NORC at the University of Chicago

REPORT

AUGUST 2023

# Maternal Value-Based Payment Models and Considerations in Medicaid

**Presented by:**
NORC at the University of Chicago

# Table of Contents



# List of Tables

# Background

The maternal mortality rate in the United States has been increasing since 2000 and peaked in 2021 at 32.9 deaths per 100,000 live births.[7] The maternal mortality rate for Black birthing people (69.9 per 100,000) is more than double the average rate and 2.6 times the rate for non-Hispanic white birthing people.[7] Medicaid pays for over 40 percent of births and 65 percent of births from Black birthing people.[8] Given Medicaid's role as the largest funder of United States maternity care, the Centers for Medicare and Medicaid Services (CMS) and state Medicaid programs are in a unique position to improve maternity care quality and how healthcare is delivered to pregnant and postpartum people.[9] In response to the rising maternal mortality rate and health inequities, in recent years, there have been calls for Medicaid to take action such as expand postpartum coverage beyond 60 days, cover evidence-based models, to develop value-based payment models, bolster maternal mortality and morbidity data collection, and more.

In 2022, NORC at the University of Chicago (NORC) conducted an environmental scan to better understand the needs of pregnant and postpartum people and their babies in the context of value-based purchasing to inform the development *a potential maternity episode of care to address a broad range of concerns around maternal and infant health outcomes, including maternal mortality and morbidity, and health disparities*.[i] To this end, NORC collected information about Medicaid programs' maternity care value-based payment models, with a focus on episode of care and pregnancy medical home models.

## Episode of Care Models

Episode-based models designs are traditionally cost-based models that ensure quality maintenance by creating minimum quality thresholds. Quality thresholds are included in these models in two distinct ways: 1) by acting as a quality "floor" (a minimum set of metrics which the provider must meet in order to be eligible for shared savings), or 2) by providing incentive payments for performance on quality metrics. The primary goal of these models is to control costs by increasing preventive services and avoiding expensive adverse outcomes, such as hospital admissions. In these models, the provider or provider team is accountable for the costs associated with providing care and may be eligible for shared savings if their costs are below a certain threshold or may bear financial risk if the total cost of providing care is above a certain threshold. This structure incentivizes an overall reduction in high-cost service utilization, which is useful in the context of maternal and child health care where adverse birth outcomes can be costly. Incentives may be provided for processes or outcomes deemed to be high value through paying for performance on quality metrics.

[i] The Washington Health Care Authority contracted with NORC at the University of Chicago to conduct this work from February 2022 to December 2022.

## Pregnancy Medical Home Models

Pregnancy medical home models provide resources and incentives for care coordination to take place between groups of providers and to provide incentives for higher touch, more personalized care to the pregnant and postpartum target population. The goal of these models is to identify and treat psychosocial factors, behavioral health risks, and chronic conditions by providing screenings and appropriate referral and follow-up to services. Evaluations of these programs found that they improve outcomes such as: lowering emergency department visits, NICU babies, and caesarean section rates (TX) and reducing rates of poor birth outcomes (preterm birth, stillbirth, low birthweight, neonatal death) (WI).[10,11]

Medical home models exist in both the fee-for-service and managed care, and the role that the managed care organization (MCO) plays in these programs varies from state to state. For example, in Wisconsin, MCOs oversee obstetric providers, who act as primary care medical homes for the patient and receive incentive payments based on outcomes.[10] Medical home models tend to have limited implementation, with only North Carolina's model being statewide.

## Other Models Captured

Sometimes, pregnancy medical home models are built from grant programs or other initiatives, to promote the sustainability of the initiative. In this brief, there is one grant program, the MN Integrated Care for High-Risk Pregnant Women initiative that is focused on addressing health disparities for Black birthing people and other high-risk, underserved groups. The California PRIME program, which is an incentive program designed for California's delivery hospitals to improve performance on certain quality metrics, is also included.[14]

# Methods

For the environmental scan, NORC focuses on states that have or recently have had an episode of care or pregnancy medical home model for maternal and child health. Models that were identified in MACPAC's *2020 Inventory of State Level Medicaid Policies to Improve Maternity Care and Outcomes* as "models of maternity care, beyond the ways that prenatal care, labor and delivery, and postpartum care are typically provided" were also included.[15] Fifteen (15) programs were identified to include in the analysis (Table 1); seven episode of care models, five medical home models (only one statewide model), a grant program, and an incentive-based program for delivering hospitals.

**Table 1.** Name and Type of State Medicaid Payment Models for Maternal and Child Health

| State | Name of Program | Type of Program | Status |
|---|---|---|---|
| Arkansas | Arkansas Perinatal Episode | Episode | Inactive, ended in 2021[16] |
| Arizona | Arizona Global Obstetric Bundle | Episode | Active[17] |
| California | California PRIME Program | Incentive Payment | Inactive, ended in 2020[14] |
| Colorado | Colorado Maternity Bundled Payment Program | Episode | Active[18] |
| Minnesota | Minnesota Integrated Care for High-Risk Pregnant Women (ICHRP) | Grant | Active[8] |
| North Carolina* | North Carolina Pregnancy Medical Home ("Pregnancy Management Program" as of 7/1/2021) | Medical Home | Active, but transitioned into Pregnancy Management Program 7/1/2021[19] |
| New Jersey | New Jersey Perinatal Episode of Care Program | Episode | Active (pilot program)[20] |
| Nevada | Nevada Care Management for High-Risk Pregnant Beneficiaries | Medical Home | Inactive, 1115 expired 6/30/2018[21] |
| New York | New York Maternity Care Value Based Payment Arrangement | Episode | Active[4] |
| Ohio | Ohio Perinatal Bundled Payment | Medical Home | Active[22] |
| Pennsylvania | Maternity Care Bundled Payment | Episode | Active[23] |
| Tennessee | Tennessee Perinatal Episode of Care | Episode | Active[24] |
| Texas | Texas Pregnancy Medical Home Initiative | Medical Home | Active[11] |
| Washington | Maternal Episode of Care Value-Based Payment Model | Episode | Active[25] |
| Wisconsin | Wisconsin OB Medical Home Initiative | Medical Home | Active[26] |

*North Carolina's Pregnancy Medical Home (PMH) was transitioned into the Pregnancy Management Program (PMP) effective July 1, 2021 to accommodate the state's adoption of managed care. Under PMP, "many of the guidelines [that existed under PMH] remain the same, including the continued use of the pregnancy risk screening tool and referral of high-risk pregnant women for pregnancy care management."[13] This maintaining of key PMH program features will be prioritized by the state during the first 3 years of managed care (July 2021-June 2024). Therefore, the aforementioned PMH research is still relevant to how the program exists today. However, under the PMP there is no longer an enrollment requirement or process to "opt in" for participation in the program. All providers are considered participating Pregnancy Management Program providers and will receive at a minimum, the same rate for vaginal deliveries as they do for cesarean sections.

