



# Partners for a Healthy Baby Research Basis

## *Baby's 1<sup>st</sup> Year, Baby's 2<sup>nd</sup> Year, and Toddler's 3<sup>rd</sup> Year*

The *Partners for a Healthy Baby* curriculum was initially developed for the Panhandle Healthy Start Project, a federal Healthy Start initiative designed to reduce infant mortality. Our Home Visitors struggled in knowing when to talk about critical topics and spent hours searching for information to give families about the best strategies for quitting smoking or supporting their child's development. The *Partners* curriculum was originally created in 1996 by our FSU multidisciplinary faculty to fill the need for a comprehensive home visiting curriculum that provided a clear focus on the family and a systematic approach to planning and conducting visits that ensured critical topics were discussed. To provide research-informed guidance, our faculty team continues to review the literature from multiple disciplines and simplify into practical strategies for home visitors and easy-to-read Parent Handouts. Our wisdom has grown over the two decades that our FSU team has administered home visiting programs including federal Healthy Start, Early Head Start, and the Young Parents Program for court-involved teen mothers. We've also had the privilege of working with expert practitioners including researchers from Johns Hopkins, Harvard, UNC, Georgetown, as well as from program staff from MIECHV and a variety of home visiting programs across the world to get firsthand the latest research in improving outcomes for young children and their families. It is with this collective home visiting expertise and vast body of research that the *Partners for a Healthy Baby* curricular series was created and continues to be updated.

The *Partners* curriculum is currently used by more than 3700 programs in every state in the U.S., and in Canada. It is also being used by the U.S. Military's New Parent Support Programs in Germany and in many state-side locations. Numerous research-based home visitation models, including Healthy Families, Healthy Start, Early Head Start, teen parent programs, and state health departments use the *Partners* curriculum. The curriculum is unique in that it addresses issues of child health and development within the context of the multifaceted needs of expectant and parenting families. The content in each book of the four-volume series supports the home visitor's ability to systematically plan and address key topics that are essential in achieving both family and program outcomes. For each topic there are specific purposes that define the home visit, with suggested follow-up activities and recommended resources. The full-color handouts for families, available in English and Spanish, summarize critical information and help the home visitor introduce subjects that may otherwise be difficult to talk about.

The *Partners for a Healthy Baby* curricular series has been informed by the robust body of research that underscores the importance of the early childhood period in building a solid foundation for a baby's future development. Five key areas of research have been pivotal in the development of the *Partners* curricular series. *Developmental Theory* provides the fundamental basis for the curriculum's section on Baby's and Toddler's Development. Because "there is no such thing as just a baby," the *Family Systems* literature has been used to address the interconnectedness and influence of family members on each other (Sameroff, 1995). Likewise, this interconnection fuels a baby's desire for attachment, communication, and movement. Thus, the curriculum uses an *Infant Mental Health* framework to acknowledge that it is "all about relationship." A primary goal of home visiting programs is to empower families and increase their resiliency. Toward that end, the *Strengthening Families* literature, especially the five protective factors, has been used to guide the development of the curriculum content. Parenting has many challenges, but all are exacerbated by poverty. We've pulled from the extensive literature about the pervasive and deleterious effects of Poverty to develop content that home visitors can use to inspire and equip families to seek a better life. An overview of each of the key areas of research used in developing the *Partners* curriculum follows.

***Developmental Theory.*** Decades of research have finally closed the debate regarding nature versus nurture as now the complex interaction between *both* heredity *and* environment in influencing development has been well documented. As explained by classic developmental theorists, the first year of life is characterized by dramatic transformations in every area of development. From a Piagetian perspective, the first year of life focuses on the sensori-motor stage in which children experience the world through movement and senses (Piaget, 1960). From an Eriksonian perspective, the first year is focused on building trust and security.

From Bowlby's and Ainsworth's attachment theories (Bowlby, 1982; Ainsworth, Blehar, Waters, & Wall, 1978), we have learned that relationships are the basis of all development.

Classic developmental theory has been further substantiated and enhanced by neuroscience documenting the first year of life as an unparalleled time of rapid growth and development. Neurobiological research has confirmed that the human brain is not fully developed at birth so during infancy it is more receptive to both positive and negative influences. Development that occurs in the first year of life is much more vulnerable to environmental influences than ever suspected (Shonkoff, Boyce, & McEwen, 2009). Research in epigenetics has revealed how adverse experiences may chemically alter the DNA, which may result in permanent adversity throughout this child's lifetime, *and* be inherited by future generations (National Scientific Council on the Developing Child, 2010). We know with increasing certainty that a child's first years of life are filled with incredible opportunities and vulnerabilities.

**Family Systems.** The *Partners* curriculum is unique in its focus on strengthening the family by addressing the overall well-being of both the child and the family. Widespread consensus in the field is that the emotional health and social competence of young children are most influenced by the quality of their environment. A key component of that environment is the child's primary caregiver—the center of the baby's emotional universe and mediator of all the influences in the child's world (Bowlby, 1982). As Winnicott reminds us, "There is no such thing as a baby; there is a baby and someone." (Winnicott, 1964). It is also the network of family, friends, and community that serves to nurture and support the child's healthy development. This ecological model of child development recognizes the various demographic and environmental factors that influence the child's growth and development. The functioning of the child is understood in the context of the parent and child interactions (Sameroff, Lewis, & Miller, 2000). Family Systems theory has been essential in comprehending this interconnectedness of family members (Sameroff, 1995). Research has increasingly substantiated how biological, social, and environmental influences interact during the first three years of life to impact health and development (Shonkoff, Boyce, & McEwen, 2009). Families facing challenging issues such as depression, poverty, and substance abuse require more than parenting education; they may also need specific interventions that address these problems (Ramey & Campbell, 1984). In order to improve the lives of young children, we must support the complex needs of their first and most important teachers—parents—by "providing interventions that specifically address parental risk factors" and by "addressing the concrete needs of the family." (Knitzer & Lefkowitz, 2006).

Children ultimately benefit when their parents are able to achieve their goals. The content in the *Partners* curriculum is intended to support parents' efforts to succeed by addressing their concerns about relationships, careers, finances, health, nutrition, and self-esteem. We know firsthand the joys and challenges of parenting — how difficult it can be when a parent can't console their crying baby, when they worry their baby isn't developing at the right rate, or when their baby seems sick and they don't know what to do. Having unrealistic expectations about young children is a major cause of child abuse and helping parents understand development is critical to preventing abuse (Child Welfare Information Gateway, Children's Bureau, & FRIENDS National Resource Center For Community-Based Child Abuse Prevention, 2011).

**Infant Mental Health.** The first year of life forms the foundation for a child's social and emotional development. Bowlby originated the concept of attachment theory, which he defined as the seeking of proximity to an attachment figure (Bowlby, 1982). He explained how early attachments influence emotional well-being throughout adulthood. Ainsworth furthered the understanding of attachment theory by defining secure and insecure attachments and how early attachments affect future relationships (Ainsworth, Blehar, Waters, & Wall, 1978). Secure attachments are developed over time through nurturing, responsive caregiving. Insecure attachments may occur when the baby's physical and/or emotional needs are not met as a result of erratic or inconsistent caregiving, separations, abuse or neglect, addictions, or other reasons for emotional unavailability (Zeanah, 2009). It is the quality of the baby's first relationships that creates the foundation for all future relationships. The content in the *Partners* curriculum serves to support home visitors' efforts to enrich relationships between the baby and his caregivers, between parents, and among the family's entire support system.

**Strengthening Families.** In addition to addressing issues that impact the physical and emotional well-being of the family, the content in the *Partners* curriculum is aligned with the classic research about strengthening families. Parenting can be challenging even in the best of times, but it is especially difficult for new families experiencing sleep deprivation, fatigue, and inconsolable crying. In an effort to develop a strength-based approach toward child abuse and neglect prevention, the Center for the Study of Social Policy's *Strengthening Families Program* identified five protective factors that are linked to a reduction in maltreatment. The factors shown to promote stable and nurturing families include parental resilience; social connections; knowledge of parenting

and child development; concrete support in times of need; and social and emotional competence of children (Center for the Study of Social Policy, 2015). These protective factors promote children's health and resiliency as shown in partnership with the American Academy of Pediatrics promotion for primary care providers (Center for the Study of Social Policy and American Academy of Pediatrics, 2015).

These factors provide an organizational framework for the curriculum content. The protective factors of parental resilience, social connections, and concrete support for families are addressed in the *Family Development* and *Maternal & Family Health* Categories of the curriculum, which includes information and strategies for ensuring the family's healthy physical and emotional development. When families have their needs met, they are more resilient, and better able to access and appropriately use the social connections and support needed to meet their basic needs, including the needs of their baby. The protective factor, knowledge of parenting and child development, is addressed in *Partners* under the Category *Caring for Baby* to help parents become more confident and competent to meet their young child's basic needs, especially in the areas of safe sleep and breastfeeding. The content in this Category also provides strategies for dealing with the challenging behaviors that are typical of the toddler years, with an emphasis on guiding and supporting their young child's behavior in a way that supports the development of a positive sense of self and offers co-regulation for the young child rather than on disciplining their child. The *Baby's/Toddler's Development* Category in *Partners* includes information to help parents know what to expect with their young child's development and provides strategies for them to begin the important process of bonding with their baby.

**Poverty.** The *Partners* curriculum content is aligned with the latest research on the impact of poverty, one of the most pervasive social determinants of health disparities and adverse health outcomes across the life cycle (American Academy of Pediatrics, 2016; Egen, Beatty, Blackley, Brown, & Wykoff, 2017). By almost every measure of health and development, children born into poverty are at a greater risk for poorer outcomes than their higher income peers and the research is clear that growing up in poverty has a toxic impact on young children (Yoshikawa, Aber, & Beardslee, 2012). Approximately one in five children in the United States lives in poverty (Jiang, Ekono, & Skinner, 2015).

Most home visiting programs seek to help vulnerable families, many of which are impacted by generational or situational poverty. One in five children in poverty has a diagnosable mental health disorder (Masi & Cooper, 2006). Children in poverty are more likely to be low birth weight and exposed to substance abuse and second-hand smoke (Bolig, Borkowski, & Brandenberger, 1999). The co-occurrence of these problems is especially prevalent in low-income families compared to the general population (Lawrence, Chau, & Lennon, 2004). Poverty impacts brain development (Noble, Houston, Kan, & Sowell, 2012; Jednorog et al., 2012) not only from the economic stress but the high amounts of toxic stress that decreases cortical gray matter, and hippocampal and amygdala functions (Luby et al., 2013). Parents living in poverty spend less time in learning-related activities with their young children, including reading, teaching, and talking. These findings are strongly related to children's vocabulary and IQ scores at 3 years of age (Hart & Risley, 1995) and other indicators of school readiness (Bennett, Weigel, & Martin, 2002; Fergus-Morrison, Rimm-Kaufman, & Pianta, 2003).

At school age, children exposed to poverty are at an increased risk of difficulties with executive function such as self-regulation, inattention, impulsivity, and poor peer relationships (Boyle et al., 2011), as well as being at risk for poorer cognitive outcomes and school performance, in addition to the continued impact on mental, emotional and behavioral health into adulthood (Yoshikawa, Aber, & Beardslee, 2012). Although adverse childhood experiences that negatively impact lifelong health (Felitti et al., 1998) are common across socioeconomic levels, children in poverty are more likely to be exposed to maltreatment or violence, or to live in a single parent household with a family member who is incarcerated or has a mental health or substance abuse issue.

Decades of research have informed us about interventions that can minimize the disparities associated with poverty. The more recent neuroscience inspires hope that the malleability of the brain allows it to respond positively to nurturing stable relationships. This means that by ensuring a good start in life, we have more opportunities than ever imagined to promote learning and prevent damage. The *Partners* curriculum incorporates this research in an effort to support the home visitor's ability to work more effectively with families living in poverty and improve the likelihood they will experience positive outcomes. Home visitors can play a pivotal role in reducing the effects of early adversity and poverty (Rosenthal et al., 2010) by helping families manage stress, expand support systems, and enhance early caregiving (Schickedanz, Dreyer, & Halfon, 2015; McEwen & McEwen, 2017).

Every volume in the *Partners for a Healthy Baby* curriculum series is organized into four major Categories with each having a set of key Topics derived from the research on improving developmental outcomes, strengthening families, and overcoming the effects of poverty, in addition to practical topics generated by focus groups with families and home visitors.

