eligibility developmental assessment; (b) an individualized family service plan—a document describing the parent's priorities and concerns, developmental assessment results, goals, and strategies for intervention; and (c) if eligible, service delivery, ideally home visits by a consistent EI service provider. In the EI-NBO model I propose, high-risk newborns receive weekly home visits from an EI provider certified in the NBO system up to 12 weeks corrected gestational age. At each home visit the EI service provider administers the NBO with the parents and discusses (a) the infant's attempts and successes at self-regulation and requests for support and (b) how the infant's neurobehaviors contribute to the parent–infant social interactional encounter and caregiver bonding. Thus, the NBO would serve as a supplement to the initial assessment, would inform the writing of the IFSP goals

and intervention strategies, and would be an intervention tool during home visits during the newborn period.

Despite the body of evidence supporting relationship-based care, it is not standard of care in EI. There are a number of implementation challenges to explain this. EI providers often have little professional training in assessment and intervention of high-risk infant's neurodevelopment or in implementing a neurobehavioral model that empowers parents through increased knowledge of their infant's regulatory capacities and neurobehavioral functioning (Blanchard & Mouradian, 2000; Blanchard & Øberg, 2015; Nugent et al., 2008). Moreover, despite federal mandates (PL 108-446) to provide family-centered care, traditional EI continues to be pathology-focused. As such, there are missed opportunities to adequately support parents and high-risk infants (Figure 1). A developmental or relationship-based care model is strength-based and is primarily guided by the principle that the quality of early experiences drives brain development and functional outcomes. Given that all experiences have meaning for infants and parents, it is crucial that EI providers develop an appreciation for the encounter with the infant as one that contributes to his brain development at any given time (Blanchard & Øberg, 2015). A developmental or relationship-based care model should be standard of care in EI. This requires advanced training for EI providers, ongoing mentoring and support to providers, and buy-in from EI leadership to allow for sustainability.

Evidence-Base for Use of NBO With High-Risk Newborns

The following section describes the research investigating the EI-NBO model of care described above on parent and EI provider outcomes (McManus & Nugent, 2011; McManus & Nugent, 2012). Specifically, the EI-NBO model of care was integrated into EI service delivery during the newborn period for EI-eligible infants. Families of high-risk infants received home visits by an NBO-certified EI provider until the infant was 12 weeks old, corrected for prematurity. A similar group of infants were randomized to receive usual care EI during this time period. At the end of the eight visits, a clinician administered the Home Visiting Index (HVI) to both the EI-NBO and usual care parents. The HVI is a 25-item scale that asks parents to rate, on a 4-point scale (1 = *strongly agree* and 4 = *strongly disagree*), their degree of agreement with statements about the quality of EI service delivery (Nugent, 2003; see Table 2). The HVI has been shown to have good reliability

TABLE 2. **Items in the Home Visiting Index Sub-Scales**

	Item
Anticipatory Guidance Sub-Scale	My home visitor gave me good advice about caring for my baby.
	We discussed sleep positions.
	My home visitor gave me good advice about feeding.
	My home visitor helped me to know what to do when my baby was upset.
	My home visitor discussed the importance of regular routines.
	My home visitor discussed sleep management issues.
	My home visitor pointed out my baby's capacities.
	My home visitor helped me recognize my baby's strengths and difficulties, and showed me how to support him/her.
	My home visitor told me what behavioral changes I could expect to see each week in my baby.
	My home visitor gave me a great deal of emotional support to help me cope.
	My home visitor helped me recognize how my baby deals with stimulation.
	I learned different ways to calm my baby when he/she is upset.
Parental Engagement and Support Sub-Scale	My home visitor listened carefully to what I had to say about my baby.
	My home visitor encouraged me to talk about the problems that I have with my baby.
	My home visitor respected my views and feelings about my baby.
	My home visitor always made me feel comfortable.
	I developed a warm relationship with my home visitor.
	My home visitor supported my own choices about how to deal with my baby.
	The information my home visitor gave me was helpful in helping me with my baby.
Parent–Infant Social Interaction Sub-Scale	My home visitor helped me understand my baby's behavior.
	I have learned to see small behavior changes in my baby.
	I am a better mother as a result of my relationship with my home visitor.
	I understand how my baby uses his/her vision to explore the environment.
	My home visitor did a thorough check on my baby's development at each visit.
	I am confident that I can teach my baby things.

Photo: Matthew Lee

Baby engaged in hand-to-mouth efforts which are part of self-regulation.

and validity and has three sub-scales: anticipatory guidance, parental engagement and support, and parent–infant social interaction (McManus & Nugent, 2012).

There were no differences between the NBO-EI and usual care groups on the anticipatory guidance and parental engagement and support sub-scales. Yet, the parents in the NBO-EI group reported significantly higher scores than the usual care group on the parent–infant social interaction sub-scale (McManus & Nugent, 2012). This result shows that an EI-NBO model of care builds on strong well-functioning parent–clinician relationships to bolster early parent–infant interaction by assisting parents to read their baby's cues and respond contingently.

At the end of the intervention, clinicians also administered the Index of Practitioner Knowledge and Skills (IPKS; Nugent, 2003) to the NBO-certified EI providers and the usual care EI providers. The IPKS is a 17-item scale that asks service providers to rate their agreement, on a 4-point scale (1 = *strongly agree* and 4 = *strongly disagree*) with items related to their clinical practice of working with high risk infants (see Table 3). The IPKS has been shown to have good reliability and validity and has two sub-scales: provider knowledge and provider confidence (McManus & Nugent, 2011).

There were no differences between the NBO-certified and usual care EI providers on knowledge scores, but the NBO-certified providers reported significantly higher provider confidence scores than the usual care providers (McManus & Nugent, 2011).

There are several potential reasons to explain why NBO providers report more confidence in working with high-risk newborns than their counterparts who are not NBO-certified. First, the administration of the NBO and the discussion that follows often serve to validate parents' concerns. For example, many high-risk infants are referred to EI because of a diagnosis, a worrisome medical history, or the presence of multiple social risk factors. As such, parents have heightened worry and anxiety about their newborn's development. The shared observation that occurs during an NBO can validate parental concerns. Simultaneously, the shared observation can reinforce parental successes. For example, a mother may worry that her baby is very fussy and isn't awake and alert to look at her face. Yet, Mom may also share some strategies that help her baby calm. These positive parent–provider interactions build trust and serve to bolster a provider's confidence she is providing relevant, individualized,

TABLE 3. **Items in the Index of Practitioner Knowledge and Skills Sub-Scales**

	Item
Provider Knowledge Sub-Scale	I feel close to the parents that I work with.
	I spent a lot of time discussing crying issues with parents.
	I can show how much infants are different from each other and explain these differences to parents.
	I feel I do a good job caring for families.
	I am able to tell parents about individual differences in behavior.
	I have learned a great deal about newborn development from my assessments.
	I can help parents read their infant's subtle behaviors.
	I can characterize my relationship with the parent as a partnership.
	I emphasize sleep issues a lot with parents.
	Helping parents understand their infant's cues is an important part of my practice.
Provider Confidence Sub-Scale	I am confident in my ability to handle and calm newborns.
	I am confident in my assessment skills of newborn infants.
	I feel confident providing guidance to parents specifically about behavior during the first 3 months of life.
	I know how to respond to parent's questions about their infant's newborn behavior.
	I am confident I can teach parents about their infant's development.
	I have a deep understanding of newborn growth and development.
	I feel well-trained to work with infants and families.

developmentally supportive care. Related to this, the intervention strategies that stem from NBO encounters are directly relevant to the infant's self-regulatory successes and vulnerabilities. To this end, treatment planning will entail interventions that are most relevant to the infant's and family's priorities (e.g., social interaction with caregivers, sleep–wake cycles, feeding) rather than longer-term developmental skills (e.g., "next steps" on the developmental assessment) that have less relevance for parents of high-risk newborns. Lastly, the NBO is strengths-based rather than pathology-focused. As noted, having a high-risk newborn is a non-normative transition for parents. Highlighting infant's strengths can allow EI service providers to assist parents in looking beyond a diagnosis to the unique capabilities of their infant. In sum, integrating a developmentally supportive, relationship-based model of care bolsters EI service providers' clinical assessment and intervention "toolbox" and appears to positively contribute to their perceptions of their confidence in their skills to work most effectively with high risk infants.

In conclusion, the NBO is a flexible tool that can readily be integrated into an EI model of care. Current models of EI care are not well-suited to the unique needs of families of high-risk newborns. High-risk infants very often demonstrate self-regulatory difficulties that negatively influence feeding, sleeping, self-soothing, and caregiver bonding (VandenBerg, 2007). Further exacerbating these challenges are the high rates of maternal depression and anxiety among caregivers of newborns with developmental disabilities and delays (Poehlmann, Miller Schwichtenberg, Bolt, & Dilworth-Bart, 2009). These high-risk families need a model of care that supports infant self-regulatory capacities, parent–infant interaction, and maternal emotional health. Moreover, the NBO-EI model of care appears to be associated with improved parent–infant interaction and provider confidence. Although this model is not standard of care in EI to date, there is tremendous potential for adoption of a NBO-EI model of care.

Beth M. McManus, PT, MPH, ScD, is a pediatric physical therapist whose clinical work has focused primarily in early intervention programs and the newborn intensive care unit. Beth is an assistant professor in the Department of Health Systems, Management and Policy at Colorado School of Public Health and a senior methodologist in the Children's Outcomes Research group Children's Hospital Colorado. Her clinical research focuses on the effectiveness and cost-effectiveness of developmental and therapeutic interventions for infants and toddlers with developmental delays and disabilities.

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Influencing Health Policy in the Antenatal and Postnatal Periods: The UK Experience

Joanna Hawthorne
Brazelton Centre UK
Cambridge, England

ABSTRACT

Since 1997, the Brazelton Centre UK has offered courses to a wide range of professionals working with newborn infants and their families. In 2009, the Neonatal Behavioral Assessment Scale was recommended in the Healthy Child Programme by the Department of Health. Both the Neonatal Behavioral Assessment Scale and the Newborn Behavioral Observations system are recommended in the 2014/2015 National Health Visiting Service Specification to promote parent and infant mental health and secure attachment. Health visitors and midwives implement the Healthy Child Programme (2009) which promotes strong parent–baby relationships in pregnancy and in the postnatal period.

This article describes how the training programs in Newborn Behavioral Observations (NBO; Nugent, Keefer, Minear, Johnson, & Blanchard, 2007) and Neonatal Behavioral Assessment Scale (NBAS; Brazelton & Nugent, 2011) played a role in influencing policies that foster infant mental health in the UK. This influence included contributing to the knowledge base that informs policy decisions, educating the public and policymakers about early childhood development and mental wellness, forming community partnerships to identify and address infant mental health risks, and participating in the development of policy recommendations that improve access to evidence-based practices in infant mental health.

Introduction

Despite the compelling data on the importance of promoting early parent–infant relationships, state and federal policymakers often fail to design policies or implement programs that effectively improve outcomes for infants and families (Chazan-Cohen, Stark, Mann, & Fitzgerald, 2007). How can health professionals working with newborns change that? How can they influence policies and professional standards of care that foster the healthy development of infants and families? There is a growing recognition that working for the inclusion of infant mental health promotion should be an integral part of health promotion interventions and policies (Knitzer, 2007). Parent–infant mental health promotion needs to target the whole population and focus on enabling and achieving positive mental health across the entire society (Shonkoff, Boyce, & McEwen, 2009). Although the promotion of evidence-based practice and policy is critical to this task, special attention must be given to infant mental health policy and infrastructure, mental health services, human resources, and funding. Korfmacher (2014) pointed out that because the field of early childhood is transdisciplinary, no single professional organization has taken the lead in establishing standards or requirements for practitioners working with babies and young children around social and emotional well-being.

In other articles in this edition of the journal, the background theory of the NBO has been described, as well as its use in hospital and home settings with high-risk infants and its uses in training practitioners who work in infant mental health (see Nugent, this issue, p. 2). Because UK government strategy has been to support the well-being of families antenatally and postnatally, especially the child's social and emotional development from birth and the mother's mental health, the NBO is a valuable addition to the repertoire of programs for prevention and early intervention in the UK.

The National Health Service of the United Kingdom and the "New Birth Visit"

The National Health Service (NHS) was launched in the UK in 1948 to provide health care to all regardless of income. The structure of the NHS in the UK lends itself to providing support to women in pregnancy, and during and after the baby's birth. Early prevention and identification is possible as community practitioners visit families not only in their homes, but also at community health clinics, at Sure Start Children's Centres, or at

Photo: with the kind permission of Inge Nickell

The NBO session encourages communication between mother and baby.

general practitioner's (family doctor) offices, both antenatally and postnatally.

Midwives care for women antenatally and postnatally until the 10th day of the baby's life. Between days 11 and 14, health visitors carry out the "New Birth Visit," during which they see the baby and family at home and provide them with information about the services they can access. Parents are encouraged to take their baby to a Community Children's Centre, which provide drop-in breastfeeding support; classes for new parents; and other activities for parents and their babies, toddlers, and preschoolers. Health visitors are registered nurses or midwives who have taken further training in child health, health promotion, public health, and education, and they provide care until the child is 5 years old. The contribution of the Brazelton Centre UK training has been to augment these services by incorporating an understanding of the baby into this service for babies and their families. From the point of view of the Brazelton Centre, the NHS health care delivery service provided an ideal setting for practitioners to integrate an understanding the baby's behavior and promote the development of the relationship between the parents and the baby.

Incorporating an Understanding of the Baby Into Postpartum Newborn Care

The Brazelton Centre UK was founded in 1997 to offer professional training to health professionals working with infants and families. These education and training programs target practitioners working with families in the early postnatal period (birth to 3 months old). The practitioners include health visitors, psychologists, midwives, neonatal nurses, occupational therapists, physiotherapists, doctors, psychotherapists, and psychiatrists who work in the NHS in the UK. Interest from nurses in neonatal units in hospitals has also been increasing as the use of developmental care in neonatal units becomes more common in the UK.

The goal of the Brazelton Centre UK training initiative is to introduce practitioners to new research findings about newborn behavioral competencies and to help them integrate these findings into postpartum hospital practice and into the existing public health home visits. This integration involved a paradigm-shift from a focus on pathology to a focus on a more strength-based approach to infants and families. The emphasis was now on the baby's behavioral competencies and on promoting the parent–infant relationship. Training on the NBAS (Brazelton & Nugent, 2011) was offered to health visitors, registered nurses, midwives, physiotherapists, psychologists, and allied health professionals working with newborns and their families. The Brazelton Centre UK became an NBO training site in 2009, and many of the NBAS-trained practitioners took the NBO courses and campaigned for its inclusion in services for prevention and early intervention.

The Brazelton Centre has been able to influence parent–baby UK health policy over this period through training health professionals in the NBO and NBAS, research articles, presentations at conferences, workshops, and membership of various committees advocating an early prevention policy in infant mental health and maternal mental health. Moreover, these trained practitioners have campaigned for an early intervention approach in supporting babies and their families using the NBO and the NBAS. In addition, the Brazelton Centre UK faculty has been actively involved in promoting policies relating to an understanding of baby behavior and early relationships and on supporting parents in the early weeks and months after birth.

A Paradigm-Shift Toward a Strength-Based Public Health Model

Several factors have affected the introduction of the NBO to the UK. Many lead health visitors and midwives, and psychologists based in child and adolescent mental health services who have been trained in the NBAS and NBO, have mostly driven requests for training their teams. This, in turn, has led to government bodies including NHS England and Public Health England commissioning NBO training for practitioners in the UK through the Brazelton Centre UK. In 1998, the UK government funded Sure Start Centres in 500 socioeconomically underdeveloped areas in the UK to provide supportive services for families with children from birth to 4 years old. Community health teams used the NBAS as an intervention, and lead practitioners in health visiting and psychology promoted its use. In 2009, the NBAS was recommended in the Healthy Child Programme (HCP) by the Department of Health UK. The HCP is the key universal service for improving the health and well-being of children, through health and development reviews, health promotion, parenting support, screening, and immunization programs. Its goals are to identify and treat problems early, help parents to care well for their children, change health behaviors, and protect against

preventable diseases. Health visitors deliver and implement the program, identifying needs of parents and babies early.

In addition, the UK government policy environment was impacted by several key articles published in the last decade recommending universal standards for children's services throughout the UK, including "Every Child Matters" (Department for Children, Schools and Families, 2004). The emphasis on child health started to change from one of surveillance to prevention and intervention, partly due to findings influencing government strategy around support for parents and infants and early intervention programs. Several programs have now been developed across the UK that illustrate this paradigm shift in health policy. Lead practitioners in the field have played a key role in driving these changes and this advocacy has had a direct effect on health policy and guidelines.

A surge of understanding in baby brain development and the economic advantage to prevention and intervention with families has resulted in both the NBAS and NBO being recommended in early intervention initiatives by the UK government. The National Institute of Clinical Evidence proposes guidelines for health in the UK. Their recommendations are built on developments in both health research and policy to promote and protect the social and emotional well-being of children, especially vulnerable children. These developments include their Guidelines (National Institute for Health and Care Evidence (NICE), 2012), which emphasized social and emotional well-being and early intervention for better child outcomes. In 2014, the National Health Visiting Service Specification (NHS England, 2014/2015) recommended the use of both the NBO and NBAS as an early intervention with babies from birth to 3 months old.

Contribution of NBO to Practitioner Perspective

What impact did the NBO have on UK practitioners? Following completion of the NBO training in the UK, surveyed practitioners ($N = 241$) consistently felt more confident in their ability to describe infant behaviour ($p = 0.001$; Foley & Hawthorne, 2014). In written responses on the post-training questionnaire, three general themes emerged: (a) training will help practitioners help parents understand infants, (b) practitioners were empowered to put theory into practice, and (c) the training should be incorporated into curriculum for health professionals. (See box Comments From Practitioners After Newborn Behavioral Observations Training).