NORC reviewed the 15 value-based payments models for focus and impact on specific maternal health considerations, including substance use disorders, postpartum depression, social determinants of health, postpartum care, and dyadic care. In addition, NORC outlined specific attributes of the models, including risk adjustments, exclusions, included provider types, accountable entities, and quality metrics.

# Findings: Maternal Health Considerations

## Substance Use Disorders

### How SUD/OUD is Addressed in Maternal Episodes of Care

Six of the 15 reviewed models included SUD/OUD in some way in their models. Considerations range from required substance use disorder (SUD)/Opioid use disorder (OUD) screening (Arizona's Global Obstetric Bundle) while others include direct interventions such as staffing requirements and mechanisms that reward entities for addressing SUD/OUD in patients. Staffing requirements are included in Pennsylvania's Maternity Care Bundled Payment wherein maternity care teams must include one staff member trained to address behavioral health and SUD needs of patients.[23] Pennsylvania's model also included the "initiation of alcohol and other drug abuse treatment," as a quality measure tied to gainsharing payments. New York's model featured a similar metric (initiation and engagement of substance use disorder treatment) as well as a tobacco screening and cessation quality measure.[27] Some models featured SUD/OUD considerations risk-sharing arrangement. For example, under Colorado's risk-sharing arrangement, episodes involving SUD were granted a higher risk-sharing threshold to account for the higher costs associated with treating SUD. New Jersey's model accounts for SUD populations by offering a SUD Participation Incentive payment to providers whose patient profile may include a considerable proportion of patients with SUD diagnoses.[3] To qualify for the SUD Participation Incentive, providers must: have at least 15 valid episodes during the performance period and be in the top 20% of all NJ FamilyCare providers serving SUD populations.

SUD prevalence is increasing and they present a substantial challenge for pregnant and postpartum people and their infants. SUD, including OUD, are a major contributing factor to pregnancy-related deaths; OUD prevalence among pregnant people has increased in the past 20 years by 400%.[28] Substance use during pregnancy and postpartum can also have serious adverse impacts on the infant. When pregnant people use opioids, their infants may develop neonatal opioid withdrawal syndrome (NOWS), which is linked to higher rates of preterm birth and neonatal intensive care unit (NICU) admissions. The range and severity of the symptoms experienced by the infant depends on a variety of factors, including the type of opioid the infant was exposed to, the timing, the dose/amount and whether the infant was exposed to multiple substances.[29] Best practice treatment for infants with NOWS is

primarily non-pharmacological (e.g., Eat, Sleep, Console) with pharmacological treatment to be considered as needed, and evaluated on a case-by-case and infant functioning basis. [30]

People with OUD often face psychosocial and environmental factors which may complicate their treatment. For example, women[ii] with OUD often have a history of sexual abuse and/or interpersonal violence (IPV), inadequate social supports, unpredictable parenting models, poor nutrition, unstable housing, and co-occurring psychiatric conditions.[29] Research shows that a combination of medication for opioid use disorder (MOUD) – such as buprenorphine or methadone - and behavioral therapy is the most effective way to treat OUD and increases the likelihood of cessation of opioid use in all populations, including postpartum people.[31] The research points to a strong need for postpartum people with OUD to have access to primary care and behavioral health services, and for those providers to coordinate with each other. Coordination of services is of the utmost importance for pregnant and postpartum people with SUD, as there are several points where a family can be lost to follow up. This makes close communication between the postpartum providers and the pediatric team particularly important. Most experts recommend a family-centered approach that is community-based to increase access and provide follow-up for the birth parent, infant, and family's evolving needs. Postpartum care must also address the birth parent's substance use management and ongoing needs assessments for the infant and their family.[32]

After people with SUD/OUD give birth they are at an increased risk of developing PPD. Up to 45% of OUD patients screen positive for PPD, and up to 40% of patients attending an opioid treatment program report having PPD.[33] These rates are compounded by co-occurring mental health disorders found in two-thirds of women with OUD.[34] Lack of sleep, stress, and caring for a newborn put this population at risk for PPD and subsequent relapse. Therefore, opportunities to identify PPD become crucial for postpartum people with a history of OUD.

Like disparities in the larger health system, there are disparities related to pregnant people and SUD/OUD. There is a stigma attached to people who are pregnant and who use substances, particularly among BIPOC. Further, systemic oppression and structural racism have left these communities without resources that could protect against adverse health outcomes in the context of SUD/OUD. Poverty, housing and food insecurity, and discrimination all contribute as social determinants of health (SDOH) for this population. Lack of access to OUD treatments like MOUD contribute to the risk of illicit drug use, resulting in increased risk of overdose or death. Treatment models for pregnant people with SUD/OUD must account for SDOH such as race and socioeconomic status and strive to reduce disparities in access to and quality of care.[35]

[ii] Gender-inclusive language will be used throughout the brief; however, some source materials may refer specifically to individuals who identify as women.

# Postpartum Depression

## How PPD is Incorporated into Maternal Episodes of Care

A consideration for postpartum depression (PPD) is included in nine out of the 15 models reviewed, most of which require screening for depression. For example, the Arizona Global Obstetric Bundle requires screening during one prenatal and one postpartum visit, and under the Pennsylvania Maternity Care Bundled Payment prenatal and postpartum depression screening and follow-up are quality measures tied to payment.[23] The Colorado Maternity Bundled Payment Program does not require screening on a timeline but does include screening in second year quality measures that are connected to payment. Furthermore, the New York Care Value Based Payment Arrangement reimburses for PPD screening under an infant's Medicaid number up to three times in the infant's first year of life.[36] Similarly, the Nevada Care Management for High-Risk Pregnant Beneficiaries model reimburses health risk assessments (which screens for PPD) performed by a licensed medical provider (i.e. physicians, special clinics, advanced practice registered nurses, and physician's assistants) for the birth parent of a covered child up one year of age.[37]

North Carolina and Wisconsin both take different approaches to maternal mental health. The North Carolina Pregnancy Management Program includes a $50 incentive payment tied to the completion of a standardized risk screening tool at each initial visit.[13] Among the items screened for include: mental illness, prenatal depression, and prior incidence of postpartum depression within patient's obstetric history.[38] A positive screening for the aforementioned conditions may prompt referral of the patient to the state's "Care Management for High-Risk Pregnancies," program and if the patient has a child, their child will be referred to the state's "Care Management for At-Risk Children," program. [13] The Wisconsin OB Medical Home Initiative includes postpartum screening as part of their home visit care coordination.[10]

The California PRIME Program does not include PPD in the model; however, licensed medical practitioners are required to "screen prenatal and postpartum patients for maternal mental health conditions."[39] Medi-Cal reimburses for these screenings even at well-child visits and reimburses up to 20 individual or group counseling visits for individuals up to 12 months postpartum.

