ADDRESSING MATERNAL MENTAL HEALTH IN THE PEDIATRIC MEDICAL HOME

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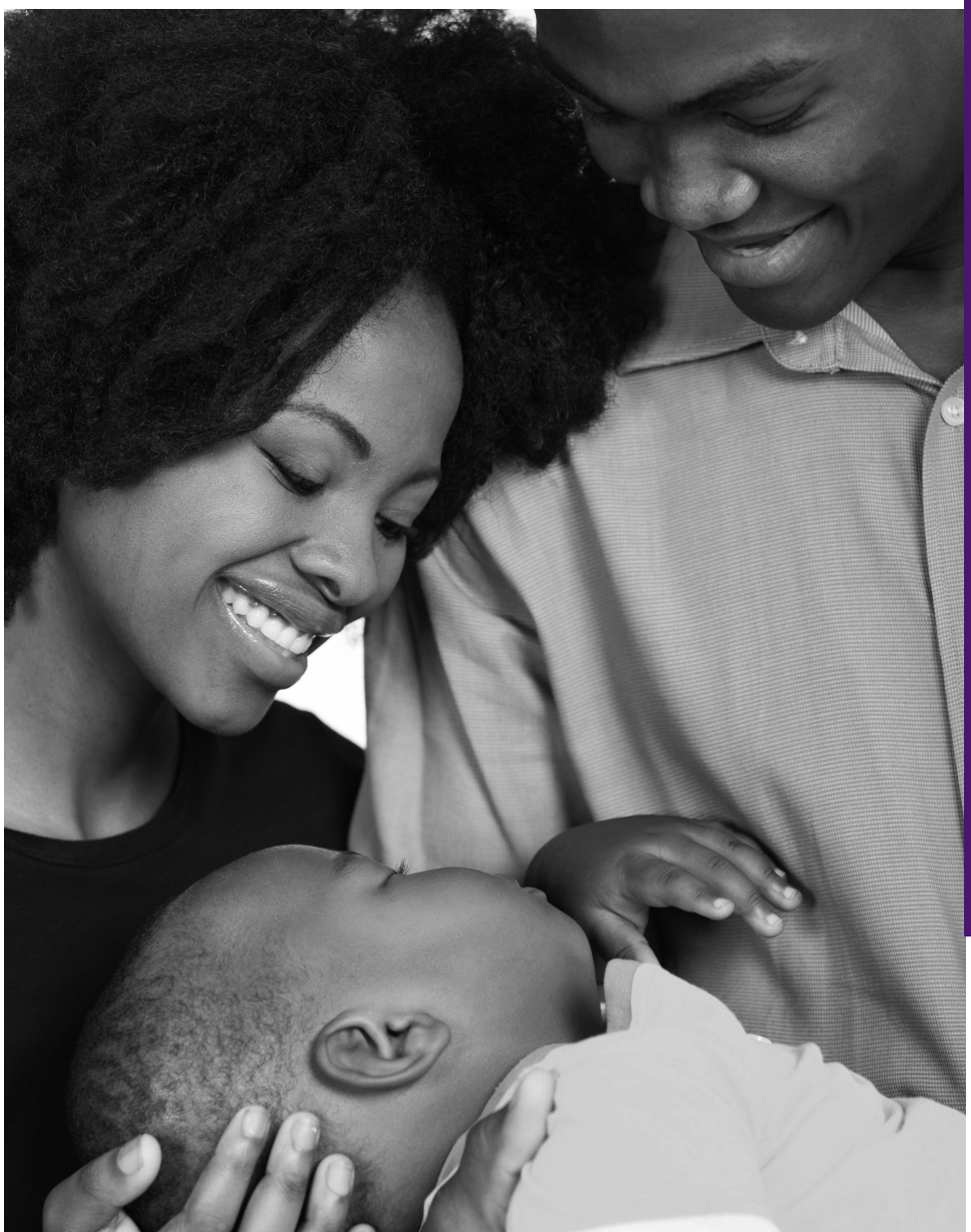

IMPACT

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Connecticut Office of
Early Childhood

About the Child Health and Development Institute of Connecticut:

The Child Health and Development Institute of Connecticut (CHDI), a subsidiary of the Children's Fund of Connecticut, is a not-for-profit organization established to promote and maximize the healthy physical, behavioral, emotional, cognitive and social development of children throughout Connecticut. CHDI works to ensure that children in Connecticut, particularly those who are disadvantaged, will have access to and make use of a comprehensive, effective, community-based health and mental health care system.

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INTRODUCTION

Ten to twenty percent of the nearly four million women giving birth each year in the United States experience mental health challenges that affect their ability to nurture their children.[1] Health providers, who have frequent contact with pregnant women and mothers of infants, often do not recognize that these women are suffering, compromising both maternal and child health, parent-infant attachment and children's developmental outcomes. Pediatric primary care, where infants receive services frequently in the first year of life, is an especially opportune site to identify mothers who are experiencing mental health challenges and connect them to services. This IMPACT reviews the most common types of maternal mental health disorders, how they affect child health and development, available treatments and the role of child health providers in early detection and linkage to services. The report concludes with recommendations for practice as well as policy and health care system reforms that can maximize the contribution of the pediatric medical home in promoting optimal health and development of children whose mothers show signs of depression or other mental health difficulties.

In 2008, the Child Health and Development Institute (CHDI) published an IMPACT report titled *Addressing Maternal Depression: Opportunities in the Pediatric Setting,* which provided a summary of postpartum mood disorders, effects on birth outcomes and child development, and recommendations for policy and practice strategies to improve the identification, care and treatment of affected mothers in Connecticut.[2] Since publication of the initial IMPACT report, practice and policy changes combined with increased awareness of the effect of maternal depression have contributed to statewide improvement in early detection and treatment for mothers as well as expansion of interventions for children. The Department of Social Services' Medicaid program and commercial insurers now cover costs for child health providers to screen mothers for depression as part of well-child care. CHDI's Educating Practices In the Community (EPIC) program trains child health providers in early detection and referring mothers who are depressed to intervention services. Early childhood home visitation programs, such as Nurturing Families and other maternal and infant home visitation programs, universally screen for maternal mental health concerns and link mothers to appropriate care and treatment. Since 2009, Nurturing Families programs have connected mothers to psychotherapy through the Nurturing Families In-Home Cognitive Behavioral Therapy project at UConn Health. Mothers have benefited considerably through this intervention that creatively pairs a skilled

therapist with a home visitor in providing an array of needed services during critical windows for both mother and child. Child First, a home-based clinical intervention program for high-risk families, provides psychotherapy to reduce maternal symptoms and strengthen parent-child attachment. The state's Behavioral Health Partnership has added "perinatal mental health" as a provider specialty in their directory of services, facilitating the referral process. Connecticut organizations including the *Connecticut Association for Infant Mental Health, Connecticut Perinatal Association, Connecticut Women's Consortium, Northern Connecticut Neonatal Perinatal Collaborative, March of Dimes* and the *Connecticut Department of Public Health* are providing training to build workforce capacity to detect and treat maternal mental health disorders.