NBO courses in the U.S. have also found similar increases of confidence among practitioners following training (Brandt, 2014; Nugent & Alhaffer, 2006).

Value of NBO: Parent's Perspective

What effect does the NBO have on parents and on the parent–infant relationship? Following the NBO training program, each couple complete a questionnaire that assesses their learning, how they felt about their baby, and how they felt about their relationship with the practitioner carrying out the NBO course. An analysis of 543 questionnaires showed that parents reported feeling considerably closer to their baby and more confident in their parenting capacity (Savage-McGlynn & Hawthorne, 2014). They also felt more able to help their baby with sleep and crying behaviors and felt they knew their baby significantly more. Overall, results suggest that NBO participation is a positive experience for parents in learning about their infant. The NBO is therefore a tool that can offer individualized information to parents about their baby, providing the opportunity to promote a positive bond between parent and child, and it is an overwhelmingly positive experience for parents in learning about their infant. Based on the growing evidence about the importance of the developmentally supportive intervention in the newborn period and the clinical utility of the NBAS and NBO as an intervention tool, model population-based NBO and NBAS programs emerged in several areas in the UK.

Comments From Practitioners After Newborn Behavioral Observations Training

Brilliant, every Health Visitor should have this training….

After 12 years in this job I learned so much during these 2 days and I feel that this is invaluable in enhancing my practice

Five star course—Thank you SO much only wish I had known about it 7 years ago! Every neonatal nurse should have this training as mandatory—vital in building relationships with mothers/fathers and babies in NICU—empowering parents to read their babies cues and tune in to their babies strengths and needs

Best training session of my career so far. Can't wait to start using it.

Let the infant find their parents' voices and let them know that they know their infants best.

I have learned so much. Wish I had this knowledge when I commenced health visiting 25 years ago.

It should be offered to all health visitors as would be beneficial to their practise and for all parents.

How unique and individual each infant is and how their strengths and challenges can be recognised and consequently hopefully be accommodated.

UK Model Programs

By 2010, some regions of England had developed service provision using the NBAS and NBO, notably Middlesbrough, North Devon, and Stockport (Hawthorne & Hutchon, 2011). In Middlesbrough (a town in northeast England), the Baby Stars program was set up in 2008 where mothers attended groups antenatally and in the postnatal period were offered the NBAS, highlighting the baby's strengths and the areas needed for support (Wood, 2011). In each health visiting team, there is an NBAS-trained health visitor and several NBO-trained health visitors. The same is true in North Devon. This year, funding has

Photo: with the kind permission of Andrew Whitaker

Babies encourage us to interact and play.

been procured to train one health visitor in each of the 20 health visiting teams across Devon in the NBO (I. Nickell, personal communication, December 17, 2014). A new perinatal maternal and infant mental health pathway has been written for Devon Health Visitors. The NBO is offered to families where there is any history or risk of perinatal illness to promote the early relationship and to build a positive relationship with the family. In both Middlesbrough and Devon, the NBO is carried out with families who need extra support ("Universal plus," which families can access if they have specific issues such as postnatal depression, weaning, or sleepless children and get expert advice from a health visitor). See box The National Health Visitor Plan.

Although these programs reflect best practice implementation, the Tameside and Glossop model will be described in detail below.

The National Health Visitor Plan

The transformation of health visiting services from 2011 uses a new service model with four components:

- Community: health visitors have a broad knowledge of community needs and resources available (e.g., Children's Centres and self-help groups), and work to develop these and make sure families know about them.
- Universal: health visiting teams lead delivery of the Healthy Child Programme. They ensure that every new mother and child have access to a health visitor, receive development checks, and receive good information about healthy start issues such as parenting and immunization.
- Universal Plus: families can access timely, expert advice from a health visitor when they need it on specific issues such as postnatal depression, weaning, or sleepless children.
- Universal Partnership Plus: health visitors provide ongoing support, playing a key role in bringing together relevant local services, to help families with continuing complex needs, for example when a child has a long term condition.

Source: The National Health Visitor Plan–Progress to date and implementation 2013 onwards. (Department of Health, 2013), p. 8.

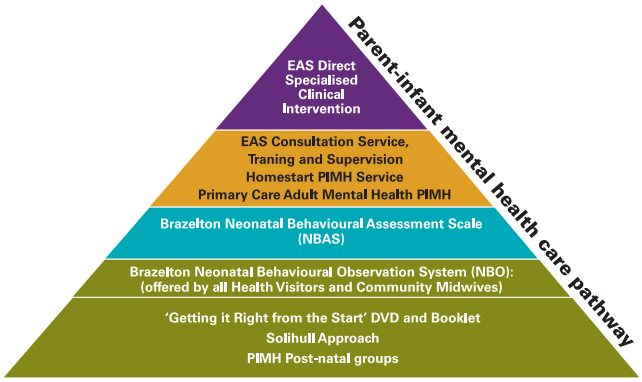
TAMESIDE AND GLOSSOP, GREATER MANCHESTER

Once NBO training started in the UK in 2009, the vision in Tameside and Glossop (which are boroughs in Greater Manchester in northwest England) was for all practitioners working with newborns to be trained in the NBAS and NBO. By 2011, all health visitors and nursery nurses and a significant proportion of hospital and community midwives in Tameside and Glossop were trained in the NBO, NBAS, or both (Lee, Kelly, Goodall, & Lancaster, 2014), so that supportive intervention with the NBAS and NBO provided part of their mental health pathway model. Dr. Pauline Lee, a clinical psychologist, spearheaded the NBO through the Early Attachment Service in Tameside (see Figure 1; Lee et al., 2014; Lee & Mee, 2013) where the focus is on the parent–infant relationship. This service model has now been replicated in another borough, Stockport. Unlike the service in Middlesbrough (north east England) and Devon, the NBO is carried out in Tameside, Glossop, and Stockport by the health visitor to all parents at the New Birth Visit, at 11–14 days old, and NBO-trained practitioners refer families to the NBAS-trained health visitor if the mother, baby, or both need extra support. The ideal ratio of 10 NBO health visitors to every 1 NBAS health visitor was achieved to provide support to the NBO health visitors during their training. Regular supervisions and monthly meetings take place for the staff.

AN INTEGRATED PROGRAM USING THE NBO

The Early Attachment Service (EAS) model is a guide to the different levels of support and intervention that are provided to the parent–infant relationship. The model is flexible and inclusive, and services are guided by the individual parent–infant needs. The content of the three color-coded levels of support are described next:

FIGURE 1. **Parent-Infant Mental Health Care Pathway and the Early Attachment Service Model in Tameside and Glossop**



Source: Reproduced with permission from *The Brazelton way: Embedding the Brazelton in parent infant mental health services* [poster], P. Lee, 2014)

1. Universal Support and Intervention: Green

All parents in Tameside and Glossop received materials including a DVD and booklet *Getting It Right From the Start* at their 20-week scan during pregnancy. The DVD and booklet (contributed to by the Brazelton Centre UK and based on the NBAS) describes newborn behavioral states, sleep, crying, and consolability of babies in the first 2 months of life (Tameside & Glossop Early Attachment Service, 2013; see Learn More box for similar resources). The evaluation of this service showed that most parents read the booklet and watched the DVD during pregnancy, and they adopted the concepts and the language with which to describe their baby's behavior postnatally (Lee, Foley, & Mee, 2013). The NBO takes place at the New Birth Visit. In addition, all parents take the Solihull approach parenting course for understanding their child's behaviour (Douglas & Bennan, 2004), and have access to mental health support groups postnatally.

2. Mild to Moderate Intervention: Amber

If any concerns are raised about the mother or the baby during the New Birth Visit and NBO session, families are referred to the EAS where the health visitor uses the NBAS to look in more detail at the baby's behavior. If applicable, parents are referred to adult mental health services and, if needed, a specialist senior mental health worker is appointed to coordinate the care of parents and infants. In these complex situations, there is close coordination between midwifery, health visitors, general practitioners, and EAS. However, for parents who do not engage with these community services, a non-governmental agency, Home Start, is involved. It supplies volunteer help in the home for 2 hours each week (Home Start, 2008) focusing on relationship education and child development to support parents and babies.

3. Direct Specialised Clinical Intervention: Red

Direct specialised clinical intervention is carried out by EAS when significant concerns regarding the mental health of the adult, infant, or both exists. Interventions include: Interaction guidance, video feedback, adult psychotherapy, and parent–infant psychotherapy. Families may receive a range of interventions depending on their needs, and there is no restriction on the length of time a family receives an intervention. Sessions are once a week or every 2 weeks.

PRACTITIONER'S ASSESSMENT OF NBO INTEGRATION INTO EAS

It's singularly been one of the only things that's given me enthusiasm in 20 years plus of practice, given me the language to discuss this with families.

Completely, it's put the quality back in there, definitely. It is the most qualitative part really, in every way shape and form. Not just about bonding, well it's about bonding you know, but it's about the fathers enjoying it, grandparents enjoying it, it's just like all this puts a smile on everybody's face and you know regarding siblings and you know their relationships, you can pick up so many different things; everybody enjoys it, there is never a negative.

Health visitors received a questionnaire assessing their use of and reflections on the NBO in their practice, with 41 of the 43 health visitors also completing a semistructured interview and a brief Likert scale. Results are summarized in Table 1, and they indicated the NBO has been a useful addition to the EAS program, especially to home visitors' working practice and knowledge of baby behaviour. As working with the parent–infant relationship can be difficult and sensitive, support of NBO-trained health visitors through regular interaction with team leaders and a psychologist could help to increase health visitor engagement, performance, and parent–infant outcomes. For these reasons, follow-up conference calls after Brazelton Centre training courses are now a regular part of NBO and NBAS training in the UK, USA, Australia, and Norway.

INTEGRATION OF EAS INTO HEALTH POLICY IN THE GREATER MANCHESTER AREA

Dr. Lee's work in Tameside and Glossop has had a positive outcome for the Greater Manchester area, as commissioners (the group who decide which trainings their health workers should undertake) have gained funding for NBAS and NBO training.

In 2014, the Association of Greater Manchester Authorities implemented a new strategy to develop parent–infant mental health services in the Manchester area, and bid for funding, including workforce development. Health Education North

TABLE 1. **Results From Questionnaire of Early Attachment Service Health Visitors Trained in Newborn Behavioral Observastion (NBO)**

Outcomes of NBO training and frequency reporting:		
Made changes to working practice	93%	
Used parts or whole of NBO in daily practice	95%	
Time as a factor inhibiting daily use of NBO	68%	
Requested refresher, update, or supervision in a NBO	80%	
Enhancement of specific knowledge areas:		
	z	*p*
Visual and auditory capacities in infants	-6.31	<0.001
Infant's response to stress	-6.04	<0.001
Improving parent–newborn relationship	-6.02	<0.001
Themes identified following NBO training		
positive experience	learning	communication
practice	service	attachment
evidence	time	confidence

Source: Adapted from *The Brazelton way: Embedding the Brazelton in parent infant mental health services,* P. Lee, L. Kelly, A. Goodall, & M. Lancaster (2014, June), Brazelton Day, Edinburgh, UK. Adapted with permission.

Photo: Joanna Hawthorne and baby during an NBAS session. With permission of K. Kurpinska

Some babies like to follow the red ball.

West also successfully bid for funding for NBO and NBAS courses to be offered to a number of health visitors across the North of England, based on Dr. Pauline Lee's Tameside and Glossop parent–infant mental health service model. Local authorities in the Greater Manchester area have now a unified model to promote social and emotional development of babies and children. Following this funding, there will be one NBAS-trained health visitor per team across 10 local NHS authorities in Manchester, and most health visitors will be trained in the NBO.

Greater Manchester Combined Authority (2014) has initiated an eight-stage assessment model from pregnancy to school, which is integrated between midwives, health visitors, early years professionals, and schools. The model includes the requirements of the HCP (2009) and uses the NBO and the *Ages and Stages Questionnaire 3* (Squires & Bricker, 2009). The model states that if there is need for additional targeted support, evidence-based interventions can be offered through a whole family approach and supported by assertive outreach from early years professionals. Examples of interventions used in this model include: the Incredible Years Parenting Courses (Scott et al., 2001); NBAS; Video Interactive Guidance (Kennedy, Landor,& Todd, 2010); and parent–child communication and language interventions. This process moved from multiple non–evidence-based assessments and interventions to an integrated and progressive series of assessments and interventions timed around crucial child development milestones that identify needs early.

Summary

It is clear that the UK government has made huge strides over the past decade toward developing policies supporting infant mental health and parent–infant relationships. These policies are now starting to be enacted through programs funded and implemented by NHS England, Public Health England, Health Education England, and the NHS Trust Development Authority. Much of the work to drive these policies came from decades of academic research and nonprofit sector advocacy on infant mental health. Patient groups, clinicians, and independent experts have also provided their advice to create a collective view of how the health service needs to change over the next 5 years if it is to close the widening gaps in the health of the population, quality of care, and the funding of services. The Brazelton Centre UK has also received instrumental support from WAVE Trust since 2011. In 2013, WAVE Trust, in conjunction with the Department of Education, published *Conception to Age 2: The Age of Opportunity*, emphasing the importance of the first 2 years of life regarding social and emotional development and recommending the NBAS and the NBO. The Brazelton Centre UK has pledged support for the 1001 Critical Days Campaign, a cross-party manifesto committed to ensuring that all babies have the best possible start in life (All-Party Parliamentary Group, 2013).

As of 2014, NHS England (2014a, 2014b) has recommended NBAS and NBO training for all health visitors working with babies in the first 3 months of life, although this training is not yet mandatory. Certainly, with the current understanding of the needs of parents and babies informed by research studies worldwide, training in baby behavior should comprise a mandatory part of the training curriculum for health

Learn More

Baby Stars
Contact Maggie Wood, maggie.wood@nhs.net

Healthy Child Programme: Pregnancy and the First 5 Years of Life
https://www.gov.uk/government/publications/healthy-child-programme-pregnancy-and-the-first-5-years-of-life

National Health Service
www.england.nhs.uk

More Than Words Can Say: Understanding a Baby's Language Through the Neonatal Behavioral Assessment Scale (DVD)
Support of Brazelton Centre UK and Johnson & Johnson Pediatric Institute (2004) Highpoint Productions Inc.
Available from Brazelton Centre UK: **www.brazelton.co.uk**

The First Relationship: Getting to Know More About Your Baby From Birth to 3 Months Old (DVD and booklet).
Tomorrow's Child for Brazelton Centre UK, (2012)
Cambridge University Hospitals NHS Foundation Trust, Cambridge, England
Available from Brazelton Centre UK: **www.brazelton.co.uk**

Wirral Child Health and Development Study: First Steps
J. Hill, H. Sharp, & A. Pickles(2006).
www.liv.ac.uk/psychology-health-and-society/research/first-steps

professionals, let alone part of their repertoire of skills when working with parents and babies.

Joanna Hawthorne, PhD, is is a psychologist at the Brazelton Centre UK. Her doctoral study at the University of Cambridge was about parent–baby relationships in neonatal units. She later worked there as a senior research associate after working in Chicago. She is an international trainer in the Neonatal Behavioural Assessment Scale (NBAS), and the Newborn Behavioural Observations (NBO). She trained in the Touchpoints Model, and received an infant specialist certificate from the Erikson Institute, Chicago. Since 1997, she has been the CEO of the Brazelton Centre UK.

She is a council member of the Maternity and Newborn Forum, Royal Society of Medicine, a committee member of the Association for Infant Mental Health (UK), a peer reviewer, and an invited speaker and author.

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Let's Meet Your Baby as a Person: From Research to Preventive Perinatal Practice and Back Again, With the Newborn Behavioral Observations

Susan Nicolson
Royal Women's Hospital
Melbourne, Australia

ABSTRACT

This article describes efforts of an Australian tertiary maternity hospital to translate infant mental health research into preventive perinatal and early parenting practice. Clinical practice confirms what is known in the literature: For expectant parents, there can be myriad obstacles to adapting successfully to parenthood and forming a relationship with the baby that best supports development. Research showing that even very brief interventions may make a difference prompted a search for something evidence-based, feasible, and potentially useful in hospital or community settings that warranted further research and led to the Newborn Behavioral Observations system (NBO). The hospital trained staff in its use and instigated a national training and research program via "NBO Australia at The Women's." The authors discuss the successes and challenges to date, effects for professionals and families, further research, and the interest generated around the country.

It was a real surprise the way she interacts with me. You're not expecting her to smile when you look at her and cute little stuff like that. And you go "Hey, that was a smile!" It's fun trying to read the kind of expressions she has on, and how she's feeling. Sometimes she's got a bit of a confused look, like "I'm not that happy," or "yes, but that wasn't that funny," or "I don't know, I think I'm a bit hungry?"

It's amazing, and like when she's feeding and she looks up at you and there's this really deep connection . . . . —A 15-year-old mother reflects on her experience of getting to know her newborn daughter at The Royal Women's Hospital.

Nearly 8,000 newborn babies each year spend at least their first few hours or days, sometimes months, of life at the Royal Women's Hospital in Victoria, Australia (Royal Women's Hospital, 2015a). This is the place they first "meet" and begin to get to know their parents and siblings. This article describes how this busy public obstetric hospital with a national reputation for excellence and innovation came to accept as core business that it should research and offer manageable, effective, attachment-based, developmental support to new parents and their babies who may be otherwise at risk or "hard to reach" (Baruch, Fonagy, & Robins, 2007).