**Family Development:** *Empowerment; Relationships & Support; Fatherhood; and Career Development & Finances*

**Maternal & Family Health:** *Alcohol, Drugs, & Tobacco; Sex, STIs, & Family Planning; Family Health Care & Safety; Nutrition & Exercise; Pregnancy & Interconception Care; and Emotional Health*

**Caring for Baby:** *Nutrition & Feeding; Health & Safety; Daily Care Routines; and Parenting & Guidance*

**Baby's Development:** *Developmental Skills; Language & Literacy; Social Emotional Development; and Play, Learning, & Cognition*

A brief summary of the literature supporting the four major Categories and the Topics in each is provided below.

## Family Development

The *Partners* curriculum is unique in its focus on strengthening the overall well-being of the family. Family systems theory shapes our belief that children ultimately benefit when their families have healthy self-esteem, a network of support, a good education, and adequate finances. The content in the *Family Development* category is based on the literature about strengthening families during this stressful transitional period and compelling research documenting how supportive relationships can shape social and emotional well-being. The protective factors shown to promote stable and nurturing families are parental resilience; social connections; knowledge of parenting and child development; concrete support in times of need; and social and emotional competence of children (Center for the Study of Social Policy, 2015). parental resilience; social connections; knowledge of parenting and child development; concrete support in times of need; and social and emotional competence of children (Center for the Study of Social Policy, 2015).

The content in this Category is intended to help home visitors empower families to rise out of poverty; facilitate the parents' ability to become more resilient and develop effective coping strategies in an effort to prevent abuse; ensure that families build healthy relationships and expand their network of support; support Dad's competence and confidence as a parent and encourage his involvement; and support the family's efforts to finish school and become more financially stable. Topics in this Category are *Empowerment; Relationships & Support; Fatherhood; and Career Development & Finances*. A brief summary of the literature for each Topic is provided below.

**Empowerment.** A key to promoting stable families is ensuring that their basic needs are met. The rationale for this goes back to Maslow's Hierarchy of Needs (Maslow, 1943). Maslow believed that all needs become secondary until the most basic and instinctive biological and physiological needs are met. Home visitors know firsthand that ensuring families' basic needs are met is essential before they can begin helping families identify and reach their goals. For some families, this can be particularly challenging because they often feel powerless and have little hope that the future can be different. Having inner strength and confidence are often seen as the first steps on the ladder of moving from poverty to prosperity, as documented in the World Bank's Moving Out of Poverty project (Narayan, Pritchett, & Kapoor, 2009).

Information in the *Empowerment* Topic is aimed at inspiring families to have goals and dreams for a better life for themselves and their new baby. A mentor or other supportive person who fosters trust can provide the encouragement a family needs to make progress toward achieving their goals (Ayton & Joss, 2014). This mentor role is often a primary function of the home visitor. In order to help a family make progress toward their goals, the home visitor needs to understand the family's readiness for change and then tailor interventions across the continuum of readiness (Cardona, Mobley, & Schwab-Zabin, 2007). This helps families bridge where they are now to where they want to be. Information in this Topic serves to further support the family's process of making positive life changes by addressing how to overcome obstacles, make good decisions, build support networks, and feel empowered by their progress.

Many families lack a sense of empowerment when life seems overwhelming. Even the most seasoned parents struggle to cope when they can't console their crying baby, or when the baby seems sick and they don't know what to do. When a parent feels helpless their ability to parent is negatively impacted (Solomon, 2003). A factor in building stable families is enhancing the parent's resilience and ability to cope (Child Welfare Information Gateway, Children's Bureau, & FRIENDS National Resource Center for Community-Based Child Abuse Prevention, 2011). The keys to resilience (such as optimism, altruism, social supports, a sense of humor, facing fears, and spirituality), which can mitigate the negative effects of stress and other risk factors (Rosenbaum, & Covino, 2005), are addressed in this Topic.

***Relationships & Support.*** New parenthood can be a stressful time physically and emotionally. Even the most experienced parents are stressed by the combination of a crying baby and sleepless nights. A support network of friends, family and neighbors is a key factor in reducing maternal stress (Leahy-Warren, McCarthy, & Cocoran, 2012) and in promoting stable families (Child Welfare Information Gateway, Children’s Bureau, & FRIENDS National Resource Center For Community-Based Child Abuse Prevention, 2011).

Strong social-support networks are especially important to successful single parenting and first-time mothers (Shenk et al., 2017) and have been associated with increased parental responsiveness (Taylor, Conger, Robins, & Widaman, 2015). The strength and support provided through multigenerational bonds is especially helpful for younger generations of mothers. Having a grandmother residing in the home has been associated with improved child cognitive and health outcomes (Pope et al., 1993). The number of parents in the household and the level of social support can have an impact on parenting practices (Simons, Beaman, Conger, & Chao, 1993), children’s academic success, and other child outcomes (Zill & West, 2000; Susman-Stillman, Appleyard, & Siebenbruner, 2003). Having a network of support that includes respected elders and faith leaders is particularly important to African American women (Taylor, 2002; Few & Bell-Scott, 2002). Social support promotes resilience and the ability to cope while preventing isolation—a common factor in domestic violence.

A nurturing family environment lays the foundation for the infant’s social, emotional, and intellectual development. One of the key factors in promoting stable and nurturing families is the quality of the parents’ relationship (Child Welfare Information Gateway, Children’s Bureau, & FRIENDS National Resource Center For Community-Based Child Abuse Prevention, 2011), which affects their ability to focus on their relationship with their child (Bronfenbrenner & Morris, 1998; Susman-Stillman & Erickson, 2002). Positive co-parenting has been shown to increase father involvement, especially among nonresident fathers who are not in a relationship with the baby’s mother (Fagan & Palkovitz, 2011). Healthy adult relationships have been associated with increased parenting competence as well as more sensitive parenting and positive child outcomes (Gable, Belsky, & Crnic, 1992). Support from the father of the baby is associated with more positive maternal childrearing attitudes, less postpartum depression, and overall supporting the new mother in the process of maternal role attainment (Mercer, 1985; Orr, 2004). Additionally, when the father of the baby participates in their care, the children of adolescent mothers are less apt to be hospitalized and die during the first year of life (Barnet, Joffe, Duggan, Wilson, & Repke, 1996). If the biological father is not present, suggestions for finding a reliable father figure are provided as well as strategies for supporting his efforts to be a nurturing figure in the baby’s life.

A new baby in the home has an impact on siblings. While in some cases the adjustment is smooth, it’s not uncommon for siblings to regress or engage in jealous, acting-out behaviors in response to the new baby. According to some experts, children under 18 months seem to have the easiest adjustment to a new baby because they don’t realize how life is about to change for them. Toddlers between 18 months and three years of age seem to have the hardest time adjusting to a new baby. Toddlerhood is often a frustrating time because they are struggling with regulating their behavior and emotions and they don’t yet have the language to express their needs. Four- and five-year-olds have more language and reasoning skills so they are able to handle frustrations better than younger children (Kramer & Gottman, 1992). Regression is a common reaction to a new baby for any age sibling, but it’s usually short-lived, especially if the child gets the love and attention he is seeking. If any changes are about to occur—like new sleeping arrangements or a different childcare provider—they should happen before the baby arrives, so the older child doesn’t feel “de-throned” by the new baby (Lauwers & Swisher, 2005).

Information in the Topic *Relationships & Support* is intended to help the home visitor address the mother’s need for adequate support during the postpartum period; the unique issues faced by single parents; and how to help siblings adjust to the new baby. This Topic also covers the importance of the family expanding their circle of support; the challenges of co-parenting; and the value of nurturing relationships and repairing them after conflict.

***Fatherhood.*** Compelling research documents the importance of Dad’s involvement with his baby. Researchers found that babies whose fathers were absent during pregnancy were four times more likely to die in their first year of life, regardless of the mother’s race, ethnicity, or socioeconomic status. African American children whose fathers were not involved had a seven-fold risk of death in contrast to infants born to Hispanic and white women in similar situations (Alio et al., 2010). New research is showing that interventions aimed at engaging fathers are more successful when done with couples’ groups than with fathers-only groups. One study reported that after a 16-week father/mother group intervention the quality of the couple’s relationship was improved, fathers were more engaged with their children, and the children exhibited fewer problem behaviors (Cowan, Cowan, Pruett, Pruett, & Wong, 2009).

Fathers experience many life changes with a new baby. They have a hormonal response to their babies' cries, which increases their prolactin and testosterone levels and makes them more responsive to baby's cues than non-fathers (Storey, Walsh, Quinton, & Wynne-Edwards, 2000). This increased responsiveness enhances the attachment relationship between father and baby as he helps with normal baby care routines such as diapering, feeding, burping, and bathing. Fathers need this individual time with the baby to create bonding, because the baby may initially show a preference for the mother, especially when breastfeeding. It has also been found that fathers' oxytocin levels were no different from levels observed in new mothers at 6 weeks and 6 months after the baby was born (Gordon, Zagoory-Sharon, Leckman, & Feldman, 2010).

Research shows that fathers experience many of the same hormonal changes previously found only in mothers, triggering a father's responsiveness to baby as well as his increased likelihood of experiencing depression (Paulson, Sharnail, & Bazemore, 2010). A meta-analysis of 43 depression studies found that on average 10.4% of men experience depression sometime between their partner's first trimester and their baby's first birthday. Interestingly, men's hormones also change both during pregnancy and early in the postpartum period. As with women, men's testosterone levels go down and their estrogen levels go up. Rates of paternal depression were highest three to six months after birth when studies found that as many as 25% of new dads were depressed (Paulson, Sharnail, & Bazemore, 2010). This is far greater than the average rate of adult male depression (4.8%) but similar to the rate of maternal postpartum depression (20%). Rates of depression were higher at the entry into fatherhood for non-resident fathers than for nonfathers and non-resident fathers. However, resident fathers show increasingly higher depressive symptom scores during the children's first five years of life (Garfield et al., 2014).

The symptoms of depression in men can look different than those experienced by women. Men are more likely to experience depression in the form of anger, irritability, drinking too much, or detachment and withdrawal rather than through the sadness that women typically experience (Paulson, Sharnail, & Bazemore, 2010). Men are more likely to hide their depression and avoid discussing it with health care providers.

The most accurate predictor for male depression is if his partner is depressed. In fact, 50% of all fathers whose partners have postpartum depression are depressed themselves. This has major implications for treatment—suggesting a need to focus on the whole family. When dad is depressed, he is less likely to be in a position to provide support to mom, which can add to her stress. He is also less likely to be an effective support for the baby in the event that mom is also depressed. When dad is depressed, mom has the added stress of caring for the baby, herself, and her partner (Paulson, Sharnail, & Bazemore, 2010).

The impact of having both parents depressed can be devastating for the baby. Rates of paternal depression were highest three to six months after birth, which is a formative period for shaping the infant's emotional development. Babies acquire social and emotional skills by repeatedly imitating their parents' emotional cues. Studies like the classic *Still Face Experiment* (Tronick, 2007), show babies' distress when their moms are emotionally unavailable just for two minutes. The babies try everything in their repertoire to engage their moms and, when there is no response, they give up. Fortunately, most parents re-engage, and babies rapidly get back to normal. However, if the parent remains depressed, the baby mirrors that parent's flat, unresponsive emotional and may also become depressed. Depression is a diagnosable mental condition in the *DC: 0-5: Diagnostic Classification of Mental Health and Developmental Disorders of Infancy and Early Childhood* (Zero to Three, 2016).

Depression can impair a dad's capacity for interaction and caregiving. Depressed dads interact less with their babies, which leads to less bonding and attachment (Paulson, Sharnail, & Bazemore, 2010). Dads who are depressed are less likely to read to their children, which may result in poor language skills (Paulson, Dauber, & Leiferman, 2006). Severe parental depression may result in reports for child neglect but even mild to moderate untreated depression can have lasting adverse effects on the emotional and behavioral development of children. Maternal depression affects both boys and girls while dad's depression seems to have a bigger impact on boys (Hanington, Ramchandani, & Stein, 2010).