These initiatives attest to the increasing recognition of the importance of maternal mental health and early childhood development on the public health policy agenda. Concepts such as early brain development,[3] non-genetic influences on gene development in later cohorts[4] and lifespan and intergenerational perspectives[5] have created a new imperative for the maternal and child health community, in which maternal mental health is central.

Mothers play a critical role in their children's early brain development. Infants need a nurturing relationship from the very beginning of their lives in order to grow and thrive on a healthy developmental trajectory. Positive, responsive and predictable early relationships set the stage for a promising future. By three years of age, 80% of brain growth is complete, highlighting the critical need to address factors that impede optimal development as early as possible.[3]

When mothers are depressed or suffer from other serious mental health conditions, they may experience difficulties nurturing their babies to ensure lifelong health and psychosocial and cognitive development. Perinatal mental health disorders, those occurring during the period shortly before and after birth, are the most common serious conditions affecting pregnant women and mothers of infants. Research shows that fewer than half of all affected mothers are diagnosed and only 15% seek professional mental health services following diagnosis.[6,7] Therefore, failure to identify mothers with mental health disorders and connect them to helpful interventions is an enormous missed opportunity to ensure the healthy development of children.

As many as one in five mothers in the general population experience postpartum depression.

MATERNAL MENTAL HEALTH DISORDERS

Overview

Maternal mental health disorders can occur during preconception, pregnancy, labor, delivery and parenting through the child's first year. These disorders encompass adjustment, major depressive, anxiety, panic, bipolar, obsessive compulsive and posttraumatic stress disorders as well as psychosis. In contrast to these disorders, the "baby blues", a well known immediate and transient postpartum mood fluctuation occurring in most mothers (upwards of 90%), can be managed with self-care and time and does not require intervention as do the disorders described below.[8]

Postpartum Depression: (10-20% of mothers[7,9,10])
As many as one in five mothers in the general population experience postpartum depression. Symptoms typically appear six to eight weeks post-delivery but can arise immediately following birth or up to 18 months later. Major depression usually occurs six weeks post-delivery and milder depression at two to three months.[11] Low income and teen mothers are at particularly high risk, evidencing rates of depressive symptoms at 40% to 60%.[11,12,13] Data indicate that more than half (55%) of infants living in households below the federal poverty level are being raised by mothers experiencing mild-to-severe symptoms of depression.[14] Depression affects women living in emotionally supportive as well as highly stressful circumstances and accompanies first as well as later births.

Symptoms of Postpartum Depression

- Excessive crying
- Feeling numb
- Feeling little to no attachment to the baby
- No interest in things that used to give pleasure
- Little feeling of enjoyment
- No energy
- Feelings of failure
- Feeling overwhelmed by the smallest tasks
- Hopelessness
- Anxiety
- Agitation with self, others, baby
- Insomnia
- Excessive sleeping
- Difficulty concentrating
- Change in appetite
- Fear of being alone with the baby
- Intrusive thoughts of harming the baby or of harmful things happening to the baby
- Difficulty shaking unwanted feelings
- Fear these symptoms will last

Postpartum Anxiety: (8.5-18% of mothers[15,16])
Considerable overlap exists between maternal depression and anxiety. Many women with postpartum anxiety disorder also feel depressed and 8.5% of women suffering from postpartum depression have panic attacks.[16] Additional anxiety symptoms include excessive worry, obsessive fears

about the baby's safety, constant agitation, feelings of having a heart attack or dying, inability to calm oneself, insomnia and fear of being alone with the infant. Anxiety may come on quickly with no obvious trigger.

Postpartum Obsessive-Compulsive Disorders (OCD): (3% of mothers[15])

OCD symptoms include heightened anxiety, agitation, obsessing about cleanliness and/or safety, engaging in rituals, repetitive behaviors (e.g., hand washing) and incessant checking on the baby. A recent study focusing on these symptoms found as many as 11% of postpartum women experiencing mild intrusive thoughts and/or repetitive behaviors.[17]

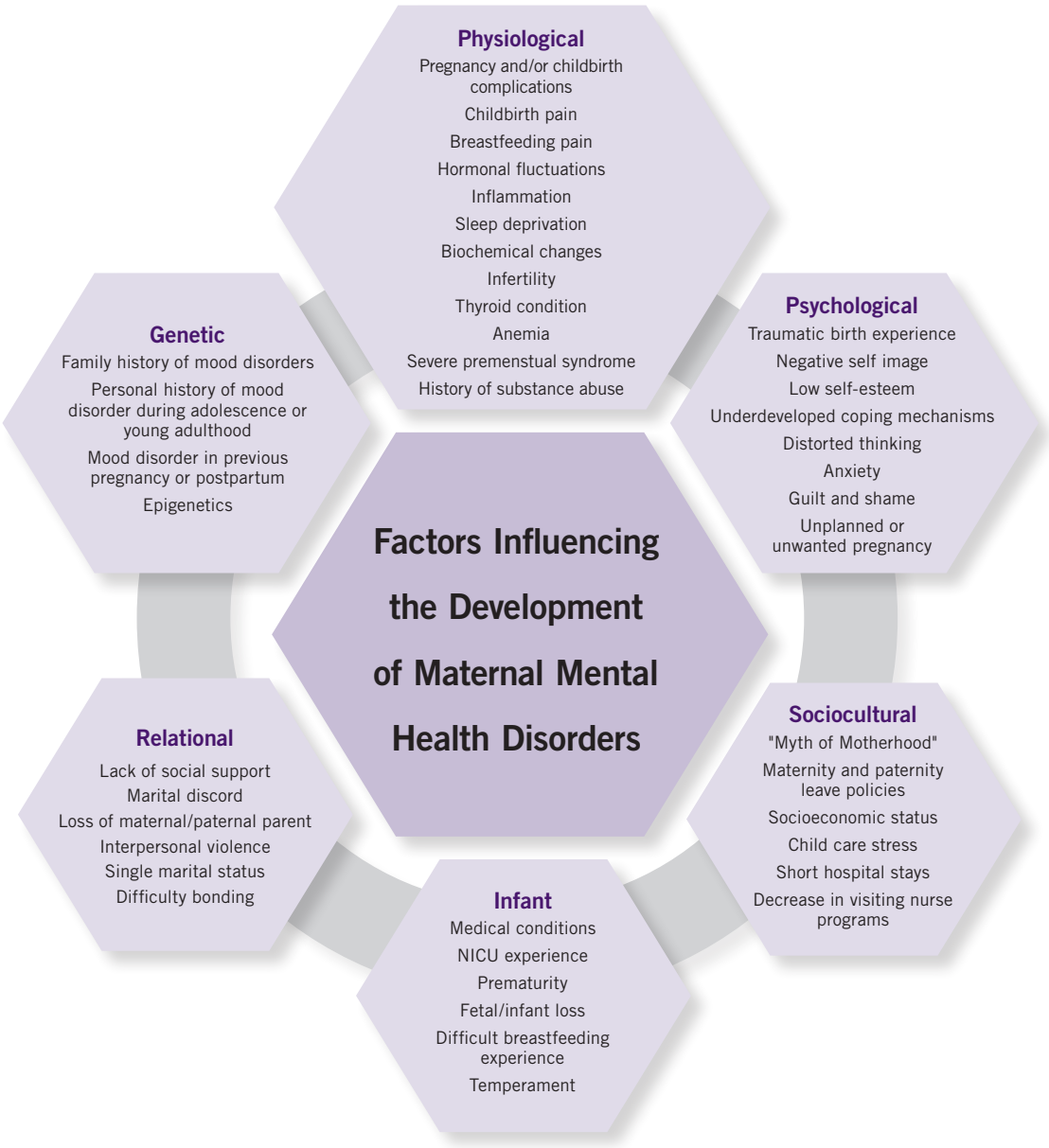
Postpartum Posttraumatic Stress Disorder (PPTSD): (9% of mothers[18])

