Improving Maternal and Infant Mental Health: *Focus on Maternal Depression*

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INTRODUCTION

States and communities across the nation are involved in various efforts to promote the healthy development of children so that they are prepared for success in school. A growing body of research has brought healthy social and emotional development, or infant mental health, to the forefront of this task by illustrating its fundamental role in school readiness. Scientific reports on early childhood development suggest that social and emotional development is a strong predictor of school performance and a child's overall ability to thrive.[1, 2] Experts agree that children who are emotionally well-adjusted have a significantly greater chance of achieving success in school compared with those who have emotional difficulties.[3, 4]

The benefits of good infant mental health extend beyond school. Evidence shows that the development of healthy social and emotional skills in the early years make it possible for adults later in life to form intimate relationships, effectively care for their own children, and hold a job. Cost-benefit analyses confirm that nurturing young children's social, emotional, and behavioral skills through quality early educational programming produces an economic return to society. This occurs over time through a contribution of labor force skills that generate national economic growth and lower crime rates that keep down taxpayer costs.[5, 6]

Long before they enter the workforce or begin school, young children begin to acquire social and emotional skills. They rely on parents or other primary caretakers to provide a safe environment, create positive, new experiences, and guide their emotions. Decades of research on maternal mental health show that maternal depression can impact a mother's ability to meet these needs. The condition may pose serious mental health problems for mothers and jeopardize their ability to provide safe, responsive, and nurturing care to their young children. The incidence of maternal depression is high, placing many young children at risk for developing mental health and behavioral problems. Yet the majority of maternal depression cases goes undetected, is left untreated, and may reach the attention of professionals only after something serious goes wrong.

This paper discusses the impact of maternal depression on the social and emotional health of young children. It recommends specific steps that early childhood program and public health administrators can take to address the unmet mental health needs of mothers ultimately promoting the social and emotional health, school readiness, and future functioning of very young children.

Fast Facts on Maternal and Infant Mental Health:

- Maternal depression is a multifaceted illness that describes a range of physical and emotional changes that many mothers can have during pregnancy or after giving birth. The condition has varying consequences for a woman's mental health, her functioning as a mother, the family's functioning, and her child's development.[7] The term is used to describe a spectrum of conditions: prenatal depression, postpartum blues, postpartum depression, and postpartum psychosis.
- Postpartum blues, a form of maternal depression, is considered normal. It is experienced by 50 percent to 80 percent of all mothers within the first 10 days after childbirth.[8]
- The Early Head Start Research and Evaluation Project of 2002 found that 48 percent of mothers reported enough depressive symptoms to be considered depressed at the time of their enrollment in the project.[9]
- Factors that can place mothers at risk for maternal depression include prior history of depression, family history of depression, hormonal changes experienced during pregnancy,

genetics, poor environment (e.g., food insecurity, poor housing conditions, lack of financial supports, uninvolved husband or partner), and the absence of a community network.[10,11,12,13]

- Babies depend on the emotional nurturance, protection, and stimulation that depressed mothers may not consistently provide.[14]
- Infants of clinically depressed mothers often withdraw from daily activities and avoid interaction with caregivers, which in turn jeopardizes infant language, physical, intellectual, and emotional development.
- Evidence of infants experiencing symptoms of depression has been found in children as young as four months of age.[15]
- Older children of mothers depressed during infancy often exhibit poor self-control, aggression, poor peer relationships, and difficulty in school, increasing the likelihood of special education assignment, grade retention, and school dropout.[16]

Policy Recommendations:

Each policy strategy is described in greater detail in the following pages.

1. Increase maternal depression awareness to providers in the health care community, early care and education, and family support.
2. Perform outreach and education to expectant and new mothers to address stigma and patient barriers.
3. Assure earlier identification of maternal depression in health care settings by addressing barriers to recognition, screening, assessment, and referral.
4. Invest in evidenced-based interventions that improve the mother-child relationship.
5. Build a comprehensive network of community perinatal service providers to strengthen mental health in the pregnant and postpartum family.

WHAT IS INFANT MENTAL HEALTH?

Infant mental health is the capacity of infants and toddlers to experience, regulate, and express emotions; form close and secure interpersonal relationships; and explore the environment and learn. Infant mental health is synonymous with healthy social and emotional development. Infant mental health also refers to the mental wellness of the actual caregiving relationship between caregiver and child.

