



INSTITUTE FOR
MEDICAID INNOVATION

Innovation in Maternal Depression and Anxiety:

*Medicaid Initiatives in
California and Nationwide*



California
Health Care
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Maternal Mental Health and Medicaid Managed Care:
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EXECUTIVE SUMMARY

Maternal behavioral health disorders, particularly depression and anxiety, are critical public health concerns for reproductive-age women, infants, and families. The Medicaid program plays an important role in ensuring that women of reproductive age are able to access health care services in the perinatal and postpartum periods. Further, low-income women and women of color, two populations that are disproportionately affected by maternal behavioral health disorders, have high rates of enrollment in the Medicaid program. A thorough examination of maternal behavioral health disorders in the Medicaid program is needed to identify critical future directions for research, policy, and clinical work.

This report provides an overview of maternal behavioral health, risk factors, outcomes, and implications of maternal behavioral health disorders, barriers to obtaining behavioral health services, and opportunities for community organizations and Medicaid managed care to address maternal behavioral health. The report also contains in-depth case studies that address maternal behavioral health that are being led or co-designed by Medicaid health plans and community-based organizations. Helpful advice, lessons learned, and suggestions for how state Medicaid agencies may assist community organizations and Medicaid managed care organizations in reducing barriers are highlighted in the case studies of the initiatives.

Finally, the report identifies key research, clinical, and policy opportunities. The opportunities are based on findings from the comprehensive literature review, interviews, and group discussions with national experts, and recommendations from community organizations and Medicaid managed care organizations. The key themes are identified below. A detailed explanation for each of the opportunities is provided at the end of the report.

Research

- Conduct research specific to women in Medicaid to better understand prevalence rates.
- Develop an effective integrative care model for depression and anxiety specifically in the perinatal and postpartum periods.
- Analyze the financial impact of untreated versus treated maternal mental health disorders.

Clinical

- Screen for depression and anxiety multiple times throughout women's childbearing years, including the pre- and inter-conception periods and the antenatal and postnatal periods.
- Screen for post-partum depression and anxiety during baby's pediatric visits among other settings.
- Train clinicians in diagnosing and treating maternal behavioral health disorders.
- Train clinicians in providing culturally competent care and reducing stigma.

Policy

- Expand Medicaid coverage from 60 days postpartum to one year to fully treat postpartum illnesses in state programs.
- Eliminate having the mother-infant dyad on separate Medicaid health plans.
- Implement Medicaid policies that integrate behavioral health into medical services for women of childbearing age.
- Create alternative payment mechanisms to increase access and coverage for women of childbearing age in need of behavioral health care services.
- Improve efforts to update members' contact information and the sharing of contact information with Medicaid MCOs.



Innovation in Maternal Depression and Anxiety Screening & Treatment

INTRODUCTION

Maternal behavioral health is of increasing concern because of the high prevalence of depression and anxiety during the perinatal period and the resulting long-term implications of delayed, inconsistent, or absent treatment. Maternal behavioral health conditions influence the well-being of mothers, children, families, and communities, generating a significant cost to society. Low-income women, including those enrolled in the Medicaid program, and women of racial/ethnic minorities are disproportionately affected by maternal behavioral health disorders, as they face unique barriers to diagnosis and treatment. This report includes an overview of the issue, including risk factors, demographic differences, disparities, and Medicaid's role nationally and specifically in California. Snapshots and case studies highlighting innovative approaches in the Medicaid program and an adapted checklist to support efforts to launch an initiative are provided. Important research, clinical, and policy opportunities are identified to improve maternal behavioral health prevention and treatment.

KEY TERMS SPECIFIC TO MATERNAL DEPRESSION AND ANXIETY THAT ARE USED THROUGHOUT THIS REPORT:

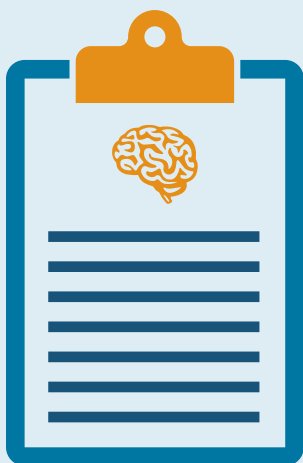
Depression: Depression is a medical illness that manifests as persistent feelings of sadness and loss of interest. Often it can cause physical symptoms such as trouble eating, sleeping, and concentrating, as well as psychological symptoms such as persistent feelings of helplessness and hopelessness (Howell, Golden, & Beardslee, 2013).

Maternal depression: Depression that occurs during pregnancy or within one year following childbirth (California Task Force, 2017).

Postpartum depression: Classified as depressive disorder with peripartum onset in the 5th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association, 2013).

Perinatal depression: Perinatal depression, which includes major and minor depressive episodes that occur during pregnancy or in the first 12 months after delivery (Texas Department of State Health Services, 2016).

Baby blues: A temporary state that usually occurs within a few days of a baby's birth and can last up to two weeks (Texas Department of State Health Services, 2016). The baby blues are a normal phenomenon and do not necessitate treatment, just monitoring and social support.



Generalized Anxiety Disorder (GAD): GAD is characterized by excessive worry and anxiety over at least a period of six months and the inability for the individual to address and manage their symptoms. GAD often results in muscle tension, sleep disturbances, irritability, fatigue, difficulties concentrating, and restlessness, with symptoms resulting in difficulty functioning (DSM-5; American Psychiatric Association).

Maternal Behavioral Health disorders: Considered to represent a range of behavioral health conditions with varying severity and prevalence, including depression, anxiety disorders, and postpartum psychosis. Illnesses can occur for the first time during the perinatal period, or they can exist even before conception, continuing or worsening during the perinatal period (California Task Force, 2017).

Reproductive psychiatrist: A medical doctor with special interest and skills in diagnosing and treating psychiatric disorders that may be related to a woman's reproductive life cycle, including menstruation, pregnancy, and menopause (California Task Force, 2017).

BACKGROUND

Maternal behavioral health outcomes are the result of the intersection between physical health, reproductive health, and barriers to care (World Health Organization, 2009). Maternal behavioral health directly affects reproductive health outcomes, including pre-term birth and low birthweight in infants as well as general well-being for both mother and baby and can be influenced by a variety of factors such as race/ethnicity, socioeconomic status, and prior history of behavioral health conditions (Karras, n.d.; Weissman, 2018; Witt, Cheng, et al., 2014a; Witt, Litzelman, Cheng, Wakeel, & Barker, 2014). Therefore, focusing on maternal behavioral health disorders is important as we consider their impact on women, children, families, and society.

The estimates of prevalence vary significantly, but generally describe trends of concern. It has been estimated that 5-25 percent of pregnant, postpartum, and parenting women experience depression (Medicaid.gov, 2016). Furthermore, approximately 19 percent of new mothers experience depression during the first three months postpartum (Gavin et al., 2005).

Anxiety disorders are also common among postpartum women, and research suggests they may be more prevalent than postpartum depression (Matthey, Barnett, Howie & Kavanagh, 2003). Generalized anxiety disorder (GAD) has been found to exist in 4.4-10.8 percent of women (Phillips, Sharpe & Matthey, 2007; Navarro et al., 2008; Wenzel, Haugen, Jackson & Brendle, 2003; Rowe, Fisher & Loh, 2008). Anxiety is highly comorbid with depression, with research finding that 75 percent of postpartum women with depression also meet diagnostic criteria for generalized anxiety disorder (Wenzel, Haugen, Jackson & Brendle, 2005). This comorbidity may result in a longer, more-severe course of behavioral health outcomes (van Balkon et al., 2008). Anxiety can also present as panic attacks, obsessions and compulsions, and shorter but equally intense periods of anxiety than GAD (Ross & McLean, 2006).

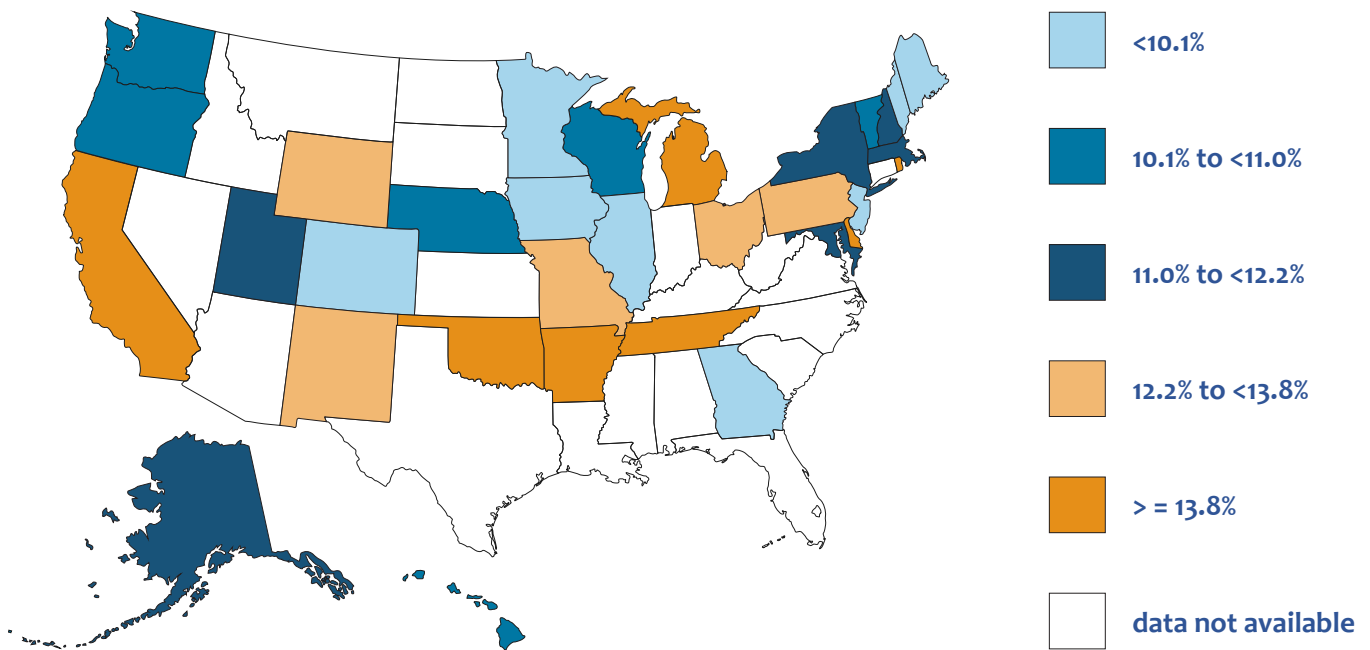
Low-income women, such as those enrolled in Medicaid, are disproportionately affected by maternal behavioral health conditions. Rates of depressive symptoms among low-income women are estimated to fall between 40 and 60 percent (Centers for Medicare and Medicaid Services, 2016). Reports show that 11 percent of infants among families living below the federal poverty level have had a mother who experienced severe depression and that among all infants living in poverty, 55 percent are being raised by mothers experiencing some form of depression (Centers for Medicare and Medicaid Services, 2016). Of Texas's Medicaid enrollees, it was found that women with a household income of less than \$15,000 had nearly twice the rate (15.8 %) of PPD compared to women with a household income above \$50,000 (8 %; (Texas Department of State Health Services, 2016). Furthermore, a review of home visiting programs for low-income and high-risk mothers with young children across the U.S. found that rates of maternal depression ranged from 29 percent to 61 percent (Chester, Schmit, Alker & Golden, 2016).