## Postpartum Depression in Medicaid Populations

Postpartum depression (PPD) symptoms can occur at any time during the first postpartum year. Risk factors for PPD include a personal history of anxiety or depression, inadequate support caring for the baby, financial stress, marital stress, complications during pregnancy or birth, parents whose infants were in the NICU, and people with diabetes (both gestational and type 1 and 2).[40] PPD is a known disruptor to the early responsive, nurturing, and stable relationship between parent and baby, and therefore can profoundly affect the infant.

It is estimated that more than half (55 percent) of all infants in families with incomes below the poverty level are being raised by mothers with some form of depression.[41] Depression during pregnancy may contribute to adverse birth conditions such as preterm birth and low birthweight.[42] Infants being cared for by mothers who are depressed may suffer disruptions in the formation of a strong parent-child relationship, which compromises a child's early brain development.[43] Studies show that this kind of disruption can have potentially long-term implications for the child's cognitive, social, and emotional health.[44] Among a sample of very low income, largely ethnic minority mothers and infants, mothers with higher depressive symptoms at five months postpartum were associated with infants who gained less weight between 5 to 9 months, increased infant physical health concerns, and increased infant nighttime awakenings.[45] PPD decreases quality of life for mothers and reduces the likelihood of mothers engaging in safe parenting practices, affecting the dyad as a whole.[46]

Additionally, mothers who suffer from PPD are at increased risk of experiencing interpersonal violence (IPV).[47] Failing to identify and treat or provide support for people with PPD, or who are experiencing IPV, can have long-lasting damaging consequences for mother and child. Research shows that PPD remains an under recognized and undertreated condition for all low-income women, but especially for women of color.[48]

Pregnancy Risk Assessment Monitoring System (PRAMS) data has demonstrated that prevalence of postpartum depressive symptoms (PDS) is higher among Black, American Indian/Alaska Native (AIAN), and Asian/Pacific Islander birth parents and birth parents from BIPOC communities are also less likely to be asked about depression during a postpartum visit.[49] Black and Latina women and other postpartum patients are less likely to initiate postpartum mental health care and among those who initiate treatment, they are less likely to receive follow-up treatment, continue care, or refill a prescription.[48] While women of color are more likely to experience PPD, they are less likely to receive treatment. Some studies show that even when screened, Black mothers are less likely to report that they are experiencing PPD because of the fear that child welfare services will take their child or children away from them.[50] AIAN women have the highest rates of major PPD, compared to other racial/ethnic groups.[51,49,52] Research has demonstrated that PPD interventions delivered by AIAN paraprofessionals, were more effective at reducing depression, indicating the importance of culturally congruent care.[53]

## Promoting Maternal Depression Screening Under Medicaid

Promising practices to screening for PPD among states include promotion of screening tools, providing Medicaid reimbursable billing codes, and ensuring that providers know how to refer patients who have identified mental health concerns.[54] The CMCS Informational Bulletin, *Maternal Depression Screening and Treatment: A Critical Role for Medicaid in the Care of Mothers and Children*, says that states and managed care plans use a variety of methods to promote maternal depression screening among providers, including:[55]

- Posting information about maternal depression screening on provider websites and publishing information in provider newsletters.

- Delivering provider trainings to promote the use of maternal depression screening tools and proper billing codes.
- Conducting in-person visits to clinics to train providers on how to implement screenings, help practices modify clinic flow, and discuss referral strategies.
- Offering practitioners continuing medical education (CME) credits for participation.

States that elect to cover postpartum depression screening can include performance standards to ensure that the service is widely performed. Medicaid policies, including investing in data, research, and accountability for maternal health outcomes, can be implemented to continue to improve perinatal and postpartum mental health.[56] These activities are generally eligible for Medicaid matching funds.

PPD is particularly common among low-income mothers and mothers of color.[48] While PPD screenings are useful for detecting PPD, they are different from treating maternal depression. Medicaid policies have taken steps to improve PPD and related outcomes, however, there are additional opportunities for Medicaid to address gaps in screenings and care. If left untreated, postpartum depression can further exacerbate health disparities and worsen birthing outcomes for Black and American Indian/Alaska Native women and other postpartum patients.[57] PPD can result in negative maternal physical and psychological health, worsened quality of life, difficulties in social relationships, and impact mother-infant interaction (as discussed in the "Dyadic Care" section below).[58] PPD coupled with the disproportionate adverse life experiences women of color experience, and disparities in gaps in screening and treatment for mental health issues among women of different racial and ethnic backgrounds, can result in poor health outcomes for both the birth parent and baby.[59]

### There is an Opportunity to Treat more Birth Parents with PPD by Screening and Linking to Services during Well-Child Visits

Linking interventions for the birth parent to pediatric visits provides another touch point to potentially engage birth parents who have depression, especially those who may not be engaging or sharing how they are feeling in other settings. Because some postpartum people may not go to their own postpartum visits but will go to visits for their babies, it makes sense to check-in on the birth parent's health and well-being at the pediatric visit. Well-child visits happen frequently during the postpartum year, providing an opportunity to check in with the birth parent about their health and well-being.

The Bright Futures/American Academy of Pediatrics (AAP) *Recommendations for Preventive Pediatric Health Care* is a schedule of screenings and assessments that are recommended at each well-child visit.[60] Updates to 2020 recommendations include screening for maternal depression at 1-, 2-, 4-, and 6-month well-child visits. This is in accordance with 2016 CMS policy guidance that allows Medicaid agencies to cover maternal depression screening at well-child visits and mandates that states cover medically necessary treatment for the child as part of the Early and Periodic Screening, Diagnostic and Treatment (EPSDT) benefit.[61] As of 2021, 43 states and DC recommend, require, or allow[iii] maternal

[iii] 8 states require, 27 states recommend, and 9 states allow

depression screening to be provided as part of a well-child visit.[62] However, payment must be sufficient to reimburse for the time and resources necessary to deliver the service. Additionally, positive and negative screens are distinguished in claims data through a specific code or modifier in 11 states, while performance measures related to maternal or perinatal depression screening are present in at least 4 states.[62]

Treatment rates also remain low, and the absence of PPD screening and referral to treatment disproportionately impacts racial and ethnic minorities.[57] The SBIRT model, which is traditionally used to identify substance use risk, is an example of a model that is being used to raise treatment initiation rates (in the state of South Carolina). Other opportunities to reward pediatricians who screen mothers for PPD and provide appropriate interventions or referrals could also be explored.[57]