How Does Infant Attachment Impact Development?

Babies are hardwired to develop strong, emotional connections, or *attachment*, with their primary caregivers. The ability to attach to a significant adult allows young children to become trusting, confident, and capable of regulating stress and distress. The most important part of attachment is the quality of attachment formed, as it predicts later development. Ideally, children develop *secure attachment* (a healthy emotional bond) with caregivers. Infants who develop secure attachment with a primary caregiver during the early years of life are more likely to have positive relationships with peers, be liked by their teachers, perform better in school, and respond with resilience in the face of adversity as preschoolers and older children. Attachment is integral to the emotional development of the young child;[17, 18] babies need to become attached to at least one close, trusting adult. In fact, the innate need to attach is so strong that an infant will even develop an emotional connection with inconsistent and insensitive caregivers if optimal care is unavailable. Infants who develop insecure attachment are at risk for a more troublesome trajectory. These children are at risk of devel-

oping learning delays, relationship dysfunction, difficulty expressing emotions, and future mental health disorders.

Caregiving Environment Can Shape Infant Mental Health

- Infants develop in the context of relationships and are highly sensitive to the quality of care they receive from caregivers. As early as 6 weeks of age, newborns become distressed if their interpersonal relationships with caregivers are even slightly disrupted.[19]
- Research confirms that family functioning (a family's ability to cope with life stressors and its likelihood of experiencing difficulties) can promote or hinder a young child's development.[20]
- Studies show that the relationship between a mother and father influences how they both interact with their child.[21]
- Other family members such as grandparents, siblings, and even non-relatives who are responsive and connected to the family also positively or negatively impact the social and emotional development of young children.[22]

Preparing for Motherhood

During pregnancy, women begin to take on the role of motherhood. Mothers-to-be often experience a phase of disbelief in the early stages of pregnancy, but eventually the baby becomes a primary focus of mothers' thoughts, feelings, and behaviors. The transition from self to caregiver expands her sense of identity and responsibility.[23] This preparation results from her growing experience with the baby, but also from her own personal experience of having been parented, and her expectations about parenting the child.

After the baby is delivered, the mother begins to learn about the infant as well as what it is going to mean to be a mother to her child. She develops **maternal sensitivity**—an awareness of her infant's needs—and **responsiveness**—the capacity to respond to her infant's cues. For instance, a mother may pick up and gently rock her crying child to calm him down. She guides **parent-child interactions**, or patterns of everyday exchanges, to optimize the child's development. The familiar game of peek-a-boo between mother and child illustrates an example of the parent-child exchange. Such interactions help infants build a sense of what is expected, what feels right in the world, as well as skills and incentives for social turn-taking, reciprocity, and cooperation.[24] The mother's ability to perform these tasks makes room for the child to develop positive social and emotional health.[25]

Mothers who are depressed are not always capable of handling the tasks of motherhood. While some can provide consistent, sensitive care for their children, others cannot. Research finds that the latter, in particular, find it difficult to provide the emotional nurturance, protection, and stimulation that babies count on.[26] While she may provide basic care, like food and shelter, the emotional unavailability of a depressed mother often restricts her parent-child interactions to negative-based ones (for instance, responding exclusively to her child's fussing and crying, while neglecting positive invitations for interaction like smiling).[27, 28]

WHAT IS MATERNAL DEPRESSION?

Having a baby can be a very exciting time in a woman's life. The anticipation of a new child is often characterized by feelings of joy and great delight. At the same time, the emotional, hormonal, and physical changes a woman endures during this process can be hard and stressful, causing her to feel sad, anxious, afraid, or confused. New mothers are often confused by these feelings when they fall short of society's idealized view of motherhood and may also feel guilt and shame. Most women who experience these emotional changes are able to recover quickly. For some women, however, these feelings do not go away or they get worse. These women may have a diagnosable form of maternal depression.

Maternal depression is a condition that describes a range of physical and emotional changes that many mothers can have during pregnancy or after giving birth. It is a multifaceted illness that has varying consequences for a woman's mental health, her functioning as a mother, the family's functioning, and her child's development.[29] The term is used to describe a spectrum of conditions: prenatal depression, postpartum blues, postpartum depression, and postpartum psychosis.