In California, research has found that more women enrolled in Medi-Cal screen positive for prenatal depression, postpartum depression, and prenatal anxiety compared to women with commercial insurance (Sakala, Declercq, Turon, & Corry, 2018). Specifically, 23 percent of women with Medi-Cal screened positive for prenatal anxiety, 14 percent for prenatal depression, and 7 percent for postpartum depression. In contrast, among women with commercial insurance, 19 percent screened positive for prenatal anxiety, 8 percent for prenatal depression, and 5 percent for postpartum depression.

However, these estimates only report prevalence of maternal behavioral health diagnoses. Many women face barriers to health care that prevent them from obtaining a diagnosis. In turn, this may lead to difficulties managing or obtaining treatment for their condition. For example, it has been found that only about 30 percent of severely depressed low-income mothers with infants reported speaking with a doctor, psychologist, psychiatrist, or counselor in the past year about an emotional problem (Howell et al., 2013).

Prevalence rates of postpartum depression by state in the United States are presented in Figure 1, as reported by women with a recent live birth. States with the highest rates of postpartum depression are primarily in the South and Midwest regions of the country, including Arkansas, Oklahoma, and Tennessee (UnitedHealth Foundation, 2016). These data were collected in 2012 prior to implementation of the Affordable Care Act, and therefore, do not reflect any effect that increased coverage, as a result of the individual mandate or Medicaid expansion, may have had on these rates.

Figure 1. Rates of Postpartum Depression Prevalence by State, 2012.



Source: UnitedHealth Foundation, 2016, America's Health Rankings® Health of Women and Children Report

As demonstrated in Figure 1, there is variation in the prevalence rates of maternal depression by state. The five states with the highest rates of maternal depression are Arkansas, Tennessee, California, Oklahoma, and Delaware (Figure 2). The five states with the lowest rates of maternal depression are Illinois, Georgia, Iowa, Minnesota, and New Jersey (Figure 2). However, it is currently unclear why this substantial variation may exist between states. These results may be partly the result of higher rates of poverty, the demographic make-up of states, and/or variation in screening for maternal depression between states.

Figure 2. Five Top and Bottom States for Maternal Depression Rates



Source: UnitedHealth Foundation, 2016, America’s Health Rankings® Health of Women and Children Report

California

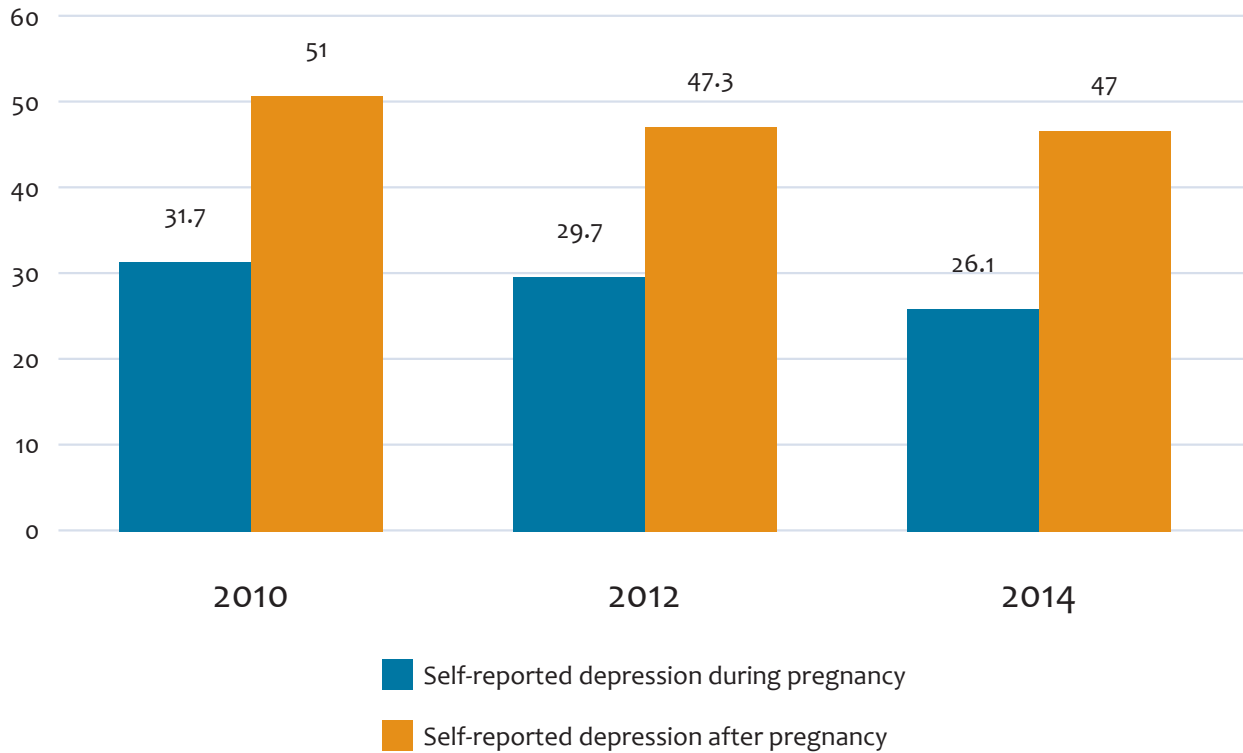
In California specifically, it has been found that 1 in 5 women suffer from depression, anxiety, or both while pregnant or postpartum (California Health Care Foundation, 2018). In addition, 1 in 5 low-income mothers are diagnosed with postpartum depression. Despite the high rate of diagnoses, only 1 in 10 women receive treatment for their condition (Kartika, 2017).

According to the Maternal and Infant Health Assessment (MIHA) conducted by the California Department of Public Health (CDPH), 21.2 percent of pregnant and postpartum women in California report being affected by perinatal mood and anxiety disorders (California Health Care Foundation, 2018). Rates of maternal behavioral health conditions are higher for populations that are more vulnerable, such as racial and ethnic minorities and/or low-income women (California Health Care Foundation, 2018). One in four African American and Latina mothers and up to 50 percent of all mothers living in poverty in California report symptoms of depression (California Health Care Foundation, 2018).

A population-based survey found that post-birth, women in the Medi-Cal group had less practical (e.g., completing tasks and finding needed information) and emotional support than women with commercial insurance (Sakala, Declercq, Turon & Corry, 2018). Nearly one in five women with Medi-Cal reported that they were never offered or received practical or emotional support. This lack of practical and/or emotional support was linked with increased depression and anxiety symptomatology. For example, only 1 percent of women who self-reported severe symptomatology reported always receiving practical or emotional support. This may suggest that practical and emotional supports are appropriate targets for intervention and may be associated with a reduction in depression and anxiety.

Recent work in Los Angeles County, California, found that self-reported depression after pregnancy may be more common than self-reported depression during pregnancy (Maternal Mental Health Now, 2017). As noted in Figure 3, the rates of depression after pregnancy are almost double the rates during pregnancy over a four-year period.

Figure 3. Self-Reported Depression During & After Pregnancy in Los Angeles County, 2010 – 2014.



Source: Maternal Mental Health Now (2017). Moving Forward: Collaborative Solutions for Perinatal Mental Health in Los Angeles County

Forty-four percent of California’s women of childbearing age are at or below the federal poverty level (FPL) and experience the greatest burden of maternal depressive symptoms, with a prevalence rate of 28.4 percent (California Task Force, 2017). The prevalence rate of maternal depressive symptoms decreases to 11.8 percent among women at or above 300 percent of the federal poverty level, demonstrating the relationship between socioeconomic status and maternal behavioral health (California Task Force, 2017). The high prevalence rate of maternal depression, along with its significant impact on maternal health and well-being, make maternal depression the leading pregnancy complication and cause of maternal morbidity (California Task Force, 2017).

RISK FACTORS

Although certain populations are more vulnerable than others to developing behavioral health and maternal mental health conditions, all women face gender-specific risk factors that increase their risk of depression. In addition, women also face unique risk factors during the prenatal and postpartum periods.

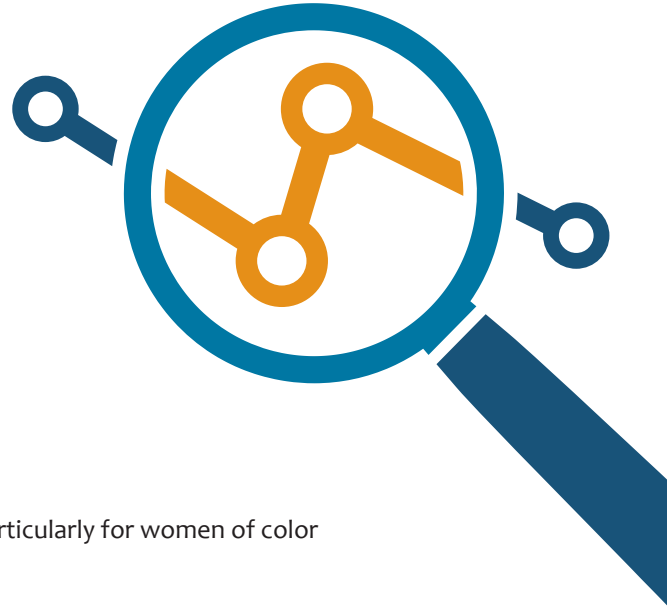
Gender-Specific Risk Factors for Any Depression in Women

- Having a sexually transmitted disease (STD)/infection (STI) or urogenital infection (Witt et al., 2010)
- Gender-based violence, low socioeconomic status, and having primary responsibility of caring for others (World Health Organization, 2013)
- Being a teen mother (Hodgkinson et al., 2014)
- Racial/ethnic minority status (Boyd, Mogul, Newman & Coyne, 2011; Szilagyi et al., 2010)
- Unemployment, tobacco use, psychosocial stress, partnership status, and pre-pregnancy comorbid conditions such as diabetes (Katon, Russo, & Gavin, 2014)

Risk Factors for Prenatal Depression (in addition to the risk factors above for depression):

(California Task Force, 2017):

- Anxiety,
- Lack of social support/isolation,
- Prior stillbirth,
- Unintended pregnancy,
- Low socioeconomic status,
- History of domestic violence (either as victim or perpetrator),
- Younger age (e.g., teen pregnancy),
- Older age (e.g., over age 40),
- History of premenstrual syndrome (PMS),
- Body dissatisfaction in third trimester,
- Untreated thyroid disorders,
- Single-relationship status and/or poor relationship quality,
- Poor health status and chronic conditions prior to pregnancy, particularly for women of color



A recent study demonstrated that multiparity, a history of depression, severe nausea, extreme fatigue, lack of physical exercise, experience of negative life events, and alcohol consumption in late pregnancy were associated with prenatal depression in the study population (van de Loo et al., 2018).