Women having trauma in their past or experiencing traumatic labor or delivery can suffer from trauma symptoms in the postpartum period. Although many of the symptoms are the same as those experienced by women with perinatal depression and anxiety, additional components of triggered trauma exist, such as inability to stop thinking about or re-living the traumatic event, nightmares, numbness, difficulty relaxing, trouble "putting things in perspective" and a need to talk about the event.[18]

Postpartum Psychosis: (.1-.2% of mothers[19])

Postpartum psychosis is a psychiatric emergency often characterized by paranoia, hallucinations, delusions, a feeling that outside forces are exerting control, extreme agitation, inability to sleep and suicidal or homicidal ideation with the risk of suicide or infanticide. Postpartum psychosis occurs in one to three of every 1,000 deliveries and has a usual onset of two to four weeks post birth.[11] When psychosis exists, there is a 5% suicide rate and a 4% infanticide rate.[20] Postpartum psychosis is NOT a severe form of perinatal depression, but rather an entirely separate disorder.

Risk Factors: The Multiple Pathways of Perinatal Mental Health Complications[21,22,23,24,25]



Effects of Perinatal Depression and Anxiety Disorders

Maternal mental health difficulties have far-reaching and family-wide implications beyond the maternal experience. Recognizing that fathers/partners and the infants themselves also experience mothers' perinatal moods and anxieties is crucial.[26] Although many mothers bond with their infants despite their personal symptoms of emotional distress, some are unable to establish connections, perceiving their children as having "difficult" temperaments, thereby risking long-term emotional consequences. The father/partner role in early childhood development is also critical. A psychologically healthy co-parent can serve as a protective factor for the infant and mitigate the impact of maternal mental health problems.[11,27,28,29] On the other hand, co-parents who similarly experience mental health challenges can further compound the negative effects of maternal mental health disorders.[11,30,31]

Maternal depressive and anxiety symptoms impair partner relationships as well as the well-being of children.[3,11] Maternal mental health concerns have been shown to compromise birth outcomes,

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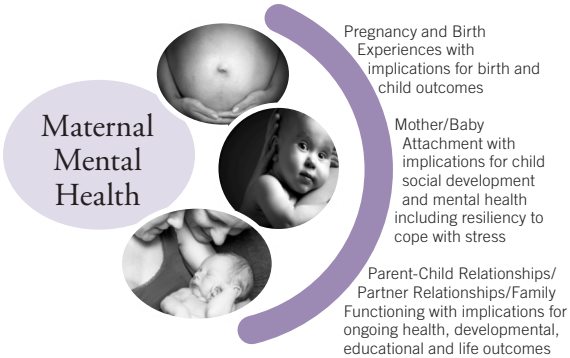
including preterm delivery, low birth weight and intrauterine growth restriction.[32,33,34,35,36] Logically, the more severe and chronic the symptoms, the longer lasting and more damaging are the effects.[30] Known implications of maternal mental health disorders for child development are reviewed below.



Impact on Parenting Practices

Postpartum depression and anxiety symptoms often compromise parenting skills. They can affect a mother's judgment in supervising a child's health and safety, resulting in a lack of attention to health care and parenting advice and guidance.[11,37,38] Additionally, poor caregiving skills may result in difficulty establishing routines, more frequent and overt displays of frustration, increased use of corporal punishment, decreased use of safety devices and reduced probability of placing babies on their backs to sleep.[26,38,39,40] Mothers experiencing depressive and/or anxiety disorders are less likely to be affectionate, breastfeed, talk, play and read with their infants.[39,41] These parenting practices impede the establishment of a positive mother-infant attachment, which is so important for early brain development. Depression and anxiety disorders can erode the base upon which life skills develop, impairing a child's formation of coping skills, positive self-esteem and the ability to establish healthy relationships.[39,42] In sum, by threatening mother-child attachment and bonding, untreated maternal mental health disturbances cause both short and long term negative consequences across childhood in a variety of ways.[11] Infants whose mothers suffer from mental health challenges are also at increased risk for failure to thrive and for abuse and neglect.

Impact on Breastfeeding

The American Academy of Pediatrics (AAP) notes the positive, evidence-based benefits of breastfeeding for both child and mother—from protecting infants against infection to lowering the mother's risk of certain forms of breast and ovarian cancers.[42] Research findings indicate that painful breastfeeding is a risk factor for perinatal psychological disturbances[46] and that mothers with high depression screening scores are less likely to be nursing at four and eight weeks postpartum.[43] As a positive breastfeeding experience may protect against maternal and child physical and psychological health risks, it is important that health care providers identify barriers to breastfeeding, including mother's mental health status, and provides support when necessary.

Beyond infancy, developmental delays, social, emotional and behavioral concerns, learning difficulties and medical problems are more common in children whose mothers suffer from untreated mental health disorders.