- **Prenatal depression** occurs during pregnancy when mothers-to-be experience hormonal and biological changes, stress, and the demands of pregnancy. Approximately 14-25% of pregnant women have enough depressive symptoms to meet the criteria for a clinical diagnosis.[30] Symptoms may include excessive bouts of low mood, tearfulness, irritability, emotional ups and downs, anxiety, and insomnia. Normally, women often experience the same set of symptoms during pregnancy. As a result, recognizing her need and seeking help can become difficult for a prenatally depressed woman. Early identification is essential- 50% of all women who experience prenatal depression also develop postpartum depression. Treatment may include medication and/or referral to a therapist for counseling and support.
- **Postpartum blues** are considered "normal" since they are so commonly experienced worldwide. The blues are experienced by 50 percent to 80 percent of all mothers within the first 10 days after childbirth. Affected mothers may show prolonged or unexplained tearfulness, fatigue, insomnia, anxiety, and feelings of loss or being overwhelmed. Symptoms generally peak at five days after birth and typically resolve within a week or 10 days. Usually, the symptoms are transient and mild and do not interfere with a mother's caring for her infant. While treatment is generally not necessary, moms and families need information about what is normal, what to expect, and when to get help.
- **Postpartum depression** is a clinically significant condition and requires serious medical attention from a health care provider. Identified symptoms are essentially the same as the Diagnostic and Statistical Manual of Mental Disorders's (DSM-IV) definition of clinical Major Depression disorder, but is called Postpartum Depression to distinguish the childbirth context in which it occurs. Symptoms include prolonged periods of low mood, irritability, sleep and appetite disturbance, fatigue, loss of interest, inability to feel pleasure in daily life, guilt, decreased concentration, indecisiveness, feelings of worthlessness, despair, or thoughts about harming herself or her child. This condition is manifested in major depressive episodes lasting two weeks or more and may last for a period of weeks or for longer than a year. An estimated 8 percent to 15 percent of childbearing women experience post partum depression during the first year after childbirth. Research finds that poor depressed women can experience depressive symptoms as high as 48%.[58] Women experiencing these symptoms need immediate mental health evaluation and treatment.

- **Postpartum psychosis** is the most severe of conditions related to maternal depression, with symptoms ranging from hallucinations and paranoia to suicide or infanticide. Because of its severity, postpartum psychosis is handled as a psychiatric emergency. The condition is rare compared to other postpartum mood disorders, affecting an estimated one to three in 1,000 women during the first year after childbirth. However, the condition occurs frequently enough that all caregivers need to be aware, since symptoms can develop quickly.

Does Paternal Depression Exist?

The mental health of both parents can affect the mental health of their young children. Because of its prevalence, research has paid particular attention to maternal depression. However, a growing number of studies suggest that fathers can also experience depression after the birth of a child. While information on paternal depression is limited, existing research explains that fathers can become depressed for several reasons, including mothers' new personality difficulties, mothers' current mental health (e.g., experiencing depression herself), infant-related problems, as well as the state of the mother-father relationship.[31] A recent study found maternal depression to be the strongest predictor of paternal depression during the postpartum period, suggesting an important focus for intervention.[32]

What are the Contributing Sources of Maternal Depression?

Several factors influence maternal mental health or well-being:

- Biological factors, such as hormonal and chemical changes experienced by pregnant women, have been shown to play a role in maternal depression.[33]
- Genetics can predispose certain women to clinical depression, which may intensify with pregnancy.[34]
- A history of depression in the family may also predispose women to maternal depression.

- Likewise, a previous history of maternal depression can predict future occurrences of depression during the perinatal period.
- Stresses such as involvement in violent relationships, traumatic experiences, and substance abuse are also highly associated with depression.
- Depression may result from poor environmental factors, such as lack of food, inadequate housing, little financial support, and insufficient family support (e.g., an uninvolved husband or partner).[35]
- Mothers can also become vulnerable to depression in the absence of community support. Studies have shown that the dynamics of the immigration experience have served as both protective and risk factors for the mental health of immigrant women.[36]

Maternal Depression Impacts the Mother-Child Relationship

An infant is typically in tune with the emotional signals in his mothers' voice, gestures, movements, and facial expressions. As a result, young children with depressed mothers display more negative and less positive emotions than their counterparts with non-depressed mothers.[37] In response to negative early experiences, infants of clinically depressed mothers may withdraw from daily activities, and eventually avoid any kind of interaction with caregivers. They may also be more irritable, difficult to soothe, and less "happy." Children of depressed mothers often learn from the patterns of their early experiences and perceive that only negative strategies, such as fussing or crying, will elicit a caregiver response. Unfortunately, such negative expectations often emerge as the child's standard approach when seeking attention.