Risk Factors Specific for Postpartum Depression (in addition to risk factors for prenatal and general depression):

(California Task Force, 2017):

- Depression or anxiety during pregnancy,
- Stressful life events during early postpartum period,
- Perfectionism/fear of making a mistake,
- Traumatic birth experience,
- Preterm birth/infant admission to neonatal intensive care unit (NICU),
- Breastfeeding problems,
- Multiple births, and
- Infants with colic/significant fuss patterns and sleep deprivation and living in a city or increased isolation.
- Past history of major depression and past history of postpartum depression are also important risk factors for the development of postpartum depression (Henshaw, 2003).

Anxiety can be a risk factor for or be experienced in conjunction with perinatal depression (California Task Force, 2017). Prenatal anxiety specifically has been associated with younger age at time of pregnancy, low education level, history of depression, extreme fatigue, lack of physical exercise, and experience of negative life events (van de Loo et al., 2018). Trouble with breastfeeding has been identified as a trigger for anxiety in the postpartum period (California Task Force, 2017). Although prevalence of perinatal anxiety is almost as high as that of perinatal depression, there is more limited knowledge surrounding risk factors (California Task Force, 2017).





Outcomes and Implications of Maternal Depression & Anxiety

Research has identified relationships between maternal mental health disorders and adverse outcomes for both women and children. Maternal mental health disorders can affect birth outcomes as well as behavior patterns in the child. For example, experiencing stressful life events may exacerbate maternal mental health disorders (Witt, Cheng et al., 2014a), which in turn are linked with outcomes including low birthweight and pre-term birth (Witt, Cheng, et al., 2014b). The well-being and safety of the child may also be adversely affected, specifically for children of women with persistent and moderate-to-severe postpartum depression (Howell et al., 2013). Finally, depression can affect a mother's ability to manage her child's chronic health conditions (Howell et al., 2013).

These adverse effects can be exacerbated if women encounter barriers to access and coverage for behavioral health services. For example, untreated maternal depression is associated with child abuse and neglect, and children who have been abused or neglected are at greater risk of physical, developmental, and behavioral health complications (Howell et al., 2013). In response, children in families with untreated maternal depression may find themselves removed from their home and placed into foster care (Beardslee, Gladstone, & O'Connor, 2011; Lesesne, Visser, & White, 2001). The safety and cognitive, socio-emotional, and behavioral development of children are also at-risk as well as their success in school and transitions to adulthood when mothers are unable to receive access and coverage to treatment (Schmit, Golden & Beardslee, 2014).

Untreated maternal depression may continue the cycle of poverty for both women and children. Depression can make it difficult to maintain employment, and for those who are employed, it can increase absenteeism and reduce productivity (Schmit et al., 2014). Women with maternal mental health disorders may also face significant adverse outcomes. Chronic exposure to factors contributing to behavioral health issues during the prenatal phase may affect postpartum behavioral health and obstetric outcomes (Witt, Wisk, Cheng, Hampton & Hagen, 2012). Women who experience maternal mental health disorders also face increased risk of continued or additional behavioral health conditions beyond pregnancy. Women who had postpartum depression at both two months and eight months postpartum have been found to have depression up to 11 years later (Weissman, 2018). Furthermore, untreated postpartum depression can negatively affect the mother's health, relationships with family members, long-term medical and social costs, and housing stability (Kozhimannil, Adams, Soumerai, Busch, & Huskamp, 2011) (McLaughlin, 2009). Similarly, failing to provide services for women with mild or moderate depression can lead to more-severe and chronic depressive episodes that could potentially require expensive emergency room or inpatient stays (DiMatteo, Lepper, & Croghan, 2000). Suicide is also a concern for women with maternal mental health disorders. Although pregnant and postpartum women do not attempt or complete suicide as frequently as the general population of women do, when suicide does occur, it accounts for nearly 20 percent of deaths in the postpartum period and is the second-leading cause of mortality among postpartum women (Lindahl, Pearson, & Colpe, 2005).

DISPARITIES

African American, American Indian, and Latina women are more likely to experience postpartum depression than white women are (Karras, n.d.), and Asian/Pacific Islander (non-Hispanic) women are almost three times more likely to report postpartum behavioral health symptoms than white women (non-Hispanic) (Weissman, 2018). Furthermore, while

studying the relationship between pre-conception behavioral health and pregnancy outcomes, black (non-Hispanic) women are 35 percent more likely than whites (non-Hispanic) to experience pregnancy complications (Witt, 2012). In terms of access to postpartum behavioral health care, both African American and Latina women are less likely than white women to initiate or receive follow-up treatment and less likely to use antidepressants (Maternal Mental Health NOW & Zero to Three, 2017).

Teen mothers also face unique barriers to behavioral health treatment, including lack of access to health care, time, and transportation. They also have reported higher rates of substance use disorders, suicide ideation, and prenatal and postpartum depression (Hodgkinson, Beers, Southammakosane, & Lewin, 2014).

It has been found that women who had less than a high school degree were more than three times more likely to suffer from postpartum behavioral health problems. Low education level is an indicator of socioeconomic status and has been associated with an increased risk for postpartum depression and anxiety (Weissman, 2018). Finally, it has been found that women living at 100–199 percent and 200–399 percent of the FPL were less likely than women living below 100 percent of the FPL to have pregnancy complications (Witt et al., 2012).



Barriers to Maternal Depression & Anxiety Services

ACCESS & COVERAGE

Of low-income mothers with a diagnosis of major depressive disorder, more than one-third do not receive any treatment (Schmit et al., 2014). Despite the demonstrated success of screening and treatment protocols for maternal mental health conditions, few low-income mothers are actually able to receive assistance (Howell et al., 2013). Some of the barriers include lack of access to appropriate behavioral health services, lack of health insurance coverage, lack of trained clinicians, and stigma and distrust of clinicians (Howell, Golden, & Beardslee, 2013). According to the 2017 report released by the California Task Force on the Status of Maternal Mental Health Care, the most frequently cited barriers to treatment for women of low socioeconomic status were stressors including lack of childcare, lack of transportation, lack of insurance, high out-of-pocket expenses, and lack of financial flexibility.

Health insurance, especially Medicaid coverage, improves access to care for low-income women (Chester et al., 2016). Two-thirds of insured low-income mothers with young children receive treatment for their depression, compared to only half (51 percent) of uninsured low-income mothers (Chester et al., 2016). In addition, among insured low-income mothers with depression, mothers with Medicaid or commercial/other health insurance had similar rates of treatment; 65 percent of mothers with Medicaid received treatment, compared to 70 percent of mothers with commercial/other insurance ((Chester et al., 2016).

Importantly, for many states, Medicaid coverage for pregnant women terminates within 60 days postpartum. This poses a significant barrier to accessing services and managing acute and long-term conditions that were diagnosed during pregnancy. It has been noted that this time period is insufficient for adequate diagnosis and treatment of maternal mental health conditions and does not provide support for mothers with postpartum depression (Chester et al., 2016). Also, mothers and infants may be covered or receive services separately, interrupting the mother/infant dyad and diminishing the focus and impact of mother's behavioral health on their child(ren) (Howell et al., 2013).

Because of the joint federal and state design of Medicaid, there is significant variability in access to and coverage for maternal behavioral health services by state. Some states cover services for maternal depression as a well-child visit. State agencies may allow these services to be billed as services for children as part of the Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) program (Medicaid.gov, 2016). In 11 states and the District of Columbia, maternal depression screening is covered under the child's Medicaid coverage (Kartika, 2017). Screening women for depression and anxiety during pregnancy and the postpartum periods is important. However, it is unknown the extent to which positive screenings translate into referral, treatment, and follow-up.

Notable examples of the state variation for maternal behavioral health coverage are listed below:

- **Colorado:** Postpartum depression screening is covered as an annual depression screening. Medicaid primary care clinicians are encouraged to screen new mothers at well-child visits (Medicaid.gov, 2016).
- **Illinois:** Covers perinatal depression screening when an approved screening instrument is used. If the postpartum depression screening occurs during a well-child visit, the screening may be billed as a “risk assessment,” or if the woman is postpartum and covered, the postpartum depression screening may be billed under the woman's coverage (Medicaid.gov, 2016).
- **North Dakota:** Covers maternal depression screening as a separate service when performed during an EPSDT screening or other pediatric visit and is considered a risk assessment for the child. Up to three maternal depression screenings are allowed for a child under the age of one (Medicaid.gov, 2016).
- **Virginia:** Covers the Behavioral Health Risks Screening Tool developed for pregnant and non-pregnant women of child-bearing age through the Maternal, Infant, and Early Childhood Home Visiting Program. Pregnant women are eligible for additional services, including case management during pregnancy and up to the end of the month following their 60th day post-partum date (Medicaid.gov, 2016).

Medicaid reimbursement rates are influenced by policies at the federal, state, and local levels, resulting in fragmentation of services and financial disincentives for clinicians to provide behavioral health services for women. For example, many states carve out mental health services, such as depression screening, separately from a primary care visit. If a mental health visit occurs on the same day as a primary care visit at the same center, Medicaid programs generally will not cover both. The current reimbursement design poses a barrier to the integration of physical and behavioral health services and decreases a woman's ability to receive needed screening and treatment (Howell et al., 2013). Further, there is an absence of current research that has identified the cost of treated versus untreated maternal mental health disorders. Research that identifies cost savings may be critical to encouraging clinicians as well as policymakers to support universal policies for screening and treatment of women, especially during the prenatal and postpartum periods.