# Social Determinants of Health

## How SDOH/Health Equity is Incorporated into Maternal Episodes of Care

Nine of the 15 models reviewed address health equity: Arizona, Minnesota, New Jersey, New York, North Carolina, Pennsylvania, Washington, and Wisconsin. The Arizona Global Obstetric Bundle, New York Care Value Based Payment Arrangement, and New Jersey Perinatal Episode of Care Program stratify data collection, NCQA prenatal and postpartum care measures, and quality metrics by race and ethnicity respectively.[27] [3] The Minnesota Integrated Care for High-Risk Pregnant Woman grant program is specifically aimed at high-risk pregnancies for American Indian/Alaska Native tribes with high rates of maternal SUDs and Black/African communities with high rates of low-birth-weight babies.[63] North Carolina addresses health equity outside of the model with the Care Management for High-Risk Pregnancies, which aims care management at pregnant people with risks for adverse birth outcomes by using screenings and care coordination.[13] Washington, Pennsylvania, New York, and Wisconsin specifically call out social determinants of health in their models. In 2023, New York added a  The Washington Maternal Episode of Care Value-Based Payment Model requires a SDOH screening in order to reduce racial disparities in perinatal outcomes.[64]  The Pennsylvania Maternity Care Bundled Payment has a social determinant of health screening measure and a health equity score that are fixed to gainsharing payments.[23] The health equity score is based on five quality measures: Initiative of Alcohol and Other Drug Abuse or Dependence Treatment; Timeliness of Prenatal Care; Postpartum Care; Prenatal Immunization Status; and Well-Child Visits. Additionally, the model requires the inclusion of at least one maternity care team member who is trained to address Social Determinants of Health needs (e.g. doula, community health worker, peer recovery specialist). The Wisconsin OB Medical Home Initiative focuses on minority women and other pregnant patients with chronic conditions who are also experiencing challenges with SDOH.

**Optimizing health outcomes for pregnant and postpartum people and reducing health disparities also requires careful consideration of how the health care system can best address**

**social determinants of health (SDOH) to address the health needs of all people, particularly those from marginalized communities.**

Addressing the SDOH is essential to improving health outcomes and reducing disparities in health and healthcare. These social determinants include education, socioeconomic status, the built environment such as neighborhoods, and access to health care.[65] In response to the growing importance of SDOH, there have been increased efforts to fund initiatives to address social needs.[65] In recent years, health programs such as Medicaid have begun developing strategies to identify and address the social needs of their beneficiaries.

SDOH play a key role in the significant inequities that BIPOC birth parents and infants experience. BIPOC individuals are more likely to experience disproportionately low incomes and have unmet social needs, such as limited access to safe and affordable housing, lower-quality education, unreliable public transportation, and access to nutritious and affordable food, all of which increase the likelihood of inequitable birth outcomes and contribute to severe maternal morbidity and mortality.[i] They are also more likely to experience racism, discrimination, and differential treatment in health care settings.

Some states are beginning to explore ways that SDOH can be addressed in the context of their Medicaid program. For example, North Carolina's Healthy Opportunities Pilots program allows for $650 million in Medicaid funding over the course of five years to support evidence-based non-medical efforts to address SDOH. These needs include services related to housing, transportation, food, and interpersonal safety.[66] California's Whole Person Care Pilot Program aims to coordinate health, behavioral health, and social services through a patient-centered approach. The program targets Medicaid beneficiaries who are high healthcare users and who continue to have poor health outcomes.[67] The state invested $100 million to fund pilot programs that support individuals who are mentally unwell, experiencing homelessness, and have a medical need for housing support services.[68]

# Postpartum Care

## Postpartum Coverage and Maternity Episodes of Care

**The postpartum period is a critical period that can affect the long-term health and well-being of both the birth parent and child.**

During this period, new parents must adapt to multiple physical, social, and psychological changes, but for families whose prenatal care is covered by Medicaid, the postpartum period may be more than just a challenging time. Compared with privately insured people, people covered by Medicaid suffer from higher rates of chronic medical conditions before, during, and after pregnancy as well as higher rates of pre-term deliveries and low-birth weight (LBW) infants.[69] Postpartum depression and other mental health struggles are also a serious risk. Rates of suicidal ideation and intentional self-harm significantly increased for childbearing individuals one year before and after birth between 2006 and 2017,

especially for non-Hispanic Black individuals, low-income populations, and those with comorbid serious mental illnesses.[70]

Expanding postpartum care to 12 months will allow health care providers to help parents better address specific challenges like mental health, domestic violence, substance use, and address unmet social needs. Better access to postpartum care may improve health outcomes for birth parents, especially low-income and Black, Indigenous, and other people of color (BIPOC). This expansion is also important for addressing health equity, because lower-income Hispanic birth parents and American Indian/Alaska Native birth parents are much more likely to lose access to health insurance between the preconception and postpartum period than white non-Hispanic individuals.

The Consolidations Appropriations Act of 2023 makes the state plan option to provide 12 months of postpartum coverage permanent.[1] As of August 2023, 36 states have implemented the 12-month postpartum extension. Ten additional states are planning to implement a 12-month extension. Two states – Utah and Wisconsin – have proposed limited coverage extensions.[71] Expanding postpartum care to 12 months allows healthcare providers to help parents better address specific challenges like mental health, domestic violence, substance use, and unmet social needs.

As of August 2023, states with maternity episodes of care in this brief, except Texas and Wisconsin, have either expanded or plan to expand postpartum Medicaid coverage to 12 months. Despite this it is not yet clear how this will impact the maternity VBP models. In NORC's review, 11 out of 15 states (Arkansas[16], Arizona, Colorado, New Jersey[3], New York[4], North Carolina, Ohio[5], Tennessee, Texas, Pennsylvania[23], and Washington) had a postpartum component to their models. All these states had postpartum episodes 60 days long. This 60-day period is in line with the mandatory Medicaid postpartum continuous coverage required of all states. However, fails to make states accountable for postpartum care delivered under the new 12-month postpartum coverage extension option.

# Dyadic Care

## How State Dyadic Care is Incorporated into Maternal Episodes of Care

Only two of the 15 reviewed episode of care models address dyadic care:

The New York Maternity Care Valued Based Payment Arrangement consists of three separate episodes (the Prenatal episode, the Delivery and Postpartum episode).[27] The Newborn Episode specifically targets services provided to the newborn including inpatient nursery and/or neonatal intensive care unit stay, up to 30 days after hospital discharge. The state aims to reinforce connections between the episodes through quality metrics, which includes Depression Screening and Follow-Up for Adolescents and Adults and Exclusive Breast Milk Feeding.

In the Pennsylvania Maternity Care Bundled Payment, one of the quality measures by which providers are judged is the percentage of children who receive two or more well-child visits with a primary care physician within 60 days after birth.[23] Another quality measure is prenatal immunization status.