Likewise, an infant's personality can influence the way a mother responds to him. For instance, an infant who is "easy to read" responds to his mother's bids for interaction and manages distress well would positively influence his mother's mental health. On the other hand, child mental health issues such as poor attachment or physical health problems (e.g., infant hospitalizations, disabilities) can place a mother at risk of maternal depression. Studies show that a child who elicits negative or minimal interactions with his parent may cause his mother to feel rejected and further discourage the depressed mother's efforts to develop mother-child intimacy.[38] Depressed mothers' perceptions that their infants are more difficult may be correct. This sets up a challenging dynamic, where neither mother or child has positive experiences with or expectations for the other.

Impact of Maternal Depression on the Young Child's Social and Emotional Development

Infants and toddlers of depressed mothers can develop serious emotional disorders such as infant depression and attachment disorders.[39] Early mental health disorders might be reflected in overall delayed development, inconsolable crying, or sleep problems. Older toddlers may exhibit aggressive or impulsive behavior. In early care and education settings, children with social and emotional problems tend to have a hard time relating to others, trusting adults, being motivated to learn, and calming themselves to tune into teaching—all skills that are necessary to benefit from early educational experiences. Studies show that very young children are being expelled from child care and preschool for behavior problems.[40]

Studies also reveal the long-lasting effects of maternal depression. Older children of mothers depressed during infancy show poor self-control, aggression, poor peer relationships, and difficulty in school.[41] These problems increase the likelihood that the child will be placed in special education, held back to repeat a grade, and drop out of school. Each of these problems can prevent a child from reaching optimal development, result in missed opportunities for success over the child's lifespan, and impose increased costs to society.

Factors that Intensify the Risk of Maternal Depression

The co-occurrence of maternal depression with other adverse conditions appears to have a more pronounced negative effect on the social and emotional development of children than maternal depression alone. Whether depression occurs simultaneously with psychological conditions—such as eating disorders or substance abuse— or concurrent with environmental conditions—such as poverty and domestic violence—these combined conditions often result in poor attachment between infants and their mothers and less optimal mother-child interactions.[42] Research shows that additional factors, including the length and severity of depression, also play a role in the effects of maternal depression on the social and emotional development of young children.[43]

What does Maternal Depression Treatment Look Like?

Research shows that treatment for maternal depression is typically successful once mothers who need it get medical attention. Various modes of treatment exist:

- **Counseling/Psychotherapy-** Different types of counseling services, such as individual psychotherapy, short-term group therapy, joint mother-infant therapy, and family therapy can relieve some forms of depression. These strategies are used to facilitate interpersonal functioning, the mother-child relationship, and overall family functioning.[44, 45] Certain kinds of counseling may be more useful for one group of women over another. Cognitive behavioral therapy (CBT), a treatment focused on modifying patterns of thinking and behavior, has been proven to be particularly effective in reducing depressive symptoms, improving parenting skills, and enhancing problem-solving among low-income women.[46]
- **Medication-** Some women benefit from the temporary use of antidepressants or anti-anxiety medications to augment hormonal and chemical imbalances experienced as a result of pregnancy. The use of medication to treat maternal depression is controversial; there is concern about mothers taking medication during pregnancy and after delivery, especially while breastfeeding. Research suggests that infant development is not adversely affected by certain kinds of medication.[47] There is equal consideration regarding the possible risks posed to a child whose mother is severely depressed and needs medication but remains untreated.
- **Hormonal Therapy-** Although some studies have found that the use of hormonal therapy is effective in cases of women with postpartum depression, additional information is needed on whether it is most effective when used exclusively or combined with other forms of treatment. Further research is needed to answer questions related to the amount of hormones and length of treatment necessary for remission of symptoms.
- **Alternative Therapy-** Evidence-based nontraditional therapies are also being used to treat maternal depression. Massage therapy, music, coaching, and relaxation therapies have been successful in improving maternal mood and enhancing mother-infant interaction.[48]
- **Electroconvulsive Therapy-** This rare form of treatment for maternal depression is mainly used for mothers experiencing serious depressions, such as postpartum psychosis

RECOMMENDATIONS

Maternal and child health agencies can take steps to improve both maternal and child mental health. The following recommendations outline opportunities and examples of state and community initiatives that may be useful in reaching this goal.