However, Medicaid offers a unique benefit to address maternal behavioral health through the Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) program, a comprehensive child health benefit (Centers for Medicare and Medicaid Services, 2016). This benefit covers periodic screening services (i.e., well-child exams) for any eligible individual under 21 years of age. A number of states cover maternal depression screening as part of these assessments for the child, which may be billed for either the child or the mother (if the mother is eligible for Medicaid). As noted by the Centers for Medicare and Medicaid Services (2016), as screenings for maternal depression are for the benefit of the child, state Medicaid agencies are able to allow these screenings to be claimed as child services under the EPSDT. As of 2016, maternal depression screenings are being billed under well-child exams in Colorado, Illinois, North Dakota,

and Virginia. Furthermore, states are required to arrange for services to address the needs of the child if the mother screens positive for maternal depression under EPSDT. If the mother is not eligible for Medicaid, she may still receive some services for the well-being of the child (e.g., family services) as long as these services actively involve the child and treatment is delivered to the mother and child in tandem. However, challenges still exist under the EPSDT program. The Health Insurance Portability and Accountability Act (HIPAA) regulations can be prohibitive in the screening of maternal behavioral health issues. As an example, pediatric clinicians who screen mothers during a well-child visit are prevented from charting the mother's assessment on the baby's chart. However, the mother is not the pediatric clinician's patient and does not have a chart for the mother.

To address this issue, alternative payment models that focus on integrative physical and behavioral care have been proposed and are being evaluated. Some of these include health homes, specifically the Patient-Centered Medical Home (PCMH). PCMHs aim to follow a holistic care model and have been implemented in most states to some degree. Managed Care Organizations (MCOs), already in place in most state Medicaid programs, can also play a role in physical and behavioral health integration specific to maternal health through carving in behavioral health services, providing home visiting services, or implementing quality improvement initiatives to examine frequency of maternal behavioral health screenings, number of referrals to behavioral health professionals, and successful care coordination across clinicians (Howell et al., 2013).

STIGMA & BIAS

It is known that previous experiences of bias from health care clinicians can lead to general mistrust of the health care system, particularly for behavioral health services (California Task Force, 2017). Furthermore, although research has shown that women of color have a higher risk of developing maternal depression, many studies show lower rates of diagnosis, which could be the result of avoiding stigmatization associated with their diagnosis compounded by bias associated with their race/ethnicity (California Task Force, 2017). Training clinicians to discuss behavioral health concerns in a sensitive, culturally relevant way might aid in promoting screening and treatment of behavioral health disorders. Specifically, clinicians should be educated about how stigma may prevent individuals from seeking care as well as specific cultural norms that might discourage discussion with a clinician about behavioral health concerns and/or the treatment plan (e.g., reluctance to begin treatment or early discontinuation of antidepressant use).

CLINICIAN WORKFORCE

There is a shortage of behavioral health clinicians in the United States. Across the country, there are 5,042 designated Mental Health Professional Shortage Areas and only 32.52 percent of the nation's behavioral health needs are being met (Kaiser Family Foundation, n.d.). As an example, in California, 387 regions have been identified as having too few behavioral health clinicians and services, and only 48 percent of the state's behavioral health needs are being met (California Task Force, 2017). Of the available behavioral health clinicians, few are actually able to treat maternal mental health disorders because of lack of skills and training or interest. Given the lack of behavioral health clinicians in the area, many do not have the availability to accept new patients. Only 11 of California's counties have at least one reproductive psychiatrist (California Task Force, 2017). To address the growing workforce shortage, training clinicians across multiple disciplines (e.g., family practice, internal medicine, pediatrics, psychiatry, etc.) who work with women of childbearing age may be an important component in early identification and treatment for maternal depression and anxiety. Other members of the health care or clinic team, such as community health workers, might also benefit from training in screening, referral, and treatment approaches for maternal depression and anxiety.



Opportunities for Medicaid Managed Care to Address Maternal Behavioral Health

There are a number of steps Medicaid Managed Care Organizations may take to address access and coverage for maternal behavioral health services that could include the provider network, medical benefit, and pharmacy benefit.

The checklist below (Table 1) is an adaptation by the Institute for Medicaid Innovation of the “Changing Course: The Role of Health Plans in Curbing the Opioid Epidemic,” a project funded by the California Health Care Foundation (CHCF) to reflect action items for health plans to address maternal depression and anxiety. The original and adapted action items and opportunities were developed through a literature search as well as through consultation with maternal behavioral health experts in research, clinical work, and policy. The checklist contains action items for health plans, their provider networks, as well as their medical and pharmacy benefit managers.

Table 1. Checklist for Medicaid Managed Care to Address Maternal Depression & Anxiety

Provider Network	In Place	Planning	Not a Priority
Adapt and apply MBH designation for clinicians who meet criteria			
Offer CME and other continuing education credits for clinicians			
Offer financial incentives for women’s health clinicians to collaborate with behavioral health clinicians in providing MBH care			
Create financial benefit for clinicians to provide screening			
Create systems of reproductive psychiatry support, whether through eConsult, a telephone line, the ECHO model, or other means			
Evaluate network adequacy for auxiliary services, such as substance abuse programs for women of childbearing age and perinatal women			
Offer education on malpractice insurance and ways to decrease liability when caring for and prescribing for this population			
Increase ease of registration and ongoing coverage for perinatal women			
Institute HEDIS-like measures for MBH			
Analyze data on screening and treatment rates for perinatal women according to HEDIS measure			
Create standardized treatment plan in conjunction with behavioral health provider after a positive screen for maternal behavioral health disorders			

Medical Benefit	In Place	Planning	Not a Priority
Ensure mother and infant are enrolled in the same MediCal plan postpartum so both can receive services at the same location			
Increase coverage up to one year postpartum			
Increase psychotherapeutic services for the dyad			
Increase access to therapy through a variety of non-clinical modalities, including texts, phone, or televideo services			
Include case managers for women and their infants identified as having MBH issues, both in clinic and as home visitors			
Offer appropriate inpatient services for perinatal women with serious mental illness			
Addressing social determinants of health, such as assisting women in enrolling in the women in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), Section 8 housing, enhanced transportation, child care, job training and/or placement, or assistance in pursuing educational opportunities (e.g., General Equivalency Development, trade school, college).			
Pharmacy Benefit	In Place	Planning	Not a Priority
Educate pharmacists on prescribing for pregnant and lactating women, so as to not contradict or give conflicting messages to perinatal women with prescriptions from their doctors			
Offer database of up-to-date information on medication use in pregnant women (e.g., ReproTox)			
Encourage use of LactMed for breastfeeding women			
Remove authorization of requirements for medications that may be safer for perinatal women or more efficacious for individual women than those on formulary			

Source: Adapted from Smart Care California. (February 2017). “Curbing the Opioid Epidemic: Checklist for Health Plans and Purchasers,” Retrieved from <https://www.chcf.org/wp-content/uploads/2017/12/PDF-ChangingHealthPlansOpioid.pdf>

Note: Asterisk (*) indicates that national, standardized criteria currently do not exist.



STATE-LED APPROACHES TO ADDRESSING MATERNAL DEPRESSION & ANXIETY

A number of states have developed initiatives to address maternal behavioral health, with varying levels of success. For example, an Illinois initiative that reimbursed clinicians for maternal depression screening during prenatal visits, postpartum visits, and infant well-child or episodic visits found that two years after the program was implemented, the number of antepartum and postpartum women being screened for perinatal depression more than doubled (Witt et al.; 2011). MOMCare, an 18-month collaborative depression care intervention in Florida provided women with a choice of brief interpersonal psychotherapy (brief IPT) or antidepressants during pregnancy. For women with probable major depression and PTSD, MOMCare had significant clinical benefit over MSS-Plus (enhanced maternity support services), with only a moderate increase in health service cost (Grote et al., 2017).

The Nurse-Family Partnership Program in Los Angeles was developed to provide direct in-home services for low-income, first-time pregnant women. The goal of the program is to improve pregnancy outcomes, parenting, and child health. Services began around the woman's 16th week of pregnancy and ended after the child's second year of life. Nurses assisted with referrals and education and counseling for any issues that occurred; an important component for preventing and treating maternal behavioral health conditions. Research following implementation has shown that the program yielded returns and savings for the community, state, and federal government and has improved the health of participating mothers (Los Angeles County Department of Public Health, n.d.). For example, an analysis performed by RAND Corporation reported that communities will receive up to a \$5.70 return on every dollar invested in the program (Nurse-Family Partnership, 2014).

INNOVATIVE INITIATIVES IN MEDICAID

The following section contains snapshots and case studies of initiatives launched by various organizations, including Medicaid managed care organizations and community-based organizations (CBOs). A summary of each initiative is included as well as challenges that were encountered and helpful advice and lessons learned to consider when creating initiatives to address maternal behavioral health. The initiatives outlined below are intended to provide Medicaid health plans, communities, and other organizations with useful information to consider when developing maternal behavioral health initiatives. Initiatives in the early phase (e.g., active planning and beginning to launch) are described first, followed by those in the implementation phase (e.g., active programs serving women).

Early Phase Initiative

Mobile Behavioral Therapy in the Perinatal Period

Organization: Gateway Health Plan

Type of Organization: Medicaid Managed Care Organization

Location: Pittsburgh, PA and surrounding counties

Phase: Early

OVERVIEW:

The impact that untreated and unmanaged psychiatric disorders in new and expectant mothers has on birth outcomes, maternal physical health, and child health and development is disproportionate in the Medicaid population. To address the challenge and disparity, Gateway Health plans to partner with Women's Behavioral Health (WBH) of Allegheny Health Network (AHN) to mitigate barriers to receiving treatment and potentially increase the volume of perinatal women screened for behavioral health disorders. This partnership is still in the early planning and data-gathering stages.

Two program approaches have been identified through stakeholder brainstorming. These include the use of a mobile van/unit to meet the member where they are in the community and the use of telemedicine via iPads. There are several potential strategies for both of these approaches. A mobile unit staffed with behavioral health clinicians may be employed at designated sites in the community with a high volume of Gateway Health membership and/or high volume of AHN WBH no-show rates. Alternatively, a mobile unit may be used to meet individual members.

The use of telemedicine may be achieved through the deployment of iPads at high-volume pediatrician, PCP, Ob/Gyn, Early Intervention, and perhaps even Neonatal Intensive Care Units (NICUs). This iPad deployment would be accompanied by provider training on appropriate utilization and reimbursement procedures for screening of mothers in need of perinatal behavioral health services.