The first 3 months of life are disproportionately important in setting a person's developmental trajectory. That trajectory depends heavily on the quality of relationship that new parents are able to form with their baby (Beebe et al., 2010; Sroufe, 2005). Supporting the very early parent–infant relationship is, therefore, an important intervention focus for service providers, policymakers, and those who care about the healthy development of infants and toddlers.

Successfully adapting to parenthood involves forming a "good-enough" relationship with babies in the first days, weeks, and months that supports their development while maintaining or enhancing one's own well-being (Slade, Cohen, Sadler, & Miller, 2009; Winnicott, 1953). However, for some parents and their babies, things can get in the way and can make a good-enough relationship elusive without professional help (Slade et al., 2009). At a tertiary obstetric hospital in a large multicultural city, those "things" can include early attachment trauma; current or past abuse; refugee-related trauma; parenting in a new culture; parenting with a learning disability; medical concerns in pregnancy affecting the mother or baby's well-being; substance dependence; family conflict or violence; lack of support; depression, anxiety, or other mental illness; younger or older parenthood; premature birth; and unanticipated birth complications, and the list goes on.

A small-scale psychiatric liaison service had operated alongside the social work service at the hospital for many years, but in 2006,

philanthropic seed funding permitted the hospital to enhance its perinatal psychosocial support by establishing the Centre for Women's Mental Health and announcing a new clinical director position in a joint professorial appointment with the University of Melbourne's Department of Psychiatry (Pro Bono Australia, 2013). Shortly thereafter, a highly regarded infant mental health clinician, educator, and psychotherapist from the nearby Royal Children's Hospital joined the team. A quiet cultural shift began, with introductory infant mental health talks for staff; attendance at the weekly meeting of the neonatal intensive care team; and forging relationships with the lactation consultancy team, the social work team, and the substance dependency pregnancy clinic. The clinical referrals began.

Furthermore, with infant mental health expertise now in house for the first time, and against a backdrop of overstretched child protective services across the state, the hospital became interested in responding to local and international research on the importance of infant attachment and preventive attachment-based interventions (Baruch et al., 2007; Berlin, Zeanah, & Lieberman, 2008).

That body of international research suggested that, although some features that adversely affect the parent–infant relationship may not be easily and directly addressed (e.g., poverty, educational attainment, and poor social support), attachment interventions can support the mother–infant relationship, infant attachment, and child development in vulnerable populations; notably, even brief, preventive interventions may be effective (Berlin et al., 2008; Ciccetti, Rogosch, & Toth, 2000, 2006; Cooper et al., 2009; Juffer, Bakermans-Kranenburg, & van IJzendoorn, 2007; Moran, Pederson, & Krupka, 2005).

An Attachment Intervention for Adolescent Mothers

In 2009–2012, a PhD research project at the hospital tested a very brief preventive attachment intervention that focused on supporting pregnant adolescents and their babies. The rationale was that pregnant adolescents face a greater challenge in successfully adapting to parenthood, compared with adults, for developmental and several other reasons (Berlin, Brady-Smith, & Brooks-Gunn, 2002; Crugnola, Ierardi, Gazzotti, & Albizzati, 2014; Lounds, Borkowski, Whitman, Maxwell, & Weed, 2005; Luster & Brophy-Herb, 2000; Luster & Haddow, 2005). A small research base suggested that adolescent mothers might accept, and benefit from, a brief intervention with a mother–infant relationship focus as part of their perinatal care (Bruschweiler-Stern, 2000; Nicolson, Judd, Thomson-Salo, & Mitchell, 2013). Some studies had used techniques pioneered by Brazelton (Brazelton, 1973; Cardone, Gilkerson, & Wechlser, 2008; Field, Dempsey, Hallock, & Shuman, 1978; Helfer, 1987; Widmayer & Field, 1980). Evidence was limited to mostly short-term studies in small populations (Black & Teti, 1997; Field et al., 2000; Hart, Field, & Nearing, 1998; Koniak-Griffin, Verzemnieks, & Cahill, 1992; Widmayer & Field, 1980), but not exclusively (Moran et al., 2005).

Photo courtesy of the Royal Women's Hospital

Nearly 8,000 newborn babies each year spend at least their first few hours or days, sometimes months, of life at the Royal Women's Hospital in Victoria, Australia.

With this small, positive evidence base in mind, the two-session Adolescent Mothers' Program: Let's Meet Your Baby as a Person (AMPLE) intervention was developed for pregnant adolescents receiving maternity care at the hospital. The AMPLE intervention is elaborated elsewhere (Thomson-Salo, 2013). In brief, the intervention aims to influence the quality of mothers' interactions with their baby by helping them to see their baby as a person who wants to connect with them, by helping them to notice and reflect on the meaning of their baby's behavior, and by helping them enjoy each other from the beginning. AMPLE was developed and tailored for adolescents in consultation with a peer support worker to fit with routine maternity visits, to be deliberately brief, to be informal rather than didactic, and to have a simple message.

The antenatal small-group episode involves a 45- to 60-minute movie session to watch and discuss six brief film clips about the social capacities of newborn infants, their urge to connect, the importance of comforting a crying baby, negative feelings that may arise in being with a crying baby, and managing these feelings. The 30- to 60-minute individual neonatal episode builds on the antenatal session. It is both a reflective conversation and a direct interaction with both baby and mother and is based on the approach to infant–parent work developed over many years at the Royal Children's Hospital in Melbourne (Thomson-Salo & Paul, 2007). The AMPLE neonatal session includes elements of the Newborn Behavioral Observations system (the NBO) to various

Photo: Matthew Lee

The Newborn Behavioral Observations provides a welcome, sensitive structure for direct engagement with infants to support their relationship with their parents.

degrees, with the aim of clinician and mother meeting the baby together and understanding her as a person through discussing the baby's perceived likes and dislikes in the first few days of life and through noticing and reflecting on the baby's behavior, connection, and communication to her mother in the moment. (Nugent, Keefer, Minear, Johnson, & Blanchard, 2007; Thomson-Salo, 2013). Partners and other important supporting people are often also involved in the session.

The PhD study used the AMPLE intervention to determine whether a brief attachment intervention, added to routine hospital maternity care, might assist pregnant adolescents in adapting to motherhood by improving the quality of the relationship they are able to form with their infant (Nicolson, Judd, Thomson-Salo, & Mitchell, 2013). The study used a pretest–posttest control group design. The combination of usual maternity care in the Young Women's Program at the hospital plus a mother–infant relationship focus (AMPLE) in an intervention group was tested against usual maternity care alone in the Young Women's Program in an age-matched control group. Of 117 eligible adolescents, 97 agreed to participate (response rate, 82.9%), and 73 completed the study (retention rate, 75.3%). Intervention group participants received the two-episode AMPLE intervention in addition to usual care in late pregnancy and just after the birth in hospital. An infant mental health clinician provided the intervention, but AMPLE was designed to be offered by multidisciplinary professionals after a brief training.

The mean age of the study population ($N = 97$) was 18.8 years (range = 15.7–20.9). Of the participants, 72 (74.2%) were born in Australia or New Zealand. The remaining 25 were born in 16 different countries. AMPLE intervention recipients scored significantly better on the Emotional Availability (EA) scales for parent–infant relationship than control-group participants did (Biringen & Easterbrooks, 2012; Biringen, Derscheid, Vliegen, Closson, & Easterbrooks, 2014). EA subscale scores were significantly better in both reduced negative maternal behaviors (hostility and intrusiveness) and increased positive maternal behaviors (sensitivity). Inclusion of a 2-minute separation–reunion episode at the end of 20 minutes of free play enhanced discrimination between control and intervention groups (Biringen et al., 2014). Medium-to-large effect sizes suggested that the differences were clinically valuable, not just statistically significant. All remaining subscale scores, apart from maternal structuring, were better for the intervention group, but the differences were not significant (Nicolson et al., 2013).

Therefore, this modest study at the Royal Women's Hospital established that the AMPLE intervention was an acceptable form of support for the population and established a positive relationship between receipt of the support and mother–infant relationship quality in a real-world setting and in a multicultural population that is hard to reach. As one participant put it, "I liked that, even when everything else was scary." Although it wasn't measured, there was a sense that through being enjoyable, the AMPLE intervention opened adolescent minds to wondering about their baby's experience (Thomson-Salo, 2013). A follow-up, cluster-randomized controlled trial is needed to replicate the findings, confirm causality, and assess the intervention elements effecting change. Such a trial would ideally extend until the baby is 12 months old to assess infant attachment and development and would assess mothers' mentalization capacity (the ability and tendency to treat their baby as a psychological agent; Sharp & Fonagy, 2008). Nonetheless, the study added to international evidence for the effectiveness of brief, preventive, perinatal attachment interventions (Berlin et al., 2008; Koniak-Griffin et al., 1992; Moran et al., 2005).

Implications

The implication for the study site and for maternity services more broadly was that incorporation of a brief, evidence-based relationship focus into the routine care of vulnerable Australian families as they adapt to parenthood has the potential to influence the parent–infant relationship and, thereby, their infants' developmental trajectory.

Here was preliminary local evidence that attachment support should be part of maternity care. Furthermore, here was a level of support the hospital could manage that might be enough of an intervention at times, that might form a contribution to a more comprehensive infant–parent mental health support package, or that might act as both neonatal intervention and screening tool to target those families needing more.

The study findings were published and were presented to the hospital's executive board. With the consent of a small number of study participants, some video snippets of mother–infant interaction were shown to board members at that meeting. The videos of young mothers and their babies interacting with each other at home proved as much of a call to action as the study findings did. Some mother–baby dyads were highly emotionally available to each other, with mutual regulation and moments of shared meaning making and mutual delight obvious at 4 months old, whereas others were clearly struggling. As one board member put it, "We don't usually see what happens to families after we help them get through pregnancy and birth safely. I was so moved, I had to ring my mother and talk about it."

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ZERO TO THREE®
National Center for Infants, Toddlers, and Families

THIS DECEMBER, the attention of the infant-family field will shift to Seattle, Washington, as ZERO TO THREE presents the **30th National Training Institute** (NTI).

This year's program promises to be one of the most comprehensive and exciting NTI conferences ever as we focus on the current science, policies, and practices surrounding early childhood development.

Whatever your role, whatever your interests, if you are involved in early childhood development this is *the* event you need to experience in person. A full schedule of pre-institutes, plenary sessions, breakout sessions, issue intensives, poster showcases, and exhibitions—spread out over three days—are sure to keep you thoroughly engaged, energized, and eager to put what you learn into practice.

Not only will we be delving into what lies ahead, we will use the occasion of the 30th NTI to look back on how far the field has come since the first NTI.

Here's a preview of what attendees can look forward to:

The backdrop for the 2015 NTI is Seattle, Washington, an exciting and progressive metropolis surrounded by incredible natural beauty. With boundless entertainment, a vibrant arts and culture scene, world-class shopping, amazing cuisine, and unmatched sightseeing, Seattle is a truly unique destination that proudly offers something for everyone. All NTI sessions, the Opening Reception, and the Marketplace will be held in the Washington State Convention Center—a superb meeting facility conveniently located in the heart of downtown Seattle.

PRE-INSTITUTES

Kick off your conference experience by attending one of the day-long pre-institutes being offered in advance of the regular sessions. Each of these training experiences is a comprehensive deep dive into some of the hottest topics coursing through the infant-family field.

Reflective Practice and Supervision

Early Childhood Mental Health Consultation

Workforce Development

Infant Mental Health

Child Welfare

PLENARY SESSIONS

The NTI conference is known for the quality of its speakers, and this year the bar has been raised to new heights. Each of our plenary sessions will feature an address by one or more noted authorities whose experiences, insights, and outlooks will both inform and inspire you.

KEYNOTE PLENARY
Nadine Burke Harris, MD

SCIENCE PLENARY
Patricia Kuhl, PhD, and Andrew Meltzoff, PhD

POLICY PLENARY
Larue Allen, PhD; Cheryl Polk, PhD; and Ross Thompson, PhD

PRACTICE PLENARY
Alicia F. Lieberman, PhD

SPOTLIGHT PLENARY
Seattle Mayor Ed Murray; Washington State Representative Ruth Kagi; and Sam Whiting, EdD

30TH MILESTONE CELEBRATION PLENARY AND RECEPTION

A roundtable discussion by visionaries who have shaped the infant-family field.
***Brenda Jones Harden, PhD**, will facilitate dialogue between pioneers:*

Sam Meisels, PhD | **Dodie Norton, PhD** | **Jeree Pawl, PhD** | **Kyle Pruett, MD** | **Arnie Sameroff, PhD**

ISSUE INTENSIVES

Attendees will have the opportunity to immerse themselves in some of the most important subject areas impacting early childhood development as ZERO TO THREE offers up the 2015 edition of its popular issue intensives. These powerful workshops—each 3.5 hours—provide an in-depth look into the research, findings, and strategies that are defining current thought and practice in our field.

Mindfulness Based Self-Compassion

Equity and Cultural Competency

Play in Interventions for ASD

Collective Impact in Indigenous Communities

Lesbian and Gay Parents and Their Children

Engaging "Hard-to-Reach" Populations

Trauma Informed Practices

Child Development and Nutritional Interventions

www.zttnticonference.org

REGISTER NOW AND SAVE!

BREAKOUTS

With the pre-institutes, plenary sessions, and issue intensives forming the building blocks of this year's conference, nearly 70 breakout sessions serve to bind everything together. No matter your focus or interest, you're sure to find plenty of sessions to pique your curiosity and satisfy your thirst for knowledge. A very brief sampling of scheduled topics includes:

- **Work with Immigrant and Refugee Families**
- **Signs of Emerging Autism**
- **Trauma-Informed Practices**
- **Court-Community Collaborations**
- **Prenatal Alcohol Damage**
- **Reflective Practices**
- **Parent Engagement**
- **Infant Mental Health**
- **Early Childhood Mental Health Learning**
- **Postpartum Depression and SIDS**
- **Executive Functioning**
- **Early Interventions**

Make Plans Now to Attend the

30th National Training Institute

December is not far off and neither is the 2015 NTI!

Cap off your year by attending the most anticipated early childhood development conference of the year. Want to enter 2016 on a high note? This is the perfect opportunity. The 30th NTI will set the stage with information, insights, and takeaways guaranteed to enlighten, engage, and excite.

Preliminary program details are available at
www.zttnticonference.org

QUESTIONS?
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SPECIAL TRACK SESSIONS

Mindful of the many professionals working with special populations, ZERO TO THREE has expanded its 2015 NTI program offerings with sessions specifically targeted at these individuals. In addition to a Spanish track which was first introduced last year, two new tracks have been added which feature relevant, high-quality, and culturally competent professional development opportunities for those serving the tribal and military communities.

TRIBAL TRACK

- **Practices that Strengthen Attachment**
- **Collective Impact in Indigenous Communities**
- **Reflective Supervision Model**
- **Developing Early Care and Education Leaders**
- **Home Visiting Partnerships**

MILITARY FAMILIES TRACK

- **Parenting App for Military Families**
- **Engaging Military Fathers**
- **Military Pediatric Training Program**
- **Courts and Child Welfare Collaborations**
- **Video-Conference Early Intervention**
- **Parent-Child Interaction Therapy**

SPANISH LANGUAGE TRACK

- **Child-Parent Psychotherapy**
- **Videotape as a Strength Based Approach**
- **Myths About Infant Mental Health**
- **Toddler Self-Regulation**
- **Quality Child Care Settings**

In addition to these Spanish track sessions, each of the plenary sessions will be interpreted for the Spanish-speaking audience and a dedicated Spanish language registration and information desk will be open throughout the conference.

ADDITIONAL EVENTS

Make your time at the conference even more productive by attending the NTI Marketplace where you can visit with more than 85 exhibitors showing off their latest products and services.

You will also want to attend the popular Poster Showcase where you can see and talk with presenters eager to discuss their work.

CONFERENCE HOUSING

A block of rooms has been reserved at the Seattle Sheraton for NTI attendees. The hotel offers many amenities and is steps away from many of the attractions that make downtown Seattle buzz. Call 1-888-627-7056 for more information and reference ZERO TO THREE.

SPONSORSHIP OPPORTUNITIES

Sponsorship at the 30th NTI is an exceptional way to show your support while using the occasion to gain exposure, increase brand awareness, and network with high-level professionals throughout the early childhood development field. For more information, email ntiinfo@zerotothree.org

EARN CONTINUING EDUCATION UNITS (CEUs)

The 30th National Training Institute is an excellent place to gain Continuing Education Units (CEUs). Credit is cosponsored by ZERO TO THREE and The Institute for Continuing Education. The conference will offer a total of 21.5 contact hours.

The hospital had set the following objectives in its strategic direction for 2011–2015: to develop innovative models of care for women and newborns, to promote a healthy start in life for babies, to expand programs in prevention and early intervention, and to expand the reach of models of care and programs into external agencies (The Royal Women's Hospital, 2011). Following the board meeting, the CEO invited the director of the Centre for Women's Mental Health to put forward a business case for the introduction of ready-to-go, replicable, attachment-based support that would be applicable to diverse families with affordable training for professionals at the hospital. The NBO was an obvious choice: a newly developed relationship-building tool inspired by the Neonatal Behavioral Assessment Scale (NBAS) that was already being used in several countries (Brazelton 1973; Brazelton & Nugent, 1995) . It could be used flexibly, and it would potentially fit with existing maternity and neonatal care as well as with community-based programs, with early evidence of its effectiveness for diverse families, and a manageable training program (Nugent et al., 2007). A few infant mental health professionals in Melbourne were already familiar with it, having attended training in Melbourne in 2010 with Professor Nugent. Thus, "NBO Australia at The Women's" was born as a joint venture between the Royal Women's Hospital, the Royal Children's Hospital, and the University of Melbourne (The Royal Women's Hospital, 2014). The first training for invited multidisciplinary professionals from Victoria and Tasmania was held in June 2013, facilitated by the newly appointed faculty of NBO Australia at The Women's, under the guidance of Professor Nugent (Nugent, 2013). The five faculty members hailed from diverse training backgrounds, including child and adolescent psychiatry, general practice, clinical psychology, and psychoanalytic psychotherapy, but all had infant mental health expertise.