**Dyadic care in pregnancy and postpartum means providing or coordinating care for the birth parent and baby at the same time.**

In the field of child psychotherapy, dyadic therapy means treating the infant or young child and the parent together, focusing on the relationship between the infant and the parent, and makes particular sense in the context of a substance use disorder (SUD) or postpartum depression (PPD). Dyadic approaches have demonstrated effectiveness in treating social-emotional and behavioral problems in young children, and in treating birth parents with depression.[72] To treat the dyad, both parent and baby must receive Medicaid coverage during the postpartum year. Aligning continuous coverage for both the birth parent and newborn can improve continuous and ongoing care, and coverage transitions, for both parent and infant during and following the first year postpartum.[73]

States may bundle the first year of pediatric care with a year of postpartum care to support better care for parents and babies. This approach rests on the idea that if the postpartum parent is unwell their infant will be affected and vice versa. The primary advantage of this approach is to increase the opportunities in which parents experiencing PPD or a SUD can be identified and connected to the support and treatment they need in settings where they also receive services for their infants (e.g., well-child visits).

## Dyadic Care Medicaid Policies

Beyond state episodes, there are other state initiatives related to dyadic care that are worth reviewing. After a successful pilot in San Francisco, effective January 1, 2023, Medi-Cal requires all managed care health plans to provide dyadic behavioral health services. This new policy allows Medi-Cal beneficiaries under age 21 and their caregivers and parents to benefit from Family Therapy without a prerequisite mental health diagnosis, acknowledging the need to support and strengthen the child-parent relationship. The service benefit is intended to address children's development and behavioral health conditions and foster access to preventive care for children, developmentally appropriate parenting, and maternal mental health. These dyadic behavioral health visits are provided for the child or caregiver/ parent at medical visits. The New York State Medicaid program also expanded behavioral health benefits. Effective April 1, 2023, prevention-based individuals, group, and family therapy services can be billed, including psychotherapy without the patient present using ICD-10 code Z65.9. This policy requires all state Medicaid managed care plans to accept the ICD code.[74]

# Findings: Medicaid Payment Considerations

The table below (**Table 2**) includes Medicaid payment considerations relevant to maternal episode of care payments including risk adjustment, exclusions, included providers, accountable care entities, and quality metrics.

**Table 2**. Medicaid Payment Considerations

| State | How This Is Incorporated in State Model |
|---|---|
| | **Risk Adjustment** |
| Arkansas[75] | The Arkansas Perinatal Episode calculates risk-adjusted costs for services provided across the episode and set thresholds based on average across providers each year using 21 risk factors, that provide meaningful explanatory power for predicting cost per episode. Adjustments were made based on diabetes, hemorrhage, twin pregnancy, and prolonged labor. |
| Colorado | The Colorado Maternity Bundled Payment Program calculates separate cost thresholds for patients with SUD. |
| New Jersey[3] | In the New Jersey Perinatal Episode of Care Program, a risk score is used to calculate the risk-adjusted episode cost. The risk score is based on clinical risk factors such as OUD, premature separation of the placenta, or prior history of pre-term labor. |
| Ohio[76] | In the Ohio Perinatal Bundled Payment seventy-seven factors are used in risk adjustment including but not limited to: obesity, previous caesarean section, sexually transmitted infections, and anemia. |
| | **Exclusions** |
| Arizona | The first three antepartum E/M visits, laboratory tests, maternal or fetal echography procedures, amnioinfusion, amniocentesis (any method), chronic villus sampling, fetal contraction stress test, fetal non-stress test, external cephalic version, insertion of cervical dilator more than 24 hour before delivery, E/M services unrelated to the pregnancy during antepartum or postpartum care or for complications or high risk monitoring exceeding 13 visits, inpatient E/M services provided more than 24 hours before delivery, and management of surgical problems arising during pregnancy and non-global OB care or partial services |

| State | How This Is Incorporated in State Model |
|---|---|
| Arkansas[2] | Episodes meeting one or more of the following criteria excluded: Limited prenatal care (i.e., pregnancy-related claims) provided between start of episode and 60 days prior to delivery; delivering provider did not provide any prenatal services; episode has no professional claim for delivery; pregnancy-related conditions: amniotic fluid embolism, obstetric blood clot embolism, placenta previa, severe preeclampsia, multiple gestation ≥3, late effect complications of pregnancy/childbirth, puerperal sepsis, suspected damage to fetus from viral disease in the pregnant parent, cerebrovascular disorders; and comorbidities: cancer, cystic fibrosis, congenital cardiovascular disorders, DVT/pulmonary embolism, other phlebitis and thrombosis, end-stage renal disease, sickle cell, Type I diabetes. |
| Colorado | Dual-eligible individuals, episodes which ended in maternal death, high cost outliers due to pregnancy-related complications attributable to age or comorbidities |
| New York[4] | Following are excluded: deliveries resulting in the death of the birth parent are excluded, along with the associated prenatal care and care for the surviving newborn; deliveries resulting in stillborn or multiple live births; Medicaid members for whom Medicaid is not the sole payer (i.e. dually eligible populations); and members eligible for inclusion under a different VBP subpopulation arrangement (e.g. HIV/AIDS, Health and Recovery Plan (HARP), Managed Long Term Care (MLTC), or Intellectually/Developmentally Disabled (I/DD) VBP Subpopulation Arrangements) |
| Ohio[77] | Business exclusions include: Members under 12 years old and over 49 years old; or members with multiple payers, third party liability, inconsistent enrollment; PAP out of State, no PAP, dual eligibility, long-term care, long hospitalization, missing APR-DRG, missing indicated facility, and incomplete episodes.<br>Clinical exclusions: Members with any of 8 clinical factors; members with unusually large number of comorbidities; and members who left treatment against medical advice or died.<br>High-cost outliers: Episode's risk-adjusted spend is 3 standard deviations above the mean |
| Pennsylvania[23] | Pregnancy exclusions: non-singleton births; Service exclusions: Contraceptive care, including placement of a long-acting reversible contraception. |
| Tennessee | High-risk, high-cost pregnancy episodes, dual-eligible individuals, births attributed to those of very old or young age |
| Wisconsin | This model prioritized the most high-risk individuals and those who do not meet the criteria are excluded. |
| **Included Providers** | |
| Minnesota | Involves the use of a care team, doulas |
| Nevada | Involves the use of a care team |

| State | How This Is Incorporated in State Model |
|---|---|
| New York[4] | Each component of the Maternity Care VBP Arrangement includes services provided by "physicians, midwives, and ancillary providers delivering care to mothers and newborns across multiple settings during a defined period." |
| Pennsylvania[23] | MCO network providers that partake in the Maternity Care Bundled Payment program must be a part of a "maternity care team." Providers under this team include: a clinician (physician, certified registered nurse practitioner (CRNP), certified nurse midwife (CNW), or other who is qualified to assist with vaginal delivery; a clinician who is qualified or licensed to provide newborn services; and an individual (ex. doula, community health worker, social worker, or peer recovery specialist) who is equipped to tend to the patient's behavioral/mental health and SDOH needs. |
| Texas | Involve the use of a care team |
| Wisconsin | Requires an OB provider to serve as the "team leader," and point of contact for the patient and all other providers working with the patient. The OB provider must be a physician, nurse, midwife, nurse practitioner, or physician assistant with specialty in obstetrics who provides prenatal care and performs deliveries. The care team must also include at minimum a care coordinator and the patient's primary care physician. |
| **Accountable Care Entities** | |
| Arkansas[2] | Care teams, individual providers<br>Incentive Type: Up and downside<br>Payment tied to costs and process measures; risk factors<br>Commendable Threshold: $<3,245<br>Risk sharing: $>$3,852 |
| Arizona | Individual providers<br>Incentive Type: Not identified<br>Payment tied to costs, services<br>Commendable Threshold: Not identified<br>Risk sharing: Not identified |
| California[78] | Public hospitals |