Challenges to Consider:

- The state-mandated separation of physical and behavioral health managed care in the Medicaid population is a key barrier that this program has encountered.

Early Phase Initiative

Behavioral Pharmacy

Organization: Open Source Wellness

Type of Organization: Nonprofit

Location: Oakland, Alameda, and Hayward, California

Phase: Early

OVERVIEW:

Open Source Wellness (OSW) is the nation's first "Behavioral Pharmacy," where patients can experientially fill lifestyle prescriptions made by their health care providers. OSW is dedicated to transforming the ways in which the transdiagnostic, behavioral underpinnings of physical and psychological health (physical movement, nutrition, stress reduction, and social support) are understood, delivered, and sustained. OSW is pioneering and refining a new delivery model for health behavioral change at the intersection of health care and the community. The intervention consists of four basic practices: movement for all fitness levels, basic mindfulness meditation and relaxation, nutritious family-style meals (plant-based) and social support, and connection facilitated by coaches and peer leaders. The format is designed to be affordable, accessible, and culturally relevant. Open Source Wellness is currently operational in Oakland, Alameda, and Hayward. Each location represents one of three core models. The Oakland site operates as an open-access "Behavioral Pharmacy," where individuals and families can learn and practice healthy lifestyle changes. The Alameda center operates in partnership with Alameda Point Collaborative (APC), a 350-person housing community whose residents, many formerly homeless and/or formerly incarcerated, have demonstrated interest in Open Source Wellness programming. In Hayward, CA, Open Source Wellness operates a clinically integrated (with full EMR- and workflow-integration) model in partnership Hayward Wellness Center, a part of Alameda Health System.

ENGAGEMENT WITH MEDICAID MANAGED CARE ORGANIZATIONS:

Open Source Wellness is interested in working with Medicaid MCOs, but it has experienced substantial barriers and an unclear process for how to start the process and gain approval of these partnerships. Reimbursement is further complicated by the use of peer leaders, coaches, and community health workers rather than licensed providers. One of the greatest desires of the organization is to work through the process with an experienced mentor or advocate to help overcome perceived barriers to reimbursement.



Challenges to Consider:

- Funding models; OSW is working to move beyond philanthropy to value-based payment structures to ensure sustainability.
- Because of the innovative and non-traditional design of the program, patients and providers require education and experience to understand the nature of Open Source Wellness's program and its interfaces with clinical health care systems.



Helpful Advice:

- Build a supportive and collaborative team; engage participants in taking on leadership roles.
- Experiment with and adjust rapidly an approach based on results; be willing to iterate.

Early Phase Initiative

Perinatal Mood Identification and Coordination Program

Organization: Health Plan of San Joaquin

Type of Organization: Medicaid Managed Care Organization

Location: San Joaquin and Stanislaus Counties, California

Phase: Early

OVERVIEW:

The Perinatal Mood Identification and Coordination Program will address untreated perinatal mood symptoms and improve the overall maternal behavioral health of members by decreasing the incidence of prenatal and postpartum depression and anxiety. The program aims to achieve that through:

1. Identifying members at risk for experiencing perinatal anxiety and depression.
2. Screening the identified members using a validated tool.
3. Coordinating behavioral health treatment with member through partnerships.
4. Creating and managing a registry, tracking the referrals to treatment, and documenting follow-up.

At-risk members are identified using stratification lists of pregnant women with a diagnosis of depression and/or anxiety and pregnancy members authorized to use antidepressants or anti-anxiety medications. The risk stratification tool helps to target interventions appropriate to the individual's risk level. This screening process is a cost-effective method that builds on the existing perinatal program already in use by the plan. Following the members during pregnancy and post pregnancy and evaluating the outcomes via a patient registry will provide the plan with new data to shape future interventions, which could include the development of new educational classes and new partnerships with providers, such as Federally Qualified Health Centers.



Challenges to Consider:

Prior to implementation, pregnant and postpartum members were surveyed. Access and utilization of prenatal care in the first trimester was lower than the state average. Barriers identified included lack of transportation and limited access to tools/technology utilized for making appointments.



Helpful Advice:

- Develop community relationships with providers and other stakeholders. It's important to understand the gaps in the community identified through baseline data to outline goals and desired outcomes.
- Training and education for staff are critical.

In addition to providing information on their early-phase initiatives, submitting organizations also provided key lessons learned when designing efforts to address maternal behavioral health (Table 2). They offered perspectives on topics such as challenges with funding, developing key relationships with stakeholders, and training and educating staff.

Table 2. *Designing Initiatives to Address Maternal Behavioral Health in Medicaid*

Helpful Advice for Program Design from Early Phase Initiatives
Consider challenges unique to the population and how they may be addressed, such as lack of transportation and limited access to tools and technology for making appointments.
Consider challenges related to funding and those related to navigating Medicaid behavioral health carve-outs, which may include additional layers of communication and collaboration with behavioral health MCOs and intricacies in billing and reimbursement.
Develop community relationships with clinicians and other key stakeholders. A thorough understanding of gaps in the community may help to inform goals and desired outcomes.
Train and educate staff about the initiative and its importance.

Implementation Phase Initiative

CaringStart® Maternity Program

Organization: BlueCare Tennessee

Type of Organization: Medicaid Managed Care Organization

Location: Tennessee

Phase: Implementation

OVERVIEW:

The CaringStart® Maternity Program is focused on reaching members across the care continuum by enrolling women who are pregnant in the appropriate level of BlueCare's Maternity Population Health program. Members in need of maternity services are identified via claims/encounter analysis and referrals. Once an individual is identified as pregnant, BlueCare's member outreach team contacts the member to perform a mini health assessment. Members whose responses to the MHRA indicate high-risk behaviors are enrolled in BlueCare's High-Risk Maternity program. Upon enrollment into the program, high-risk maternity members receive a comprehensive maternity educational packet, assistance with identifying an obstetric care provider, assistance scheduling a pre-natal visit if needed and assignment of a Case Manager. The Case Manager contacts the member monthly, which may include a face-to-face visit if needed. The case manager does the following:

- Develops and implements an individualized care plan, performs a comprehensive health risk assessment, and provides any necessary referrals.
- Provides monthly intense case management, including the following:
 - Support and follow-up on patient self-management.
 - Telephone contact number for after-hours assistance with urgent or emergent needs.
 - Clinical reminders.
- Ensures member is established with a provider, receives prenatal and postpartum visits, and receives postpartum depression screening.

BlueCare partnered with the Tennessee Chapter of the American Association of Pediatricians (TNAAP) to train Tennessee pediatricians and their staff to screen mothers for postpartum depression during newborn visits. If a mother is at risk for postpartum depression, BlueCare Case Management works with the pediatrician to coordinate appropriate care immediately. Case managers assist the mother with an appropriate referral, scheduling the appointment and transportation to the clinical appointment during the pediatric newborn visit. The case manager also follows up with the mother to ensure the appointment was kept and to identify any barriers to care to ensure delivery of appropriate clinical care.

Through this initiative, BlueCare has been able to engage more high-risk mothers and offer integrated medical and behavioral health services through successful case management. Placing case managers in the field has

allowed BlueCare to conduct effective face-to-face meetings with mothers who are at risk. BlueCare has seen a 17 percent improvement in the patient engagement rate for high-risk mothers (33% baseline to 50% post-implementation) and a 3.9 percent increase in timely postpartum visits through combined member and provider engagement initiatives. BlueCare is currently researching the use of digital behavioral applications to enhance member engagement. The tool is intended to empower individuals to actively use clinical improvement resources.



State Medicaid offices could offer support by:

- Improving their efforts to update member contact information and share the information with MCOs regularly.
- Supporting policies that remove barriers to MCOs that are collecting member data through new resources.
- Collaborating with MCOs to design payment methodologies that might incentivize providers to complete wellness screenings.



Challenges to Consider:

- A primary barrier to working with high-risk mothers is resolving specific social determinants of health during the pregnancy to ensure the health of the mother and baby.
- Engagement with the mother has also been a barrier, partly because of challenges in securing accurate and current contact information.



Helpful Advice:

- Ensure strong provider engagement and education.
- Use appropriate screening assessments.
- Continuously improve and monitor data integrity of member contact information. This should be a priority for anyone who engages with the member, from customer service to clinical providers. Any member engagement is an opportunity to collect current contact information from a member.

Implementation Phase Initiative

Perinatal Behavioral Health Initiative

Organization: Generate Health

Type of Organization: Nonprofit

Location: St. Louis, Missouri

Phase: Implementation

OVERVIEW:

Generate Health convenes multi-sector partner organizations (primary/behavioral health and social service) to improve screening, treatment, and case management services for individual women through the Perinatal Behavioral Health Initiative (PBHI). This is being accomplished through the establishment of the Perinatal Resource Network, a collaborative partnership of medical, behavioral health, and social service agencies providing screening and referral to case management.

The overarching system goal of the PBHI is to improve the system of service delivery to perinatal women experiencing behavioral health concerns. This goal will result in better behavioral health outcomes for perinatal women and ultimately better outcomes for their children.

Generate Health is using a two-prong approach of service delivery and system-building to meet this goal:

- Strategy 1: Service Delivery-Convene a network of service providers based on identified gaps and needed enhancements in service provision that prohibit identified pregnant/postpartum (perinatal) women from accessing real-time brief interventions (therapeutic treatment) and case management/supportive services for referrals and linkages.
- Strategy 2: Develop a workforce of targeted, trained, collaborative providers through trainings and professional development.

Building the System-Generate Health will align mutually reinforcing services for pregnant/postpartum women and their families and build capacity of providers and organizations to serve women.

- Objective 2: Develop a workforce of trained providers better prepared to serve perinatal women and families
- Objective 3: Develop an integrated, collaborative and reciprocal network of primary and behavioral health and social service organizations to support pregnant and postpartum women and families with behavioral health concerns.

Partners convene monthly to receive trainings and work through case management and referral concerns utilizing collected data to inform a continuous quality-improvement process for service delivery. An executive committee is convened to strategize and plan for continued improvement.



Challenges to Consider:

- Engaging primary care providers, specifically around screening women by professionally recommended guidelines and engaging primary care with the network.
- Achieving the capacity to serve all eligible perinatal women.
- Embedding an equity lens into the initiative.
- Effectively engaging of the community voice, specifically, authentically engaging and supporting community residents so that we work to change current delivery systems.