A history of depression puts both mothers and fathers at risk, as do relationship problems, financial strain, or a sick baby. The sleep deprivation that accompanies parenthood can alter the neurochemical balances in the brain triggering underlying risk factors to manifest depression. The potential negative impact on the entire family suggests the need for early identification with prenatal depression screening for expectant moms and dads, as well as postpartum screening for both and, if necessary, appropriate treatment for all. The best treatment is always prevention. Health care providers should address a checklist of risk factors for depression even before the baby arrives (e.g., if there are relationship problems, seek counseling during pregnancy; if there is a history of depression, be prepared for a relapse and have plans in place for getting help rapidly; if dad is anxious about his new

responsibilities, enroll him in a parenting class). Regardless, a lot more attention needs to be paid to the needs of expectant and new fathers.

It is important to engage fathers as soon as possible as early attachments between father and child are predictive of later positive relationships (Cox, Owen, Henderson, & Margand, 1992). Substantial evidence supports long-term benefits of the father's engagement with his young children on a wide range of both child development and social outcomes (Horn, 2000). Children with involved, loving fathers are significantly more likely to do well in school, have healthy self-esteem, exhibit empathy and pro-social behavior, and avoid high-risk behaviors such as drug use and truancy (National Responsible Fatherhood Research, 2009).

Conversely, lack of the father's involvement is associated with higher rates of behavior problems (King & Heard, 1999). About a third of children (24 million or 34%) live in a home without their biological father. On average, children who live absent their biological fathers are at least two to three times more likely than their peers who live with their married biological or adoptive parents to be poor, use drugs, experience educational, health, emotional and behavioral problems, be victims of child abuse, and engage in criminal behavior (The National Center on Addiction and Substance Abuse at Columbia University, 2007).

Approximately one million children each year experience the divorce of their parents, which often negatively impacts fathers' involvement with their children (National Fatherhood Initiative, 2009). When parents have a positive relationship, the likelihood the father will be actively involved in co-parenting is significantly increased (Pope et al., 1993; Coley & Chase-Lansdale, 1999).

Because of the powerful influence of a father's involvement, the *Partners* curriculum emphasizes the importance of "male involvement"—whether it is the father of the baby or a reliable father figure. The key is to ensure the baby has a nurturing relationship with a reliable and responsible male figure. Information in the *Fatherhood* Topic focuses on how home visitors can engage males to psychologically prepare for fatherhood, including addressing how he was parented and defining what it means to be a nurturing father. This Topic addresses the importance of fathers staying connected with their baby and maintaining frequent contact—even if they are deployed in the military or away in prison. Research about nurturing families demonstrates the importance of the father's relationship with the child, not merely the father's presence in the home (Pruett, 2000). Therefore, this Topic provides much information on the importance of early bonding and attachment between dad and his baby and strategies for how to do it. Fathers are encouraged to support Mom as she deals with the myriad of physical and emotional postpartum changes and the early screening and identification of both maternal and paternal depression is recommended. Additional information in the Fatherhood Topic helps dads and other involved males learn how to care for a newborn, encourages them to be attuned to the baby's cues, and emphasizes the importance of their role in supporting the child's healthy development.

**Career Development & Finances.** Having a baby has a tremendous impact on a family's finances, efforts to complete school, and ability to work. Having a baby is all too often associated with high school dropout rates. Nearly 13.3 million American children are growing up in homes where the head of the household is not a high school graduate. This affects multiple generations as the mother's education level is one of the strongest predictors of her children's IQ and academic success (Dubow, Boxer, & Huesmann, 2009; Davis-Kean, 2005). Children born to moms who have less than a high school diploma are twice as likely to drop out of school as children whose mothers are high school graduates (The Annie E. Casey Foundation, 1999). Research shows that families' socioeconomic status and education level have an impact on children's academic success and other child outcomes (Brooks-Gunn & Duncan, 1997; Burchinal, Peisner-Feinberg, Pianta, & Howes, 2002; Connell & Prinz, 2002). Toward that end, the information in this Topic provides practical advice for dealing with the issues related to returning to work or school including how to continue breastfeeding, choosing good child care, and balancing caring for the baby with the demands of work and/or school. Also included are strategies for helping families learn how to track their bills and expenditures and manage the extra expenses a new baby brings. Parents, including teen mothers, are encouraged to return to school so they are better able to find a good job.

## Family Health

The health of family members can be compromised by alcoholism and addiction (Centers for Disease Control and Prevention, 2008), obesity (Stafford et al., 2007; Womersley, 2009) mental health problems, poor diet and nutrition, STDs (Gold, 2006), unintended pregnancies (Finer & Henshaw, 2006), maternal depression (Bosquet, & Egeland, 2001), and family violence (Shonkoff & Phillips, 2000). These health vulnerabilities are often further exacerbated by poverty, compounding the negative effects. The co-occurrence of substance abuse, smoking, and alcohol is especially prevalent in low-income families compared to the general population (Lawrence, Chau, & Lennon, 2004). Families in poverty are at greater risk for poorer outcomes by almost every measure of health than those with their higher incomes (Brooks-Gunn & Duncan, 1997; Moore & Redd, 2002; Leidenfrost, 1993).

A study of paraprofessional home visitors found that although they received extensive training in mental health, substance abuse, and domestic violence, they needed more guidance in addressing the issues, particularly in how to initiate conversations about these topics (Tandon, Mercer, Saylor, & Duggan, 2008). The *Partners* curriculum provides extensive guidance for the home visitor on how to do this. Included are the actual words the home visitor might use to discuss sensitive topics with the family and additional background information to further their own understanding of the issue. Also included are frequent reminders to the home visitor that unless they are a mental health professional it's best to seek help from their program's mental health consultant and/or their supervisor when dealing with these sensitive issues.

Studies show that while home visitors were able to assess the need for mental health, domestic violence, and substance abuse services they were not as effective in ensuring the mothers received the needed services (Tandon, Parillo, Jenkins, & Duggan, 2006). The *Partners* curriculum provides repeated opportunities for the home visitor to follow up with the family to find out if they actually received necessary services. Topics in the Family Health Category are *Alcohol, Drugs, & Tobacco; Sex, STIs, & Family Planning; Family Health Care & Safety; Nutrition & Exercise; Pregnancy & Interconception Care; and Emotional Health*. A brief summary of the literature for each of these Topics is provided below.

***Alcohol, Drugs, & Tobacco.*** The detrimental effects from prenatal exposure to alcohol extend long past birth and may present in a wide range of physical and neurodevelopmental problems known as Fetal Alcohol Spectrum Disorders including abnormal appearance, short height, low body weight, small head size, poor coordination, low intelligence, behavior problems, and problems with hearing or vision (Centers for Disease Control & Prevention, 2015). Long-term neurobiological problems such as difficulties with attention, memory, problem solving, abstract thinking, and even mental retardation can also occur (National Research Council and Institute of Medicine, 2000). Multiple studies find negative effects of prenatal alcohol exposure on child development (Fertig and Watson, 2009; Wüst, 2010; Zhang, 2010). Those affected by prenatal substance exposure are more likely to have trouble in school, legal problems, participate in high-risk behaviors, and have trouble with alcohol or other drugs (Coriale, 2013). The most severe condition is called fetal alcohol syndrome (FAS), which refers to individuals who have a specific set of birth defects and neurodevelopmental disorders characteristic of the diagnosis (Shea, 2017).

Research has shown the harmful effects of prenatal and postpartum maternal consumption of alcohol, drugs, and tobacco on babies (e.g., low birth weight, birth defects, fetal alcohol syndrome, SIDS, abuse and neglect, motor delays, health problems and even fatalities). The CDC reports that moderate alcohol consumption, which is considered to be up to one drink per day, is not harmful to an infant if the mother waits to breastfeed for at least 2-3 hours after drinking. Breast milk continues to contain any alcohol a mother drinks as long as that alcohol is in the mother's bloodstream. Alcohol from one drink stays in the bloodstream and breastmilk for about 2-3 hours.

Excessive maternal alcohol consumption actually decreases milk production (Haastrup, Pottgard, & Damkier, 2014). Peak alcohol levels both in the mother's blood and in the milk occur approximately one-half hour to an hour after drinking. Pumping the breasts and then discarding the milk immediately after drinking fails to remove alcohol from the milk, as the newly produced milk still contains alcohol as long as the mother has measurable blood alcohol levels. Studies showed that breastfed babies actually consumed about 20% less breast milk during the 3-4 hours following their mothers' alcohol consumption, not because the infants nursed for shorter periods of time but because of the reduced amount of milk produced (Mennella, 1999).

A myth of maternal alcohol consumption is that it helps babies sleep better. However, studies found that babies whose mothers had consumed alcohol slept significantly shorter periods of time during the 3.5 hours after nursing than when mothers had consumed a nonalcoholic beverage (Mennella & Gerrish, 1998). More serious adverse effects were found in a study of 400 breastfed infants and their mothers, which assessed the relationship between the mothers' alcohol use during lactation and their infants' development at 1 year of age. The study found that gross motor development was significantly altered in breastfed infants whose mothers consumed one or two alcoholic drinks daily. The harmful effects may be attributed to the sensitivity of the infant's developing brain and to the infant's limited capacity to metabolize even small quantities of alcohol, which also makes the alcohol dose more potent (Little et al., 1989).

The leading cause of preventable disease and death in the United States is cigarette smoking, which accounts for more than 480,000 deaths per year (National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014). In 2016, an estimated 37.8 million adults or 15.5% of U.S. adults 18 years of age and older, smoked cigarettes, and smoking rates were highest among adults with low educational levels, and low incomes (Centers for Disease Control and Prevention, 2018). Nicotine

and other drugs slow down neuron growth and alter the biochemistry of the developing brain. When a pregnant woman smokes tobacco it narrows the blood vessels and cuts off oxygen carrying blood to the developing baby's organs including the brain. This helps explain why babies of mothers who smoked during pregnancy have lower IQs than those who did not (Batty, Der, & Dearly, 2006).

Nicotine is also harmful to infants from both secondhand smoke inhalation and from ingestion through breast milk. Babies in households where smoking occurs have an increased risk of serious health problems including middle ear infections, colic, compromised lung function, respiratory and gastro-intestinal illness, and more frequent hospitalizations. The most significant effect of cigarette smoking in the household is the greatly increased risk of Sudden Infant Death Syndrome (SIDS) (American Academy of Pediatrics, Julius B. Richmond Center for Excellence, 2009). Studies found that infants of mothers who smoked during pregnancy were three times more likely to die of SIDS than those whose mothers were smoke-free (Centers for Disease Control and Prevention, 2011); and exposure to secondhand smoke doubled a baby's risk of SIDS (Bengt Haglund, & Cnattingius, 1990). Studies of smoke-free households have found reductions in SIDS (Behm, Kabir, Connolly, & Alpert, 2011).

Breastfeeding can reduce the baby's risk of SIDS and respiratory illness by providing protective antibodies. Because of the overwhelming evidence of the benefits of breastfeeding, the American Academy of Pediatrics changed its position in 2001 to encourage breastfeeding among smokers. Mothers who smoke are encouraged to breastfeed but should avoid smoking in the home and make every effort to wean themselves from tobacco as rapidly as possible (American Academy of Pediatrics, Committee on Drugs, 2001).

Nicotine can also negatively affect babies' growth and sleep/wake cycles. Nicotine is a known appetite suppressant, which may explain why babies of mothers who smoke have an average birth weight of 200g less than those whose mothers don't smoke (Fisher, n.d.). Weight gain in the first few months is also reported to be less, although by 12 months no differences are evident. If the mother has recently had a cigarette and tries to breastfeed the baby may be fussy while trying to nurse or may refuse the breast all together. Infants whose mothers smoke more than five cigarettes a day have higher rates of colic. Babies whose mothers smoke spend significantly less time sleeping (53.4 minutes) compared to when their mothers abstained from smoking (84.5 minutes). The greater the doses of nicotine the mother smoked, the less time the baby slept (Mennella, Yourshaw, & Morgan, 2007).