| State | How This Is Incorporated in State Model |
|---|---|
| Colorado | Individual providers, the proportion of elective deliveries and cesarean-section births is tied to payment<br>Incentive Type: Up ad downside<br>Payment tied to costs, process, outcomes and structural measures<br>Commendable Threshold: <$7,438.79 (<$7,791.41 SUD)<br>Risk sharing: >$7,652.03 (>$8,131.20 SUD) |
| Minnesota | Individual providers |
| Nevada | Care teams |
| New Jersey[3] | Group practices, individual providers<br>Incentive Type: Upside only<br>Payment tied to costs, processes and outcome measures<br>Commendable Threshold: Those who reduce their average risk-adjusted spend by >3% relative to their baseline threshold<br>Risk sharing: Currently the program does not include downside risk |
| New York[27] | Individual providers<br>Incentive Type: Not identified<br>Payment tied to: Not identified<br>Commendable Threshold: Not identified<br>Risk sharing: Not identified |
| North Carolina | Individual providers |
| Ohio[79] | Group practices, individual providers<br>Incentive Type: Up and downside<br>Payment tied to costs, process, and outcome measures<br>Commendable Threshold: <$3,364<br>Risk sharing: >$4,731 |

| State | How This Is Incorporated in State Model | |
|---|---|---|
| Pennsylvania[23] | Care teams must report on implementation of processes such as postpartum depression screening and follow-up, delivery of timely prenatal care, and initiation of alcohol and drug abuse or dependence treatment. Performance on these measures is tied to the proportion of shared savings the team receives as an incentive payment.<br>Incentive Type: Upside<br>Payment tied to cost savings and process measures<br>Commendable Threshold: Not identified<br>Risk sharing: Not identified | |
| Tennessee | Individual providers<br>Incentive Type: Up and downside<br>Payment tied to cost, process, and outcome measures<br>Commendable Threshold: <$5,005<br>Risk sharing: >$8,150 | |
| | **Quality Metrics** | |
| Arkansas Perinatal Episode[16] | Quality Metrics Connected to Payment: | Screening for HIV, Group B streptococcus and chlamydia |
| | Number of Quality metrics Connected to payment: | 3; an additional 15 measures are tracked but not tied to payment |
| | Program impact on quality metrics: | The chlamydia screening rate increased over time while the Group B strep screening stayed the same and HIV screening decreased. |
| Arizona Global Obstetric Bundle | Quality Metrics Connected to Payment: | Percentage of deliveries of live births between 56 before the measurement period that had a postpartum visit on or between 21 and 56 days after delivery<br>Percent of deliveries of live births between 56 prior to the measurement that had a prenatal care visit in the first trimester or within 42 days of enrollment |
| | Number of Quality Metrics Connected to Payment: | 2 |

| State | How This Is Incorporated in State Model | |
|---|---|---|
| | Program Impact on Quality Metrics | None documented |
| California PRIME Program[14 78] | Quality Metrics Connected to Payment: | Prenatal and postpartum care, C-section rates, Exclusive in-hospital breastfeeding rates, Breast Friendly Certification |
| | Number of Quality Metrics Connected to Payment: | 4 |
| | Program Impact on Quality Metrics | Data from the first three years of the PRIME program showed that prenatal and postpartum care improved along with c-section rates and breastfeeding rates. Mixed results were seen for hemorrhage and unexpected newborn complications. |
| Colorado Maternity Bundled Payment Program | Quality Metrics Connected to Payment: | Prenatal behavioral risk assessment, PPD screening, caesarean birth, postpartum contraceptive care and elective delivery |
| | Number of Quality Metrics Connected to Payment: | 6 |
| | Program Impact on Quality Metrics | None documented |
| Minnesota Integrated Care for High-Risk Pregnant Women | Quality Metrics Connected to Payment: | N/A |
| | Number of Quality Metrics Connected to Payment: | 0 |
| | Program Impact on Quality Metrics | The program successfully improved early identification of women with psychosocial and behavioral health risks, reduced the number of newborns testing positive for exposure to illicit substances, improved effectiveness of interventions to reduce risk factors related to low birth weight and increased use of community health workers, doulas, care navigators and peer support specialists in connections to supports and services. |

| State | How This Is Incorporated in State Model | |
|---|---|---|
| North Carolina Pregnancy Management Program | Quality Metrics Connected to Payment: | Lump sum payments are tied to completion of standardized risk screening and delivery of comprehensive postpartum visit between 14 and 60 days after birth. Additional quality measures for reporting include patients who initiate prenatal care in the first trimester, patients who receive tobacco cessation during pregnancy if they screen for current tobacco use, live birth where the infant weighed less than 1500 or 2500 grams, patients with a paid claim for a contraceptive method within 60 days after birth. |
| | Number of Quality Metrics Connected to Payment: | 2; additional quality measures for patients who initiative prenatal care in the first trimester, patients who receive tobacco cessation; live low birth rate; patients with a paid claim for contraception 60 days postpartum |
| | Program Impact on Quality Metrics | In 2015, a 6.7% decrease in low-birth-weight babies was documented for years 2011-2014 of the program. |
| New Jersey Perinatal Episode of Care Program[3] | Quality Metrics Connected to Payment: | Participating providers will be assessed on five payment quality metrics that inform incentive payments – prenatal depression screening, gestational diabetes screening, delivery mode (vaginal delivery for low-risk births), postpartum visit within 3 weeks of discharge, and neonatal visit within 5 days discharge. |
| | Number of Quality Metrics Connected to Payment: | 5; additional quality metrics are informational-only and not tied to any financial payments |
| | Program Impact on Quality Metrics | None documented |
| Nevada Care Management for High-Risk Pregnant Beneficiaries | Quality Metrics Connected to Payment: | Pay-for-Performance incentive for cost savings, improved quality of care, and improved health outcomes. Additionally, there are condition-specific quality measures for each CMO Chronic Condition. |
| | Number of Quality Metrics Connected to Payment: | 3; additional condition-specific quality measures for chronic conditions |
| | Program Impact on Quality metrics: | None documented |