Helpful Advice:

- Identify a core group of providers.
- Engage perinatal women with lived experience from the beginning in planning and implementation.
- Do not begin adoption of a universal protocol without a referral network in place. Clinicians performing the screening need somewhere to refer the woman to if need be.
- Network with others working to address perinatal behavioral health and ask for support and mentoring.

Implementation Phase Initiative

MAMA'S Neighborhood (MAMA'S)

Organization: LA County Department of Health Services

Type of Organization: Government

Location: Los Angeles County, California

Phase: Implementation and Pilot Expansion

OVERVIEW:

MAMA'S Neighborhood is the standard of perinatal care in LA County. MAMA'S was originally crafted and funded in response to a Center for Medicare and Medicaid Innovation (CMMI) grant to address and reduce preterm birth and low birthweight through operations and direct practice improvements. Inclusive of pregnancy, labor and delivery, and postpartum periods, it provides care that is mother centered, compassionate, coordinated, and culturally responsive.

MAMA'S added care coordination, electronic health record-based population health management, a linked neighborhood of social support services, mental health integration and collaborative care case review to its program. More than 5,000 mothers have been enrolled in MAMA'S Neighborhood, many of whom described significant psychosocial stress on validated scales. Increased care contacts and coordination for women with high stress, in conjunction with a novel resiliency in building a health education program, aided mothers in feeling more supported, stable, and prepared for the birth. While implementing this new model, mothers slowly began to establish more trust with MAMA'S; stated that it was nice to have providers finally ask them how they felt; and asked why our model ended when our providers were needed most in the postpartum period.

In response to this feedback, LA County expanded its period of assistance up to 18 months for select clients. Through the 1115 Waiver for Medicaid in California, LACDHS received funding to expand its reach via home visits to families in need of expanded support, including those who are homeless or at risk of homelessness, are substance using, or have multiple medical comorbidities or severe and persistent psychiatric illness. Home visits will include a Mobile Care Team (MCT) from a public health nurse, psychiatric social worker, and a care coordinator at different times during pregnancy and postpartum with different purposes. Together, they will address the mother's medical, mental health, and social care needs as well as the infant's development and attachment to the mom.



State Medicaid offices could offer support by:

MAMA'S recognizes some policy changes that the state Medicaid program could implement to improve the program. These include:

- For enrollment, identification, and tracking processes, develop a central system that Medicaid providers could use to access birth outcomes to abstract the details necessary to measure impact.
- Auto-assign or default mothers to government entities that provide a larger breadth of services. Establish a public and low-literacy means of quality scoring for ambulatory providers that reflect these practices and standards. This will help consumers who are not literate or who are overwhelmed with the amount of information they receive. Also, select a provider who can best meet their needs.
- Merge mental health resources with medical care to reduce stigma and increase integration of services.
- Set up billable bundles of funding for pregnant mothers up to 18 months postpartum to cover the interconception care period. Likewise, setting up home visits billing within Medicaid could be a model to extend prenatal and postpartum home visitation to at-risk mothers and then newborns.
- Last, primary and secondary prevention funding to address intersectionalities between public agencies. For example, housing, substance use, and mental health funding could provide family stabilization to prevent adverse life events and therefore intergenerational traumas from persisting.



Challenges to Consider:

- Slow staffing process.
- Slow organizational change.
- No grant spending on basic needs for patients such as transportation and child care.
- Insufficient staffing for outreach and partnership building.
- Insufficient staffing to meet patient demand for care coordination and mental health.



Helpful Advice:

- Have patience for sustainable organizational change.
- Dedicate a six-month-long planning period.
- Start with an evaluation framework that includes mandated assessments before enrollment begins.
- Maintain a clear organizational structure and leadership.
- Listen to mothers and include their perspectives as part of the care design and evaluation plan.
- Advocate for reimbursement and higher salaries for paraprofessional care coordination early and often if used in a high capacity (community health worker model).

- Include a reproductive psychiatrist in the care planning.
- Integrate mental and behavioral health into clinical visits.
- Use an electronic/social media “check-in” tracking tool to close the loop on whether mothers actually get the needed social services that might aid in reducing toxic stress.
- Have low caseloads for highest-risk enrollees and staff solely dedicated to identifying and taking mothers to needed services.
- Have frequent tests of inter-rater reliability for risk assessors to ensure similar ratings and build rapport.
- Assess and treat/work with mothers on ACEs/ALEs to address the roots of stress and develop self-efficacy.
- Do not assume that “unplanned” means “unwanted” in pregnancy.
- Actively train staff on, address issues of, and have a zero-tolerance policy for racial, economic, cultural, and chosen lifestyle biases in care and services.
- Personalize service to mothers to ensure a connection for retention.
- Include Medicaid application at point of care to avoid making mothers run around.
- Include pediatric care with mothers’ care to improve retention.

Implementation Phase Initiative

MCPAP for Moms

Organization: Massachusetts Child Psychiatry Access Program for Moms (MCPAP for Moms)

Type of Organization: State Government Contracted Organization

Location: Massachusetts

Phase: Implementation

OVERVIEW:

The Massachusetts Child Psychiatry Access Program (MCPAP) for Moms helps obstetricians and other frontline providers identify, assess, and treat mental and substance use disorders for all pregnant women in the state. MCPAP for Moms provides access and referrals to mental health resources and immediate psychiatric telephone consultation with perinatal psychiatrists for obstetric, pediatric, adult psychiatric, adult primary care providers, or any other provider serving pregnant or postpartum women. Practices throughout Massachusetts have access to the Provider Toolkit and real-time telephonic consultation, which provide support on many topics, including diagnoses, treatment planning, psychotherapy and community supports, and medication treatment during preconception, pregnancy, and lactation. MCPAP for Moms' perinatal psychiatrists are also available to see patients for one-time, face-to-face consultations and to coordinate with the referring provider. All MCPAP for Moms services are payer-blind and available to all patients regardless of insurance status. MCPAP for Moms Resource and Referral Specialists work with health care providers and patients and provide information about, and referrals to, individual and group psychotherapy, psychopharmacologic providers, and family-based treatments such as support groups that are geographically convenient for the patient and compatible with her insurance.

The presence of MCPAP for Moms and the ongoing provider education provided during consultations increase providers' willingness and self-efficacy to screen for and manage depression and comorbidities.

Because care is integrated with usual care rather than provided directly by mental health providers, costs are kept low. MCPAP for Moms increases access to mental health care for all pregnant and postpartum women in Massachusetts for less than \$1 per month per woman. MCPAP for Moms is also unique in its development of sustainable funding by having all insurers, both commercial and Medicaid, pay their share of the program. This has been accomplished by passage of state legislation mandating such payment.

MCPAP has received support from the legislature and major medical societies in Massachusetts and has collaborated with community partners. MCPAP has also worked closely with payers to help incentivize providers to screen through creation of billing codes, and eventually reimbursement, which has helped to fund the program. MCPAP for Moms also works closely with Interface, a database of providers developed within the William James School of Professional Psychology.

Massachusetts has approximately 72,000 births per year, thus during the first four years of program implementation, approximately 288,500 women were pregnant or postpartum. Assuming a 15 percent rate of depression, approximately 43,200 women would have experienced depression during this time period. Since inception, MCPAP for Moms has served 4,235 women, which is 10 percent of 43,200 presumed women with depression. MCPAP for Moms has enrolled 70 percent (146) of the obstetric practices in the state, which includes 1,253 obstetric providers who were trained and enrolled, covering approximately 80 percent of the deliveries in the state. Enrollment in MCPAP for Moms among obstetric practices grew nearly every month between July 2014 and October 2017.

Two other states have started MCPAP for Moms-type programs, and 16 others are seeking funding. The FY 2018-19 federal budget includes \$5,000,000 for HRSA to administer grants for other states to establish MCPAP for Moms-type programs.



Engagement with Medicaid Managed Care Organizations:

The MCPAP for Moms program is unique in that it is funded by the state legislature and available to all youths and mothers. As such, Medicaid MCOs have not been directly involved. However, MCPAP for Moms tracks what percentage of calls are from Medicaid, commercial insurance, or uninsured individuals. The State of Massachusetts then surcharges the commercial insurers for their percentage and charges Medicaid for their percentage so that federal financial participation can be collected.



State Medicaid offices could offer support by:

State Medicaid offices could offer support to states interested in starting programs similar to MCPAP for Moms through reimbursing screening efforts in obstetric and pediatric settings and providing coverage for pharmacologic and nonpharmacologic treatment for women with mental health and emotional complications related to pregnancy through 6-12 months postpartum. This would include:

- Psychiatric services
- Individual and group therapy
- Home visiting services
- Early intervention
- Mother-infant dyadic therapy
- Substance use treatment at all levels including mother-child and family residential treatment settings



Challenges to Consider:

Although MCPAP for Moms provides access to invaluable resources and helps primarily obstetric practices initiate treatment, additional intervention components are needed to ensure that women do not fall through the cracks in the depression care pathway. For example, it was found that practices also need proactive practice-level implementation assistance to help them fully integrate depression care into their workflow. Also, it became evident how challenging it is for practices to screen consistently, monitor for symptom improvement, and avoid misdiagnoses of depression among patients who actually have bipolar, anxiety, and substance use disorders.



Helpful Advice:

- Work vigorously to engage obstetric practices. This can be accomplished through:
 - Conducting presentations at regional medical conferences, grand rounds, and practice-level training sessions.
 - Leveraging other personal and professional networks.
 - Developing relationships with individual stakeholders and professional societies to facilitate broad engagement.
 - Having professional societies include information about the program in their newsletters, e-mails, and other communications to their membership.
 - Having team psychiatrists proactively call individual practices, describe the program, and offer to visit the practice to conduct training.
- Build a stakeholder coalition that includes advocates, especially survivors that would work to develop a sustainable model of funding. For those many states with child-serving mental health consultation programs, it would be important to create a linkage and build on their existing infrastructure.