Increase maternal depression awareness in the health care, early care and education, and family support communities.

Most women receive some form of prenatal care, making several visits to see perinatal professionals during the course of pregnancy. They are seen by a variety of health care providers, including obstetricians/gynecologists, nurses, perinatologists, neonatologists, and genetic counselors. After childbirth, they receive care from pediatricians, pediatric nurses, and family physicians. The nature and regularity of these visits place health practitioners in a unique position to advise and support mothers, recognize potential threats to healthy development, and connect families with the services they need.

Likewise, the early care and education community can play a critical role in improving maternal and infant mental health. Child care, Early Head Start/Head Start, and Part C Early Intervention professionals see parents and children quite often and can be a referral source to the healthcare community. Similarly, family support providers (e.g. WIC nutritional program, home visiting services) also have regular and often meaningful connections with parents and children. Broader awareness among these groups may increase public awareness, decrease stigmatization, and improve access to care.

Challenge

Health care practitioners often lack general awareness of critical mental health issues between mother and child such as the prevalence and devastating effects of maternal depression, its implications on the parent-child relationship, infant attachment, and the role of early childhood social and emotional development on school readiness and future functioning. They also may possess a limited understanding of the cultural traditions, values, and beliefs of families and their influence on mental health. For instance, health practitioners have been found to misdiagnose the depression of ethnic minority women because of their likeliness to express psychological distress through physical symptoms.[49,50] As a result, maternal depression and early child mental health disorders often go unrecognized and untreated.

Opportunity

Health practitioners can support maternal mental health and young children's social and emotional development if they have access to training and professional development opportunities. Public health agencies could organize special training events for practitioners and support staff within the maternal and child health profession. Training experiences could provide professionals with valuable opportunities to strengthen their roles in understanding perinatal depression, infant mental health, and the impact of culture on mental health. Outside of training events, health practitioners might also increase their understanding of maternal and child mental health matters by receiving and using informational materials organized as quick-reference tools to guide health care practice.

Strategy

Florida's Bureau of Maternal and Child Health received support from Eli Lilly and Pfizer pharmaceutical companies to launch a three-pronged maternal depression awareness initiative consisting of education, screening and advocacy. Collaborating partners also

include the American College of Obstetricians and Gynecologists, University of Miami, and Florida's Department of Mental Health. Support was used to develop a slide presentation and teaching manual on depression for obstetricians. Materials were published and disseminated to health care practitioners around the state, and regional conferences were held to raise provider awareness around the importance of depression screenings and treatment of depression. Public awareness efforts also reached the Florida State Legislature, who passed a resolution to establish April as women's depression screening month.

Perform outreach and education to expectant and new mothers to address stigma and patient barriers.

Challenge

Maternal depression remains a stigmatized subject. In most circumstances, women preparing to give birth are expected to be overjoyed with motherhood. Depressed women may instead feel fear, sadness, anger, self-doubt, shame, and guilt.[51] Frightened by this contradiction, depressed mothers are often afraid of what others may say or think and consequently avoid getting the help they need. In fact, these women may refrain from sharing this information even when asked by health care professionals.

Some women are in denial about the existence or severity of a mental health problem and believe that the problem can undoubtedly be handled without treatment.[52] Other factors, such as cultural beliefs, may influence how families seek and receive mental health services for mother and child. Parents from cultural backgrounds that differ from those of the mental health provider professional may not understand or agree with the information that is communicated.[53]

Opportunity

Maternal and child health programs can help to destigmatize maternal depression and encourage mothers to get the supports they need. Messaging strategies must educate mothers about the prevalence of this condition, the connection between maternal depression and early childhood mental health, and provide specific information about where families can go for help. It is critical that crafted messages have cultural relevance with sensitivity to different child-rearing and parenting beliefs. Maternal and child health programs could adopt or develop the use of evidence-based interventions for educating and reaching out to women by partnering with universities or other educational institutions and encouraging research on improving maternal depression awareness, identification, and treatment. Removing the stigma of maternal depression will also require that all early childhood programs serving young children and mothers understand the condition and are equipped to help families get the help they need. This effort would require training and professional development opportunities among early care and education professionals and providers of family support on maternal depression awareness, identification, and referral.