Implementing NBO Australia at The Women's

NBO Australia at The Women's set out to offer regular, affordable training workshops for organizations and individuals working with newborns and their parents across Australia and New Zealand; to use the funds raised from those trainings to fund part-time NBO teaching, mentoring, and clinical salaries for the faculty; to support introducing the NBO as part of routine care for targeted vulnerable patient groups; and to support its use as indicated for new mothers (and their families), identified as at risk or struggling, at the hospital and elsewhere. In other words, the hospital had a broad vision for their new initiative, but at the same time, government budget constraints in the aftermath of the global financial crisis and the loss of many significant sources of philanthropic grants and support meant that NBO Australia at The Women's had to limit set-up costs and prioritize its activities to be financially self-sustaining from the outset. It is probably worth describing next how exactly this was done, as it seems likely that individuals as well as organizations around the world may have similar ambitions and face similar difficulties.

Two members of faculty were flexibly employed 1.5 days/week in total. In the first year, they focused on providing introductory

Photo: Matthew Lee

Supporting the very early parent–infant relationship is an important intervention focus for service providers, policymakers, and those who care about the healthy development of infants and toddlers.

talks to hospital staff and at conferences and meetings around the country to raise awareness of the NBO, using the NBO in their own clinical work at the Royal Women's and Royal Children's hospitals, building a video library of NBO sessions with families for teaching purposes, offering six training workshops in the first year to 135 professionals, providing posttraining mentoring, evaluating the training, refining the course content and mentoring approach, and reporting to the international Brazelton Network on their activities in July 2014 (Paul et al., 2014). Feedback from trainees was strongly positive. Trainees' confidential comments immediately after training tended to mirror those quoted by Joanna Hawthorne in this issue, (p. 21); NBO training was found to be engaging and enjoyable and to be a valued enhancement to people's professional toolset. Early reports of the effect of the NBO for families who had one or more sessions with a trainee or with newly certified NBO clinicians were similarly encouraging and, at times, profound.

> *The NBO had a particular impact for me when a father who is illiterate and non-English speaking with many mental health problems saw his son turn his head toward him when he spoke to him.*

> *I was supporting a family with having skin-to-skin time. A very preterm baby, first-time cuddle. The parents were very scared, understandably. I discussed with the parents the process of taking their baby out of the incubator and the potential stress it can cause and also the positive effect cuddle time will have on their baby and themselves . . . .at the end of the transfer I sat with them and watched their baby slowly but surely open his eyes [for the first time] in the kangaroo position on Mum's chest with a mirror for her to see and discussed with them how amazing their baby was, that he was able close his eyes and focus on being safe and comfortable until he was ready to be organized and that this was his ability to block out the world until he was ready,*

Photo: Matthew Lee

Maternity hospitals and perinatal services help build families. They have unique access to families at a unique time in their lives, and they have the skills to identify those at risk.

and with her help, touch, voice and love, it supported him to open his eyes. They were so very grateful for this time and to visualize what it meant for their baby to open his eyes knowing they had protected him and that he was amazing at such a young age. Unfortunately he later passed away, but I hope that they have that memory with them always.

During the training workshops, some individual trainees and organizations mourned the fact that "we don't see enough of our families young enough," and this drove group discussions on enhancing referrals and collaboration between services. Other organizations or individuals working in short- or long-term home visiting and other support programs with vulnerable families commented that here was a valuable addition, something they could "do" in the early critical weeks to help bring parent and baby together and that could act as a theoretical scaffold for their efforts to help parents to understand their baby as a person, with his own emotional experience and needs, and to care for their baby sensitively. Psychologists and psychiatrists sometimes expressed concerns about their confidence in, and the appropriateness of, touching or holding the baby, whereas others described the NBO as providing a welcome, sensitive structure for direct engagement with infants to support their relationship with their parents (Paul, 2015). Workshop discussions were therefore highly interactive and, at times, touched deeply on the nature of what the baby contributes, what the professionals bring, and what they are therapeutically doing (Paul, 2015).

THE IMPACT OF TRAINING ON PRACTICE

Thanks partly to existing relationships in the multidisciplinary arena of infant–parent mental health in Australia, word spread, and since July 2014, a further seven NBO training workshops have been offered, and more than 250 professionals have undertaken training to date, including 50 Royal Women's Hospital staff. At 2–24 months after NBO training, early interim responses (n = 64) to a survey sent to 250 clinicians in June 2015, examining the impact of training on their practice, show that, although 10% rarely see newborns, only 7% had not used the training in their practice. In contrast, 73% of respondents routinely discuss NBO concepts with families, 31% are more likely to ensure that they meet baby and parent(s) together, and 8% had completed more than 50 NBO sessions. Respondents reported that the NBO had been useful in families with a wide array of challenges to parent–infant relationship quality, including parents with mood disorder, parents living with substance abuse, young parents, new migrants, parents with preterm or sick babies, and families who have experienced the previous death of a child.

Increasingly—as in the United Kingdom and Norway, described in this issue (Hawthorne, this issue, p. 21; Slinning & Vannebo, this issue, p. 40)—the faculty has been "on the road," as local organizations around the country have purchased an entire training workshop for their staff, and smaller scale organizations have collaborated to fund a workshop between them. This arrangement has helped the faculty to see local services firsthand, discuss in situ the role that the NBO might play in the care of local families within the framework of existing models of care, and offer tailored mentoring to services as they make that change.

This mobile training model, whereby the Royal Women's Hospital provides expertise well beyond its walls, has significant advantages for regional services in a vast, relatively sparsely populated continent such as Australia, with its "tyranny of distance" (Blainey, 1967). Regional services have historically struggled to lure experts to visit and provide professional development for their staff closer than in the six major cities, and organizing events or trainings in those cities is costly, not least because of the need for long-distance transport and overnight accommodation. Not only were efforts to provide local NBO trainings well received in terms of the content, but there was also overwhelming gratitude expressed that the faculty was, and still is, willing to bring the training to them, and there has been a rewarding side effect that morale has been lifted for those doing challenging but important work in regional and isolated communities. In one case, the Goulburn Valley local community fund, which is directly supported by local residents' fundraising efforts and regularly invites small grant submissions for consideration, paid for the NBO training workshop, and a celebratory photo appeared in the local newspaper.

BUILDING COMMUNITY INTEREST

Community interest in, and awareness of, this way of working with families in the newborn period grew in a short space of time, under the leadership of the CEO and two successive directors of the Centre for Women's Mental Health at the hospital. That community interest led to philanthropic support from the annual National "Liptember" fundraising event for women's mental health from early 2014. This philanthropy permitted NBO Australia at The Women's to continue to train NBO clinicians but also to begin focusing more on embedding the NBO in practice, on better supporting trainees, and on designing research projects to evaluate its effect on parents and

families (Liptember, 2014; NBO Australia, 2015; O'Connell, 2015; The Royal Women's Hospital, 2015b).

In addition, in 2013–2014, the Royal Women's Hospital was invited by the Victorian Government to develop and evaluate a parenting kit for all Victorian families (Department of Health and Human Services, 2014a). The kit consisted of written health information, a baby reader, and mobile application software (or "an app") for smartphones. With input from the Centre for Women's Mental Health and NBO Australia at The Women's, the kit included a strong focus on perinatal mental health and infant mental health and included brief videos following six diverse families throughout the child's first year of life, with a focus on topics such as "Your Newborn: Wanting to Connect With You," "Feeding With Love," "Becoming Close: Conversations Before Words," "Sleeptime: Settling With Love," and "Giving Comfort When Baby Is Unsettled." Among other things, this project provided an opportunity to effect a cultural shift and to embed into evidence-based health information practice the principles on which the NBO is founded—those of reading and understanding the baby's behavior to promote sensitive caregiving and, thus, development. The acceptability and effect of the kit is the subject of a current Victorian Government-funded randomised controlled trial with 500 first-time parents (Department of Health and Human Services, 2014b).

Efforts began in 2014 to move beyond training individual staff in the NBO toward cost–benefit analyses and feasibility studies of embedding the NBO as a routine part of its models of care for vulnerable groups such as mothers with mental illness, substance-dependent mothers, mothers with special needs, and the Young Mothers' Program at the Royal Women's Hospital. To date, there are pockets of success, largely driven by dedicated individuals, and there is a long way to go. Since February 2015, funds have permitted the faculty to increase time allocation to this and to research projects.

There is an urgent need for research that builds on the preliminary studies of the effectiveness of the NBO in different settings around the world and with families facing diverse challenges (Nugent, Dym-Bartlett, & Valim, 2014; Sanders & Buckner, 2006). The benefit for the hospital of having chosen a brief, adaptable intervention approach that had already been adopted elsewhere, and that continues to generate interest in both developed and developing countries, is that with the gift of philanthropic support, it now has the chance to properly test its service innovation for vulnerable families, an opportunity that is enhanced by the potential to collaborate internationally in high-quality research (Brazelton Institute, 2015). One project currently in the planning phase is a randomized clinical trial at the Centre for Women's Mental Health to test whether the NBO provided to babies with mothers who had depression symptoms identified in pregnancy reduces the risk of a diagnosis of postnatal depression and improves the mother–infant relationship at infant age 4 months. The second project is a randomized clinical trial of the NBO as support intervention for families preparing to leave the neonatal intensive and special care unit that is planned by a neonatology fellow. The third project is a mentoring and support project involving the faculty of NBO Australia at The Women's that will see the NBO embedded in an Early Years program of wraparound services across five regional Aboriginal organizations in the State of Victoria and will examine acceptability and perceptions of the NBO with Aboriginal families and their support workers. The Early Years program adopts an attachment approach from conception and aims to increase staff capacity to deliver infant mental health support but also specialized services in trauma, mental health, and domestic violence (Mallee District Aboriginal Service, 2014).

Conclusion

Maternity hospitals and perinatal services help build families. They have unique access to families at a unique time in their lives, and they have the skills to identify those at risk. Maternity services have historically understood the common sense of, and the value for money presented by, preventive obstetric and pediatric interventions. A small but growing body of research on the NBO and the experience of the Royal Women's Hospital in Melbourne suggests that they could and should now adopt such a preventive approach to parent–infant relationships. By training staff and by implementing and testing evidence-based practices to support the mother–infant relationship as part of antenatal care, childbirth education, neonatal care, and the psychosocial support they offer, hospitals could establish an "attachment-friendly" culture broadly, just as World Health Organization/UNICEF-accredited "Baby-Friendly" hospitals have established practices to support breastfeeding (Phillipp & Merewood, 2004).

Furthermore, the experience of the Royal Women's Hospital suggests that such efforts should not stay within the hospital walls. Tertiary maternity institutions should be generous with their expertise and forge strong links with the multidisciplinary professionals and organizations that care for young families in communities around the country. Such an approach can have a two-way benefit and be an inspiration to all.

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Susan Nicolson, PhD, MBBS, MRCP (UK), FRACGP, DRANZCOG, is senior medical staff, Centre for Women's Mental Health, Royal Women's Hospital, Melbourne, Australia. Her role at the Centre for Women's Mental Health is in the provision and research of services to support the well-being of vulnerable women and their families in the transition to parenthood. Her work has included families from diverse demographic and psychosocial backgrounds, and pregnant and parenting adolescents in particular. Before undertaking her PhD project with pregnant and parenting adolescents in 2008–2012, she worked as a general practitioner in the community, including several years at an inner-city community health centre, specializing in the care of refugee and culturally and linguistically diverse families.

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The Training of Infant Mental Health Practitioners: The Norway Experience

Kari Slinning
University of Oslo
The National Network of Infant Mental Health
Oslo, Norway

Unni Tranaas Vannebo
The National Network of Infant Mental Health
Oslo, Norway

ABSTRACT

Today the infant mental health field includes a multidisciplinary team of practitioners with very different training and education needs. Implementation research has shown that appropriate training is a key factor for successful outcomes of an intervention and that supervision and coaching are crucial. All professionals who work with young children and their families need appropriate training to provide family-centered, diversity-informed, and developmentally appropriate services across the continuum of infant–family mental health. This article describes a comprehensive teaching and supervision model for mastering the core elements in the Newborn Behavioral Observations system that has been developed over the 2 last years in Norway.

The field of infant mental health has evolved rapidly since the first First World Congress on Infant Psychiatry was held in Cascais, Portugal, in April 1980. Since that time, practice and research on the first 3 years of life, on newborn and early behavior, on parent–child interactions, on attachment, on factors that influence early brain development, and on intervention have radically changed clinical practice with infants and their families. Research and practice have not only expanded the knowledge base but have also changed the field's understanding of the kind of training required for practitioners who work with infants and families today. Developing the next generation of infant mental health clinicians is a critical challenge for all of those who offer training to practitioners who work with infants and families. Action is therefore imperative to reduce the burden of mental health problems in future generations and to allow for the full development of vulnerable children worldwide.

In the not too distant past, infant mental health practitioners both in the United States and in most European countries tended to be social workers, psychologists, and psychiatrists (Weatherston, 2000). Most were trained in a psychodynamic approach to mental health treatment for adults and children, which they adapted to meet the needs of infants, toddlers, and their parents. Today the infant mental health field includes a multidisciplinary team of practitioners with very different training and education needs. In Norway, for example, the field of infant–family mental health is an interdisciplinary field of study, research, and practice that focuses on the social–emotional development and well-being of infants and young children within the context of their early relationships, family, community, and culture.

The Norwegian National Network for Infant Mental Health (the National Network) was established by the Norwegian health authorities in 2006 to promote optimal mental health for infants from birth to 3 years old by providing early intervention services to all at-risk infants and their families across the country. Norwegian researchers and clinicians work together in this common endeavor. To achieve this goal, the National Network (a) conducts research projects, (b) stimulates and supports field practice, (c) evaluates field practice, and (d) spreads knowledge about infant mental health and early child development. The Network also offers seminars, conferences, and training in assessment, evaluation, and treatment of children in the birth to 3 age group. The National Network training programs are built on knowledge derived from the implementation of research (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005).

In November 2012, the Norwegian Newborn Behavioral Observations (NBO) training site was set up as part of the National Network. The NBO site is integrated into the Research and Implementation Unit, and the head of the Research and Implementation Unit is responsible for the training and implementation program of the NBO in Norway. Established 2½ years ago, the NBO site currently has seven trainers (four certified trainers and three in training), which include the director or head of training (a child psychologist and researcher), a national coordinator (a public health nurse), and four additional NBO trainers (one child psychologist and three nurses with extensive experience working in neonatal intensive care units [NICUs], well-baby clinics, or both). The long-term plan is to have a team of two trainers in each of the four regions of Norway (South-East, West, Mid, and North).

The First Experiences With NBO Training in Norway

The first three NBO courses offered by the National Network in Norway were conducted according to the training guidelines laid down by the Brazelton Institute NBO Training program in Boston. The National Network announced the upcoming NBO courses on their website, with an open invitation to all health practitioners who were interested in the field of infant mental health. Practitioners from all over the country responded. Those attending were public health nurses (health visitors), psychologists, midwives, neonatal nurses, physiotherapists, and doctors. The training method in these 2-day courses consisted of a mixture of passive and active learning modules, including didactic lectures, different kinds of experiential learning such as video observations, one live observation of a NBO session with a newborn and her parents, and one section which involved practicing skills with dolls. To become certified in the NBO, trainees were required to conduct NBO sessions in their own settings and to submit five completed NBO recording forms according to the NBO system. They were required to ask parents to complete five parent questionnaires, to gauge how much the parents learned about their baby through the NBO session and to see how much confidence and trust they had in the NBO clinician.

Based on the post-NBO training evaluations, participants reported that they were very positive about the training, making comments such as: "highly relevant content," "increased knowledge," "high quality lectures," "positive attitude to the method". The vast majority confirmed that they wanted to use the NBO system in their practice and that it was important to them to become certified in the use of the NBO. However, 6 months later, a follow-up evaluation by the National Network revealed that just a handful had succeeded in completing the certification program and many felt they were making little progress in the process toward certification. They described a number of obstacles in reaching their goals. Firstly, the majority of the participants came on their own to the NBO course and thus they did not have a colleague at work for reciprocal motivation, discussions, and sharing of the new knowledge. Actually, some felt some resistance and negative reactions from colleagues for making

Photo: © iStock.com/eurobanks

In Norway, the field of infant–family mental health is an interdisciplinary field of study, research, and practice that focuses on the social–emotional development and well-being of infants and young children within the context of their early relationships, family, community, and culture.

changes in practice. They all expressed a strong need for a mentor or a supervision group to support their learning process. Other concerns were related to work strain and very limited time for practice and reflection, and an important reason for this was that their manager had little knowledge about NBO. To get a deeper insight into these obstacles that were experienced in different units (NICU, maternity ward, well-baby clinics/child health clinics), the Network arranged for interviews of some of the participants from these first NBO courses and made sure they represented different health care professionals. In addition, some new parents were interviewed and asked about their experiences with NBO.

Based on the new insights that were gained from the interviews, the National Network decided to develop a more comprehensive training and supervision program inspired by research on core implementation components and knowledge from evidence-based practice (Fixsen et al., 2005).

Revising the Training Program

The current emphasis on evidence- and knowledge-based practice in the field of infant mental health has definite implications for the training of infant mental health professionals and has influenced the approach to training in Norway. Buysse and Wesley (2006) defined evidence-based practice for the early childhood field as the integration of (a) the best research, (b) professional wisdom, and (c) parental values. In order to effectively implement evidence-based approaches with infants and their families, providers must have a basic foundational knowledge and core competencies in infant–family and early childhood mental health.