Immediate Impact on Early Childhood Development

A growing body of research reveals the array of developmental difficulties and delays that can result from exposure to maternal anxiety and/or depressive disorders.[11,44] These disorders can negatively affect the infant's neurologic development and increase stress hormone levels (cortisol). Moreover, persistent elevation of cortisol resulting from chronic stress can disrupt the developing brain's architecture with negative implications for infant learning, memory, behavior, and emotional adaptation.[3]

Disruptions in mother-child bonding also have been found to correlate with impaired social development in both infancy and early childhood. Infants of depressed mothers engage in less frequent eye contact, make fewer positive facial expressions, demonstrate more withdrawal and avoidance behaviors and are less capable of physical and emotional regulation than infants of mothers who do not have mental health disorders.[22,39]

Beyond infancy, developmental delays, social, emotional and behavioral concerns, learning difficulties and medical problems are more common in children whose mothers suffer from untreated mental health disorders. These difficulties have been found to persist and compromise health and well-being into adulthood. Table 1 summarizes the consequences of maternal depression on child development through the lifespan.

Table 1: Consequences of Maternal Depression on Fetal, Infant and Child Development[32,33,34,35,36]

PRENATAL	Inadequate prenatal care, poor nutrition, preeclampsia, spontaneous abortion, higher preterm birth rates, lower birth weights
INFANT	Heightened arousal, poor self-regulation, dysregulation, passivity, lower cognitive performance, attentional weaknesses
TODDLER	Noncompliance, less mature expression of autonomy, internalizing and externalizing problems, lower rates of social interaction, delayed speech, less creative play, lower cognitive performance, attentional weaknesses
SCHOOL AGE	Impaired adaptive functioning, internalizing and externalizing problems, affective disorders, anxiety disorders, conduct disorders, socialization difficulties (e.g., difficulty making friends), attention deficit/hyperactivity disorders, lower academic achievement
ADOLESCENT	Depression, anxiety disorders, phobias, panic disorders, conduct disorders, increased substance abuse and alcohol dependence, attention deficit/hyperactivity disorders, learning disorders

ROLE OF THE PEDIATRIC MEDICAL HOME IN ADDRESSING MATERNAL MENTAL HEALTH DISORDERS

Increased knowledge of the harmful, persistent and cumulative effects of maternal mood and anxiety disorders on the growth and development of infants and young children creates an imperative for addressing maternal mental health in pediatric primary care. For mothers who have recently given birth, pediatric health care visits can be used to identify mothers who may be suffering from depression or other mental health disorders that could adversely affect their child's safety and development. The timing and frequency of well-child visits in the first year of life and the trusting pediatric provider-parent relationship create an opportunity to address maternal mental health concerns early, when their resolution is so critical to children's lifelong development.[44,45,46]

Because newborns and their mothers visit pediatric providers routinely in the baby's first year of life (typically 6 times within the first 6 months) and more often than they see any other health care provider, it is both logical and critical that pediatric primary care practitioners take advantage

The dilemma for most pediatric health care providers is not whether it is important to address perinatal mental health, but how.

of this opportunity for prevention and health promotion.[45] The AAP[11,40,49] recognizes the need for primary care child health clinicians to conduct surveillance and screening, as well as provide assistance to families to improve mental health outcomes.[47]

The Pediatric Primary Care Advantage

- Longitudinal and Trusting Relationships
- Family Centeredness
- Critical Opportunities for Prevention and Anticipatory Guidance
- Experience in Coordinating Care with Specialists
- Familiarity with Practice Improvement

The dilemma for most pediatric health care providers is not whether it is important to address perinatal mental health, but how. It takes time, comfort, and specific expertise to carry out the AAP directives for routinely screening mothers for mood and anxiety disorders, providing support for the mother-child relationship and establishing collaborations with community behavioral health referral resources.

Depressive and anxiety disorders identified during pregnancy constitute a strong predictor of postpartum emotional complications.[48] Therefore, child health providers should always inquire about and document in the clinical record the mother's mental health status during pregnancy. Mothers are generally eager for and appreciative of efforts to address maternal mental health in pediatric settings.[49,50] Many recognize that the pediatric medical home is the ideal location for postpartum screening due to the regularity of scheduled visits and the trust placed in pediatric providers.[51] In a recent focus group study conducted in Massachusetts,[51] mothers made several recommendations for fostering the process of early detection and amelioration of emotional challenges in pediatric primary care. These included: 1) embracing the medical home philosophy that it is important to attend to the well-being of the family while addressing the needs of children; 2) providing education and resource materials to promote maternal mental health; 3) discussing risk factors for maternal mood and anxiety disorders using non-stigmatizing and nonjudgmental language; and 4) distributing referral guides that include varied and flexible mental health service options. The message was clear that pediatric clinicians should not underestimate their significance in a family's life nor the influence of their guidance.

Pediatric providers committed to detecting maternal mental health concerns need to accept that many mothers look better than they feel[52] and although they may not spontaneously talk about their emotions, they will respond when asked questions, particularly through the use of written screening tools.[53] Identification of depression by physicians can be increased by approximately 30% through the routine use of standardized screening measures.[1] In addition to identifying mothers who may benefit from intervention, formal and universal maternal mental health screening reminds providers and

The AAP Bright Futures 2008 guidelines recommend use of a standardized maternal depression screening tool at the 1, 2, and 4 month well-child visits.

parents to focus on the family, not just the child, and to discuss parental well-being during the early well-child appointments.

Feasibility of Universal Maternal Mental Health Screening in Primary Care

Pediatric primary care providers have successfully implemented universal maternal mental health screening despite identified barriers.[11,49,53] The most commonly cited barriers include lack of time, inadequate training to identify and address maternal emotional concerns, lack of reimbursement, and a lack of adequate and readily available referral sources. In several states, reimbursement policies, provider training and improved integration of health and mental health have addressed many of these obstacles. In Connecticut, these barriers are being addressed. Free training is available through the Educating Practices In the Community program (EPIC) offered through the Child Health and Development Institute (CHDI). Reimbursement using the 99420 Current Procedural Terminology (CPT) code for formal screening is now available for any medical provider. Child health providers billed for close to 1,000 maternal depression screens for children insured by the state's Medicaid program in 2013.[54] Resources for treating mothers and infants are increasingly available (e.g., Child First), and a statewide referral resource directory is updated regularly through the recently formed Connecticut Alliance for Perinatal Mental Health.