Outreach to communities is just as important. Maternal and child health programs can partner with early care and education, and family support programs to provide direct outreach to pregnant mothers. These programs can develop educational materials (e.g., brochures) and place them in familiar and frequented settings like child care centers, doctors' offices, and grocery stores. Broader outreach and educational efforts might be cultivated through partnerships with "message-moving" entities such as professional organizations (e.g., health care organizations), the media, religious organizations, and employers.

Strategy

The Mt. Hope Family Center of New York offers Interpersonal Psychotherapy (IPT)–a treatment for low-income families that emphasizes problem-solving to resolve the multiple stresses contributing to maternal depression. A clinical trial is assessing the efficacy of IPT in treating depression and positive impacts on child development, and Infant-Parent Psychotherapy (IPP)–a relationship based psychodynamic intervention where mother and infant are seen together in therapy sessions. IPP directly observes the mother-child relationship and addresses sources of relationship difficulties, and has been shown to foster secure attachment in toddlers of mothers with major depression. Flexible service delivery reduces the possible stigma associated with receiving mental health services and increases receptivity to services.

Assure earlier identification of maternal depression in health care settings by addressing barriers to recognition, screening, assessment, and referral.

Perinatal doctor visits present a unique opportunity for primary health care practitioners to detect potential threats to maternal mental health. Practitioners can improve maternal and child health outcomes by screening patients for maternal depression and referring those found at-risk to a mental health specialist for needs that fall outside the scope of physical health.

Challenge

Public health studies show that certain populations of women (e.g. African American and low-income) are unlikely to seek care in a mental health center and often use primary care settings for treatment of their psychosocial problems.[54] Yet, most primary health care professionals are not trained with the skills or knowledge base to recognize the symptoms of perinatal depression. Also, mothers in need of referrals to a mental health specialist, who are too embarrassed or afraid to speak up, may not reveal their depressive symptoms or troubled relationships with their newborns to health practitioners. Well-validated screening tools like the Edinburgh Postpartum Depression Screen or Beck Depression Inventory are available but many health care providers are reluctant to use them because systemic barriers prevent suitable provider reimbursement for maternal depression screening. Providers are also hesitant to screen because of difficulties they face finding resources for women who screen positive for depression.

Opportunity

Health practitioners who serve perinatal women should be aware of early risk factors and can facilitate the early identification of mental health problems through screening. Typical prenatal hospital visits provide several opportunities for early identification. The American College of Obstetricians and Gynecology recommends that all women receive a postpartum home visit approximately six weeks after delivery to assist mothers with recovery. Such a check-up presents an opportunity for a visiting health practitioner to ask mothers open-ended questions about maternal mental wellness and mother-child wellness. Well-child visits may also provide important opportunities for the early identification of both maternal depression and early childhood developmental, emotional, and behavioral problems. A comprehensive screening tool that assesses maternal well being, support systems, and mother-child issues such as infant attachment, and infant mental health may offer early opportunities to detect maternal and infant mental health problems.

Practitioners must first know how to screen and where to refer if further assessment and intervention appear necessary. Screening tools exist but primary health practitioners need access to them, training on appropriate use, and reimbursement for use in the primary

health care setting. Health care providers pressured for time might consider a brief and easy-to-use tool that mothers can fill out themselves in the waiting room. The health practitioner could quickly score the tool during the visit and ask follow-up questions.

Primary care practices should consider a multidisciplinary approach, utilizing social workers and other non-physicians as part of their group practice. The Institute of Medicine's report "Crossing the Quality Chasm: A New Health System for the 21st Century" as well as the AAP "Future of Pediatric Education II Report" have recommended the use of a collaborative practice approach to providing pediatric primary care. This kind of practice uses an interdisciplinary team of physicians and non-physicians such as clinical social workers or nurses to provide family centered care to children and families. Behavioral health services can be integrated with primary care by utilizing clinical social workers who are licensed to provide mental health treatment. A special payment rate could be created for social workers or child development specialists who are located in pediatric clinics.[55] Social workers at these settings could provide screening, assessment, and parent education.