WHAT IS APPROPRIATE TRAINING?

Appropriate training depends partly on the participants' individual attributes such as clinical experience and theoretical orientation. Findings from evidence-based research and practice suggest that practitioner knowledge in general improves and attitudinal change should occur following training. However,

change in clinician *behaviors* (e.g., adherence, competence, and skill) and client outcomes only occurs when training interventions address significant *contextual factors* (e.g., practitioner variables, organizational support, quality of training program, and client variables) and include active learning (Turner & Sanders, 2006). Effective dissemination of a method occurs when the clinicians are trained appropriately and when the context supports behavior change (Sanders & Turner, 2005).

The training method is an important vehicle through which change in clinician or practitioner behavior may be achieved. Most current training methods tend to include passively delivered didactic lectures (e.g., the format of a continuing education workshop), despite findings that this type of instruction has limited effects on behavior change. Active learning, an alternative to passive learning, is an interactive process that uses action and reflection. Active learning is useful for skills that must be employed within a clinical context and include modeling, practice opportunities, building self-efficacy, and interaction among learners.

Variables related to *organizational support* (e.g., clinical supervision and organizational environment) can also affect training outcomes. Reading a manual and attending a workshop may help initiate the transfer of knowledge (i.e., dissemination), but ongoing supervision may be needed for actual behavior change and skillful implementation (Bazelmans, Prins, Hoogveld, & Bleijenberg, 2004; Herschell, McNeil, & McNeil, 2004). A meta-analysis by Joyce and Showers (2002) showed that implementation in educational settings occurred primarily when training was combined with on-the-job coaching (i.e., in the classroom). Training that only consisted of theory and discussion produced a modest gain in knowledge and the ability to demonstrate the new skills in the protected training environment but there was no transfer to the classroom. A similar result was obtained in a mental health setting (Fine et al., 2003). Other organizational support variables important for practitioner behavior change include organizational openness to change and an organizational structure that supports implementation of new methods or approaches. The current "gold standard" of training in evidence-based practice typically includes a workshop, a manual, and clinical supervision (Sholomskas et al., 2005).

Developing the next generation of infant mental health clinicians is a critical challenge for all of those who offer training to practitioners who work with infants and families.

Developing of a Comprehensive Training and Supervision Model in Norway

The National Network's new NBO training program is ecological in nature in that it views dissemination as occurring through a complex multidirectional process between the practitioner, the practitioner's environment, and quality of the training. As a result, the National Network decided to offer training mainly to units where the manager requested the NBO training for the staff (top-down implementation) in contrast to requests coming from one or two enthusiastic practitioners (bottom-up). By doing this the National Network has increased the possibilities for manager and peer support during the training period and for practicing in a context that is more open for change (Joyce & Showers, 2002). The Norwegian process-oriented NBO training program consists mainly of active learning components. The duration of the training program has been expanded to 9 months and numbers of workshop/seminar days from 2 to 5 (2 days + 1 x 3 days) with supervision and mentoring along the way.

ORGANIZATIONAL SUPPORT

The National Network provides web-based support to increase active participation and learning. All teaching materials and other kinds of support materials are uploaded in a system called Fronter (a web-based classroom system), where the candidates have to log in, using a personal password. In this virtual NBO-classroom the participants (students) can watch NBO videos and download a variety of resources including slide presentations from the workshop lectures, research papers, articles, media reports, evaluation forms, information leaflets that may be used in clinical settings to inform parents about NBO, and log sheets. The students are requested to write logs based on their work on NBO. These logs are then uploaded and saved in Fronter so the NBO trainer/mentor can read and give written feedback and new learning goals each week based on the content in these logs. News articles are also available to the candidates in Fronter.

COMPONENTS OF TRAINING

The National Network believes the training program for the NBO should include an essential pre-phase component before the actual training of practitioners starts. The components in the training program will be described in the following steps.

Step 1. Informing the Manager and Other Key Persons in the System

Usually The National Network receives a request for NBO training from the manager or head of a unit (i.e., maternity ward, NICU, well-baby clinics, infant mental health outpatient clinics) or sometimes from a single person. If possible, a representative from the National Network sets up a face-to-face meeting with the manager and other key persons in the unit or organization to learn more about the staff and the target group for NBO. The National Network gives detailed information about the aims of NBO and the comprehensive training program. An important goal is to make sure that the manager will support the trainees along the process and facilitate extra time to practice new skills as well as time for discussions and reflections in small groups. A written contract is signed between the National Network and the manager before the training begins. The training is delivered on site, which reduces the expenses of the training. The manager is responsible for informing the staff about the plans for NBO training and for making clear the expectations for active

participation and practice. Sometimes the National Network offers a short lecture about the NBO system as a "teaser." All candidates are requested to sign in for the training at the National Network's website with their email address, name, work place, and profession at least 3 weeks before the initial NBO workshop. This preparation phase normally takes 6 to 9 months including organizing and covering for time off from work for a big group of staff and making room in the budget for the training.

Step 2. Preparing the Participants Before the 2-Day Workshop: The Virtual Classroom

Two-to-three weeks before the start of the workshop all candidates receive an e-mail from the National Network offering them a warm welcome to the upcoming training. In addition they are invited to log on to Fronter, the virtual NBO classroom, through a protected password. They are then asked to review the material and read a three-page paper that includes a description of the NBO, the six newborn behavioral states, and the autonomic, motor, organization of state, and responsiveness (AMOR) system (Nugent, this issue, p. 2). Second, they are asked to write a short summary of the aims of NBO, to label the six behavioral states, and to spell out the content of the four components of the AMOR framework. In this way, the National Network makes sure that all candidates have some familiarity with the web-based classroom and are familiar with the key elements of NBO before the workshop begins.

Step 3. The 2-Day Workshop

In Week 1 of the training, two NBO trainers present this workshop to a maximum of 25–30 participants. The training curriculum during these 2 days is similar to the content developed by the Brazelton Institute but is adapted to the target group of clients that the trainees work with. By the end of the second day the trainers spend time clarifying the homework expectations: to study the NBO manual, to practice the NBO immediately after training when participants are back at work, and to start communicating with the NBO trainers through the use of the weekly logs in the Fronter system. Collaboration with colleagues is highly encouraged for reciprocal motivation, peer-support, and learning. Six participants are asked to volunteer to contribute videos of their NBO sessions for the first supervision day, which is scheduled to take place after about 6 weeks.

Step 4. Practicing New Skills and Weekly Logs

The weekly log contains five main questions with a short introduction:

a) Have you had the opportunity to complete two NBOs this week? Yes/No.

If no, why? Was this because of personal reasons or because of system reasons?

If, yes: what was the baby's gender, gestational age at birth, current age in days or weeks?

1. Who participated in the observation? What was the setting?

Photo: Matthew Lee

A baby exhibits the rooting response during a Newborn Behavioral Observations session.

2. Which of the 18 observation points did you complete this time? Describe in brief the baby's states and responses in terms of the AMOR framework.
3. Describe at least one episode where you did or said something specific to support the relationship between the baby and the parents.
4. What do you think it was like for the parents? What was the experience like for you?
5. Is there something more you would like to add?

The NBO trainer gives the trainees weekly feedback on their logs and also offers suggestions and new individualized learning goals for the upcoming week. As described, the focus is on detailed descriptions of the infant's states and AMOR system, relationship building between parents and infant, and the alliance between the NBO trainee and the parents. If a trainee does not complete the logs, she will receive an email from the trainer/mentor after a couple of weeks to sort out the reason for this.

Step 5. Group Supervision With Trainee Video Reviews

The group supervisions take place on-site about 6 and 12 weeks after the initial workshop. This stage of the training takes place twice and each time the supervision lasts an entire day. The supervision is based on the trainees' personal video recordings of their own practice with NBO. (The recording is made by a colleague who is also an NBO trainee). The use of personal video materials presents trainees with an invaluable opportunity to reflect on their own practice and is a way to help them to overcome barriers in the use of newly acquired skills. It also allows them to learn from each other and support each other in the learning process. Before watching the videos the trainers lead a round table conversation to make sure that all participants get an opportunity to reflect on own practice with NBO and share successes and challenges with practicing these new skills. Here, participants can explain whether they have satisfying work conditions and enough time for practice. They are encouraged to select and highlight a moment of joy and mastery in their use of NBO. The NBO trainer gives feedback on specific skills that are essential in the delivery of the NBO—building the alliance with the parents, highlighting

the baby's capacities and individuality, giving the baby a voice, demonstrating the baby's preferences to the parents' voice and face, and pinpointing moments when parents provide effective support to their baby's needs (Nugent, this issue, p. 2). At the end of the video feedback review, the NBO trainer summarizes the trainee's current competency level and sets a new learning goal that is specific for the individual trainee.

Steps 4 and 5 are repeated once (i.e., each new period lasts 6 weeks and includes practicing the NBO, writing two logs each week, and receiving feedback on the logs). By the end of the second group supervision (which takes place 12 weeks after the workshop) the NBO trainers clarify the goals for the next 6 months in order to refine the trainees' observation and handling skills and to develop good routines for regular use of NBO in their daily practice (sustainability). In this phase the trainees are expected to write one log per month to report their progress and share reflections about their progress. Over time, the trainers have learned that 2 days with group-supervision was not sufficient to review all the trainees' videos. Thus, written feedback is now e-mailed to trainees who do not get the opportunity to share their video with the group. Certification builds on a minimum of 12 logs, one video feedback, and five additional NBO observations with ratings of the infant's responses and completed parent questionnaires.

Step 6. Evaluation and Celebration

The final (5th) day in the training program is devoted to sharing of experiences (round table conversation), watching a few more video-clips, and celebrating the candidates. Participants have compared the 9-month program with a pregnancy with its three distinct trimesters. The first 3 months (first trimester) is characterized by mixed feelings. Trainees switch rapidly between strong positive feelings and fascination for this strength-based, flexible, relationship-building tool that so nicely integrates the essential aspects of an individualized family-based approach and feelings of ambivalence or even resistance to finding themselves in the role as a student again with homework every week in addition to all their regular duties at work. Furthermore, practicing the NBO system with real babies and families felt significantly more complicated than they first imagined because they have to combine and integrate the individualized infant-based approach with relationship building and alliance. However, all trainees highly value the mentoring process which practically consists of the weekly feedback they receive on their logs. It builds good self-esteem, they learn a lot from the comments, and the individual adapted learning goals are very helpful. The overall conclusion is that the communication based on the logs is a very potent motivator to proceed with the practicing. The "second trimester" is described as a calmer period. The students have now adapted to the new way of working with babies and families, and they enjoy the opportunities to practice and refine the NBO system according to the context they work in and to find their own individual style. The "third trimester" seems to be more characterized by increased level of stress as they are preparing for the "birth" of becoming a certified NBO trainee.

In this mentoring process, trainers find enhanced job satisfaction in sharing their knowledge and experience with new trainees, and they benefit from joint projects leading to shared research opportunities. In addition, this experience can help them extend their professional contributions and contribute to the advancement of the field and the expertise of the next generation.

Lessons for the Future

All professionals who work with young children and their families need appropriate training to provide family-centered, diversity-informed, and developmentally appropriate services across the continuum of infant–family mental health. In the training of practitioners to use the NBO, the National Network has attempted to identify the knowledge, skills, and competencies needed to work with newborn infants and their families in order to provide effective infant–family mental health services. Because the focus of the NBO is on newborns and very young infants, practitioners need to be trained to develop the kinds of observation skills and handling techniques that enable them to draw out the full richness of the infant's behavioral repertoire, in a way that is highly individualized. The National Network believes that NBO training for all professionals working with young children and their families is most effective when designed to foster family-centered, culturally competent, and developmentally appropriate services.

In sum, this NBO training program is designed to prepare practitioners to:

- apply relevant theories and knowledge bases to clinical situations;
- model sensitive handling and interaction with newborn infants and their families;
- develop an appreciation of relationship as being at the core of infant–family mental health;
- reflect on the experiences, thoughts, and feelings involved in working with infants and families;
- understand the parents' culture and the parents' and infants' interpersonal perspectives; and
- explore possible approaches to working effectively with infants and families.

This article has described the Norway NBO training experience, which the National Network believes can serve as a model for the kind of comprehensive training and supervision needed to train future infant practitioners. The training model described here is characterized by an active learning approach that uses action and reflection and is based on the belief that effective implementation occurs when the clinicians are trained appropriately and that learning occurs and confidence is built during the mentoring supervisory process. The training's approach is inspired by research on core implementation components and is based on knowledge from evidence-based practice (Fixsen et al., 2005). The skills and strategies described here are not unique to the NBO practitioner. Relationship building, behavioral observation,

guided interaction and parental support, and reflection are skills that all infant–family practitioners who work from a relationship perspective use and value beyond the newborn period and the early months of life.

Kari Slinning, PhD, is clinical child psychologist and associate professor in developmental psychology at the Department of Psychology, University of Oslo and research leader at the National Network for Infant Mental Health at the Regional Centre for Child and Adolescent Mental Health (RBUP East and Southern Norway). Dr. Slinning teaches and supervises graduate and post-graduate students in the field of infant mental health and, as the head of the research and implementation unit at the National Network, she is responsible for the development and evaluation of the training and supervision model for Newborn Behavioral Observations in Norway.

Unni Tranaas Vannebo is a public health nurse, NBO trainer, and the national coordinator of the NBO training in Norway for the National Network.

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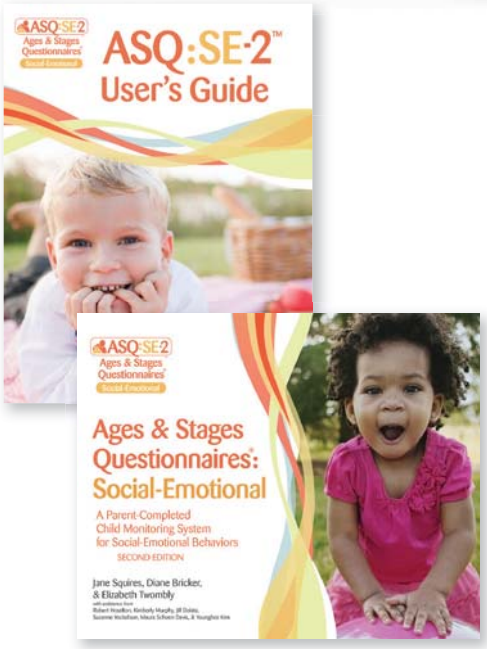

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Building a Model Program for Substance-Exposed Newborns and Their Families: From Needs Assessment to Intervention, Evaluation, and Consultation

Eda Spielman
Jewish Family and Children's Service
Waltham, Massachusetts

Anna Herriott
Ruth Paris
Boston University

Amy R. Sommer
Jewish Family and Children's Service
Waltham, Massachusetts

ABSTRACT

Despite growing concern about substance misuse in pregnancy and infants born substance-exposed, few programs have been developed that address the complex needs of this vulnerable population. This article describes the process of developing Project NESST® (Newborns Exposed to Substances: Support and Therapy), from needs assessment to program services. To understand the realities and dilemmas faced by mothers of substance-exposed newborns, the authors undertook an interview study to learn about their lived experience and treatment needs. They describe the interview study, highlight select findings, and trace how lessons learned informed program design, evaluation, and training activities.

…it's a real struggle being a mom with an addiction… I can't say I wasn't a good mom, I just…wasn't what I should have been and could have been…

Recent estimates indicate that approximately 5.9% of pregnant women in 2011-12 used illicit substances during pregnancy (Substance Abuse and Mental Health Services Administration, 2013) and 12% of children in the United States live with a parent who is substance dependent (Department of Health and Human Services, 2009). Although determining exact numbers is difficult, problems related to substance dependence are touching increasing numbers of pregnant women, affecting all aspects of their lives, as well as those of their children and families. While the numbers are striking, so too are the complexities in which these women and families are situated. This complexity is rooted in the challenging and complicated personal histories of the women, the ways in which the children are impacted, and the socio-political forces that both inform policies and contribute to a cultural environment that is often stigmatizing and isolating.

Understanding the Mothers; Understanding Their Babies

According to reporting from treatment providers and from research focused on women in treatment, some understanding has emerged regarding the complex realities for pregnant and parenting women who are substance dependent (Kaltenbach, 2013). Findings suggest that women commonly have family histories of substance dependence, along with significant trauma histories, and a high occurrence of post-traumatic stress disorder (Back, Sonne, Killeen, Dansky, & Brady, 2003; Kaltenbach, 2013). Pregnant and parenting women who are substance dependent report high rates of mental health diagnoses, most frequently anxiety and depression (Agrawal, Gardner, Prescott, & Kendler, 2005; Kaltenbach, 2013).

The term *substance-exposed newborn* is a fairly broad one, referring to any infant who has been exposed knowingly or unknowingly in utero to a range of substances, including alcohol, nicotine, misused medications, street drugs, and methadone/buprenorphine

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Problems related to substance dependence are touching increasing numbers of pregnant women, affecting all aspects of their lives, as well as those of their children and families.

(O'Brien & Phillips, 2011). The impact of substance exposure on the infant varies widely, with the most well-documented negative consequences found from alcohol use in pregnancy (Behnke, Smith, Committee on Substance Abuse, & Committee on Fetus and Newborn, 2013). The American Academy of Pediatrics looked at the research on prenatal substance exposure and noted the importance of taking into consideration the complex indirect effects of maternal substance dependence on children—factors related to poor maternal nutrition, lack of or poor compliance with health care, increased exposure to violence and other stressors, along with the heightened prevalence of co-occurring disorders (Behnke et al., 2013).