Substance exposure can also result in many postpartum issues that interfere with parenting capacity (Roussos-Ross, 2016). Bonding and attachment may be impaired as newborns requiring intensive care in NICU may be less likely to be breastfed or to be held. Neglect of the critical role of maternal comforting in neonatal abstinence syndrome management is a preventable cause of poor outcomes and long hospitalizations. Studies show that breastfeeding has been found to be beneficial for the babies for women who are maintained on a stable dose of opioid medication-assisted treatment (Abdel-Latif, 2006; Debelak, 2013). The stress of sleep deprivation, hormonal swings, and the demands of a newborn can trigger relapse. Studies show a high rate of relapse from 6 to 12 months postpartum for women who have succeeded in achieving abstinence from smoking, alcohol, marijuana and cocaine during pregnancy (Forray et al., 2015). The timing of the postpartum relapse can significantly impair the mother's capacity to parent and decrease maternal infant bonding. Maternal substance use also creates a toxic child rearing environment with inconsistent caregiving, neglect and unresponsiveness to the child's needs, disruption to the child parent relationship and fertile ground for intergenerational transmission of a substance use disorder (Boris, 2012). The consistency and emotional support of a trusted home visitor can be pivotal role in helping women to get treatment during pregnancy and prevent postpartum relapse.

Parental substance abuse has devastating effects on children and families. Substance abuse is indicated in the majority (up to two-thirds) of child maltreatment cases (Mennella, Yourshaw, & Morgan, 2007). The incidence rate of child maltreatment is increasing, particularly child neglect, which may be attributed to an increase in parental substance abuse and dependence (Dunn et al., 2002). It is estimated that 6 million children in this country (9%) live with at least one parent who abuses alcohol, drugs, or both (National Clearinghouse on Child Abuse and Neglect Information, 2003). Drug-using parents spend their energy and resources toward using drugs, which prevents them from being physically and emotionally available to take care of their children (Harrington, Dubowitz, & Black, 1995). Mary Dozier and her colleagues have encouraging results of attachment-based interventions targeted for substance-using mothers of infants (Dozier & Bernard, 2009).

Infants are more vulnerable to maltreatment and to subsequent death than older children. Nationally, in 2009 the victimization rate was highest among children younger than 3 years of age with the largest group consisting of babies before their first birthday and then decreasing by age. Victimization rates were 20.6 per 1,000 children in the population younger than 1 year; 11.9 per 1,000

children for age 1; 11.3 per 1,000 children for age 2; and 10.6 per 1,000 children for victims age 3. The youngest children are also more vulnerable to death as the result of child abuse and neglect. Four-fifths (80.8%) of all child fatalities were younger than 4 years old. Babies under a year old were most likely to die at 46.2%; 17.8 percent were 1 year old, 10.3 percent were 2 years old, and 6.5 percent were 3 years old. One-third (35.8%) of child fatalities were attributed to neglect exclusively; and one-third (36.7%) of child fatalities were caused by multiple maltreatment types (U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau, 2010).

Child maltreatment is often a result of maternal substance abuse. Maltreatment is often a legacy of intergenerational trauma, abuse and substance abuse. A study of almost 3,700 women found a strong association between a history of child abuse and problems with alcohol abuse. In fact, the researchers state that child abuse is consistently associated with alcohol abuse (Lown, Nayak, Korcha, & Greenfield, 2011). Concurrent complications for drug dependent women include: high rates of sexually transmitted diseases (Fiocchi & Kingree, 2001), mental health problems and histories of violence and trauma (Center on Addiction and Substance Abuse, 1996), heavy smoking and mood disorders (Fitzsimons, Tuten, & Jones, 2007), poverty (Centers for Disease Control, 2008), housing instability, and high rates of suicide attempts and psychological impairments (Copersino, Jones, & Tuten, 2007). Breastfeeding is not recommended for women using "street drugs" because the drugs can be passed along to the baby through the breast milk (American College of Obstetricians and Gynecologists, Committee on Health Care for Underserved Women Committee on Obstetric Practice, 2007; American Academy of Pediatrics, 2005).

However, having a baby can be a primary motivation for drug dependent women to enter treatment (The Coordinating Center of the SAMHSA Women, Co-Occurring Disorders and Violence Study, 2001). Treatment needs to be highly specialized to address all the concurrent complications, ideally within a residential treatment center where mother and baby are co-located so a healthy attachment can be nurtured within a safe environment for the baby. Research suggests that treatment should address the women's relationships with their partners, especially when substance abuse and violence issues are present (Haller, Miles, & Dawson, 2002; Tuten, Jones, Tran, & Svikis, 2004). Dealing with the housing needs, as well as the psychiatric and medical needs, of drug using women is critical to successful treatment (Tuten, Jones, & Svikis, 2003). A reinforcement-based therapy model offering an array of incentives including rent payment for recovery housing, options for recreational activities, and employment skills training resulted in 12 months of abstinence for a group of heroin abusers, which is remarkable given that the relapse rate is typically 65-80% within a month of treatment (Jones, Wong, Tuten, & Stitzer, 2005).

Alcohol, substance abuse, and intimate partner violence (IPV) are highly interrelated. Alcohol and drug abuse among women and their partners increases the risk for abuse (Campbell et al., 2008). Likewise, living in an abusive relationship increases mental health problems such as depression, posttraumatic stress disorder, anxiety, and substance abuse (Carbone-Lopez, Kruttschnitt, & Macmillan, 2006). These potential negative consequences can interfere with parenting and child development. Depression and PTSD can have persistent impact long after the abuse has stopped. One study found that abused women continued to have PTSD symptoms for an average of 9 years after the abusive relationship (Woods, 2000).

Extensive research has been conducted to understand intimate partner violence (IPV) and to implement effective home interventions (Eddy et al., 2008). Home visitors can have a significant positive impact in helping to keep women and their children safe by ensuring moms are screened for depression and other mental health issues and seek appropriate help in these complex situations. Whether or not a woman will reveal that she is a victim of IPV depends on how she is asked, the setting in which she is asked, and when she is asked (Sharps, Campbell, Baty, Walker, & Bair-Merritt, 2008). Understanding the cultural context may be helpful to treatment (Sharps & Campbell, 2006; Campbell et al., 2008). African American women experience significantly more abuse than White or Hispanic women, even when controlling for SES according to a national survey (Tjaden & Thoennes, 2000). However, African American women are less likely to report abuse or seek treatment, although they often have the resiliency to restore their own self-esteem, often without professional intervention (Campbell et al., 2008). Having a network of support that includes respected elders and faith leaders is particularly important to African American women (Taylor, 2002; Few & Bell-Scott, 2002).

The information provided in the Topic *Alcohol, Drugs, & Tobacco* helps home visitors deal with the array of issues women face in any type of treatment (alcohol, drugs, or smoking cessation) by addressing the related and underlying needs stemming from sexually transmitted disease, nutritional deficits, trauma, depression and other mental health issues, and/or violence and relationship issues. The *Partners* curriculum provides guidance to home visitors on how to initiate conversations about these sensitive, personal topics utilizing the research about effective motivational interviewing.

This Topic also addresses smoking cessation; reviews the negative effects of secondhand smoke; offers suggestions for how to quit or at least cut back on smoking; and outlines effective strategies for encouraging family members to smoke outside.

**Sex, STIs, & Family Planning.** Family planning is critical before and during the postpartum period in order to allow mom enough time to properly heal and adequately prepare for a subsequent pregnancy. Short inter-pregnancy intervals, ranging from less than 3-18 months, are associated with a higher risk of poor birth outcomes, including low birth weight (Zhu, 2005), preterm births, small for gestational age (Fuentes-Afflick & Hessol, 2000), as well as neonatal death and infant mortality (Kallan, 1997). Reasons for the poor birth outcomes include postpartum stress and maternal nutrient depletion (King, 2003; Stephansson, Dickman, & Cnattingius, 2003). Despite these risks, almost one-third of all women aged 15-44 report having had at least one unintended birth (Cohen, 2007). Women ages 16-24 experience the highest rates of unintended pregnancy, as well as the highest rates of intimate partner violence (Bureau of Justice Statistics, 2000). One of the causes of unintended pregnancy is reproductive coercion in which the partner sabotages birth control in an effort to control the relationship. One study found that 25% of women ages 16-29 treated in public health clinics had experienced reproductive coercion (Miller et al., 2010). Coercion may include behaviors that prevent women from using birth control (threatening to leave if she doesn't get pregnant) or birth control sabotage (preventing a woman from taking birth control pills or intentionally breaking condoms).

Compared with higher-income women, poor women are three times as likely to have an abortion, four times as likely to have an unplanned pregnancy, and five times as likely to have an unplanned birth. The National Center for Health Statistics found that from 1994 through 2001, the rate of unplanned pregnancies increased by almost 30% for women below the federal poverty line while for women above poverty (\$16,000 annually for a family of three) the rate of unplanned pregnancies fell by 20% during the same time. The proportion of unintended pregnancies that resulted in live births increased by almost 50% during this time for poor women, while it declined for more affluent women. Researchers attribute the disparity to the higher levels of contraceptive use by the educated and affluent. Data on this linkage between contraceptive use and unplanned pregnancies has led to a growing recognition of the need to expand access to contraceptive services for all women—especially for low-income women—with the potential to considerably reduce the rates of unplanned pregnancy and abortion (Finer & Henshaw, 2006). Sexually transmitted diseases are also higher for those living in poverty, for racial and ethnic minorities, and for those who have limited access to health care (Centers for Disease Control and Prevention, 2008).

To lengthen the inter-pregnancy interval, mothers need guidance on choosing a method of family planning and accurate information about the use of breastfeeding as a birth control method—ideally prior to delivery. Women also need to be provided with enough information that they can choose a contraceptive method that is tailored to their individual needs. They need easy and affordable access to their chosen method as well as the necessary services to support their choice over time (Cohen, 2007).

For ambivalent populations such as teens (Stevens-Simon, Kelly, & Singer, 1999), the key to successful contraceptive use is to bridge where they are now to where they want to be. Researchers used an adaptation of the Stages of Change theory called *Stage of Readiness* to determine women's willingness for contraceptive use and then tailored counseling on contraceptive methods to reach women across a developmental continuum of readiness. Teens are a high-risk population for unintended repeat pregnancies (Kershaw et al., 2003). Researchers found that the best way to reach adolescent clients was by using teen-friendly technology (e.g., text messaging, cell phone, Facebook, email) and making information appropriate to their developmental stage and ability to process complex information (Cardona, Mobley, & Schwab-Zabin, 2007). Research has also examined ways to successfully engage young men in reproductive health interventions (Marcell, Jagers, Mayden, & Mobley, 2010). Strategies include having women take a more active role in encouraging their partners and sons to make joint appointments with health clinics and to see the importance of using birth control (Marcell, Howard, Plowden, & Watson, 2009). According to a 2015 CDC report, most teens are waiting to have sex and of those who are sexually active, almost 90% reported using birth control the last time they had sex, but not always the most effective types (CDC Newsroom, 2015). While teen births continue to decline, the CDC recommends increasing teens' access to and knowledge of Long-Acting Reversible Contraception (LARC) to further reduce the rate of teen pregnancy (CDC Newsroom, 2015).

A study in the American Journal of Medicine demonstrates the importance of making sure women understand that birth control pills are reliable only when taken consistently. The study, conducted by Medco Health Solutions Inc. found that many women do not consistently take their birth control pills—even when taking drugs that can cause birth defects (Steinkellner, Chen, & Denison, 2010). The study involved 26,136 women between the ages of 18 and 44 who were prescribed both an oral contraceptive and a medication that poses a risk to a fetus such as statins, sedatives, cancer drugs, and anti-acne medications. Around 40% of the women did not take their birth control pills on a regular basis, as measured by filling prescriptions often enough to have the pills

on hand. The researchers found that the groups of women who were less compliant were those taking a large number of different prescription drugs, members of ethnic minorities, and those who reported lower levels of education. The researchers suggested that some patients aren't counseled by their health care provider or pharmacists or they don't understand the warnings about possible birth-defect risks that are on the medicine bottles. Home visitors can address these pitfalls by helping families review medications labels, understand protocols for effective birth control use, and by helping women establish a system for remembering to take their chosen method of birth control.

Issues for women and their partners to consider when choosing a method of birth control include whether or not it is compatible with breastfeeding, how much it costs, how messy it is to use, how much it impacts spontaneity, whether or not it aligns with their religious and ethical beliefs, and, perhaps most importantly, how effective it is (Lauwers & Swisher, 2005).

Information in the *Sex, STIs, & Family Planning* Topic addresses the importance of waiting to have intercourse until after the 6-week postpartum checkup and the value of engaging both mom and her partner in choosing a method of family planning that is tailored to both of their needs. Also covered are the benefits of spacing pregnancies, how to most effectively use different family planning methods, and the reasons to practice safe sex.