The AAP Bright Futures 2008 guidelines recommend use of a standardized maternal depression screening tool at the 1, 2, and 4 month well-child visits.[45] These guidelines will likely be modified to include screening at the 6 month visit as endorsed by the AAP's Clinical Report on the incorporation, recognition and management of perinatal and postpartum depression into pediatric practice[11] as well as to other visits in the first year.[55] The 2009 AAP statement developed by the Committee on the Psychosocial Aspects of the Child and Family Health additionally recommended that the prenatal visit be used as an opportunity for identifying any high-risk conditions, including mental health challenges, to help pediatric providers anticipate special care needs for the child and/or mother.

"In our four-doctor pediatric office, we have screened mothers for postpartum depression for over ten years using the Edinburgh tool. It has been very well received by our families and we have had very rare instances in which a mother has refused to participate. We provide an educational pamphlet for all families at the initial well-child visit, normalizing the experience of postpartum depression and introducing our universal screening program. Families appreciate our concern for our mothers' well-being and the screening has gently broken down some barriers that may exist in discussing maternal mental health. We find this practice has allowed us to easily, efficiently and effectively screen mothers for a disorder that affects her and the entire family."

~ Nicholas Condulis, M.D., F.A.A.P., Wildwood Pediatrics & Adolescent Medicine, Essex, Connecticut

Screening Measures

Table 2 provides information about the most common screening instruments available in the public domain that are used to identify maternal mental health risk. The Edinburgh Postnatal Depression Scale is the most widely used measure as it was designed specifically for the purpose of identifying maternal emotional distress during the perinatal period, inquires about both depressive and anxiety symptoms, is in the public domain and is brief and easy to administer.[24,57]

Table 2: Common Screening Tools for Pediatric Primary Care Available at No Cost

Name of Screening Tool	Method of Administration	Number of Items	Time to Complete	Time Frame Covered	Comments
Center for Epidemiologic Studies Depression Scale (CES-D) www.valueoptions.com/providers/Education_Center/Provider_Tools/Depression_Screening.pdf	Self-administered	20	5-10 min	Past 7 days	Not specific to maternal mental health, free and in the public domain, available in Spanish
Edinburgh Postnatal Depression Scale (EPDS) http://www.fresno.ucsf.edu/pediatrics/downloads/edinburghscale.pdf	Self-administered	10	<5 min	Past 7 days	Most widely used tool for maternal mental health screening, free and in the public domain, 23 languages
Edinburgh-3 Brief Screen	Self-administered	3	<1 min	Past 7 days	Questions 3, 4, 5 of the EPDS, positive scores require further screening
Patient Health Questionnaire-9 (PHQ-9) http://www.phqscreeners.com/pdfs/02_PHQ-9/English.pdf http://www.phqscreeners.com/	Self-administered	9	<5 min	Past 2 weeks	Widely used, not specific to maternal mental health, free and in the public domain, available in multiple languages
Patient Health Questionnaire-2 (PHQ-2) http://www.phqscreeners.com/pdfs/02_PHQ-9/English.pdf	Self-administered	2	<2 min	Past 2 weeks	First 2 items of the PHQ-9, positive scores require further screening

Responses to a positive screen range from reassurance, education, and recommendations for strengthening the mother-child relationship when mild symptoms are detected, to referral for specific interventions when moderate to severe symptoms are identified.

Responding to a Positive Screen

Responses to a positive screen range from reassurance, education, and recommendations for strengthening the mother-child relationship when mild symptoms are detected, to referral for specific interventions when moderate to severe symptoms are identified.[11] Emergency services must be accessed if suicide or psychosis is a concern.[11] For all mothers, emotionally distressed or not, parent education is important as symptoms can develop over time. Regardless of the intensity of the symptoms, demystification or normalization is critical for those mothers with positive screens. This informs the mother that: She is not alone; She is not to blame; With help, she will be well.[58]

Useful Messages for Mothers With Positive Screens:

- Many women who have babies experience feelings like those you have described (NORMALIZE)
- This is not your fault (DE-STIGMATIZE)
- I am going to give you some information that can help you understand why you feel this way and what we can do to change it (EDUCATE)
- Perinatal emotional complications are highly treatable (INSTILL HOPE)
- It is very important to take care of yourself as well as the baby (PROMOTE SELF-CARE) (Adapted from the MotherWoman Training Institute, www.motherwoman.org)

"As pediatricians and pediatric nurse practitioners, we owe it to the child to not only be responsible for their physical and emotional health but also for the emotional health of their parents. For example, we shouldn't hesitate to ask a mother about her mood during her infant's well-child visits. I wish someone had asked me after my first daughter was born because it would have validated my experience and my illness would have been given a name."

– Excerpted from *An Eyewitness to Postpartum Depression* by Kathleen Montesi, APRN, MSN, CPNP, PCE. Used with permission.

Screening without accompanying referrals and resources for mothers and their children will not result in reduced symptoms and healthy development.

Connection to Intervention

Before child health providers begin screening for maternal mental health disorders, they must be connected to maternal mental health resources for referrals, case management and follow-up.[1] Although pediatric practices can counsel mothers to contact their own primary care provider for assistance in securing services, it is preferable to connect mothers directly to community behavioral health and/or early childhood home visitation providers. Screening without accompanying referrals and resources for mothers and their children will not result in reduced symptoms and healthy development. Connecticut primary care sites receiving training through the EPIC program are provided a referral resource directory, which contains contact information for local mental health services that can address maternal mental health issues. The EPIC presenter often includes local behavioral health providers specializing in perinatal maternal-child health in the practice visit. As highlighted in the 2009 U.S. Prevention Task Force addendum to the depression screening recommendation, research has documented that referrals for depression treatment are rarely completed unless additional supports are available to ensure that the connection is made and treatment is maintained.[1,46,50] A care coordinator who facilitates referrals has been shown across multiple studies to improve patient engagement in depression treatment as well as clinical outcomes.[1]

Role of the Pediatric Primary Care Provider in Addressing Maternal Mental Health

- Screen at infant well-baby visits using a validated tool
- Listen, support, normalize, and de-stigmatize
- Provide education
- Offer self-care guidance
- **Connect mothers with symptoms to medical and/or behavioral health resources**

INTERVENTIONS FOR MOTHERS, INFANTS AND FAMILIES

The importance of timely intervention for mothers with mental health disorders cannot be overemphasized. As Harvard's Center on the Developing Child has underscored, "By intervening early, we increase the likelihood that children of depressed mothers will grow into healthy, capable, fully contributing members of society."[3] The last five years have seen rapid growth in models of treatment and care for mothers and families affected by maternal mental health disorders.

Evidence-Based Interventions and Best Practices

Perinatal mental health disorders are effectively treated by medications, psychotherapies, behavioral therapies, support groups and

"By intervening early, we increase the likelihood that children of depressed mothers will grow into healthy, capable, fully contributing members of society."