Implementation Phase Initiative

Maternal Mental Health NOW

Organization: Maternal Mental Health NOW

Type of Organization: Nonprofit

Location: Los Angeles County, California

Phase: Implementation

OVERVIEW:

Maternal Mental Health NOW (MMHN) is a nonprofit dedicated to reducing barriers to the prevention, screening, and treatment of prenatal and postpartum depression. Through its work, MMHN identified that the fragmentation of behavioral health and medical care systems is a significant barrier to addressing maternal behavioral health. MMHN established a collaborative care model for perinatal depression and anxiety at three medical clinics serving vulnerable populations (including two federally qualified health centers [FQHCs] in Los Angeles to reduce this barrier. The chosen medical sites all serve low-income populations who are uninsured or covered by Medi-Cal and are at elevated risk for untreated perinatal mood, anxiety, or other mental health problems. Each clinic established a coordinated care team, implemented screening and treatment protocols, and developed a patient registry. The screening and treatment protocols included identifying and providing psycho-educational information to eligible patients, assessing risk through the use of evidence-based screening tools, connecting at-risk patients to treatment and assessment of patient progress, and coordinating care. MMHN's collaborative care model was evaluated extensively after a year of implementation. Outcomes were measured using follow-up data entered into patient registries, patient counts, and surveys and interviews conducted with clinic staff. At each clinic, it was found that staff participated in the training, were prepared for their roles in collaborative care, developed clinical protocols, and screened patients using a universal approach in the context of obstetrical and pediatric clinic services. All clinics also improved the rate of identification of women at risk for perinatal mood and anxiety disorders through the application of quality improvement approaches. A notable accomplishment across all three sites was the establishment of screening in pediatric clinics.



Engagement with Medicaid Managed Care Organizations:

Maternal Mental Health Now (MMHN) has collaborated with a local Medicaid Managed Care Organization, L.A. Care, on fundraising and educational events to support maternal depression and anxiety efforts. L.A. Care has co-sponsored a provider education training lunch that hosted panelists who spoke about their personal experience working with patients with maternal mental health conditions and why physicians should not be afraid to provide the recommended screenings or treatment. L.A. Care also co-sponsored MMHN's annual fundraising gala twice, and L.A. Care program officers in the community benefits department were invited to participate in a policy roundtable organized by MMHN. In addition, L.A. Care Community Benefits has recently awarded MMHN a grant to implement a similar program that will specifically address the disparities in perinatal mental health outcomes experienced by African American women in Los Angeles.



State Medicaid offices could offer support by:

- Addressing the Medi-Cal rule that physicians cannot bill for a physical and behavioral health appointment on the same day. If physicians want to screen a patient for anxiety or depression, they have to choose which service to be reimbursed for under current policy.



Challenges to Consider:

- The model was unable to demonstrate “stepped care,” which is identifying which patients are improving and which are not.
- Barriers with patient follow-up meant that little was learned about how many women received clinical treatments or improved.
- The tight market for mental and behavioral health clinicians may affect the ability to fully staff programs in perinatal care settings if they are competing with substance abuse, chronic disease management, and other programs.
- The evaluation protocol used in this program had limitations, including using self-administered surveys that not all team members completed, and not assessing the impact of competing demands on collaborative care staffing resources.



Helpful advice:

- Support needed for data entry and patient registry management.
- Access to integrative technology can ease data entry time and facilitate record sharing.
- Staff with specialized roles should be dedicated to maintaining the database, because of its complexity.
- Staff buy-in is a critical step and can be aided through participation in training, conferences, or other workshops by collaborative care team members.
- Having relationships with external mental health providers and consulting psychiatrists is essential.
- Need ample time in planning phases to build capacity and organizational buy-in.
- Interview each care team member once at the beginning and once at the end to assess practice changes.

Initiatives at the implementation phase also described challenges encountered with their efforts (Table 3), lessons learned, helpful advice (Table 4), as well as how state Medicaid agencies may remove barriers to better support maternal behavioral health initiatives (Table 5).

Table 3. Implementation Challenges Identified by MCOs and CBOs in the Implementation Phase

Challenges
Addressing social determinants of health.
Consistent engagement with the mother may be a challenge due to challenges securing accurate and current contact information.
Practices need additional proactive practice-level implementation assistance to fully integrate behavioral health care into their workflow.
Difficulty among practices to consistently screen, monitor for symptom improvement, and avoid misdiagnosis of depression among individuals who have other disorders (e.g., bipolar disorder, anxiety, substance use disorders).

Table 4. Lessons Learned and Helpful Advice Identified by MCOs and CBOs in the Implementation Phase

Lessons Learned and Helpful Advice
Engage members through texting or other preferred methods of contact (e.g., email, postal mail). Using every member contact as an opportunity to secure member information may be critical in maintaining consistent member contact.
Work vigorously to engage obstetric practices, including presenting at conferences, grand rounds, and practice-level training sessions and leveraging personal and professional networks.
Identify a core group of providers for the initiative.
Engage women with lived experiences from the beginning of the initiative throughout the implementation phase.
Do not begin adoption of a universal protocol without a referral network in place. Clinicians performing screening for behavioral health concerns need to be able to have a location to refer women to.
Seek out other health plans and community organizations who are engaged in initiatives to address maternal behavioral health.

Table 5. Opportunities for Medicaid to Remove Barriers to Better Support Initiatives

Recommendations for State Medicaid Agencies
Expand Medicaid to one year postpartum for all women.
Create policies that allow both the mother and the infant to be seen together.
Improve efforts to update member contact information and share information with MCOs regularly.
Support policies that remove barriers to MCOs collecting member data through new resources.
Collaborate with MCOs to design payment methodologies that may incentivize clinicians to complete wellness screenings.
Support reimbursement for screening efforts and coverage for pharmacologic and non-pharmacologic treatment.
Offer clear funding pathways for new and innovative wellness initiatives.
Support for basic needs and social determinants of health need to be considered as high of a priority as treatment for behavioral health concerns as many women will not seek treatment until they are in a stable environment.
Understand that a substantial majority of women with behavioral health disorders may also have a substance use disorder or may be impacted by intimate partner violence and trauma.



Looking Ahead: Implications for the Future

Maternal mental health disorders, including depression and anxiety, represent a critical public health concern and pose risks for both the mother and her children. Untreated maternal mental health disorders have an impact on obstetric and birth outcomes in addition to physical and behavioral child development. Evident disparities in prevalence rates, access to care, and use of treatment persist across racial/ethnic and socioeconomic groups. In addition, research has shown that women in the Medicaid program may be disproportionately affected by maternal mental health disorders. There is variation in how state Medicaid programs cover screening and treatment, and significant barriers to accessing care exist for Medicaid members, which include the clinician workforce shortage and stigma and bias in health care.

Despite the critical nature of this issue, policy and practice are not fully addressing societal need. However, multiple initiatives in the early and implementation stages are showing promising results, some of which are highlighted in this report. Medicaid MCOs and community-based organizations have identified challenges and lessons learned for programs in each stage. Future efforts should focus on establishing collaborative partnerships, effectively providing consistent services, and incorporating the perspectives of the women receiving these services. The organizations also noted that state Medicaid agencies can support programs by reimbursing screening and treatment options, implementing payment methods to incentivize clinicians to provide necessary care, and prioritizing social determinants of health in their behavioral health programs. Future research, clinical, and policy opportunities are necessary to support future initiatives and improve maternal mental health outcomes in the Medicaid population such as through increasing evidence-based practices, addressing the clinician workforce shortage, and evaluating alternative payment models.



Research, Clinical, and Policy Opportunities

RESEARCH

- **Conduct research specific to women in Medicaid to better understand prevalence rates.** Significant variance exists in overall prevalence estimates of maternal depression and anxiety. Future research should seek to understand the rates, stratified by demographic factors including geographic location, race/ethnicity, insurance type, and age.
- **Develop an effective integrative care model for depression and anxiety specifically in the perinatal and postpartum period.** Although a number of integrated care models have been implemented, it is unclear which models are associated with the greatest reductions in maternal depression and anxiety. Further exploration of the effectiveness of maternal medical homes is needed.
- **Analyze the financial impact of untreated versus treated maternal mental health disorders.** Currently, there is an absence of research that has examined the financial impact of maternal mental health disorders. Such research would quantify the costs for the health care system and encourage clinicians as well as health care systems to support policies that provide screening and treatment for women, especially during the prenatal and postpartum periods.

CLINICAL

- **Screen for depression and anxiety multiple times throughout women's childbearing years, including pre- and inter-conception periods, and in the antenatal and postnatal periods.** The prevalence of maternal behavioral health conditions varies throughout the perinatal period, and therefore, it is essential to continually assess and monitor a woman's well-being and provide necessary referral, treatment, and follow-up care. This process may include screening for depression and anxiety in primary care settings, during STD treatments, in community and after-hours clinics, and during hospital and emergency department visits, health visits during pregnancy, and pediatric visits.
- **Screen for post-partum depression and anxiety during baby's pediatric visits among other settings.** Under the EPSDT, Medicaid may cover depression screenings for the mother for the benefit of the child as well as treatment services if the child is involved. Further, depending on the mother's care needs and coverage, the mother may no longer be visiting the health care provider seen during pregnancy but is likely to continue to see a pediatric clinician for the child. Therefore, the pediatric setting may be an appropriate and critical setting in which to conduct screenings.
- **Train clinicians in diagnosing and treating maternal mental health disorders.** There is a lack of clinicians who specialize in maternal behavioral health (e.g., reproductive psychiatrists). This can be addressed by having clinicians with expertise in this area educate and train others or by expanding the reach of these clinicians through innovations such as telehealth. In addition, clinician education of screening and specialty-appropriate evidence-based care across all disciplines working with women of childbearing age—including family practice, internal medicine, women's health, pediatrics, and psychiatry—can help fill this gap. Pediatric clinicians may be particularly critical, as the mother may have a sustained relationship with the pediatric clinician even if she no longer seeks care or services from a women's health provider. Within pediatrics, clinician education, cultural change, screening, documenting the mother's outcomes in the infant's chart, and referrals for positive depression and anxiety screens may all be critical to pursue.

- **Train clinicians in providing culturally competent care and reducing stigma.** Clinician education in how to discuss behavioral health concerns in a sensitive, culturally competent manner that promotes screening and treatment of maternal mental health disorders, particularly among women with low incomes or racial/ethnic minority status. Opportunities are needed to educate clinicians in stigma, specific barriers, or cultural norms that may prevent women from discussing behavioral health concerns with their clinician. Educating clinicians on how depression may manifest differently between cultural groups is also important. In addition, incorporating birth control education into maternal behavioral health care may serve to improve maternal mental health outcomes by empowering women and increasing their autonomy in reproductive-life decisions.