**Family Health Care & Safety.** This Topic addresses family health issues such as the importance for everyone in the home to have health insurance and a medical home. According to the 2016 US Census Bureau report, the number of people without health insurance in 2015 was estimated at 29 million, which was lower than the number of uninsured in 2014 (U.S. Census Bureau News, 2016). Health care is particularly important for children and families in poverty as they are at greater risk for poor outcomes by almost every measure of health and development (Moore & Redd, 2002). Access to comprehensive health care has greatly benefited children and families living in poverty (American Academy of Pediatrics, 2016).

Increasingly, young children are witnesses to violence. In 2014, 38% of children 17 years of age and younger and 68% of children ages 14-17 witnessed violence (Finkelhor, Turner, Shattuck, & Hamby, 2015). At least 31% of American households with children living in the home have guns (Smith & Son, 2015). In preliminary data for 2007, the National Center for Health Statistics lists homicide as the third leading cause of death for children ages 1-4 (Centers for Disease Control and Prevention, 2009).

This Topic also includes information and strategies to help families learn how to communicate effectively with health care providers, addresses the dangers of cell phone use while driving, and stresses the importance of gun safety if there are guns in the home.

**Nutrition & Exercise.** Maintaining a healthy diet is important for the whole family—and is especially important for postpartum and breastfeeding women (King, 2003). Nutrition experts recommend that lactating women consume 2,700 calories per day, about 500 additional calories above normal pre-pregnancy food intake. Studies of healthy breastfeeding women showed their actual intake of food to be approximately 2,200 calories per day, about 15% less than recommended. Fortunately, extra fat is stored up during pregnancy so that even if lactating women don't get enough calories, they can still produce milk for their babies (Neifert, 1998).

The overall lack of healthy eating habits is an increasing problem in the U.S. and has led to a dramatic increase in obesity rates during the past 20 years (1988-2008). Obesity is defined as a body mass index (BMI) of 30 or greater. Obesity is a key risk factor for many health problems including heart disease, diabetes, and certain types of cancer (Centers for Disease Control and Prevention, 2009). Although the combination of eating too many calories and not getting enough physical activity causes obesity, other issues including genetics, metabolism, behavior, environment, culture, and socioeconomic status also play a role. Obesity is also more prevalent among the poor (Olson, Bove, & Miller, 2007). Poorer neighborhoods tend to have fewer supermarkets and more expensive convenience stores. They also generally have fewer parks, playgrounds, and other opportunities for physical activities (Stafford et al., 2007). Poverty is often associated with stress and eating unhealthy "comfort food" is a way that some people cope with stress (Olson & Haynes, 1993). Some researchers have suggested that stress may alter metabolic pathways and lead to obesity, increasing obesity-related health problems (Drewnowski & Specter, 2004).

There is a correlation between poverty, culture, and obesity as evidenced by data on obesity trends in the United States. Blacks had 51% higher prevalence of obesity, and Hispanics had 21% higher rates compared with whites. The highest rates of obesity are in areas experiencing high rates of poverty including the Southeast, Appalachia, and some tribal lands in the West. In the poverty-stricken Appalachian region that includes Kentucky, Tennessee, and West Virginia, 81% of the counties have high rates of diabetes and obesity, as do 75% of the counties in the southern region that includes Alabama, Georgia, Louisiana, Mississippi, and South Carolina. In many counties in those regions, rates of diagnosed diabetes exceed 10% and obesity prevalence is more than 30% (Centers for Disease Control and Prevention, 2009).

In addition to exorbitant rates of obesity, families in poverty are also beleaguered by high rates of malnutrition. In 2016 12.3 percent of American households were food insecure at some time during the year and 4.9 percent experienced very low food security, which meant that the food intake of one or more persons living in the home was reduced (Coleman-Jensen, Rabbitt, Gregory, & Singh, 2017). Malnutrition can stunt early brain growth (Pollitt & Gorman, 1994) and can have long-term negative consequences on behavior and intelligence (World Health Organization, 2009; Das, 2008). Anemia, or iron deficiency, is the most common form of malnutrition in the United States and can cause cognitive and motor delays, anxiety, depression, and attention problems (Shonkoff & Phillips, 2000).

Because of the impact of adequate nutrition during pregnancy, lactation, and early childhood, the federal program known as Women, Infants & Children (WIC) was created to provide supplemental nutritious foods and education to low-income, nutritionally at-risk pregnant and breastfeeding women, non-breastfeeding postpartum women, infants and young children up to age 5. In 2015, 15 million people were eligible to receive benefits from the WIC program and of those, just over 8 million were covered by the program. A total of 2.4 million infants were eligible for WIC and 80% of those eligible infants participated in the WIC program compared to 50% of eligible pregnant women. Eligibility is based on income and varies by state. In addition to receiving supplemental nutritious foods, participants receive nutrition education and counseling at WIC clinics, as well as screening and referrals to other health, welfare, and social service agencies.

Prolactin, the hormone that causes milk production, also causes the mother's appetite to increase. Low-income ethnic minority women are most vulnerable to postpartum weight gains and depression (Walker et al., 2004). Currently, one out of every five pregnant women is obese and at high risk for a cesarean section, death, or death of the baby (Hartocollis, 2010). For better outcomes and good nutrition, overweight mothers should be encouraged to eat plenty of fruits, vegetables, low-fat dairy, whole grains, legumes, and healthy types of fat and to decrease their intake of refined grains, regular soda, sweetened beverages, and desserts (Durham, Lovelady, Brouwer, Krause, & Ostbye, 2011). Encouraging healthier eating patterns is an important intervention among teen parents who often skip breakfast and eat unhealthy snacks that lead to obesity (Haire-Joshu, Schwarz, Budd, Yount, & Lapka, 2011). Although breastfeeding enhances the physical recovery from childbirth and should promote weight loss during the postpartum period, it is not guaranteed. For mothers who were overweight during pregnancy, retaining or gaining even more weight during the postpartum period is a real risk. Moderate dieting for the overweight, exclusively breastfeeding mothers during the postpartum period will not harm the infant's growth (Lovelady, Garner, Moreno, & Williams, 2000), but postponing dieting until the baby is weaned is wise since extra calories are needed for milk production.

In addition to weight reduction, exercise has many benefits to postpartum women including reducing the symptoms of depression (Poyatos-Leon et al., 2017). Regular physical activity, more exposure to natural daylight, and following a healthy diet results in higher levels of serotonin and fewer problems with fatigue, stress, and mood swings (Young, 2007). Studies show that light activates our mood enhancing hormones and makes our brains more alert. Being exposed to more bright light during the day can lead to a better night's sleep because more light exposure during the day helps calibrate the body's internal "circadian" clock, which can result in deeper sleep (Figueiro et al., 2017). These studies offer compelling data for the benefits of exercise and sunlight, which may be especially beneficial during the postpartum period when fatigue and stress are common.

Information in the Topic *Nutrition & Exercise* is intended to help new mothers see the importance of continuing to eat nutritious foods in order to give their bodies the chance to recover from childbirth; learn what and how much to eat if breastfeeding; and understand the importance of waiting to diet if breastfeeding. In addition, this Topic provides information to families on how to intentionally reduce the amount of fat, sugar, and salt they consume while increasing their intake of fresh fruits and vegetables; to read food labels; to plan and prepare nutritious meals; and to use the MyPlate website to make healthy food choices. Helping families learn how to make healthy nutritional choices will benefit the child when solid foods are introduced. Finally, information in this Topic is intended to help families understand the benefits of exercise (e.g., increased energy; improved mood; better sleep at night; better health; weight loss) and to provide suggestions for pleasurable and safe ways for the whole family to exercise.

***Pregnancy & Interconception Care.*** The postpartum period is a time of healing and replenishment for mom—emotionally and physically. Having a baby depletes maternal nutrients and physically transforms a woman's body (King, 2003). Some of these physical changes are temporary (e.g., enlargement of belly and breasts) and some may be permanent (e.g., stretch marks, hemorrhoids). Problems associated with vaginal births may include hemorrhoids, an episiotomy, and constipation. There are multiple risks associated with C-section deliveries including infection, excessive bleeding, reactions to medications, urinary tract infections, injury to the baby (Childbirth Connection, 2009; March of Dimes, 2008), and a risk of death nearly three times that of vaginal deliveries (MacDorman, Declercq, Menacker, & Malloy, 2006).

Some mothers who have a caesarean section or an assisted vaginal delivery have lengthy periods of pain and discomfort. Immediate postpartum problems from C-section births may include side effects from the anesthesia such as severe headache, nausea, and vomiting. The anesthesia may also cause the baby to be sluggish or inactive when born. Infection at the site of the incision is the leading complication for caesarian deliveries. Of those women who undergo a C-section, whether planned or unplanned, 79% complain most commonly of pain at the incision in the first two months after birth, with 33% claiming it to be a major problem and 18% reporting that the pain persists for sixth months (Declercq, Cunningham, Johnson, & Sakala, 2008). Usually, an abdominal incision will heal in four weeks, but some women have pain in the area for up to a year after the surgery. In one study almost half (48%) of mothers who had vaginal births (of whom 68% had an instrument assisted delivery; 63% had an episiotomy, and 43% had a spontaneous vaginal births without an episiotomy), reported having perineum pain, with 2% saying the pain lasts at least six months (Declercq, Cunningham, Johnson, & Sakala, 2008).

Home visitors can be an important resource and support for new mothers dealing with the array of physical changes and discomforts typical of the postpartum period (Weiss, Fawcett, & Aber, 2009). Information in the *Pregnancy & Interconception Care* Topic includes information for mom about taking care of her body after childbirth; the importance of going to her 6-week checkup; common discomforts and specific problems after a C-section; and strategies for dealing with sleep deprivation.

**Emotional Health.** Research has given us a new understanding of how a baby's development is deeply influenced by the emotional health of the mother (Rakic, Bourgeois, & Goldman-Rakic, 1994) and that the baby is much more vulnerable to environmental influence than ever suspected (Shonkoff, Boyce, & McEwen, 2009). Many factors can adversely impact the family's emotional health such as postpartum depression, pervasive stress, trauma, substance abuse, loss of a loved one, and domestic violence (Solchany, 2001).

Between 50-80% of new moms experience the baby blues (Barsky, 2006). Women who have the baby blues report having mood swings and trouble sleeping, eating, or making decisions; feeling irritable; and crying for no apparent reason. These symptoms usually begin 3-4 days after delivery and are gone 12-14 days after delivery. When symptoms last longer than 2 weeks or they worsen, a woman may be suffering from postpartum depression. Postpartum depression affects 10-20% of women who give birth (O'Hara & Swain, 1996). Approximately one in 11 babies will have a mother who has postpartum depression sometime during the first year of life and even more if mom has a history of depression or other stressors. Women with previous pregnancy-related depression are at a 50-62% increased risk of recurrent episodes with subsequent pregnancies (Llewellyn, Stowe, & Nemeroff, 1997). Up to 30% of women who have experienced a major episode of depression prior to conception will develop postpartum depression (Beck, 1996). Other risk factors for depression include precipitating events or sources of stress (e.g., unplanned pregnancy, complicated or difficult labor, a fetal anomaly, lack of support, and stressful life events such as a recent loss, illness, relationship difficulties, financial problems, or domestic violence). One in four mothers living below the federal poverty rate experiences depression (Center on the Developing Child at Harvard University, 2009).

Major depression is manifested by a combination of symptoms, which interfere with a person's ability to work, study, sleep, eat, and enjoy once pleasurable activities. The diagnosis of major depression requires five of the nine DSM-5 criteria during the same two-week period causing significant impairment in functioning. These symptoms include depressed mood most of the day, nearly every day; markedly diminished interest or pleasure in almost all activities; weight change; insomnia or hypersomnia nearly every day; psychomotor agitation or retardation nearly every day; fatigue or loss of energy nearly every day; feelings of worthlessness or excessive guilt nearly every day; a diminished ability to think or concentrate nearly every day; and recurrent thoughts of death or suicide. In addition to these symptoms of major depression, a woman may also experience feelings of inadequacy or failure as a mother; show no enjoyment in feeding, holding, or caring for her baby; show no interest in the baby; express excessive anxiety about the baby; or have a fear of harming her baby. In rare instances (1-2 per 1,000), a woman may develop postpartum psychosis. Symptoms include violent thoughts; visions of the baby being hurt or dying; obsessive concerns about the baby's health; auditory hallucinations and delusions such as the belief that the baby is evil, possessed by the devil or that she (the mother) is evil and the child would be better off without her (Seyfried & Marcus, 2003).