Neonatal abstinence syndrome (NAS), the cluster of symptoms seen in newborns withdrawing from opiates, is the most significant effect of prenatal opiate exposure (Behnke et al., 2013). In the last decade, nationwide data from U.S. hospitals showed a threefold increase in the incidence of NAS (Patrick et al., 2012). This unprecedented surge is attributed to the widespread growth in painkiller prescriptions beginning in the 1990s and subsequent vulnerability to opiate addiction (Patrick et al.). The rise in NAS has far-reaching implications for costs to health care systems; communities; and of course to infants, parents, and their families (Patrick et al., 2012).

Responses to the Problem

Responses to the problem of rising numbers of substance-exposed newborns have been varied. Hospitals have been concerned with questions of screening for substance use and exposure as well as how best to treat NAS (Jones et al., 2010). At the level of child welfare and public health, the focus has been on establishing policies for child protection referrals, regulations for treatment facilities, and public awareness campaigns (Young et al., 2009). States vary widely in their policies, from those that fund specialized programs for and give priority access to substance-using pregnant women, to others that consider substance use during pregnancy to be child abuse, potentially leading, in three states, to civil commitment (Guttmacher Institute, 2015). The American College of Obstetricians and Gynecologists (2011) issued a statement denouncing such punitive approaches that treat addiction as a moral failing, rather than a chronic, relapsing biological and behavioral disorder.

In the media, frequent stories in print and television sound the alarm of painkiller and opiate abuse among pregnant women with headlines like "Cases soar of newborns with opiate addiction" (McKim & Bottari, 2014) or "More pill-using mothers delivering addicted babies" (2011). Not only is the language in these pieces geared to heighten negative feelings toward the mothers in question, but the information is often misleading or false (Abrahams et al., 2013).

Amidst these diverse responses to a complex and pressing problem, there is limited literature that offers the perspective of women regarding their experiences of pregnancy, birth, and early parenting with a substance-exposed newborn (e.g., Kuo et al., 2013; Reid, Greaves & Poole, 2008). The work described in this article adds to this literature, bringing a focus to the voices of mothers reflecting on their emotional experiences and needs as they navigated pregnancy and the postpartum period while substance dependent, in recovery, or both. Our needs assessment allowed us to hear directly from the women we would be serving—rather than solely reading about them in the literature—therefore significantly contributing to the design and values of our program.

Building Our NESST—Newborns Exposed to Substances: Support and Therapy

Our project serving substance-exposed newborns and their families is the newest initiative within the Center for Early Relationship Support® (CERS) at Jewish Family and Children's Service (JF&CS) of Greater Boston. CERS is the home of service programs and training centered on the needs of vulnerable parents and their young children. Project NESST® has grown out of our long-standing expertise in perinatal home visiting, hospital-to-home support for fragile newborns, and infant–parent psychotherapy, along with newer work involving families facing the dual challenges of parenting and recovery from substance use. We have been fortunate in this donor-funded project, as we have had time to conduct a needs assessment and be creative in our project design and evaluation, always keeping the families' identified needs in mind.

To that end, the major effort of our needs assessment year was a qualitative interview project focused on understanding the feelings, challenges, and needs of mothers looking back on their experiences of pregnancy, birth, and early parenting of a substance-exposed newborn. In addition, we conducted key informant interviews and steeped ourselves in readings, webinars, and conferences regarding the current research and state of the field. In our thinking about treatment of parents in recovery, we have been particularly informed by the work of Nancy Suchman, Marjukka Pajulo, and their colleagues (e.g., Pajulo & Kalland,

2013; Suchman, Decoste, Ordway, & Bers, 2013) concerning the central role of building reflective capacities with mothers in recovery. Furthermore, we drew on lessons learned through pilot clinical cases referred through other programs at CERS. These sources—consumers, providers, research literature, and treatment experiences—informed the development of Project NESST, infusing our thinking and guiding the work described below.

Needs Assessment Interviews: Procedures and Findings

We conducted a qualitative interview study that was approved through the Institutional Review Board of Boston University. JF&CS/CERS and Boston University School of Social Work have a long-standing partnership in conducting evaluation studies of programs serving vulnerable parents and young children (e.g., Paris, Spielman, & Bolton, 2009). Eligibility criteria included being a mother of a child less than 4 years old who was using opioids, cocaine, or both during pregnancy. Opioid use included methadone/buprenorphine, prescribed or illicit painkillers, and heroin or other street opiates. The interview questions covered three general areas regarding the mothers' experiences: (a) the emotional aspects of pregnancy, birth, postpartum, and early parenting; (b) the interface with systems of care, in particular health care and hospitals, child protection, and social service; and (c) reflections on their varied emotional and instrumental needs and what was or might have been perceived as helpful.

Study participants were recruited through flyers sent to colleagues at programs serving mothers in recovery and through word of mouth. Prior to the interview, eligible mothers were consented to study participation. Gift cards were offered upon interview completion. The interview was audio-taped and began with an open-ended question, asking the interviewee to tell her story of becoming a mother to the identified child, beginning in pregnancy in as much detail as she would like. Each section of the interview was similar, beginning with a general question and then using follow-up inquiries to guide and deepen the conversation. Most participants seemed candid and invested in sharing their stories. One commented: "It's good to have someone care to listen to my story." Another reflected: "It's helpful to remember where I've come from."

Twenty-one women were interviewed across Massachusetts. Participants' ages ranged from 21 to 44 years old with a mean age of 29. Eighteen were Caucasian; 2 were African-American, and 1 was Latina. Thirteen reported having a high school diploma or less. In terms of substance use, 9 reported polysubstance use during pregnancy, 6 reported crack cocaine as their primary drug, and 9 reported use of heroin during pregnancy. More than half (12) were on medication-assisted treatment for some part of their pregnancy, and at the time of the interview 15 reported receiving methadone or Suboxone to support their recovery.

All interviews were transcribed and systematically analyzed for themes using grounded theory techniques (Charmaz, 2006) to understand the commonalities and differences in experiences for participating mothers. The themes that emerged elucidated the mothers' perceived emotions, encounters, and challenges during pregnancy and early postpartum. Here we present a selection of findings that were particularly relevant for the development of Project NESST. We describe the following themes: pregnancy as motivation, shame, guilt and fear, obstacles to help, mixed experiences with providers, and ideas for help.

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Pregnant and parenting women who are substance dependent report high rates of mental health diagnoses, most frequently anxiety and depression.

PREGNANCY AS MOTIVATION

Almost all of the mothers mentioned that pregnancy was a motivation to make changes in their lives. Specifically, concern for their infants and the desire to be good mothers served as driving forces toward treatment and recovery. We heard many stories of women being surprised by the news of being pregnant, with concomitant uncertainty about whether they would maintain the pregnancy and keep the baby. Often, thoughts and questions about the impact of exposure to substances on their baby were mentioned. Some women shared plans to access treatment and whom they would inform about their substance use—whether family, friend, or care provider. Ultimately, for many of the women interviewed, the pregnancy and anticipated baby seemed to serve as a chance to demonstrate their abilities as mothers, as quite a few had previously lost custody of children to child welfare. Two of our participants shared their experiences of pregnancy and treatment seeking in this way:

There's a certain safety for the most part of being pregnant…it's almost like that extra push to not pick up anything because even when you can't do it for yourself, you're supposed to instinctively be able to do it for the baby and that's not always true but for me at that time, it was…

So I talked to this guy … I told him … I felt like a monster, and all these crazy things …. He's like, "Did you want this, do you want this pregnancy?" I said, "I absolutely… I want this pregnancy but I want it to go good for him. I've been pushed in this direction for months now, I've been trying to do it on my own, clearly that's not working so I need some kind of help."

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Concern for their infants and the desire to be good mothers served as driving forces toward treatment and recovery.

SHAME, GUILT, AND FEAR

Emotionally dominant in the narratives of most of the mothers were difficult feelings of shame, guilt, and fear related to both their own realities regarding substance misuse and the ways others treated them. Women expressed internal conflicts regarding the contradictory pulls of addiction and pregnancy as well as the stigma they felt from external sources, often leading to secrecy, denial, and avoidance. Fears and guilt related to how their baby might be harmed were intertwined with stories of feeling judged by others. One woman told us: "I always felt like if I was to tell a doctor or to tell somebody that I'd be so judged and looked at like a piece of crap, for having a newborn and having a drug addiction." Another shared difficult feelings that she turned on herself: "I never realized how bad it was until I was actually pregnant and doing all of these things, I mean, I was disgusted in myself…" The painful nature of drug addiction and the difficulties accessing treatment often due to shame and stigma were described vividly by this mother:

I got pregnant with my second son when I was in the grips of my disease and I couldn't stop, and I thought I was the only person, yeah, I thought I was the only woman on the face of this earth scum bag enough to use while pregnant, so I didn't know who to tell, I thought that if I told somebody I'd be walking around with like the letter "A" on my chest.

OBSTACLES TO HELP

Most women described the uncertainties that they faced in seeking treatment, maintaining sobriety, and caring for themselves during pregnancy. Specifically, they discussed how concerns such as housing instability, fear of child welfare, and lack of information about treatment or health needs during pregnancy, among others, interfered with their ability to seek or receive help. One mother discussed the fact that she did not have a stable place to live and her one option involved leaving her partner, the father of her child:

It was hard because I didn't have stable living…I was worried about rent 24/7 and it just sucked…and I went to a program and he (partner) couldn't come with me and that was the worst part because I would have to leave my partner homeless on the street…

The fear of child welfare was profound for most of the women as either they had previous personal experience or they had heard of other mothers who lost custody of children temporarily or permanently because of substance misuse. This mother described the fear of losing her children and her belief that child welfare workers needed to be more understanding of mothers struggling with substance dependence:

I thought I would lose my kids…they [Department of Children and Families] need to be more understanding you know, we're not bad people because we're having a problem. We don't deserve to have our kids ripped out because we have a problem.

Understandably, these types of fears could serve as a deterrent to sharing the misuse of substances with a care provider.

In addition, most of the women mentioned lack of information or advice about where to seek treatment. In some cases, health care providers, potentially purveyors of vital assistance, were cited as seemingly avoidant of substance use issues. One mother recalled her pregnancy while using opiates and her wish that her provider had acknowledged this and corrected her misinformation about medication-assisted treatment:

I totally wished that when I found out and they took my blood, that they would have been like, "There's opiates in your system, we need to put you in some kind of help, or get you to some kind of program like methadone." I didn't even know that was an option … I thought that was worse for you when you're pregnant…

MIXED EXPERIENCES WITH PROVIDERS

Over the course of pregnancy, delivery, and the early postpartum period the women in our sample had many contacts with health and social service providers. We heard of painful encounters with physicians, nurses, and social workers that functioned to shame and isolate the women and often prevented them from accessing much-needed help. These two mothers described negative postpartum incidents with health care personnel that were experienced as exposing and stigmatizing, leading to anger and mistrust:

When I was in [the hospital], one of the midwives said, in front of all my company—and this is the stuff that I believe shouldn't happen—she said, right in front of everybody that was there, "Did the social worker come and see you yet?"... Why would you say that in front of everybody, you know? …that's my personal…business.

I just had nurses constantly judging me, I had one come in [and say to the baby] "Oh you poor baby, that's awful that you have to detox like this," in front of me, just to make me feel like crap…

Alternatively, we heard the opposite: encouraging stories of help received from knowledgeable, non-judgmental care providers. The following two mothers described encounters with health

care providers that were perceived as helpful and empowering. Both involved the woman being treated with respect as the mother of her baby and as someone who deserved to receive important information about her child's medical situation:

The nurses in the NICU [neonatal intensive care unit] were really helpful, and so were the neonatologists ... Cause every day they'd come and they'd check her out, her breathing, and they would explain everything, you know, "This is why she is doing this, and you might see her do a little bit of tremor. And then you know when she gets home (you) have to give her medicine and to watch for any side effects." and so they were really nice and helpful and supportive.

I set up an appointment to go to [the hospital] with the doctor of the NICU…she explained everything. She showed me the level 2 room. She showed me the parenting room…she told me about the morphine and the phenobarb how.... she might need the phenobarb, she might not or both together…she explained it.

IDEAS ABOUT HELP

All of the mothers had clear suggestions regarding help for others in similar situations. Broadly, their ideas focused on access to appropriate treatment, education for health care providers in order to increase knowledge about treatment for substance dependence and decrease judgmental attitudes and behaviors, peer support that would enable women to ask for help without fear of repercussions, and increased education for mothers regarding the potential effects of opiates and other substances on newborns. Also, the mothers expressed their desires to do the best by their children in seeking treatment and to demonstrate their ability to be good mothers. In sharing some of their ideas about what could be helpful, these two women revealed the wish for a relationship with a supportive person to accompany them on their journey:

Somebody that will go along with a mom to these places, like a Suboxone clinic, it's scary, it sucks admitting it to all these people… somebody to help talk to these doctors, you know, an average drug addict to the doctor are from two different worlds, really, it's hard to talk to them…you don't want to feel judged, you need somebody there that isn't judging you, and understands…

I think it would have been good to have…kind of like a sponsor but for parenting, that I could have talked to, and that I wouldn't have to worry about being punished for my thoughts, or, you know, just somebody that would listen to me.

Lessons Learned and Applied: Program Design, Evaluation, and Training

In developing Project NESST, we used our learning from the interviews, literature review, and key informant contacts, along with our many years of experience serving vulnerable families with young children. The needs assessment process offered lessons that guided the design, evaluation, and training components of the program.

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Involvement with women who are pregnant and using illicit substances arouses strong feelings, and we encourage physicians and nurses to pay attention to these reactions and consider how they may be able to move to a place of understanding.

PROGRAM DESIGN

Project NESST is a multi-service program offering support to parents, caregivers, and infants to address the impact of substance use and trauma on parents' mental health, the early parent–child relationship, and infant development (see box Project NESST: Newborns Exposed to Substances: Support and Therapy). The

Project NESST®: Newborns Exposed to Substances: Support and Therapy

Project NESST offers support for substance-exposed newborns and their families.

Services are flexible, individualized to meet each family's needs, and may include:

- meetings to support physical and emotional health during pregnancy and help plan for baby's arrival
- support during the baby's hospital stay and the transition from hospital to home
- infant–parent therapy sessions in the home, office, or community
- support and case management services from a Mentoring Mom who can offer connections to community resources, including recovery services
- consultation to address the baby's unique development, sleep, and feeding needs, including calming and soothing strategies such as infant massage

Services are available free of charge to families of all faiths and races throughout Greater Boston who are caring for infants who were exposed to opiates, cocaine, prescription medications, or other substances that may have contributed to challenges in the infant's postpartum course or in the parent–infant relationship. Clinicians are also available to provide technical assistance and training to interested community partners on relationship-based treatment and care for these newborns and their families.

interview narratives impacted our thoughts on staffing and on key program elements related to basic needs, engagement, and reflective supervision.

Staffing

Our Project NESST team includes both clinicians and Mentoring Moms. Clinicians are psychologists or social workers with training in maternal and early childhood mental health. Mentoring Moms are paraprofessionals with lived experience in recovery. This team model allows us to meet a broad range of needs in an individualized way. Many of the mothers we interviewed, like those profiled in the literature, described histories of trauma and loss, ongoing struggles with depression or anxiety, and narratives suffused with guilt and shame. We think that mothers grappling with these types of challenges can make use of a therapeutic relationship within which to feel safe and make sense of past experiences and current vulnerabilities. Improving maternal emotional health supports the relationship of mother and infant and the development of positive maternal identity. Exploration of deep feelings of shame and fear with a well-trained parent–child therapist can offer a mother the opportunity to develop an integrated narrative of the past, constructive emotion regulation skills, and a healthier connection with her baby.

The women we interviewed also expressed the need for support in recovery and parenting from a peer provider, which mirrors existing literature indicating the value of peer recovery coaches (e.g., James, Rivera, & Shafer, 2014; Ryan, Choi, Hong, Hernandez, & Larrison, 2008). Our Mentoring Moms have "been there" and can serve as significant models of success in navigating the challenges of parenting in recovery. They offer encouragement, case management, opportunities to address recovery and relapse, and connections to other mothers.

The major effort of our needs assessment year was a qualitative interview project focused on understanding the feelings, challenges, and needs of mothers looking back on their experiences of pregnancy, birth, and early parenting of a substance-exposed newborn.

Decisions regarding case assignment are assessed during the NESST intake process; some families are matched with a therapist, some with a Mentoring Mom, and some with both. Over this period of program development, we have learned a great deal about the strengths and challenges of involving two providers with a family. While the clinician and Mentoring Mom can provide an array of needed supports, communication around roles and sensitivity to the multiple demands on clients' time are essential. We view this as a potentially significant area of learning in the field as it is increasingly common for programs to include clinicians and peer partners in their service models.

Basic Needs

Emerging from both the existing literature (e.g., Kaltenbach, 2013) and our interviews with mothers are themes related to additional stressors often intertwined with substance dependence, including financial concerns, homelessness, and limited access to support services. Lack of resources in daily life can create pressure and hopelessness that lead to substance misuse. The cost of this progression can often be seen in subsequent financial debt, homelessness, and a depleted support system. Assisting mothers in accessing resources and meeting basic needs is a key role for both Mentoring Moms and clinicians, and it can be a significant portal for successful program engagement.

Engagement

Our understanding of the complexity of pregnancy and early parenting with a substance-exposed newborn has informed our interest in engaging with clients as early as possible. As we heard in many interviews, the motivation to enter recovery can be strong during pregnancy but ambivalence and fear related to the pull of an addiction, judgment from providers, and jeopardy within the child welfare system can undermine the healthiest intentions. The same spur to "get clean for the baby" can also make the postpartum and early parenting time one of vulnerability to relapse.