– Center on the Developing Child

alternative medicine practices. Both medication and cognitive behavioral therapies, with modifications such as support for child care, have proven particularly effective for women suffering from perinatal mood and anxiety disorders.[34] For some mothers, treating their depression may be sufficient to strengthen parenting capacity and improve children's outcomes while others may need additional supports such as parenting intervention programs.[59]

In addition to medication, the three most commonly employed and well researched mental health interventions to ameliorate the symptoms of perinatal mood and anxiety disorders are cognitive behavioral, interpersonal, and group therapies.[60] Cognitive Behavioral Therapy (CBT) is effective and, even in some cases of severe depression, may be as effective as pharmacotherapy. Interpersonal therapy (IPT) is the intervention with the most outcome research specifically geared to maternal emotional distress.[61] Group support and therapy also works to reduce isolation by expanding social networks, building maternal confidence, de-stigmatizing the experience of postpartum mental health challenges, increasing self-knowledge and understanding, and promoting positive coping skills. There is a growing evidence base for additional therapies including Dialectical Behavioral Therapy (DBT), Eye Movement Desensitization and Reprocessing (EMDR), Acceptance and Commitment Therapy (ACT), and Mindfulness Based Stress Reduction. Parent-child attachment-based interventions are also gaining favor, such as Child-Parent Psychotherapy[62,63] and Circle of Security.[64]

Psychopharmacological intervention is generally viewed as a co-treatment in cases of moderate to severe mood and anxiety disorder symptoms.[25] Pediatric primary care providers should be aware that the addition of pharmacologic treatment does not, as a rule, mean that the mother must stop breastfeeding.[25,32] A risk-benefit analysis conducted with an expert will consider the pros and cons of using medication versus the impact of an untreated depressive or anxiety disorder on the infant. In Connecticut, this risk assessment can be conducted through the MotherToBaby Program (www.mothertobaby.org); a free, confidential consultation service that disseminates information for consumers and providers on the impact of any potentially toxic exposure, including prescription and over-the-counter medications, to both mother and fetus/infant during pregnancy and breastfeeding.

Connecticut initiatives addressing maternal mental health and resources for caregivers and providers are included at the end of this report.

A Therapist's Perspective

"As a psychologist who specializes in the treatment of perinatal mood and anxiety disorders, I have witnessed the virtues of early screening and referral for treatment by pediatric practices. One mother, who I will call Wendy, scheduled an appointment after the Edinburgh screening conducted in her pediatric office indicated that she was suffering from anxiety and some depression. The pediatrician had explained to her that it was important for her baby's well-being as well as her own to address her symptoms. Wendy admitted that this was what convinced her to come in. She responded quickly to a short course of cognitive behavioral therapy. In contrast, another mother referred by her pediatrician because of symptoms rather than screening, and much further along in her baby's development, required longer-term and more intensive treatment as well as additional parent-child services. Working with women during the perinatal period is so gratifying because with the right intervention, sometimes just the smallest amount of support, they get better."

– Sharon Thomason, Ph.D.
West Hartford, CT

Following screening and connection of mothers with mental health concerns to services, the child health provider needs to continue to monitor parent-child attachment and family mental health at all well-child visits. Throughout the child's life, the pediatric health provider can contribute to detection of emerging maternal mental health concerns and make appropriate referrals for patients and families.

Integrating Behavioral Health and Primary Care: A Promising Intervention Model

The AAP Task Force on Mental Health[52] and the Committee on the Psychosocial Aspects of Child and Family Health[11] have promoted collaborative, co-located, and integrated models for mental health services within primary care medical homes.[56] These models range from utilizing formal communication and feedback tools to having mental health providers on site in the pediatric practices participating in patient visits. Mental health providers working in a practice as part of the care team can serve as immediate triage resources for mothers with positive screening results, providing second-stage assessment, support, education and when warranted, linkage to more specialized services as well as follow-up care.

With proper supports, pediatric primary care providers can prevent the adverse health, developmental and mental health outcomes for infants and families resulting from undetected and untreated maternal emotional disorders.

Integrated Primary Care Example: Project CLIMB (Consultation Liaison in Mental Health and Behavior)

Project CLIMB, an integrated mental health program housed within a residency-training pediatric primary care hospital clinic in Colorado, serves families who are predominantly low income and of ethnic minority.[65] Members of the CLIMB team include psychologists, psychiatrists, fellows and interns. The pregnancy related depression program entails universal screening with the Edinburg Scale at all well-child visits from birth through four months of age with triage to a behavioral health team member as needed to discuss symptoms, social support resources, and parental coping. A mental health clinician addresses risk for harm and makes referrals for mental health services outside of the clinic when appropriate. Multi-stressed families, who may not be able to follow through with referrals in the community, particularly benefit from this onsite model.

SUMMARY

Approximately 15% of mothers experience serious emotional complications during pregnancy, birth and/or the postpartum period. In Connecticut, this translates to nearly 7,000 mothers per year. Early detection is critical as is participation in treatment. Unfortunately, neither happens routinely. Pediatric primary care medical homes are uniquely positioned to identify mothers with mental health concerns, provide supportive education and triage mothers to helpful behavioral health services. To efficiently and effectively meet the needs of mothers experiencing mental health challenges, child health sites require training and the ability to connect mothers to mental health resources in a timely manner. With proper supports, pediatric primary care providers can prevent the adverse health, developmental and mental health outcomes for infants and families resulting from undetected and untreated maternal emotional disorders.

Family-informed public policies and local community systems of care also contribute to ensuring physically and emotionally healthy children. For example, research has found longer maternity leave is associated with decreased risk of perinatal depression.[66] In collaboration with families and community leaders, primary care and behavioral health providers must promote policies and systems of care that address the complexities of perinatal mental health and result in optimal outcomes for mothers and their children.

Recommendations to Further Improve Perinatal Mental Health Policy, Practice and Service Delivery in Connecticut

Implementation of the following recommendations will improve the capacity of primary care providers to detect mothers suffering from mental health problems and connect them to services. These recommendations also address shortcomings in the availability of mental health services for mothers suffering from mental health problems.

1. Develop a full continuum of mental health services to meet the needs of mothers in Connecticut who suffer from mental health disorders. Mental health agencies, state agencies (e.g., DCF, DMHAS), and mental health advocates can develop new initiatives that use evidence-informed interventions in a variety of settings and across a variety of maternal needs. Services need to encompass prevention and intervention at several intensity levels. Service options include: maternal peer support, support groups, therapeutic groups, home visiting, evidence-based counseling interventions, psychotropic prescribing services, mobile crisis services and specialized maternal-infant day treatment and inpatient programs.