POLICY

- **Expand Medicaid coverage from 60 days postpartum to one year to fully treat postpartum illnesses in state programs.** Maternal mental health conditions are not limited to 60 days postpartum and may not be addressed sufficiently in that time period. Extending coverage may reduce barriers to treatment for low-income mothers on Medicaid and improve access to behavioral health services.
- **Eliminate having the mother-infant dyad on separate Medicaid health plans.** The mother-infant dyad is not always on the same Medicaid plan. This creates barriers for women in receiving the care at the same location. Further, the requirement to verify coverage for both the mother and infant creates barriers in access to care. In addition to being a problem nationally, this issue has been noted as a specific challenge for the Medi-Cal program.
- **Implement Medicaid policies that integrate behavioral health into medical services for women of childbearing age.** Integrated care may be associated with increased access and coverage for behavioral health services and better-coordinated holistic care, which may be associated with better behavioral health outcomes in women. Specific challenges in the Medi-Cal program include being unable to bill for physical and behavioral health services on the same day, which may discourage behavioral health screenings.
- **Create alternative payment mechanisms to increase access and coverage for women of childbearing age in need of behavioral health care services.** Current methods of reimbursement do not always align to support the provision of behavioral health services. Payment for prenatal care, labor, and delivery is typically bundled with the assumption that the provider will coordinate the services needed by the patient. However, the payment structures often do not incentivize the needed coordination and follow-up. Further, benefit packages may have behavioral health services carved out of coverage. New or alternative payment strategies would support the provision of the continuum of services to promote high-quality care and improve outcomes. For example, more widespread coverage of maternal depression screening during well-baby visits or care delivery models such as the maternity medical home, which includes care coordination/referrals to all needed services, or other models that co-locate behavioral health services could facilitate coverage and utilization.
- **Improve efforts to update members' contact information and the sharing of contact information with Medicaid MCOs.** Medicaid managed care organizations frequently report inability to contact members and inaccurate home addresses as a major barrier to providing services. To further improve contact between Medicaid managed care organizations and members, policies that support the collection of member data through new resources should be supported.



REFERENCES

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.
- Beardslee, W. R., Gladstone, T. R. G., & O'Connor, E. E. (2011). Transmission and prevention of mood disorders among children of affectively ill parents: A review. *Journal of the American Academy of Child & Adolescent Psychiatry*, 50(11), 1098–1109. <https://doi.org/10.1016/J.JAAC.2011.07.020>
- Boyd, R. C., Mogul, M., Newman, D., & Coyne, J. C. (2011). Screening and referral for postpartum depression among low-income women: A qualitative perspective from community health workers. *Depression Research and Treatment*, 2011, 320605. <https://doi.org/10.1155/2011/320605>
- California Health Care Foundation. (2018). Improving treatment of maternal mental health. Retrieved March 2, 2018, from <https://www.chcf.org/project/improving-treatment-of-maternal-mental-health/>
- California Task Force. (2017). A report from the California task force on the status of maternal mental health care.
- Centers for Medicare and Medicaid Services (2016). Maternal depression screening and treatment: A critical role for Medicaid in the care of mothers and children. Retrieved from: <https://www.medicaid.gov/federal-policy-guidance/downloads/cib051116.pdf>
- Chester, A., Schmit, S., Alker, J., & Golden, O. (2016). Medicaid expansion promotes children's development and family success by treating maternal depression key findings.
- DiMatteo, M. R., Lepper, H. S., & Croghan, T. W. (2000). Depression is a risk factor for noncompliance with medical treatment. *Archives of Internal Medicine*, 160(14), 2101. <https://doi.org/10.1001/archinte.160.14.2101>
- Gavin, N. I., Gaynes, B. N., Lohr, K. N., Meltzer-Brody, S., Gartlehner, G., & Swinson, T. (2005). Perinatal depression: a systematic review of prevalence and incidence. *Obstetrics and Gynecology*, 106(5 Pt 1), 1071–1083. <https://doi.org/10.1097/01.AOG.0000183597.31630.db>
- Grote, N. K., Simon, G. E., Russo, J., Lohr, M. J., Carson, K., & Katon, W. (2017). Incremental benefit-cost of MOMCare: Collaborative care for perinatal depression among economically disadvantaged women. *Psychiatric Services*, 68(11), 1164–1171. <https://doi.org/10.1176/appi.ps.201600411>
- Hodgkinson, S., Beers, L., Southammakosane, C., & Lewin, A. (2014). Addressing the mental health needs of pregnant and parenting adolescents. *Pediatrics*, 133, 114–122. <https://doi.org/10.1542/peds.2013-0927>
- Howell, E., Golden, O., & Beardslee, W. (2013). Emerging opportunities for addressing maternal depression under Medicaid.
- Kaiser Family Foundation. (n.d.). Mental health care health professional shortage areas (HPSAs). Retrieved July 27, 2018, from <https://www.kff.org/other/state-indicator/mental-health-care-health-professional-shortage-areas-hpsas/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Total Mental Health Care HPSA Designations%22,%22sort%22:%22desc%22%7D>
- Karras, T. (n.d.). Postpartum depression and anxiety in African American moms. Retrieved March 1, 2018, from <https://www.seleni.org/advice-support/article/pmads-such-as-ppd-and-anxiety-in-african-american-moms>
- Kartika, T. (2017). How Minnesota uses Medicaid levers to address maternal depression and improve healthy child development.
- Katon, W., Russo, J., & Gavin, A. (2014). Predictors of postpartum depression. *Journal of Women's Health* (2002), 23(9), 753–759. <https://doi.org/10.1089/jwh.2014.4824>
- Kozhimannil, K. B., Adams, A. S., Soumerai, S. B., Busch, A. B., & Huskamp, H. A. (2011). New Jersey's efforts to improve postpartum depression care did not change treatment patterns for women on Medicaid. *Health Affairs (Project Hope)*, 30(2), 293–301. <https://doi.org/10.1377/hlthaff.2009.1075>
- Kozhimannil, K. B., Trinacty, C. M., Busch, A. B., Huskamp, H. A., & Adams, A. S. (2011). Racial and ethnic disparities in postpartum depression care among low-income women. *Psychiatric Services* (Washington, D.C.), 62(6), 619–625. https://doi.org/10.1176/ps.62.6.pss6206_0619

- Lesesne, C. A., Visser, S. N., & White, C. P. (2001). Treatment of the school-aged child with attention-deficit/hyperactivity disorder. *Pediatrics*, 108(4), 1033–1044. <https://doi.org/10.1542/peds.108.4.1033>
- Los Angeles County Department of Public Health. (n.d.). Nurse-family partnership-Los Angeles.
- Maternal Mental Health NOW, & Zero to Three. (2017). Moving forward: Collaborative solutions for perinatal mental health in Los Angeles County • ZERO TO THREE. Retrieved March 1, 2018, from <https://www.zerotothree.org/resources/2126-moving-forward-collaborative-solutions-for-perinatal-mental-health-in-los-angeles-county#downloads>
- McLaughlin, T. C. (2009). Women and homelessness: Understanding risk factors and strategies for recovery.
- Medicaid.gov. (2016). Maternal depression screening and treatment: A critical role for Medicaid in the care of mothers and children.
- Nurse-Family Partnership. (2014). Nurse-family partnership overview.
- Ross, L. E., & McLean, L. M. (2006). Anxiety disorders during pregnancy and the postpartum period: A systematic review. *The Journal of Clinical Psychiatry*, 67(8), 1285–1298.
- Sakala, C., Declercq, E.R., Turon, J.M., & Corry, M.P. (2018, September). Listening to mothers in California: A population-based survey of women’s childbearing experiences. Retrieved from: https://www.chcf.org/wp-content/uploads/2018/09/ListeningMothersCAFullSurveyReport2018.pdf?utm_source=National%20Partnership&utm_medium=PDF_Link&utm_campaign=Listening%20to%20Mothers
- Schmit, S., Golden, O., & Beardslee, W. (2014). Maternal depression: Why it matters to an anti-poverty agenda for parents and children.
- Szilagy, P. G., Tang, W., Anson, E., Talbot, N. L., Wadkins, H. I. M., Tu, X., ... Chaudron, L. H. (2010). Low-income urban mothers have high rate of postpartum depression. Retrieved February 28, 2018, from <https://www.urmc.rochester.edu/news/story/2760/low-income-urban-mothers-have-high-rate-of-postpartum-depression.aspx>
- Texas Department of State Health Services. (2016). Postpartum depression among women utilizing Texas Medicaid.
- UnitedHealth Foundation. (2016). America’s health rankings: Health of women and children report.
- Van de Loo, K. F. E., Vlenterie, R., Nikkels, S. J., Merkus, P. J. F. M., Roukema, J., Verhaak, C. M., ... van Gelder, M. M. H. J. (2018). Depression and anxiety during pregnancy: The influence of maternal characteristics. *Birth*. <https://doi.org/10.1111/birt.12343>
- Weissman, M. M. (2018). Postpartum depression and its long-term impact on children. *JAMA Psychiatry*, 15–16. <https://doi.org/10.1001/jamapsychiatry.2017.4265>.
- Witt, W. P., Cheng, E. R., Wisk, L. E., Litzelman, K., Chatterjee, D., Mandell, K., & Wakeel, F. (2014a). Maternal stressful life events prior to conception and the impact on infant birth weight in the United States. *American Journal of Public Health*, 104(SUPPL. 1), 81–89. <https://doi.org/10.2105/AJPH.2013.301544>
- Witt, W. P., Cheng, E. R., Wisk, L. E., Litzelman, K., Chatterjee, D., Mandell, K., & Wakeel, F. (2014b). Preterm birth in the United States: The impact of stressful life events prior to conception and maternal age. *American Journal of Public Health*, 104(SUPPL. 1), 73–81. <https://doi.org/10.2105/AJPH.2013.301688>
- Witt, W. P., Deleire, T., Hagen, E. W., Wichmann, M. A., Wisk, L. E., Spear, H. A., ... Hampton, J. (2010). The prevalence and determinants of antepartum mental health problems among women in the USA: A nationally representative population-based study. *Archives of Women’s Mental Health*, 13(5), 425–437. <https://doi.org/10.1007/s00737-010-0176-0>
- Witt, W. P., Litzelman, K., Cheng, E. R., Wakeel, F., & Barker, E. S. (2014). Measuring stress before and during pregnancy: A review of population-based studies of obstetric outcomes. *Maternal and Child Health Journal*, 18(1), 52–63. <https://doi.org/10.1007/s10995-013-1233-x>
- Witt, W. P., Wisk, L. E., Cheng, E. R., Hampton, J. M., & Hagen, E. W. (2012). Preconception mental health predicts pregnancy complications and adverse birth outcomes: A national population-based study. *Maternal and Child Health Journal*, 16(7), 1525–1541. <https://doi.org/10.1007/s10995-011-0916-4>
- World Health Organization. (2009). Mental health aspects of women’s reproductive health.
- World Health Organization. (2013). Gender and women’s mental health. WHO.



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