| State | How This Is Incorporated in State Model | |
|---|---|---|
| New York[27] | Quality Metrics Connected to Payment: | 1. Contraceptive Care – Postpartum (P4R), 2. C-Section for Nulliparous Singleton Term Vertex (PFR), 3. Depression Screening and Follow-Up for Adolescents and Adults (PFR), 4. Exclusive Breast Milk Feeding (PFR), 5. Incidence of Episiotomy (PFR), 6. Initiation and Engagement of Substance Use Disorder Treatment (PFP), 7. Low Birth Weight, 8. Percentage of Preterm Births (PFR), 9. Prenatal and Postpartum Care (PFP) 10. Preventive Care and Screening: Tobacco Use: Screening and Cessation Intervention (PFR) |
| | Number of Quality Metrics Connected to Payment: | 10; Pay for Performance (PFP) metrics based on the strength contractor's of outcomes while Pay for Reporting (PFR) based upon the timeliness, accuracy, and completeness of the reporting on the metric. |
| | Program Impact on Quality metrics: | None documented |
| North Carolina Pregnancy Medical Home | Program Impact on Quality metrics: | From 2011-2015 found a 6.7 percent decrease in the rate of low birthweight babies in the Medicaid population, however, it should be noted that this reduction was for all Medicaid-covered births and cannot specifically be attributed to the pregnancy medical home entirely.[12] |
| Ohio Perinatal Bundled Payment[76] | Quality Metrics Connected to Payment: | Prenatal HIV screening rate, Prenatal GBS screening rate, C-section rate, Percent of episodes with follow-up visit within 60 days |
| | Number of Quality Metrics Connected to Payment: | 4 |
| | Program Impact on Quality metrics: | None documented |
| Pennsylvania Maternity Bundle Payment[23] | Quality metrics connected to payment: | Social Determinants of Health Screening, Initiation of Alcohol or Other Drug Abuse or Dependence Treatment, Timeliness of Prenatal Care, Postpartum care, Prenatal Depression Screening, Prenatal Depression Screening Follow-Up, Postpartum Depression Screening, Postpartum Depression Screening Follow-Up, Prenatal Immunization Status, Well-Child Visits |
| | Number of Quality Metrics Connected to Payment: | 10; additional quality measures are reported by MCO and Joint Commission Accredited Hospitals for informational purposes but are not tied to payment |

| State | How This Is Incorporated in State Model | |
|---|---|---|
| | Program Impact on Quality metrics: | None documented |
| Tennessee Perinatal Episode of Care | Quality metrics connected to payment: | Screening for HIV, Screening for Group B streptococcus, C-section |
| | Number of Quality Metrics Connected to Payment: | 3; additional quality measures collected for informational purposes but not tied to payment |
| | Program Impact on Quality metrics: | |
| Wisconsin OB Medical Home Initiative[80] | Quality metrics connected to payment: | The Department of Health Services will pay an additional $1,000 to the HMO for each positive birth outcome. While the Department of Health Services does not define a positive birth outcome in the contract language, they define a poor outcome as<br>Preterm birth, Low birth weight, Neonatal death, or stillbirth |
| | Number of Quality Metrics Connected to Payment: | 7 |
| | Program Impact on Quality metrics: | The rate for poor birth outcomes decreased from 18% in 2011 to 13% in 2012. The rate was unchanged from 2012 to 2013. The model also caused an increased in postpartum care visits. |

# References

1. Park, E., Dwyer, A., Brooks, T., Clark, M., & Alker, J. (2023, January 5). Consolidated Appropriations Act, 2023: Medicaid and CHIP Provisions Explained. *Georgetown University McCourt School of Public Policy Center For Children and Families*. https://ccf.georgetown.edu/2023/01/05/consolidated-appropriations-act-2023-medicaid-and-chip-provisions-explained/

2. Arkansas Department of Human Services. (n.d.). *Arkansas Provider Manual—SECTION II - EPISODES OF CARE CONTENTS*. https://humanservices.arkansas.gov/wp-content/uploads/EPISODE_II.doc

3. NJ FamilyCare. (2023). *NJ FamilyCare Perinatal Episode of Care Pilot: Performance Period 2 Guide for Participating Providers.* https://www.state.nj.us/humanservices/dmahs/info/2023-06-09_NJPEOC_PP2_Guide.pdf

4. New York State Department of Health. (2018, February). *Maternity Care Value Based Payment Arrangement.* https://www.health.ny.gov/health_care/medicaid/redesign/dsrip/vbp_library/2018/2018-02-09_maternity.htm

5. The MITRE Corporation. (2018) *Establishing Maternity Episode of Payment Models: Experiences from Ohio and Tennessee* https://hcp-lan.org/workproducts/mac/Establishing-Maternity-Episode-Payment-Models.pdf

6. Presidential Task Force on Redefining the Postpartum Visit, Committee on Obstetric Practice (2018, May). *Optimizing Postpartum Care.* ACOG. https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2018/05/optimizing-postpartum-care

7. CDC. (2023, March 16). *Maternal Mortality Rates in the United States, 2021.* https://www.cdc.gov/nchs/data/hestat/maternal-mortality/2021/maternal-mortality-rates-2021.htm

8. Solomon, J. (2021, July 26). *Closing the Coverage Gap Would Improve Black Maternal Health.* Center on Budget and Policy Priorities. https://www.cbpp.org/research/health/closing-the-coverage-gap-would-improve-black-maternal-health

9. Maternal & Infant Health Care Quality | Medicaid.gov (n.d.). https://www.medicaid.gov/medicaid/quality-of-care/quality-improvement-initiatives/maternal-infant-health-care-quality/index.html

10. Agrawal, A. (2017, September). *Case Study: Wisconsin's Obstetric Medical Home Program Promotes Improved Birth Outcomes.* National Academy for State Health Policy. https://nichq.org/sites/default/files/inline-files/Wisconsin-Case-Study.pdf

11. Texas Health and Human Services Commission. (2021, January). *Progress Report on Maternal Teleservices and Pregnancy Medical Home Pilot Programs.*

https://www.hhs.texas.gov/sites/default/files/documents/laws-regulations/reports-presentations/2021/maternal-teleservices-pregnancy-med-home-pilot-prgms-jan-2021.pdf

12. Medicaid and CHIP Payment and Access Commission (2021, September). *North Carolina Pregnancy Medical Home.* https://www.macpac.gov/wp-content/uploads/2021/09/North-Carolina-Pregnancy-Medical-Home.pdf

13. North Carolina Department of Health and Human Services, Division of Health Benefits. (2021, May 12). *Program Guide: Management of High-Risk Pregnancies and At-Risk Children in Managed Care.* https://medicaid.ncdhhs.gov/program-guide-care-management-high-risk-pregnancies-and-risk-children-managed-care/download?attachment

14. Centers for Medicare & Medicaid Services, California Health and Human Services Agency (2018, April 5). *California Medi-Cal 2020 Demonstration*. https://www.dhcs.ca.gov/provgovpart/Documents/Medi-Cal-2020-STCs-CMS-amended-6.7.18 .pdf