Postpartum depression varies in timing, severity, and duration (Cooper et al., 2007). The greatest concern is when depression is severe, starts early, and lasts long. However, even low levels of maternal depression have been associated (Campbell, Morgan-Lopez, Cox, McLoyd, & the NICHD Early Childcare Research Network, 2009) with detrimental consequences for the mother and her child, as well as the quality of their relationship (Beck, 2006; Horowitz & Goodman, 2005). The negative outcomes can be attributed to the basic symptoms of depression—the lack of energy to perform even the basic parenting functions; the lack of enjoyment

required to create and nurture relationships; and the lack of emotional responsiveness necessary to support the baby's emotional development.

Depressed moms are less likely to breastfeed (Henderson, Evans, Straton, Priest, & Hagan, 2003), respond to their baby's cues (Gladstone & Beardslee, 2002), play and talk with their newborns, and comply with immunization and well-child visit schedules (McLearn, Minkovitz, Strobino, Marks, & Hou, 2006; Chung, McCollum, Elo, Lee, & Culhane, 2004; Mandl, Tronick, Brennan, Alpert, & Homer, 1999). Although these behaviors are sometimes reported as child neglect it should be considered a call for help that includes depression screening for both parents because they can contribute to poor developmental outcomes for children well into school age (Sohr-Preston & Scaramella, 2006; Cogill, Caplan, Alexandra, Robson, & Kumar, 2005; Grace, Evindar, & Stewart, 2003).

Untreated maternal depression can impair critical early relationships, and adversely affect both the mother's and the child's mental health (Goodman & Gotlib, 2002; Bosquet & Egeland, 2001). Depressed moms are less likely to engage in positive interactions with their babies (Field, Pickens, Prodromidis, Malphurs, Fox, & Bendell, 2000; Gladstone & Beardslee, 2002) and are typically either disengaged and withdrawn, or irritable and hostile (Lovejoy, Graczyk, O'Hare, & Neuman, 2000) —neither of which is conducive to healthy attachments. Hostile and irritable caregivers create fear and anxiety in young children. This may increase their stress and cortisol levels (Dawson & Ashman, 2000), which if reoccurring, can increase attachment insecurity (Hipwell, Goossens, Melhuish, & Kumar, 2000) and the risk of emotional disorders (National Scientific Council on the Developing Child, 2005).

Having parents who are disengaged and withdrawn is detrimental to a baby's emotional development. Babies look to trusted caregivers for guidance in how to express their emotions and they acquire skills by imitating their parents' emotional cues. The classic *Still Face Experiment* (Tronick, 2007) shows the baby's distress when mom is non-responsive for two minutes. The baby unsuccessfully tries everything in her repertoire to engage the mom and then gives up. Fortunately, most parents re-engage and the baby rapidly returns to normal. However, when the parent continues to be non-responsive, the baby mirrors the flat, unresponsive emotional tone of her caregiver. As a result, she may have emotional regulation problems, social interaction difficulties (Murray et al., 1999), attachment insecurity (Hipwell, Goossens, Melhuish, & Kumar, 2000), and even be diagnosed with depression before her first birthday (Zero to Three, 2005). Children who are raised by a chronically depressed parent may have cognitive (Cogill et al., 2005), language (Sohr-Preston & Scaramella, 2006), behavioral (Grace, Evindar, & Stewart, 2003), and academic problems well into school age (Murray, & Cooper, 1997; Burt & Stein, 2002).

The impact of depression is even greater when combined with other risks such as poverty, substance abuse, domestic violence, or prior trauma, which can further impair mom's capacity for developing secure attachments (Whitaker, Orzol, & Kahn, 2006). Unfortunately, maternal depression often coincides with a constellation of other risk factors that impede children's development (Center on the Developing Child at Harvard University, 2009). Depression disproportionately affects young, socially isolated moms who are economically or educationally disadvantaged and have other stressful life events (Horowitz, Briggs-Gowan, Storfer-Isser, & Carter, 2007). Chronically depressed mothers are more likely to be in poor health, to have substance abuse problems (National Research Council and Institute of Medicine, 2009), and be victims of intimate partner violence (Golding, 1999). Evidence suggests that 75% of adults with diagnosed depression also have at least one other mental health diagnosis (Kessler et al., 2005). When children are raised by a depressed parent who also has other serious problems, the children are even more in need of a nurturing environment to foster healthy development (National Research Council and Institute of Medicine, 2009).

Research has also found a connection between colicky babies and depression. The medical definition of colic is a healthy baby with intense, unexplained fussing/crying lasting more than 3 hours a day, more than 3 days a week for more than 3 weeks (Wessel, Cobb, Jackson, Harris, & Detwiler, 1954). A study of 2,927 new mothers found that one in three women with fussy infants acknowledged that they were depressed. The moms who reported being depressed were more than twice as likely to also report their infants were inconsolable and women with inconsolable babies were more than two times as likely to report depression, even when age, race and income variables were controlled. The implication for health care providers and home visitors is that depression and inconsolability are strong predictors of one another and if there is a colicky baby, it's a good idea to check on the mom's symptoms, too (Maxted, 2005).

The best treatment is always prevention. Health care providers should address a checklist of risk factors for depression even before the baby arrives (e.g., if there are relationship problems, seek counseling during pregnancy; if there is a history of depression, be prepared for a relapse and have plans in place for getting help rapidly; if parents are anxious about their new responsibilities, enroll them in a parenting class). The sleep deprivation that is so typical during the first few months of parenthood can alter the

neurochemical balances in the brain and trigger underlying risk factors to manifest depression. The high correlation between parents' depression suggests that depression in one parent should trigger clinical attention to the other parent as well. A history of depression puts both mothers and fathers at risk, as do relationship problems, financial strain, or a sick baby. Low-income women have twice the rate of depressive symptoms compared to women of higher SES (Bennett, Einarson, Taddio, Koren, & Einarson, 2004). These types of risk factors suggest the need for prenatal and postpartum depression screening for both moms and dads.

*Pervasive Stress and Domestic Violence.* Research has given a clear understanding of how a baby's development is influenced by the mother's emotional health (Rakic, Bourgeois, & Goldman-Rakic, 1994) and that the baby is much more vulnerable to environmental influence than ever suspected (National Scientific Council on the Developing Child, 2010). Many factors can adversely impact the baby through the emotional problems of the family such as pervasive stress, untreated depression, trauma, substance abuse, pregnancy loss, and domestic violence (Solchany, 2001). One of the most profound influences is stress as well as other psychological variables such as fear, anxiety, lack of support, and poor maternal self-identity (Laukaran & Van Den Berg, 1981; Teixeira, Fisk, & Golover, 1999). These stresses can manifest themselves in health problems such as high blood pressure, excessive weight gain, or more serious problems (Perkin, Bland, Peacock, & Anderson, 1993).

Trauma experienced during childhood can impact the physical structure of the brain, which then can affect the ability to regulate behavior and emotions, as well as impact cognitive functioning, memory, the ability to learn, and overall mental and physical health (Child Welfare Information Gateway, 2015). Exposure to trauma or toxic stress can lead to higher instances of depression and anxiety, as well as a higher likelihood of smoking, substance abuse, risky sexual behavior, teen pregnancy, and intimate partner violence (American Academy of Pediatrics, 2014; CDC, 2010; Ports, Ford, & Merrick, 2016; Raposo, Mackensie, Henriksen, & Affi, 2014).

Preliminary findings from a MIHOPE study to assess the impact of home visiting programs on maternal health and child development show that 10 percent of the 1600 mothers enrolled in the study had experienced intimate partner violence in the past year and approximately 40 percent exhibited signs of depression or anxiety (Michaelopoulos et al., 2015).

Trauma-informed home visiting can serve to alleviate the intergenerational transmission of trauma by supporting parents and caregivers' efforts to develop healthy and positive attachments with their children. Being raised by loving and nurturing adults in a safe environment can foster resilience in a child that may help to offset the long-term effects of trauma (AAP, 2014).

The results of early adversity and trauma constitute a major public health problem because children exposed to violence and other chronic stressors are more likely to suffer from anxiety, behavior challenges, depression, toxic stress, learning problems, and substance abuse (Chu & Lieberman, 2010). Unfortunately, there is the pervasive but mistaken impression that young children are inherently resilient or immune to the effects of early adversity (Osofsky, 2004). If children are not provided appropriate help, emotional difficulties that emerge early in life can become more serious disorders over time (Keenan, Shaw, & Delliquadri, 1998; Shaw, Gilliom, & Ingoldsby, 2003). However, some children are amazingly resilient and recover psychologically from adversity, usually as the beneficiaries of extraordinary, long-term efforts on the part of loving, nurturing adults (National Scientific Council on the Developing Child, 2008). For most adversity, however, there is a lifelong emotional legacy that ranges from mild to profound. Even when children have been "rescued" from orphanages or abusive circumstances and placed in loving homes, academic and developmental improvements are accompanied by continuing problems in self-regulation, behavior, and relating to others. Longitudinal studies also show that the early adversities negatively impact physical health with increased physical problems like heart disease and high blood pressure (Felitti et al., 1998).

Other significant emotional issues for new families revolve around any kind of devastating loss—including having a stillbirth, giving up a baby for adoption, or having a premature baby or infant with special needs. Having a premature baby or infant with other special needs can also be emotionally overwhelming, especially if the baby hovers between life and death. Families also go through a process of grieving the loss of a "normal" baby and leaving the hospital "empty-handed." Elisabeth Kübler-Ross's classic stages of death and dying (Kubler-Ross, 1969) are commonly used as the basis for helping families deal with any kind of devastating loss. Several things have helped families heal—time, being emotionally available, and therapeutic caring from others (Swanson, 1999). Another study found common experiences among women who experienced a loss of a baby (Swanson, 1999). *Getting to know* was the process of dealing with the loss. *Losing and gaining* was the woman's search for making meaning out of what was lost or gained due to the loss. *Sharing the loss* was the support of other important people in her life to realize the loss was significant. *Going public* was the process of re-entry into everyday life and sharing the grief with others. *Getting through* was the

process of working through the grief and loss until eventually there were more happy moments than sad ones. *Trying again* was acknowledging fears and whether to attempt another child.

The content in the *Emotional Health* Topic is intended to help families understand the adverse impact of stress, addiction, violence, and depression on the emotional well-being of the entire family. Included in the *Emotional Health* Topic is information to help families understand postpartum baby blues and recognize signs of depression. Strategies are provided for how to address sensitive topics such as intimate partner violence, depression, and other mental health issues. Information is provided to help home visitors recognize signs of trauma and exposure to violence; strategies for how to best support family members who may be victims of domestic violence; and recommendations of when to refer a family for professional help. A goal of the content provided in the *Emotional Health* Topic is to provide families with ways to safeguard children in these situations, to increase protective factors, and to promote healthy relationships. Additional information is provided to help the home visitor recognize when to seek the advice of her supervisor or mental health consultant.

## Caring for Baby/Toddler

Providing a safe environment is critical as injury is the leading cause of emergency room visits and death of young children (Albert & McCaig, 2014). Most first-time parents don't feel adequately prepared nor do they feel like they have enough knowledge about how to parent (Council on Community Pediatrics, 2009). Topics in this Category are *Nutrition & Feeding*; *Health & Safety*; *Daily Care Routines*; and *Parenting & Guidance*. A brief summary of the literature for each of these Topics is provided below.

***Nutrition & Feeding.*** One of the major decisions a new parent has to make is whether to breastfeed or use formula. Extensive research shows the epidemiologic, physiological, and social-emotional, and psychological benefits of breastfeeding (ACOG Committee on Health Care for Underserved Women & Committee on Obstetric Practice, 2007). Breastfeeding has extensive health benefits for the baby including less diarrhea (Bhandari et al., 2003), colds, and vomiting than babies fed formula (Merrett et al., 1988), better immune systems (Papst & Spady, 1990), reduced risk for respiratory infections and otitis media (Alho, 1990), reduced overweight and obesity (Grummer-Strawn & Mei, 2004), and reduction of SIDS (Hoffman, Damus, Hillman, & Krongrad, 1998; McVea, Turner, & Peppler, 2000). The effectiveness of breastfeeding as a protective factor in preventing later has resulted in the American Academy of Pediatrics' new recommendations for starting obesity prevention early in life with breastfeeding (Krebs, Jacobson, & American Academy of Pediatrics, Committee on Nutrition, 2003).