2. Increase the mental health workforce to ensure access to appropriate treatment for women experiencing perinatal mental health disorders. Graduate training in social work, psychology, counseling, marriage and family therapy and psychiatry can be expanded to include instruction specific to treatment of maternal mental health disorders. Consideration should be given to the establishment of a certification training program in perinatal mental health. State chapters of professional associations (National Association of Social Workers, Connecticut Psychological Association, Association of Marriage and Family Therapists, AAP), and maternal advocacy organizations (such as Connecticut Women's Consortium and the Connecticut Infant Mental Health Association) can provide continuing medical education on topics related to maternal mental health for health and mental health professionals.

3. Expand training of and support for primary care providers in specialties beyond child health services. Internal medicine, obstetrics and gynecology and family medicine all provide opportunities to detect mothers suffering from mental health disorders and to connect them to services. The success of the Educating Practices In the Community (EPIC) model in pediatric sites suggests that other primary care providers can adopt screening practices and connection

to mental health services. State chapters of professional associations should undertake programs similar to EPIC. Public and commercial insurers should pay all health providers for screening and care coordination services that ensure linkage of at-risk mothers to mental health supports.

4. Develop and implement a public awareness campaign that can reduce stigma and engage more mothers in articulating their needs as part of their health care and/or their child's health care. Educational materials, therapeutic resources and support opportunities should be developed and disseminated to all pregnant and postpartum women at no cost. To implement this recommendation, the Departments of Public Health, Social Services, Children and Families, Mental Health and Addiction Services, Office of Early Childhood and the Connecticut Alliance for Perinatal Mental Health can collaborate with parents and health and mental health providers, including birthing hospitals.

5. Create stronger linkages between providers of maternal health and child health services and home visiting programs. Specifically, home visitors, obstetrical providers and child health providers need to collaborate in the ongoing monitoring of mothers and infants. Screening

results and information about therapeutic interventions needs to be shared among providers to ensure continuity of care for mothers and babies.

6. Policy opportunities for supporting mothers', fathers' and families' mental health include:

a. Extension of parental leave policies in all workplaces to ensure the development of secure attachments and consistent caregiving.

b. Development of a surveillance system that monitors the state's performance in detecting and treating maternal mental health disorders with the aim of identifying gaps in care.

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Selected Connecticut Initiatives to Address Maternal Mental Health

Many initiatives in Connecticut are working to promote early identification, care and treatment of maternal depression and related mental health disorders. The following list is divided into three categories: Information, Services and Supports, and Policy, Advocacy, and Training.

Information:

Pregnancy Risk Assessment Monitoring System (PRAMS) is a surveillance project of the Connecticut Department of Public Health and the federal Centers for Disease Control and Prevention (CDC). PRAMS collects information on maternal attitudes and experiences before, during, and shortly after pregnancy from a sample of postpartum women. Information from PRAMS is used in planning health programs for Connecticut mothers and infants. www.ct.gov/dph

Yale Center for Wellbeing for Women and Mothers
The Yale School of Medicine's perinatal research team has investigated pathways and impacts of perinatal and maternal mental health. Their recently launched MOMba project seeks to improve mothers' social support, promote healthy mother-baby interaction, and increase social connectedness and community engagement through a social media application. http://medicine.yale.edu/psychiatry/researchforher/index.aspx

Services and Supports:

Blue Mamas Support Groups are free perinatal mental health groups offered through New Britain and Middletown Family Wellness Centers and The Mom Source in West Hartford. Group details are found at 2-1-1 Infoline.

Bristol Early Childhood Alliance is implementing a two year community-funded maternal depression screening initiative in the Women, Infants, and Children (WIC) program. To date, approximately 400 mothers have participated in screening. All mothers receive education on perinatal mental health. Twenty-one percent of mothers have been identified for referral. The project is working to expand their referral network to increase treatment engagement.

Child First is an evidence-based clinical early childhood home visitation program developed by Darcy Lowell, M.D. at Bridgeport Hospital. Seventeen towns and cities across Connecticut are currently served. Child First therapists provide mental health treatment including Child Parent Psychotherapy. The Child First program is currently being replicated nationally. www.childfirst.com

Connecticut Behavioral Health Partnership (BHP) and many private insurers have created a perinatal mental health specialization category in their behavioral health provider listings. The BHP has an online provider directory listing "perinatal mental health" providers. www.ctbhp.com

Connecticut Health Network provides care coordination and case management for pregnant and postpartum Medicaid members. www.chnct.org/

Connecticut Office of Early Childhood
In 2013, the Office of Early Childhood (OEC) was created to increase the state's capacity to provide services to young children and their families. Administered by the OEC, early childhood home visitation programs including Nurturing Families Network (NFN) and other maternal and infant home visitation programs have implemented maternal mental health screening protocols using the EPDS and can connect mothers to home visiting programs. www.ct.gov/oec

The **Connecticut United Way 211 Infoline** added "Perinatal Depression/Postpartum Depression" to the Mental Health Care portal of their statewide resource directory. www.211ct.org

The Connecticut Nurturing Families Network **Maternal Depression Improvement Program** is the first replication of the In-Home Cognitive Behavioral Therapy (IH-CBT) model developed by Ammerman and colleagues.[67,68] The model pairs traditional early childhood home visitation with psychotherapy for mothers with major depressive disorder. www.ct.gov/oec

MotherToBaby is a statewide consultation service of the UConn Health Department of Human Genetics, providing education and counseling to consumers and providers on the effects of teratogens during pregnancy and breastfeeding. MotherToBaby is the service arm of the Office of Teratology Specialists (OTIS). www.mothertobabyct.org

The **New Haven MOMS Partnership**
The MOMS Partnership serving New Haven continues their innovative interagency work to improve mothers' access to services by engaging health, mental health, and early childhood systems to fill gaps in service delivery needs to improve, pregnancy, birth and infant outcomes. www.newhavenmomspartnership.org

Policy, Advocacy, and Training:

Child Health and Development Institute of Connecticut (CHDI)
CHDI's Educating Practices In the Community (EPIC) module, Addressing Postpartum Depression: Opportunities in the Pediatric Setting, provides training and consultation to pediatric primary care practices to support universal maternal mental health screening. The training module addresses: prevalence; symptoms; effects of maternal depression and anxiety disorders on child development and family health; the role and practice of universal maternal mental health screening- including tools, coding, charting; and the referral resources available in the practice's community. Local behavioral health clinicians participate in the training to share information about the services they offer and a statewide mental health referral and resource guide is provided. www.chdi.org