Maternal and child health programs, Medicaid agencies, state mental health departments, and other related partners can work together to ensure that culturally sensitive maternal depression screening tools are made available to providers of perinatal health care and age-appropriate developmental screening tools for pediatric health practitioners. State programs and agencies can work together to expand the types of service providers who can receive reimbursement, which could eliminate barriers to screening.

Strategy

Illinois Departments of Public Aid, Public Health, Human Services, Children and Family Services, Department of Corrections and the Conference of Women Legislators, in coordination with the University of Illinois at Chicago Women's Mental Health Program are working together to address perinatal depression with the ultimate goal of improving maternal and child health outcomes. The team has taken three steps to improve the early identification, screening, referral and treatment of maternal depression. It provides reimbursement to health care providers that conduct perinatal risk screening; training workshops designed for primary health care practitioners on how to recognize, assess, screen and treat perinatal depression; and a clinical consultation line where professionals from the health care setting can call psychiatrists with expertise in perinatal depression. Psychiatrists provide knowledge relevant to the treatment of patients with depressive symptoms during pregnancy and postpartum, such as information about medication risks and benefits during pregnancy and breastfeeding. Additionally, consultants provide on-site assistance in implementing screening, assessment and treatment programs.

Invest in evidenced-base interventions that improve the mother-child relationship

A healthy mother-child relationship is critical to the social and emotional development of a developing child. The absence of a healthy strong, emotional bond between mother and child poses a great risk to a child's development, especially if another parent or adult is not available to mitigate this risk.

Challenges

While pregnancy may help prepare a woman to be maternally sensitive and responsive, a depressed mother may not be capable of handling these tasks, establishing the foundation of the mother-child relationship, and providing the guidance to nurture such a relationship. The complex factors involved in adoption, foster care, step-parenting, parent-to-

parent mentoring, and grandparenting situations may also challenge parents' abilities to understand and respond to the social and emotional needs of the developing child.

Opportunity

Maternal and child health programs and other state and community stakeholders can invest in providing perinatal women with interventions that focuses on improving the mother-child relationship. Services should focus on improving maternal sensitivity and responsiveness and acknowledge and accommodate cultural differences of families. Several interventions exist and have been successful in treating depressed women. It is important for states and communities to consider how to reach mothers with a high-risk of depression, and hard-to-reach populations of depressed mothers when implementing such an intervention.

Strategy

Connecticut's Yale Child Study Center offers several evidenced-based programs to help low-income mothers improve the mother-child relationship through enhanced parenting skills. The Parents First Program illustrates one facet of the Center's approach. This program uses parent consultation experts, early childhood educators, and parent groups to provide information and support to parents in the familiar settings that parents and children normally receive services: child care centers, Head Start, preschool classrooms, and childbirth classes. Information shared is organized around a curriculum designed to help parents think about their children's internal experiences and understand the link between these experiences and behavior. Another program, Minding the Baby, is an intensive-home visiting intervention program for mothers and babies aimed at bridging primary care and mental health wellness for both mother and child. The program promotes the physical and psychological health and development in children; competent, flexible parenting; and the psychological health in mother, child, and in the mother-child relationship. The intervention is modeled on the idea of a "doula" (a pregnancy or childbirth companion who provides emotional and physical support to mothers through the latter stages of pregnancy) and studies the effectiveness of the intervention and the components of the intervention process that seem to have the most impact for parents.

Build a comprehensive network of community perinatal services and service providers to strengthen mental health in the pregnant and postpartum family.

Family and community supports can promote maternal and child well-being. The availability of supports such as food security, quality housing, and spousal/partner support have proven to act as protective factors or, conversely, risk factors of maternal mental health.[56] Likewise, a core of service providers must be available and equipped to meet maternal and infant mental health needs.