In addition to impressive health benefits, breastfeeding may enhance intelligence and child development (Anderson, Johnstone, & Remley, 1999). Children who had consumed mothers' milk in the early weeks of life had a significantly higher IQ at 7.5 to 8 years than those who received no maternal milk, even after adjustment for differences between groups and mothers' educational and social class (Lucas, 1992; Horwood, Darlow, & Mogridge, 2001). Breastfeeding has also been linked to long-term educational benefits. One study found that an additional month of breast-feeding was associated with an increase in high school grade point averages and probability of college attendance (Rees & Sabia, 2009).

Not only does breastfeeding benefit babies, it also has significant benefits for mothers including more rapid healing from childbirth attributable to increased concentrations of oxytocin, increased child spacing, earlier return to pre-pregnancy weight, decreased risk of breast cancer, and decreased postmenopausal osteoporosis (American Academy of Pediatrics, 2005). In addition, breastfeeding is economical for the breastfeeding family, it results in significantly decreased public health costs, and it creates less of an environmental burden than formula cans and bottles (Levine & Huffman, 1990).

There is substantial support for the benefits of breastfeeding. However, the American Academy of Pediatrics specifies several conditions under which breastfeeding is not in the best interest of the baby including mothers who have active untreated tuberculosis disease, mothers with exposure to radiation or chemotherapy, mothers who are using "street drugs," and mothers with HIV or other infectious diseases (American Academy of Pediatrics, Committee on Drugs, 2001). Mothers who smoke are encouraged to breastfeed but should avoid smoking inside the home and make every effort to wean themselves from tobacco as rapidly as possible (American Academy of Pediatrics, 2012).

Research has given the field a new understanding of how baby's development is influenced by diet. Good nutrition is necessary for optimal development, particularly in the first three years of life when development is so rapid and extensive, yet many parents do not have a good understanding of what constitutes proper nutrition for young children. Improving parental knowledge of their child's nutritional needs is associated with a reduced risk for childhood obesity (Cluss et al., 2013). In 2016 more than 12.9 million children in the U.S. lived in households without enough food (Coleman-Jensen, Rabbit, Gregory, & Singh, 2017). The lack

of a healthy diet puts children under three at risk for brain and cognitive impairment, developmental delays, and impaired school performance (Cook, March, & Ettinger de Cuba, 2009).

Information covered in the *Nutrition & Feeding* Topic includes the health and economic benefits of breastfeeding, tips for expressing and storing breast milk, and ways to manage problems and discomforts associated with breastfeeding. Also provided are suggestions for how to successfully breastfeed when returning to work or school and when and how to wean. Strategies for how to enhance bonding and attachment during feeding are provided throughout this section of the curriculum. If families choose bottle feeding, suggestions are provided for how to choose formula and supplies, and how to properly prepare, warm, and store bottles of formula. Information about when and how to introduce solid foods and whole milk is included in this topic.

**Daily Care Routines.** Child development specialists agree that babies thrive on a routine (Brazelton & Sparrow, 2006). The predictability of a consistent routine—knowing what will happen next—helps babies feel more secure. When families consistently provide predictable routines, they lay the foundation for trust, security, and healthy attachment. Some families lack even the basic routines for sleeping and eating. The content in this Topic addresses how to manage many of the basic care routines including diapering, bathing, feeding, sleeping, and toilet learning. Information is provided on choosing quality child care and preschool programs, as high-quality early care and education programs can improve health and developmental outcomes for vulnerable children (Bos, Phillips-Fain, Rein, Weinberg, & Chavez, 2016).

**Health & Safety.** One of the most important decisions new parents make is where the baby will sleep. The American Academy of Pediatrics warns parents *not* to place their infants to sleep in adult beds because of the risk of suffocation and strangulation.

In 2016 there were approximately 3600 sudden unexpected infant deaths (SUID) in the U.S. These are deaths that occur among infants that are less than 1 year of age and have no immediately obvious cause. Of those SUIDs, about 1500 (42%) were categorized as Sudden Infant Death syndrome (SIDS), one of the three commonly reported types of SUID.

Extensive research has been conducted regarding Sudden Infant Death Syndrome (SIDS). Babies are less likely to die from SIDS when placed on a firm, flat sleep surface, with no soft bedding, and on their back for all sleep times. Additional recommendations to reduce the risk of SIDS from the American Academy of Pediatrics (2016) include not smoking during pregnancy and not allowing anyone to smoke around the baby; not using alcohol or illegal drugs during pregnancy; breastfeeding; and offering a pacifier at nap and bedtime, as long as breastfeeding is well established (AAP Task Force, 2016). We've known for many years that maternal cigarette smoking contributes to an infant's risk of dying from SIDS (Rhead, 1977). Infants of mothers who smoked during pregnancy were three times more likely to die of SIDS than those whose mothers were smoke-free. Exposure to secondhand smoke doubles a baby's risk of SIDS.

Unexplained cultural disparities persist, as African American babies are twice as likely to die from SIDS and American Indian babies are nearly three times more likely to die of SIDS than white babies (National Institutes of Health, 2010). In 1994 the American Academy of Pediatrics started the Back to Sleep campaign, an effort to educate the public about reducing the risk of SIDS by placing babies to sleep on their backs. Since that time, the number of SIDS deaths has dropped by 50%. Research suggests that many SIDS babies are born with an abnormality in the part of the brainstem that controls blood pressure and breathing, temperature regulation, and sleep and waking. When an infant is sleeping on his stomach on soft bedding, there is an increased risk of the baby re-breathing his own exhaled air. This causes the oxygen level in the baby's body to drop and the carbon dioxide level to rise. Usually when this happens the brain triggers the baby to wake up and cry, changing the baby's breathing and heart rate to compensate for the lack of oxygen. Babies with brainstem abnormalities lack this "over-ride protection" and seem to be at greater risk for SIDS. Another theory is that stomach sleeping and/or soft bedding increases the risk of overheating (Panigraphy et al., 2000; National Institutes of Health, 2010).

Accidents also remain a major cause of emergency room visits and deaths. Curriculum topics encourage accident prevention through helping families properly install infant car seats, safe driving and traveling with baby, ensuring safe places to sleep for the whole family, and child proofing the home.

Information in the *Health & Safety* Topic covers the importance of setting up a safe sleep environment, strategies for reducing the risk of SIDS, how to properly install an infant car seat. Also addressed are many issues related to caring for a newborn including thrush, rashes—diaper, heat, and other rashes from washing baby's clothes; teething symptoms and remedies; how to know if baby is sick and when to take to the doctor; correcting myths about vaccines; and the importance of hand washing to keep everyone healthy.

**Parenting & Guidance.** This Topic addresses two main areas—co-parenting and dealing with those challenging, but typical, behaviors seen in older infants and toddlers. Co-parenting has been defined by McHale (2007) as a “contract placed on those [that are] mutually responsible for the care and upbringing of a child.” Feinberg (2003) defines coparenting as the ways parents and other adults who take on parenting responsibilities interact with each other while carrying out those parenting functions. The research has shown that the way in which coparenting is conducted has an impact on the mental health of young children (Lamela & Figueiredo, 2016). Positive co-parenting is linked to positive cognitive, socioemotional, and behavioral outcomes (Larzelere, Morris, & Harrist, 2013) and has been shown to increase father involvement, especially among nonresident fathers who are not in a relationship with the baby’s mother (Fagan & Palkovitz, 2011). Helping families learn how to co-parent in a positive way creates a healthy emotional climate for the infant (McHale, 2007).

The content in this Topic also provides strategies for parents to appropriately respond to the challenging behaviors that are typical of the toddler years. Suggestions focus on providing developmentally appropriate guidance to support their young child’s developing sense of self and emerging capacity for self-regulation. The importance of responding to baby’s cries and information on how to dispel the myth of spoiling is provided in this Topic.

### **Baby’s/Toddler’s Development**

The first year of life is an unparalleled time of growth and development. Babies undergo dramatic transformations in every area of development. They go from being totally dependent to walking, talking and actively exploring their world. Development occurs through a complex interaction of genetic factors and environmental experiences. The newborn infant is endowed with well-developed senses and a wide array of reflexive abilities to begin the important tasks of meeting their basic physical needs, forming relationships, and exploring the world. Classic developmental theories provide an understanding for how children develop. From a Piagetian perspective, the first year of life is the sensorimotor stage in which children experience the world through movement and senses (Piaget, 1960). From an Eriksonian perspective, the first year is focused on building trust and security. The work of Bowlby (Bowlby, 1982) and Ainsworth (Ainsworth, Blehar, Waters, & Wall, 1978) emphasizes an attachment theory perspective, which highlights relationships as the basis of all development. We know from the synthesis of the literature that optimal growth is achieved when good health and nutrition are combined with nurturing caregiving in a safe and appropriately stimulating environment (Florida Partnership for School Readiness, 2004).

The “decade of the brain” increased our understanding of neuroscience and the tremendous opportunities for development and vulnerability. Neurobiological research has confirmed that the human brain is not fully developed at birth, so it is more receptive to both the positive and negative influences in infancy. From late pregnancy through the second year the brain is in a critical period of accelerated growth, requiring a combination of sufficient nutrients and nurturing for optimal development.

Development that occurs in the first year of life is much more vulnerable to environmental influence than ever suspected (Shonkoff, Boyce, & McEwen, 2009). Children under the age of one are the age group most likely to be maltreated (Florida Department of Children and Families, Office of Family, 2009). Maltreatment at an early age is related to poor developmental outcomes including cognitive problems (23-65%); speech delays (14-64%) (U.S. Department of Health and Human Services, Administration for Children & Families, 2005); 22-80% acute or chronic health problems (Sullivan & Knutson, 2000); 4-47% motor delays (Leslie et al., 2005); 10-61% mental health problems (Wiggins, Fenichel, & Mann, 2007). Up to 82% of maltreated infants will have attachment problems (Carlson, Cicchetti, Barnett, & Braunwald, 1989).

Further evidence shows that adverse early childhood experiences can cause physical and chemical changes that become embedded in the circuitry of the developing brain, which can have lifelong consequences. Prolonged stress, maltreatment, nutritional deficits, and environmental toxins may chemically alter the baby’s DNA, which may result in permanent adversity throughout the child’s lifetime. On the other hand, supportive relationships can improve developmental outcomes—as demonstrated by the fact that nurturing interactions support healthy brain development. Substantial research shows the importance of nurturing experiences during infancy—when brain development is most rapid (National Scientific Council on the Developing Child, 2010).

Topics in the ***Baby’s/Toddler’s Development*** Category are *Developmental Skills; Language & Literacy; Social Emotional Development; and Play, Learning, & Cognition*. A brief summary of the literature for each of these Topics is provided below.

**Developmental Skills.** A key factor in promoting stable and nurturing families is knowledge of child development (Child Welfare Information Gateway, Children’s Bureau, & FRIENDS National Resource Center For Community-Based Child Abuse Prevention, 2011). The first months of life are defined by a tremendous developmental growth spurt evidenced by emerging communication

skills, strengthening attachments, increasing mobility fueled by an insatiable curiosity and need to explore, and attempts at self-regulation (Piaget, 1960). Development occurs across several domains, including physical health, language, social-emotional development, cognitive development, and motor development. Growth in one domain impacts growth in other domains. Development proceeds sequentially from inward to outward extremities with increasing dexterity in the use of large muscles followed by the refinement of fine motor skills. Development proceeds through a predictable sequence, but there may be wide variations in the pace of milestone achievement. Information in this Topic is intended to help parents understand and support this crucial time of growth and development.

***Language & Literacy.*** There is widespread belief that the early years provide a “sensitive” or “optimal” period to acquire language after which time it takes more effort and becomes more difficult. Noam Chomsky asserts that babies possess innate abilities for learning language, a “language acquisition device” in the brain, which is shaped by the language in the child’s environment (Luttrell, 2009). Piaget, who developed a global theory of cognitive developmental stages, suggests more of an interactive developmental model of language acquisition. He theorizes that there is an optimal period for language acquisition within the context of complex cognitive development, which is triggered by social interactions and environmental influences (Piaget, 1970).