The Connecticut Alliance for Perinatal Mental Health is a multidisciplinary stakeholder network developing a safety net of services and supports for perinatal families. Alliance goals include increasing support groups for mothers in communities across the state, identifying specialty behavioral health services and promoting collaboration between specialty providers, creating resource and referral guides by county, coordinating perinatal mental health trainings across disciplines and enhancing the capacities of Postpartum Support International - Connecticut. http://padlet.com/jvendetti/ctpmadalliance

Connecticut Coalition to Improve Birth Outcomes is a maternal child health policy and practice consortia developing innovative strategies to convalesce programs and systems. The Coalition's planning committee includes the Connecticut Department of Public Health, Carey Consulting, LLC, Connecticut March of Dimes and the United Way of Connecticut. The Coalition is a continuation of the Maternal Child Health Advisory group targeting efforts to reduce preterm delivery and infant mortality in Connecticut. The Coalition is part of a national initiative of the Maternal and Child Health Bureau of Health Resources and Services Administration (HRSA).

Connecticut's Department of Social Services and many private insurers are reimbursing for perinatal mental health screening in the medical home, supporting the administration of routine perinatal depression screening with reimbursement through use of the 99420 Current Procedural Terminology code.

The **Connecticut Perinatal Association** is a membership organization comprised of perinatal professionals dedicated to advance practice across hospital systems. http://www.connperinatal.org

The Connecticut legislated **Council on Medical Assistance Program Oversight Women's Health Committee** researches and promotes strategies to improve treatment and care management, policy practice and systems change for publicly-insured women in Connecticut. This Committee meets bi-monthly.

Opportunity Knocks for Middletown's Young Children is a community collaborative of health and early care and education providers, parents and other community agencies working together to address primary behavioral, social and emotional health, oral health, and nutrition and physical health issues that affect young children and their families. This collaborative is leading an effort in Middletown/Middlesex County to engage and support primary care providers and mental health providers in the development of an effective perinatal mental health screening and referral process. http://middlesexhospital.org/our-services/hospital-services/family-advocacy-program. Contact Monica Belyea, Program Planner, monica.belyea@midhosp.org

A national initiative to promote awareness, policy practice, and service delivery for maternal mental health is the **2020 Mom Project** providing recommendations for hospitals, insurers and physicians to improve prevention, detection, care and treatment for maternal mental health. www.2020mom.org

LEARN MORE: RESOURCES FOR ADDRESSING PERINATAL MOOD AND ANXIETY DISORDERS IN PEDIATRIC PRIMARY CARE

American Academy of Family Physicians offers information on Postpartum Depression
www.aafp.org/afp/2010/1015/p926.html
www.aafp.org/afp/2010/1015/p926.pdf

American Academy of Pediatrics Task Force on Mental Health Through this website, the American Academy of Pediatric (AAP) provides training and educational opportunities, resources, and advocacy materials to improve children's mental health services in primary health care.

Joint report from **American Psychological Association and American College of Obstetrics and Gynecology**
Depression During Pregnancy: Treatment Recommendations (2009)
http://www.acog.org/About-ACOG/News-Room/News-Releases/2009/Depression-During-Pregnancy

Bright Futures Initiative
Bright Futures is a national health promotion initiative of the AAP. Practice guides help providers promote mental health care in children, adolescents, and their families.
http://brightfutures.aap.org/index.html

The **Connecticut Infant Mental Health Association** is a membership organization dedicated to the promotion of infant/early childhood mental health through workforce education and training. A certificate training program is well underway.
www.ct-aimh.org

Health TeamWorks is an organization dedicated to quality improvement in health care delivery, published the Pregnancy-Related Depressive Symptoms Guideline. These guidelines provide information, talking points and considerations for screening, assessment, diagnosis and treatment. This is a useful tool for the dissemination of research-based information for medical providers. www.healthteamworks.org

The **Marcé Society** is an international organization communicating the latest research within the scientific community to better understand, prevent and treat perinatal mood and anxiety disorders. www.marcesociety.com

MotherToBaby is the service arm of the Office of Teratology Specialists (OTIS) compiling and disseminating information for consumers and providers on the effects of teratogens during pregnancy and breastfeeding. The Connecticut MotherToBaby program is a free, confidential consultation service offered through UConn Health, Department of Human Genetics to inform consumers and providers on exposure risks during pregnancy and breastfeeding.
www.mothertobaby.org/otis-fact-sheets-s13037#2

Mental Health America and the Substance Abuse and Mental Health Services Association (SAMHSA) produced an important guide to community action on maternal mental health. SAMHSA has also produced a toolkit for family service providers "Depression in Mothers: More Than Just the Blues".
www.mentalhealthamerica.net/sites/default/files/maternal_depression_guide.pdf

The National Center for Medical Home Initiatives
The National Center for Medical Home Initiatives provides support to physicians, families and other medical and nonmedical providers who care for children and youth with special needs.
www.medicalhomeinfo.org

Noodle Soup
Affordable materials "Adjusting to Motherhood", "Adjusting to Fatherhood", "What are Perinatal Mood and Anxiety Disorders" for the pediatric office and primary care setting.
www.noodlesoup.com

North American Society for Psychosocial Obstetrics and Gynecology
A physician member organization dedicated to fostering scholarly scientific and clinical study of the bio psychosocial aspects of obstetric and gynecologic medicine. www.naspog.org

Postpartum Progress is the leading blog worldwide for consumers seeking reliable information and a supportive online community. The blog compiles personal stories, brokers recent data and literature, and posts interviews with experts in the field of perinatal mental health. www.postpartumprogress.com

Postpartum Support International is a worldwide organization whose mission is supporting mothers affected by Perinatal Mood and Anxiety Disorders through telephone support, group support and community resources and to promote treatment and care through provider education and training. www.postpartum.net

Support and Training to Enhance Primary Care for Postpartum Depression
Free online perinatal mental health training for primary care physicians. www.step-ppd.com

Zero to Three is a national center promoting policies and practice that support infants, toddlers, preschoolers and their families through the dissemination of tools, training, publications and infant mental health consultation. www.zerotothree.org

Healthy Children Radio: Coping with Perinatal and Postpartum Depression (Audio)

www.healthychildren.org/English/news/Pages/Healthy-Children-Radio-Coping-with-Perinatal-and-Postpartum-Depression-Audio.aspx

An interview with Dr. Carol Berkowitz, M.D. FAAP, FACEP, Executive Vice Chair in the Department of Pediatrics at Harbor-UCLA Medicl Center and Professor of Clinical Pediatrics at the David Geffen School

IMPACT

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