Engaging early provides an opportunity to be involved in supporting the mother in meeting the needs of the substance-exposed newborn, who often needs support in managing states of arousal and basic functions like eating and sleeping (Pajulo, Suchman, Kalland, & Mayes, 2006). When we begin working with mothers during pregnancy, we have the opportunity to start building a mother's competencies before she is challenged by parenting a vulnerable infant.

Our approach to engagement is flexible and individualized as needs are varied and shift depending on the woman's stability in recovery and living situation, as well as other demands. We partner with referring providers to consider where and when mothers might be open to meeting a NESST staff person; tailor initial meetings to addressing mothers' most urgent questions; and shift our service frequency, intensity, and modality to meet each mother's needs. Our outreach is persistent despite missed appointments or unreturned phone calls because we have found that demonstrating our continued interest and availability can yield eventual connection.

Reflective Supervision

Project NESST is committed to providing regular opportunities for staff to consider the complex feelings evoked in working with vulnerable mothers and babies. As women wrestle with building a healthy maternal identity amidst their own complex feelings and the judgments rendered by others, their behaviors may reflect avoidance, partial information, and blame. Women in early recovery can experience strong affect with limited coping skills to manage. In addition, infant well-being is always on our minds, and meeting the sometimes conflicting needs of mother and baby

can be difficult for a clinician or Mentoring Mom to balance. Space and time for staff to share and reflect on these pressures, complexities, and reactions within a safe and collaborative context are essential for maintaining learning and health and providing ethical and effective services (Heffron & Murch, 2010).

EVALUATION OF PROJECT NESST

From the beginning of Project NESST we considered the question, "How can we best assess the effectiveness of our intervention?" Based on the literature, our practice experiences, and the aforementioned interviews, clinical and research staff worked together to develop a protocol for evaluating the work of NESST. We decided to use a combination of standardized instruments, videotaping procedures, and structured and semistructured interviews. Self-report questionnaires include measures of trauma history, substance use, psychological distress, experience of mothering, emotion regulation, internalized shame, and self-compassion. We assess mother–baby relationships by videotaping parent–child interactions and administer the Parent Development Interview (Slade, Aber, Berger, Bresgi, & Kaplan, 2012) for assessment of parental reflective functioning. Baseline measures are collected early on in NESST involvement and again at the end of services. We also invite the mothers to participate in a semistructured interview at the end of the intervention to hear about their NESST experiences. The mothers' perceptions of what has been helpful assist us in tailoring our services to new clients coming into the program.

CONSULTATION AND TRAINING

Many women we interviewed described challenging experiences in their relationships with their health and social service providers. They encountered judgment and blame and felt the impact of stigmatization and discrimination. Simultaneously, other interviewees talked about positive experiences where providers were understanding and helped them anticipate what was to come for themselves and their babies. These stories reinforced our commitment within Project NESST to offer training and collaboration to systems of care regarding needs of pregnant women and new mothers who are substance dependent.

Our trainings to providers offer a unique perspective, including a focus on the experiences of women they care for, shared powerfully through our interview findings and the participation of our Mentoring Moms. We work to establish common ground with providers, highlighting our shared goal for babies to be healthy, the vital role of a healthy mother in achieving this end, and the understandable human tendency toward judgment. Involvement with women who are pregnant and using illicit substances arouses strong feelings, and we encourage physicians and nurses to pay attention to these reactions and consider how they may be able to move to a place of understanding. We share recommendations for health care providers regarding the value of listening to and collaborating with mothers and families (see box Raising Awareness for Health Care Providers). Our trainings offer perspectives on the use of language, specific policies which can be shifted to be family-friendly, and attitudes and their impact on caregiving for good or ill.

Taking Lessons Forward

Listening and responding to mothers' voices through interviews and clinical practice has been an extremely valuable part of building Project NESST. We have a deep understanding of the complexity of the feelings, conflicts, and realities for women who are struggling with the challenges of pregnancy and early

Learn More

Jewish Family and Children's Service, Center for Early Relationship Support
www.jfcsboston.org/CERS

Parenting and Substance Abuse
N. E. Suchman, M. Pajulo, & L. M. Mayes (Eds.), (2013)
New York, NY: Oxford University Press

National Abandoned Infants Assistance Resource Center
http://aia.berkeley.edu/
Recent webinar series on Supporting Children Affected by Prenatal Substance Exposure:
http://aia.berkeley.edu/training/online/webinars/2015-aia-webinar-series

National Child Traumatic Stress Network
Webinar: Opiate-exposed newborns (guests must create a log-in):
http://learn.nctsn.org/course/view.php?id=276

Guttmacher Institute
https://www.guttmacher.org

National Advocates for Pregnant Women
www.advocatesforpregnantwomen.org

Raising Awareness for Health Care Providers

In our training for health care providers, we have encountered strong interest in hearing the stories of mothers impacted by substance use during the perinatal period. We share our thoughts with providers on how listening to these narratives can improve their care for substance-exposed newborns and their mothers:

- Listening leads to a better provider–patient relationship, and a better relationship with a mother means better outcomes for mother and baby.
- Mothers of substance-exposed newborns carry complex feelings about pregnancy, birth, and parenting. The behaviors we see on the outside—like secrecy, avoidance, and denial—often reflect shame, guilt, and fear of judgment inside.
- Pregnancy is a time of high motivation for recovery, but the pathways to being open to help are strewn with many barriers, both internally and externally. Keep trying: ask, listen, care; repeat.
- Mothers want to participate and be valued both prenatally and during the NICU experience. Collaborate, educate, include…your stance will be welcomed.

parenting in the context of substance dependence and recovery. The Mentoring Moms in our program have a special role in continuing to bring this lived experience to our team and to the program families. As we work with more families, we continue to build our clinical expertise in making sense of the ways that "layers of truth" can emerge over time. We value the important roles of persistence, flexibility, and "expecting ambivalence" in the process of engagement. Just as we used our learning from the interviews to build our program design, evaluation, and training efforts, our learning process continues with each family we serve and training we facilitate.

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Eda Spielman, PsyD, is the clinical director of the Center for Early Relationship Support (CERS) and faculty at the Infant-Parent Training Institute of Jewish Family and Children's Service (JF&CS) of Greater Boston. She holds a post-graduate certificate in infant mental health and came to JF&CS to develop Early Connections, a program of home-based mother–baby psychotherapy for dyads facing early relationship challenges. She is currently involved in two projects at CERS in support of families facing the dual challenges of early parenting and substance use recovery.

Anna Herriott, MSW, MS, is a student at Boston University School of Social Work. She is currently involved in evaluation studies of two interventions for parents who are substance dependent and their young children, specifically collecting and analyzing both qualitative and quantitative data. Her doctoral research is focused on the experiences of mothers who are substance dependent.

Ruth Paris, PhD, LICSW, is an associate professor of clinical practice at Boston University School of Social Work where she serves as the director of the Mildred Flashman Family Therapy Certificate Program. Her research and teaching focus on attachment-based interventions for vulnerable families, with a specific emphasis on families with very young children. Through a series of multiyear research projects, she has evaluated and developed family-based interventions serving various populations including: immigrant/refugee mothers with trauma histories and their young children; women with postpartum depression and their infants; post-deployment military families with children birth to 5 years old; and mothers in treatment for substance misuse and their young children.

Amy R. Sommer, LICSW, is a clinical coordinator at the Center for Early Relationship Support at Jewish Family & Children's Service of Greater Boston. Her expertise is in attachment-based interventions for infants and parents. She has practiced and supervised in home-based, health care, and addiction treatment settings; and she has provided training to local, national, and international audiences on dyadic work through a number of lenses. Recently, she has focused on training providers from medical, social service, and graduate programs on supporting families impacted by addiction.

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Modification of the *Preventing Child Abuse and Neglect* (PCAN) Curriculum for IDEA Part C Providers

Janice E. Kilburn
South Carolina First Steps to School Readiness
Columbia, South Carolina

Cheri J. Shapiro
University of South Carolina

ABSTRACT

Strategic workforce training of organizations that provide services to families of young children with special needs can help strengthen families and prevent child maltreatment, but few curriculua are available for this purpose. One professional development curriculum, *Preventing Child Abuse and Neglect: Parent-Provider Partnerships in Child Care* (PCAN; Seibel, Britt, Gillespie, & Parlakian, 2006), designed for an early care and education workforce, focuses on building protective factors to strengthen families and reduce the likelihood of maltreatment. In this project, this PCAN curriculum was modified for delivery by an early intervention workforce. Through three iterations of a participatory action research process, delivery enhancements resulted in improved satisfaction with the training and perceived content knowledge gains. The modifications to PCAN stand as a model for delivering PCAN to wider audiences.

Maltreatment victimization rates are higher for children under 2 years old than for older children (U.S. Department of Health and Human Services, 2012). Organizations that provide services to families of very young children, such as early care and education and early intervention, can play important roles in preventing child maltreatment because of their close and consistent contacts with these families. Achieving broad reach to such families requires conceptual frameworks for prevention as well as training and interventions that can be feasibly disseminated to a large and varied workforce.

Conceptually, there are two different approaches to child maltreatment prevention. One approach focuses on reduction of known risk factors for maltreatment such as coercive interactions (Sanders & Pidgeon, 2011) and social isolation (Garbarino & Barry, 1997). Interventions to reduce risk factors are often intensive and require service delivery by a specialized workforce, such as social workers, counselors, nurses, or psychologists; this requirement limits the reach and availability of services for populations in need.

An emerging second approach focuses on building protective factors that, in the presence of risk factors, appear to reduce the likelihood of maltreatment. For example, increasing parental resilience may positively impact parent–child interactions. Protective factors have been deliberately incorporated into the *Preventing Child Abuse and Neglect* curriculum (PCAN; Seibel, Britt, Gillespie & Parlakian, 2006). PCAN is a professional development curriculum designed to prevent child abuse and neglect of infants and toddlers by supporting parent–provider partnerships in early care and education settings (ZERO TO THREE, 2012. See box The *Preventing Child Abuse and Neglect* [PCAN] Model). It is important to note that no research to date has examined the application of this curriculum with professionals outside of early care and education.

Professionals within early intervention systems support young children who have or who are at risk for disabilities or developmental delays and are ideally placed to promote protective factors given the close and supportive relationships they form with parents as they assist families to meet specific individualized goals related to their child's development. This potential to support and build protective factors among these families is particularly relevant as very young children with developmental disabilities represent a population at potentially elevated risk for child maltreatment. This elevated risk is due to a confluence of risk factors including increased rates of child behavior problems in this population, increased parental stress in families with young children with disabilities, and

The *Preventing Child Abuse and Neglect* [PCAN] Model

PCAN is comprised of 10 units of instruction: eight for providers and two for supervisors. It incorporates a relationship-based and reflective approach. The PCAN curriculum was designed specifically to be flexible. Each unit can be delivered over variable lengths of time ranging from 1 hour to 1 day. The three overarching areas of focus of the PCAN curriculum are: (a) building effective relationships with parents and their very young children, (b) understanding the impact of abuse and neglect on infants and toddlers, and (c) helping directors build workplaces that support staff in reducing the risk of child maltreatment (Seibel et al., 2006).

increased social isolation. The vulnerability of this population is highlighted by research that has linked child maltreatment with disabilities (Sullivan, 2009; Sullivan & Knutson, 2000), as well as the development of evidence-based parenting interventions for this population specifically (Tellegen & Sanders, 2013).

Building Effective Relationships With Parents and Their Very Young Children

Key to child maltreatment prevention are healthy relationships, with the most crucial one being the parent–child relationship. The Center for Disease Control and Prevention's (CDC) strategic direction for child maltreatment prevention promotes safe, stable, and nurturing relationships between children and adults as "a vaccine against maltreatment and other adverse exposures occurring during childhood that compromise long-term health" (CDC, 2008, p. 2). As it relates to workforce enhancement, this approach can make use of the power of parallel process in which the feelings and experiences in one relationship can be brought into, and have an effect on, another relationship (Seibel et al., 2006).

There is troubling evidence that, although valued, there is a gap between current family-centered models and actual everyday practices (Dunst, 2002). Relationships with marginalized parents such as minority members (Harry, Klingner, & Hart, 2005) and adolescent mothers (Lea, 2006) seem to be the most problematic. It is not uncommon for parents to feel that they are not respected or treated as equals in decision making (Canary, 2008), and they may also experience fewer family-centered practices than professionals perceive that they are offering (Dunst, Johanson, Trivette, & Hamby, 1991). Possible reasons for the mismatch between professional and family perceptions could be that other providers (e.g., child protective services staff, physicians, insurance companies) may have created an atmosphere of mistrust between parents and professionals (Shannon, 2004). Regardless of the cause, it is clear that more attention should be paid to the early interventionist–parent relationship.

Photo: Marilyn Nolt

Increasing parental resilience may positively impact parent–child interactions.

Reduction in risk for child maltreatment cannot occur without intentional focus. Brandon et al. (2008) reiterated that "child protection cases do not always come labeled as such" and, therefore "safeguarding children must be 'everyone's responsibility' " (p. 314). Segal, Opie, and Dalziel (2012) found that having a stated objective of reducing child maltreatment considerably increases the chance of success in doing so. While this may seem simplistic, it points to the need for clearly defined program objectives and for addressing child maltreatment in the IDEA Part C community.

THE NEED FOR MALTREATMENT PREVENTION TRAINING FOR THE EARLY INTERVENTION FIELD

An important consideration is that while early interventionists are in a position to prevent child maltreatment, they rarely receive adequate training to do so. Training in child abuse prevention for IDEA Part C early interventionists typically does not extend beyond mandated reporter training which is typically required to obtain or renew professional credentials to provide early intervention services.

Given this lack of specific focus on child maltreatment prevention or intervention, strategic workforce training in a protective factors framework to support and strengthen families and prevent maltreatment is important for individuals within the early intervention system. However, this goal is hampered by the dearth of curriculum developed specifically for the early intervention workforce to assist them in forming and sustaining their ability to support parents and promote protective factors. Thus, one goal of the Family Networks Project (Shapiro, Kilburn, & Hardin, 2014) was to determine whether the PCAN curriculum could be modified specifically for an early intervention workforce.

Curriculum Modification Procedure: Action Research in Professional Development

At first glance, professional development and action research might seem theoretically divergent. Professional development implies at least some elements of autocratic decision making, while action research is based upon collaboration, participation, democratic decision-making, and emancipation through critical self-reflection (Kember & Gow, 1992). However, the action research process can be incorporated into the design,

implementation, and improvement of professional development. For example, Benson, Brack, and Samarwickrema (2012) used action research to refine, iteratively develop, and evaluate the workshop model for improving technology use through online training at the university level.

The cyclical nature of action research includes planning, action, observation, and reflection (Lewin, 1946). The participatory, active, and democratic process naturally incorporates a plan for making needed modifications and for validating the salient aspects that, at least during the planning phase, might not have been apparent. It is "useful as a tool for professional development as it blends the emancipatory elements inherent in participatory models with iterative cycles of action and research" (James, 2006, p. 252). It is not surprising, then, that action research as a process is beginning to gain attention in professional development efforts.

THE PCAN CURRICULUM ACTION RESEARCH PROCESS

Because early intervention professionals include those from a wide range of disciplines, as part of a larger effort (Shapiro, 2014; Shapiro et al., 2014) we identified one specific subset of the early intervention workforce for this project—special instruction providers. Special instruction is the early intervention service that is oriented toward parent education and child development and learning. Special instruction providers design interventions and assist families to meet specific individualized goals related to the child's development. In the state in which the current project was conducted, special instruction providers are assigned to every family that receives IDEA Part C services. Therefore, they are in an excellent position to provide key support for parents. Other early intervention professionals that provide services for young children (e.g., speech, occupational, or physical therapists) were not targeted for this initial modification of the PCAN curriculum. (See box Description of *Preventing Child Abuse and Neglect* (PCAN) Training Sessions and Participants.)

To conduct the curriculum modification, the plan/act/fact-find action research loop, a recommended method for professional development (López-Pastor, Monjas, & Manrique, 2011) was completed three times, as outlined in Figure 1. The project design used mixed methods with both quantitative and qualitative measures.

Action research loop #1. Round One training.

Plan. To begin the process, we created a stakeholder workgroup to examine the PCAN curriculum. Members included state-level representatives from agencies and organizations that support early childhood education, child abuse and neglect prevention, and disability services, along with relevant university faculty and staff. It is important to note that several members of this workgroup had prior substantial knowledge of the PCAN curriculum and had undergone PCAN training. One member of the workgroup was responsible for conducting a large number of PCAN training courses within the state for several provider groups, primarily child care providers.

Photo: © iStock.com/Pawel_Czaja

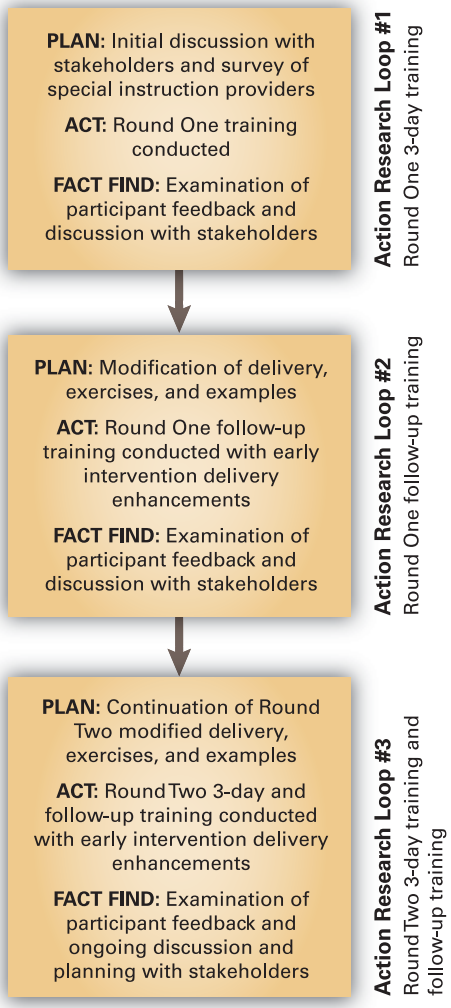
Professionals within early intervention systems support young children who have or who are at risk for disabilities or developmental delays.