Dr. T. Berry Brazelton, one of America’s favorite pediatricians, loved to show new parents how their newborn can turn their head toward the familiar voice of their parent. This powerful demonstration helps parents feel a special connection with their baby. Hearing begins in the womb at about four months, so most babies are familiar with their mothers’ and fathers’ voices at birth. Babies’ hearing is fully formed at birth as evidenced by their startle response to loud noises and ability to be comforted by soothing voices. In the first three months of life babies make cooing and crying sounds. One of the most important roles of a new parent is learning to differentiate their baby’s cries for hunger, exhaustion, and comfort. At about four months, babies are able to make many sounds including babbling and gurgling sounds, chuckles, and laughs. They notice toys that make sound and pay attention to music (The American Speech Language Hearing Association, 2011). Babies learn through imitation and repetition. They hear sounds and repeat them over and over again.

A baby’s “receptive language” or the ability to understand sounds and words develops long before they are able to express or articulate the words. This is why it is important to sing, talk, and read with babies even before they can talk. Parents’ voices are soothing and reassuring for babies—they understand the tone even before they can comprehend the actual words. They understand the difference between a harsh and abrasive tone, and a respectful, nurturing tone. Talking with the baby throughout the day and describing what’s coming next provides a sense of predictability and helps the baby develop a sense of trust and security.

The value of talking throughout the day was documented in Hart & Risley’s two-year observation of language in the homes of professional, working class, and low-income families (Hart & Risley, 1995). By age three, they found that parents of advanced children talked significantly more to their children than parents of children who were not as advanced. The study found a 30-million-word gap between the vocabularies of low-income and professional families. That is, children from low-income homes heard, on average, 616 words per hour, while children from professional families (essentially children with college educated parents) heard 2153 words per hour. Follow-up of the children found that their academic success at age ten was attributable to the amount of language they heard from birth to three. The implication is that parents can have a substantial impact on their children’s language development and IQ scores by talking with their children from birth. Some parents mistakenly believe that television can accelerate young children’s language. However, studies show that each hour of television viewing was associated with a 2.68% decrease in the language score (Zimmerman, Christakis, & Meltzoff, 2007). Healthy language development is facilitated by adult-child conversations, reading, and storytelling (Zimmerman et al., 2009; Bardige & Bardige, 2008).

Our increasingly multicultural world has many parents wondering about bilingual language development. Learning more than one language can be accomplished in one of two ways—sequentially or simultaneously. Children can learn a new language after the primary language is established (sequentially), or they can learn two languages at the same time. Contrary to the belief that exposing an infant to two languages is confusing, infants have an innate capacity for dual language learning. Research indicates that infants have a “highly tuned auditory discrimination capacity” and can discriminate between the sounds of two languages long before they can articulate them (Bosch & Sebastián-Gallés, 2001). The babblings of bilingual babies are language specific when interacting with each parent in a one-parent, one-language environment. Therefore, a baby will babble using Spanish sounds when communicating with his Spanish-speaking mother and will switch to making English sounds with his English-speaking father (Maneva & Genesee, 2002). When it comes to major developmental stages of language, there are no differences between

the simultaneous dual language learner and the monolingual child with the exception of normal grammatical errors (Paradis & Crago, 2001). By school age, the vocabulary measures of dual language learners are comparable to monolingual learners when the vocabularies of both languages are combined, rather than single language testing (Pearson, 1998).

The content in this Topic emphasizes the importance of talking with baby during daily care routines as well as the value of singing and reading to baby. Also included is practical advice about what books are best for young infants and toddlers, how to engage babies and toddlers in shared reading, typical book handling behaviors for babies and toddlers, and recommendations for screen time for infants and toddlers. Information about the myth of classical music, the importance of using “parentese,” and issues related to dual language learning is also found in this section of the curriculum.

***Social Emotional Development.*** Research has substantiated that early childhood development is much more vulnerable to environmental influence than ever suspected (National Scientific Council on the Developing Child, 2010). New scientific research shows the value of positive experiences such as exposure to healthy, nurturing relationships as well as the impact of negative influences such as prolonged stress, environmental toxins, or nutritional deficits. Prolonged stress during early childhood can be particularly toxic. In the absence of protective relationships, prolonged stress may result in permanent epigenetic changes in brain cells altering responses to adversity throughout the lifespan (Shonkoff, Boyce, & McEwen, 2009).

The first year of life forms the foundation for social/emotional development, which consists of trust and emotional security, self-regulation, and self-concept. As Dr. Jack Shonkoff reminds us, “there is no development without relationships.” (Shonkoff, 2005). From the work of Bowlby (1982) and Ainsworth (1978), an attachment theory perspective highlights “falling in love” with one’s baby and the importance of a secure relationship. Some parents feel connected when they first hold their baby; for others, it is a slow process culminating after birth; and for some, it never happens. Lack of bonding may be an emotional protective factor related to fear of separation from the baby (Solchany, 2001). Because of the strong impact on development, the emotional quality of the parent-child relationship is a natural focus for efforts to promote healthy social emotional development in infancy and early childhood. Multigenerational interventions that seek to emphasize the interconnectedness of the child and the family members are most effective in enriching the parent/child relationship by increasing feelings of intimacy, safety, security, and reciprocity (Osofsky & Lieberman, 2011). Information in the *Social Emotional Development* Topic focuses on ways to support this developing relationship.

Bowlby (1982) first originated “attachment theory” which he defined as “the seeking of proximity to an attachment figure.” He explained how early attachments influence emotional well-being throughout adulthood. Ainsworth furthered attachment theory by defining secure and insecure attachments and how early attachments affected future relationships. Secure attachments are developed through nurturing responsive caregiving over time. Insecure attachments may occur when baby’s physical and/or emotional needs are not met as a result of erratic or inconsistent caregiving, separations, abuse or neglect, addictions, or other reasons for emotional unavailability.

Extensive research about touch has shown that babies thrive when receiving nurturing touch, which is why the curriculum encourages both mothers and fathers to engage in “kangaroo mother care.” Kangaroo care, defined as skin-to-skin contact between the parent and baby, has significant benefits for preterm babies including improved respiratory and temperature stability, sleep organization, breastfeeding, and modulation of pain response, and a reduction in neonatal mortality, severe illness, infection, and hospital readmission stay (Jefferies, 2012; Boundy et al., 2016). Gentle stroking or massage can also promote healthy digestion, help alleviate gas pains and constipation, relieve some of baby’s colic pain and discomfort, and help sleep problems in infants (Field et al., 2008). Preterm babies gain weight faster and go home earlier when stroked and touched (Harrison, Groer, & Younger, 2003). Weight gain was associated with shorter hospital stays and significant hospital cost savings (Field, 2010). Interesting research on stress has shown that babies do indeed feel pain, which can be reduced if caregivers hold them, especially during painful medical procedures like heel sticks in the hospital or routine immunizations (Neu, Laudenslager, & Robinson, 2009). Studies have shown that holding and stroking babies who were at high risk for developing stress-related problems prevented developmental concerns (Sharps et al., 2012; Sharps et al., 2014).

Conversely, lack of touch can cause failure to thrive. Harry Harlow’s classic early studies (Harlow & Zimmermann, 1959) demonstrated the effects of touch deprivation on monkeys, which changed the scientific community’s view of the importance of bonding and attachment. Rene Spitz’ studies of young children in institutions who had little physical contact showed failure to thrive physically (Spitz, 1945). Current research being conducted in orphanages and other deprived environments confirms the

physical symptoms of failure to thrive as well as life-long emotional scarring (Pollak et al., 2010). The recent “decade of the brain” increased our understanding of neuroscience and the tremendous impact of early deprivation, trauma, and stress on the developing child.

Touch and proximity are also critical for bonding and attachment. The developmental sequence of attachment is explained by Dr. Charles Zeanah (Zeanah, 2009). At first the baby recognizes the caregiver and becomes familiar. Familiarity leads to comfort, which leads to pleasure. Pleasure leads to reliance, which leads to the baby having a preference for the caregiver who is familiar, comforting, and reliable (Zeanah, 2011). From birth to two months, a baby’s preferences are limited to familiar voices and smells. At about two months, babies begin to smile and are social with everyone. Babies may seem more comfortable with their primary caregivers but preferences are not strongly expressed. This all changes at about eight months of age as cognitive advances and memory expands to enable babies to differentiate between familiar and unfamiliar caregivers. This stage is commonly referred to as “stranger anxiety” or “separation anxiety” and may last until about 18 months. Being close by to a trusted caregiver promotes feelings of security. This is especially important as motor skills increase and baby begins to crawl. The baby uses his attachment figure as a secure base from which to explore.

Information in the *Social Emotional Development* Topic is grounded in attachment theory and designed to foster healthy social emotional development by helping parents understand how being responsive, comforting, and reassuring supports their baby’s development of trust and emotional security (Zero to Three, 2004). Also addressed in this Topic are the special emotional health needs of premature babies and babies who were adopted. Most importantly, the content in this topic is intended to help families build the attachment relationship during everyday care routines.

**Play, Learning, & Cognition.** Play is the primary way in which children learn. The National Association for the Education of Young Children describes the many skills that are advanced through play, including self-regulation and the development of social emotional competence, cognitive, and language development (National Association for the Education of Young Children, 2009). Leading theorists such as Piaget (Piaget, 1970) and Vygotsky (Vygotsky, 1978) describe the hands-on play of the early childhood period as the best method for advancing cognitive and social-emotional learning. Piaget defined infancy as the sensorimotor period—characterized by the babies’ exploration with their senses (e.g., seeing, touching, hearing, smelling, tasting) (Piaget, 1970). Babies put everything in their mouth in order to feel, taste, and explore the things in their world. They are fascinated with their body parts and love sucking on their fingers and toes. They are amazed by their hands and try to swipe, grab, touch, or reach anything of interest. They are curious about things that make noise like rattles or keys and naturally bring everything to their mouths during this stage of sensory exploration.

Infant play is characterized by exploration, experimentation, imitation and repetition. Babies are avid observers, looking around, tracking voices and faces, and responding to smiling faces. Babies learn by imitation and even young babies can copy adult facial expressions like sticking out their tongue. They also engage in repetitive play, such as trying to reach for an interesting mobile by swiping at it over and over again. Repetition creates pathways in the brain—the process for learning new skills. Once the skill is accomplished and the firm neurological pathway is created, the skill becomes automatic so the infant can perform the task without concentrating on it (Cheatum & Hammond, 2000). The best time to engage the baby in play is when he’s alert and relaxed.

Play allows babies to follow their inborn learning agenda (Lally, 2009). Theorists like Piaget and Montessori believe that children will naturally choose activities they need to learn at their own pace. The role of the adult in baby play is to provide an interesting environment (e.g., colors, shapes, toys, songs, books, novel things) and then follow the baby’s lead. Dr. Stanley Greenspan developed the concept of “Floortime,” a widely used technique where adults get down on the floor and work with their baby to support their development. This technique is used with typically developing children as well as with children who have emotional and/or developmental disorders. A key component of the technique is to follow the baby’s lead and challenge him to exchange gestures and emotional signals with the adult about his interests. This is based on the theory that babies are born with an innate curiosity and capacity to learn, and learn best by pursuing their interests (Greenspan, 2000).

Parents have been bombarded by claims that “Baby Einstein” toys, classical music, and other toys promote intelligence. However, there is no evidence that these products make a baby any smarter (Bruer, 1999). In response to the commercialization of “superbabies,” infant specialists like Dr. William Sears have strongly reiterated that “relationships, not things, make brighter babies.” (Sears & Sears, 2001) Dr. Greenspan illustrates this when discussing language acquisition and theorizes it is the babies’ emotional interactions with caregivers that create the desire to communicate (Greenspan & Shanker, 2004). Dr. Jack Shonkoff,

Director of Harvard's Center on the Developing Child, further postulates that "there is no development without relationships." (Shonkoff, 2005). In a presentation to the annual meeting of the American Academy of Pediatrics, Dr. Michael Lewis, professor of pediatrics and psychiatry (Sater & Lewis, 2007) reviewed studies of factors that enhance infant development and concluded that the single most important influence on a child's intellectual development was the responsiveness of the mother to the cues of her baby.

The content in the *Play, Learning, & Cognition* Topic serves to help parents learn that they are the "best toy on the market" and that they can foster their baby's development by playing, talking, singing, cuddling, nurturing, and delighting in their baby while engaging in everyday care routines (Pruett, 2009).

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