Challenges

Maternal depression disproportionately affects women who lack strong family or community supports. For instance, maternal depression is markedly common among families of low-socioeconomic status and financial stress.[57] The Early Head Start Research and Evaluation Project of 2002 found that 48 percent of mothers reported enough depressive symptoms to be considered depressed at the time of their enrollment in the project.[58] Many depressed mothers also suffer from co-occurring conditions such as domestic violence and substance abuse.[59] Such families are more likely to be socially isolated and hard to reach. This problem is compounded when health practitioners, who serve these families, are poorly linked to community therapists or specialists who could provide mental health intervention or treatment services. It is also important to note that although many therapists see and treat maternal depression, few are aware of the impact of depression on parenting and its con-

nection to infant social and emotional health. Joint mother-infant therapy, or dyadic therapy, is relatively new, and therapists with expertise in this type of therapy are scarce.

Opportunity
Maternal and child health programs can help link families with social supports within the community to help expectant and new families cope with the changes brought by a new baby. MCH programs can identify or establish a network of perinatal community service providers to refer mothers and newborns in need of resources. A social network might include a range of supports such as parent education and child development courses, postpartum home visits, early childhood education, and mental health support groups—for mother, child, and other family members. It is imperative that programs simultaneously consider how to address the demand of a trained workforce with expertise in infant mental health. Communities lacking this expertise might make training opportunities in infant and early childhood mental health available to existing (non-infant mental health) clinicians to meet service demands.

Strategy
Shasta County, a rural community, in northern California is devoted to the emotional well-being of infants, toddlers, and families. The County established a comprehensive perinatal support network for mothers with environmental risks for developing maternal depression by bringing together local mental health therapists trained in dyadic therapies, infant specialists, and programs serving young families. The network's concerted effort allows low-income pregnant women to receive quality prenatal care, nutritional counseling, food vouchers from the Women, Infants, and Children program; education and social services from Early Head Start; comprehensive domestic violence services at the women's shelter, including children's groups, and substance abuse treatment. Pregnant and low-income parents may also receive medical and financial aid from Temporary Assistance for Needy Families. The county's Office of Education offers eligible families special education services and respite child care. The community-wide approach credits its success on the principle of working together across agencies.

CONCLUSION

Maternal depression may occur as a natural process of childbirth. For most women, the commonly experienced postpartum blues fade and maternal mental health is restored. For other mothers, depressive symptoms do not naturally go into remission and they require attention. If untreated, persisting symptoms may impair maternal functioning and lead to decreased child functioning across all developmental domains, including intellectual, language, and social and emotional development.

The models shared above offer examples of small interventions being implemented within communities to improve maternal and infant mental health. While these and other existing interventions (not mentioned in this paper) may prove to be promising, few initiatives take the approaches to scale at a full-community, or statewide level. Fiscal and policy barriers exist, making it difficult for one program or stakeholder group to single-handedly address maternal depression. However, much can be done when maternal and child health agencies, early care and education programs, community mental health, primary health care, and other perinatal service providers partner to improve the quality of maternal and infant mental health and help families get the supports they need. Programs and providers can work together by combining resources and expertise to improve maternal and child health policies, raise public awareness, increase training and professional development opportunities for service delivery professionals, and enhance service delivery itself.

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ABOUT ZERO TO THREE

ZERO TO THREE's mission is to promote the healthy development of our nation's infants and toddlers by supporting and strengthening families, communities, and those who work on their behalf. The organization is dedicated to advancing current knowledge; promoting beneficial policies and practices; communicating research and best practices to a wide variety of audiences; and providing training, technical assistance and leadership development.

The ZERO TO THREE Policy Center is a research-based non-partisan effort at ZERO TO THREE that is committed to promoting the healthy growth and development of our nation's babies, toddlers, and families. The Policy Center brings the voice of babies and toddlers to public policy at the federal, state and community levels by translating scien-tific research into language that is more accessible to policymakers; cultivating leadership in states and communities; and studying and sharing promising state and community strategies.

ABOUT THE NATIONAL CENTER

The National Center for Infant and Early Childhood Health Policy supports the federal Maternal and Child Health Bureau and the State Early Childhood Comprehensive Systems Initiative by synthesizing the policy relevance of important and emerging early childhood health issues, conducting policy analysis on systems-building and programmatic issues, and disseminating the latest research findings to increase the visibility of early childhood policy issues on the national agenda. The National Center is led by the UCLA Center for Healthier Children, Families and Communities in partnership with the Association of Maternal and Child Health Programs and the Johns Hopkins Bloomberg School of Public Health Women's and Children's Health Policy Center.

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