We developed a survey for the special instruction providers with input from the stakeholders. We generated a list of 48 key concepts from the PCAN curriculum content to use in the online survey. The survey was e-mailed to 52 special instruction providers in the region of the state targeted for the project. They were asked to indicate which topics were of interest to them by responding "Yes" or "No" to each topic. Topics included items such as "concepts of self-awareness, careful observation, flexible responses", "parallel process in relationships" (how one relationship impacts another relationship), "thinking about parent–provider partnerships", "using reflection to shape decisions", "responding to troubled parent–child interactions" and

Description of *Preventing Child Abuse and Neglect* (PCAN) Training Sessions and Participants

A total of 70 IDEA Part C special instruction providers participated in the *Preventing Child Abuse and Neglect* (PCAN; Seibel et al., 2006) training. Two separate rounds of training were delivered for the action research process; 56 special instruction providers participated in the first round and 14 participated in the second round. All participants were women and all were working in a five-county region of the state in which the larger project occurred. Participants represented 13 different agencies. Most (77% of Round One participants and 79% of Round Two participants) had been employed at their current agency for less than 3 years. All of the special instruction providers held at least a bachelor's degree; 11 (16% of total) had earned a master's degree. The majority (66% of Round One and 57% of Round Two) held degrees in early childhood education, psychology, or elementary education. Only 5 total (7% of total) had college degrees in a special education field. About one half of the participants in Round One provided their dates of birth; approximately half of those who reported a date of birth were less than 31 years old, while fewer (21%) were more than 40 years of age. Besides the differences in training group size, the groups did not appear to differ in any substantive way.

FIGURE 1. **The Research Loops**



"culture, parenting, and child maltreatment." Responses to the PCAN content survey were received from 43 special instruction providers (83% response rate). For each content area, the majority of special instruction providers (65%–100%) indicated that the topics were of interest to them. On the basis of the results of this survey, no content areas were eliminated from the PCAN training curriculum. PCAN training for Round One included content from PCAN curriculum units 1–8 with no modifications to the original PCAN curriculum or its delivery.

Act. Round One PCAN training was conducted, with 56 special instruction providers in attendance. Course evaluations and pre–post assessments were conducted.

Fact find. Overall, ratings were fair to good, with means ranging from 4.66 (*SD* = 1.34) for overall satisfaction on the Day 1 training to 5.66 (*SD* = 0.84) for course presentation on the Day 2 training. Means were based on a 7-point scale in which 1 was *poor*, and 7 was *excellent*. There were perceived knowledge changes in the desired direction for each training day. Qualitative analyses of the open-ended question about course strengths generally indicated that the presenter was knowledgeable and the interactions and information were good. Themes evident in the open-ended question about course weaknesses included concerns about the length of the training (too long), believing that the course content was already familiar to them, and that there were too many activities. Suggested improvements included having smaller training groups, having the curriculum better address the unique needs and challenges of special instruction providers, and reducing the course length. The course ratings and comments were reviewed by the key stakeholder group.

Action research loop #2: Follow-up training with early intervention delivery enhancements.

Plan. Given the feedback from the Round One training, we modified the follow-up training to be more tailored to the work of early intervention professionals. The training modifications included the addition of an experienced PCAN trainer who had professional work experience in the early intervention field to co-lead the follow-up training. Also, we replaced the original examples and exercises (that were geared for a child care provider audience) with those directly applicable to the early intervention workforce. Course content for the follow-up training included an overview of the protective factors framework for maltreatment prevention as well as a series of "topic tables" designed to generate discussion and allow for reflection.

Act. Follow-up training included the planned changes and was held 5 months after the original training. A total of 34 special instruction providers attended the follow-up training.

Fact find. Overall, course evaluation ratings improved as compared to the ratings of Days 1, 2, and 3. The special instruction providers rated the course presentation and content highly (average rating of 6.65, *SD* = 0.42, and 6.33, *SD* = 0.36, respectively, on a 1–7 scale). Overall course satisfaction also was higher and at 6.31 (*SD* = 0.70). Ratings of the Round One follow-up training (with the early intervention enhancements) were compared with the ratings of training Days 1, 2, and 3 with no such enhancements for the 26 participants who attended all 3 training days plus the follow-up training. Because the rating means changed in the favorable direction, we decided to continue with the early intervention delivery enhancements for Round Two PCAN training.

Action research loop #3: Round Two 3-day and follow-up training with early intervention delivery enhancements.

Plan. On the basis of the results of Action Research Loop #2, we decided that the second round of training would also have the early intervention delivery enhancements of the Round One follow-up training: continuing with a presenter with an early intervention background similar to the participants and inclusion of examples and exercises relevant to this workforce. That is, the Round Two 3-day training differed from the Round One 3-day training in that it had the delivery enhancements. The Round Two follow-up training had the same format—with the delivery enhancements—as the Round One follow-up training.

Act. Fourteen special instruction providers attended the Round Two PCAN training.

Fact find. Most course evaluation ratings approached the highest rating score of "7"; means ranged from 5.94 (*SD* = 0.56) for course content on Day 1 to 6.89 (*SD* = 0.05) for course presentation for the follow-up training. As with Round One, perceived knowledge gains were seen on all 3 days.

DISCUSSION

The current project was a preliminary examination to determine whether application of the PCAN curriculum of the Strengthening Families approach could be applied to an early intervention workforce. The plan/act/fact-find loop of participatory action research appears to be a viable approach to effectively modify a curriculum for professional development to apply to an audience of IDEA Part C special instruction providers for whom it was not originally intended. The PCAN curriculum has the potential to increase early intervention professionals' awareness of strategies to support parents and their relationships with their young children in a way that can strengthen families and potentially diminish the likelihood of child maltreatment. Through this process, the PCAN curriculum and its delivery were modified so that special instruction providers were satisfied with the training and experienced knowledge gains in key skill areas.

We enhanced the curriculum delivery for the early intervention workforce by adding a co-presenter with professional experience similar to that of the participants and by modifying curriculum examples and activities to reflect the work experiences and level of knowledge of special instruction providers. The fact that participants perceived pre–post knowledge gains but lower satisfaction and ratings of relevance in the first round of training underscored the need to make additional modifications to the training process. These later modifications appear to have resulted in a training process that providers rated highly in terms of both knowledge gains and satisfaction.

Demographic information about the special instruction providers in this project, although limited, suggests that most participants had relatively limited education or experience in working with families with risk factors of child maltreatment or with families with children with special needs. Special instruction providers also typically have limited to no training in child maltreatment prevention, which supports the need for training and support in this area. The modified PCAN training curriculum represents one possible way to fill this gap.

Although it was not feasible within the parameters of this project to directly examine the impact of PCAN training on the quality of special instruction providers' interactions with families, indirect information on this impact was obtained from the results of the larger project in which this study was embedded (Shapiro et al., 2014). The larger project involved two separate randomized clinical trials of a parenting intervention conducted in two geographic regions of one state. The PCAN training described here was provided to all special instruction providers in the catchment area for one of the two studies. It is interesting that participation in the separate parenting intervention (not conducted by the special instruction provider) by families in the region where special instruction providers received PCAN training was much better than family participation in the second study, which did not include PCAN training for special instruction providers (Shapiro et al., 2014). Specifically, attrition from the separate parenting intervention in the PCAN-trained region was 15% as compared to 40% from the non-PCAN trained region. It is possible that the stronger and more supportive relationships the PCAN-trained special instruction providers forged with the families on their caseloads may have influenced these findings. That is, the families with PCAN-trained special instruction providers may have felt more supported, which improved the families' ability to participate in the parenting intervention (provided by an outside individual).

Photo: Marilyn Nolt

Because the parent–child relationship is the bedrock of early intervention practice, professional development that focuses on specific ways in which providers can support this relationship can promote stronger, more stable families.

Future Directions

We recommend applying the participatory action research approach to further improve the PCAN curriculum for its

Learn More

Family Networks Project
www.acf.hhs.gov/programs/cb/news/the-family-networks-project

The Protective Factors Framework
Center for the Study of Social Policy (2012)
www.cssp.org/reform/strengthening-families/basic-one-pagers/Strengthening-Families-Protective-Factors.pdf

***Strengthening Families: A Guidebook for Early Childhood Programs* (2nd ed.)**
Center for the Study of Social Policy (2007)
www.cssp.org/reform/strengthening-families/resources/body/SF_Guidebook_2nd_Ed.pdf

National Quality Improvement Center on Early Childhood
C. Harper Browne (2014)
Zero to Three, 35(1), 2–9

delivery for special instruction providers. Qualitative results showed that the training would be more beneficial by shortening the length of time required for content delivery and by increasing post-training support, including supervisory support. Previous work in this area (McGuigan, Katzev & Pratt, 2003) highlighted the importance of on-going supervision in preventing child abuse and neglect. Specifically, training supervisors in reflective supervision practices and the addition of two to three follow-up training sessions (e.g., quarterly) for the first year of practice may be helpful. It is apparent that the PCAN curriculum content is meaningful for special instruction providers and is likely relevant to other early interventionists who work with this population of very young children with risk factors related to child abuse and neglect. This training also could be meaningful for other professionals who have direct contact with families with young children with special needs. In particular, it could be beneficial for professions of social services, medicine, and mental health.

Based on our findings, the participatory action research approach to modification of a curriculum for another workforce shows promise. In the case of this project, the delivery of the modified PCAN curriculum to an early intervention workforce appears to be feasible and practical. The curriculum and focus on protective factors for strengthening families and preventing child maltreatment appear to be relevant and useful for this workforce. Because the parent–child relationship is the bedrock of early intervention practice, professional development that focuses on specific ways in which providers can support this relationship can promote stronger, more stable families. Given that providers in the early intervention workforce rarely receive training designed to promote protective factors and reduce maltreatment, we recommend incorporating PCAN training as a standard component of in-service training for this diverse workforce. Such training may then become incorporated into standard procedures for acquiring and maintaining a credential in this field.

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Disclosure

Cheri Shapiro is a consultant for Triple P America.

Janice E. Kilburn, PhD, is the early intervention community coordinator for South Carolina First Steps to School Readiness, the state's comprehensive early childhood education initiative. Previously, she served as project coordinator of The Family Networks Project, a child maltreatment prevention initiative funded by the Quality Improvement Center for Early Childhood. She has worked in a variety of settings that address education and healthy child development, including education consultant, administrator, director, visiting professor, and school psychologist. She earned her bachelor's degree in psychology at the Pennsylvania State University, a master's degree in school psychology at the Ohio State University, and a doctorate in developmental psychology at Cornell University.

Cheri J. Shapiro, PhD, is a research associate professor and associate director of the Institute for Families in Society at the University of South Carolina. The Institute specializes in applied and translational research to promote the well-being of families. Past positions include director of the Psychological Services Center at the State University of New York at Buffalo, director of Consultation and Evaluation Services for the South Carolina Department of Juvenile Justice, project coordinator for the Multimodal Treatment Study of Children With ADHD (MTA), project director of the U.S. Triple P System Population Trial, and principal investigator of The Family Networks Project, a child maltreatment prevention initiative funded by the Quality Improvement Center for Early Childhood.

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IN MEMORIAM
Kathyrn E. Barnard

"Babies can't wait." It was this mantra that drove Dr. Kathyrn Barnard through a remarkable lifetime dedicated to infants, toddlers, and their families. Kathy died on June 27 at her home in Seattle. She was 77. Babies everywhere have lost a champion, and we at ZERO TO THREE, and in the pediatric community, have lost a friend, a colleague, a researcher, an innovator, and a policy leader.

Dr. Barnard joined the ZERO TO THREE Board in 1978, and served for 37 years. From 1991 to 1993 she served as Board President. She held an international reputation as a researcher, including development of the widely used NCAST (Nursing Child Assessment Satellite Training) Scales, a successful training model that includes important tools for observing and understanding parent–infant interactions. She was an advocate for prevention in nursing, pediatrics, parenting, and mental health.

Dr. Barnard earned her bachelor's degree in nursing from the University of Nebraska, her master's degree in nursing education from Boston University, and her doctorate in ecology of early childhood development from the University of Washington. She worked at the intersection of education, research, public policy, and practice, improving each through tireless efforts focused on the mental health of infants and the inseparable connection between parents and young children.

In the early 1970s, she was commissioned by the U.S. Public Health Service to develop research to identify children at risk for later developmental challenges based on their early environments. Her research on premature infants led her to discover that gentle parental touch and specifically rocking improved infant weight gain. Today, rocking by both parents and hospital careworkers are considered standard practices, and Dr. Barnard considered it among one of her proudest accomplishments.

Dr. Barnard was a guiding force in the Early Head Start Research Consortium and served on the committee that created Early Head Start. She challenged members to conduct research that was sensitive to the special relationship between parents and their young children.

Dr. Barnard taught and conducted research at the University of Washington. She served as associate dean of the University of Washington School of Nursing in the 1990s and founded the university's Center on Infant Mental Health and Development in 2001. It was renamed in her honor in 2012.

As groundbreaking as Dr. Barnard's contributions to the field have been, they are eclipsed perhaps only in the support that she provided to those who shared her dedication to infant development. Dr. Barnard's colleagues, and many of the next generation of leaders whom she trained, mentored, and inspired, principally through ZERO TO THREE's Fellowship Program, remember her for her indefatigable commitment to infants, her warm and sharp sense of humor, and her wisdom.

Dr. Barnard's work has been internationally recognized. She shared the Gustav O. Leinhard Award from the Institute of Medicine with T. Berry Brazelton. In 2010 she was awarded the Episteme Award from Sigma Theta Tau International Nurse Researcher Hall of Fame. This recognition honors members who are nurse researchers who have achieved long-term, broad national and/or international recognition for their work; and whose research has impacted the profession and the people it serves. In 2006, she was honored with the Living Legend Award from the American Academy of Nursing.

This December at the conclusion of ZERO TO THREE's National Training Institute in Seattle, WA, there will be a memorial service for Dr. Barnard. At that time, ZERO TO THREE will honor her with our Lifetime Achievement Award which she learned about prior to her passing and will be presented posthumously.

As we remember Kathy Barnard, we remember the innovative nurse, the tireless advocate, the inspiring mentor. Dr. Barnard was committed to putting research into practice to improve the lives of babies. Her fearless determination helped shape public policy and promote the special and sensitive relationships that exist between parents and their young children. It is now up to us to continue her legacy.

Jargon Buster

Given the multidisciplinary nature of our work with infants, toddlers, and families, we often come across words or acronyms that are new or unfamiliar to us. To enhance your reading experience of this issue of *Zero to Three*, we offer a glossary of selected technical words or terms used by the contributing authors in this issue. Please note that these definitions specifically address how these terms are used by the authors in their articles and are not intended to be formal or authoritative definitions.

Action Research	Action research includes planning, action, observation, and reflection. This participatory, active, and democratic process naturally incorporates a plan for making needed modifications and for validating the salient aspects that, at least during the planning phase, might not have been apparent. [Find it in Kilburn & Shapiro, p. 57]
The AMOR Hierarchical Sequence	Over the first few months of life, newborns face a series of hierarchically organized tasks in self-regulation that are in some ways similar to stages. These tasks are summarized by the acronym AMOR, for Autonomic, Motor, Organization of state, and Responsiveness. [Find it in Nugent, p. 2].
The Brazelton Centre UK	The Brazelton Centre UK was founded in 1997 to offer professional training to health professionals working with infant and families. These education and training programs target practitioners working with families in the early postnatal period (birth to 3 months old). The practitioners include health visitors, psychologists, midwives, neonatal nurses, occupational therapists, physiotherapists, doctors, psychotherapists, and psychiatrists who work in the National Health Service in the UK. [Find it in Hawthorne, page 21]
The Early Attachment Service (EAS) Model	The Early Attachment Service (EAS) model is a guide to the different levels of support and intervention that are provided to the parent–infant relationship. The model is flexible and inclusive and services are guided by the individual parent–infant needs. [Find it in Hawthorne, p. 21]
Neonatal Abstinence Syndrome (NAS)	Neonatal abstinence syndrome (NAS), the cluster of symptoms seen in newborns withdrawing from opiates, is the most significant effect of prenatal opiate exposure. In the last decade, nationwide data from U.S. hospitals showed a threefold increase in the incidence of NAS. The rise in NAS has far-reaching implications for costs to health care systems, communities, and of course to infants, parents, and their families. [Find it in Spielman, Herriott, Paris, & Sommer, p. 47]
The Strengthening Families Approach	The Strengthening Families approach represents an ongoing national effort to incorporate a framework of specific protective factors into service systems that impact large numbers of very young children including child care and early education. The protective factors, identified through reviews of existing research, include parental resilience, social connections, concrete support in times of need, knowledge of parenting and child development, and social and emotional competence of children. [Find it in Kilburn & Shapiro, p. 57]
Substance-Exposed Newborn	Substance-Exposed Newborn is a fairly broad term, referring to any infant who has been exposed knowingly or unknowingly in utero to a range of substances, including alcohol, nicotine, misused medications, street drugs, and methadone/suboxone. [Find it in Spielman et al., p. 47]

UPCOMING ISSUES

November: **Stressed Parenting: Understanding Risk and Resilience**

January: **Connecting Science, Policy, and Practice: ZERO TO THREE's National Training Institute 2015**

March: **High-Quality Services for Infants, Toddlers, and Families**

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