15. Mathematica. (2020, March). *Inventory of State-Level Medicaid Policies, Programs, and Initiatives to Improve Maternity Care and Outcomes.* MACPAC. https://www.macpac.gov/publication/inventory-of-state-level-medicaid-policies-programs-and-initiatives-to-improve-maternity-care-and-outcomes/

16. Medicaid and CHIP Payment and Access Commission (2021, September). *Arkansas Perinatal Episode of Care.* MACPAC. https://www.macpac.gov/publication/arkansas-perinatal-episode-of-care/

17. AHCCCS. (2022). *AHCCCS CONTRACTOR OPERATIONS MANUAL 310—DELIVERY SUPPLEMENTAL PAYMENT.* https://www.azahcccs.gov/shared/Downloads/ACOM/PolicyFiles/300/310DeliverySupplementPayment.pdf

18. Colorado Department of Health Care Policy & Financing. (2021). *Bundled Payments.* https://hcpf.colorado.gov/bundled-payments

19. North Carolina Medicaid Division of Health Benefits. (2021, October 19). *Pregnancy Medical Home Transitioned to Pregnancy Management Program.* https://medicaid.ncdhhs.gov/blog/2021/10/19/pregnancy-medical-home-transitioned-pregnancy-management-program

20. State of New Jersey Department of Human Services. (2022). *Perinatal Episode of Care Pilot.* https://www.nj.gov/humanservices/dmahs/info/perinatalepisode.html

21. *Nevada Comprehensive Care Waiver | Medicaid*. (2020). https://www.medicaid.gov/medicaid/section-1115-demo/demonstration-and-waiver-list/82491

22. Ohio Department of Medicaid (2023, March). *Episodes References Guides* https://medicaid.ohio.gov/static/Providers/PaymentInnovation/Episodes/Episode-Ref.pdf

23. Pennsylvania Department of Human Services. (2023). *2023 HealthChoices Agreement including Exhibits and Non-financial Appendices* https://www.dhs.pa.gov/HealthChoices/HC-

Services/Documents/2023%20HealthChoices%20Agreement%20including%20Exhibits%20and%20Non-financial%20Appendices.pdf

24. Division of TennCare. (n.d.). *Episodes of Care*. Division of TennCare. https://www.tn.gov/tenncare/health-care-innovation/episodes-of-care.html

25. Washington Health Care Authority. (2022). *Maternal care model.* Washington Health Care Authority. https://www.hca.wa.gov/about-hca/programs-and-initiatives/clinical-collaboration-and-initiatives/maternal-care-model

26. ForwardHealth (2023.). *Contracts.* ForwardHealth. https://www.forwardhealth.wi.gov/WIPortal/content/Managed%20Care%20Organization/Contracts/Home.htm.spage

27. New York Department of Health. (2023, February 16). *Maternity Care Value Based Payment Quality Measure Set Measurement Year 2023.* *https://www.health.ny.gov/health_care/medicaid/redesign/vbp/quality_measures/2023/docs/maternity_qms.pdf*

28. Normile, B., Hanlon, C., & Eichner, H. (n.d.). *State Options for Promoting Recovery among Pregnant and Parenting Women with Opioid or Substance Use Disorder*.

29. *Sma16-4978.pdf*. (n.d.). Retrieved August 23, 2023, from https://store.samhsa.gov/sites/default/files/d7/priv/sma16-4978.pdf

30. Evaluation (ASPE), A. S. for P. and. (2022, February 3). *HHS Announces New Reports and Grant Program Addressing the Health Needs of Pregnant Women and Children Affected by Substance Use* [Text]. HHS.Gov. https://www.hhs.gov/about/news/2022/02/03/hhs-announces-new-reports-grant-program-addressing-health-needs-pregnant-women-children-affected-substance-use.html

31. *ED491569.pdf*. (n.d.). Retrieved August 25, 2023, from https://files.eric.ed.gov/fulltext/ED491569.pdf

32. *Neonatal Abstinence Syndrome: How States Can Help Advance the Knowledge Base for Primary Prevention and Best Practices of Care*. (n.d.). Healthy Start EPIC Center. Retrieved August 25, 2023, from https://healthystartepic.org/resources/evidence-based-practices/neonatal-abstinence-syndrome-how-states-can-help-advance-the-knowledge-base-for-primary-prevention-and-best-practices-of-care/

33. Harter, K. (2019). Opioid use disorder in pregnancy. *The Mental Health Clinician*, *9*(6), 359–372. https://doi.org/10.9740/mhc.2019.11.359

34. Benningfield, M. M., Arria, A. M., Kaltenbach, K., Heil, S. H., Stine, S. M., Coyle, M. G., Fischer, G., Jones, H. E., & Martin, P. R. (2010). Co-occurring psychiatric symptoms are associated with increased psychological, social, and medical impairment in opioid dependent pregnant women. *The American Journal on Addictions*, *19*(5), 416–421. https://doi.org/10.1111/j.1521-0391.2010.00064.x

35. *Health Equity & Reproductive Justice: Transforming Perinatal Care Now*. (n.d.). Retrieved August 25, 2023, from https://info.primarycare.hms.harvard.edu/review/transforming-perinatal-care

36. *New York State Medicaid Update—August 2016 Volume 32—Number 8*. (n.d.). Retrieved August 25, 2023, from https://www.health.ny.gov/health_care/medicaid/program/update/2016/2016-08.htm#postpartum

37. *Postpartum Depression Screenings as part of a Healthy Kids EPSDT Exam.pdf*. (n.d.). Retrieved August 25, 2023, from https://dpbh.nv.gov/uploadedFiles/dpbhnvgov/content/Providers/Postpartum%20Depression%20Screenings%20as%20part%20of%20a%20Healthy%20Kids%20EPSDT%20Exam.pdf

38. *Pregnancy Risk Screening Form*. (n.d.). Retrieved August 25, 2023, from https://medicaid.ncdhhs.gov/pregnancy-risk-screening-form-english/download?attachment

39. Commonwealth Fund & Center for Health Care Strategies. (2020). *State Policies to Improve Maternal Health Outcomes DATASET*. https://www.commonwealthfund.org/sites/default/files/2020-11/State_Policies_to_Improve_Maternal_Health_Outcomes_DATASET.xlsx

40. *Depression During Pregnancy & Postpartum*. (n.d.). Postpartum Support International (PSI). Retrieved August 25, 2023, from https://www.postpartum.net/learn-more/depression/

41. Vericker, T., Macomber, J., & Golden, O. (2010). *Infants of Depressed Mothers Living in Poverty: Opportunities to Identify and Serve: (690322011-001)* [dataset]. https://doi.org/10.1037/e690322011-001

42. Simonovich, S. D., Nidey, N. L., Gavin, A. R., Piñeros-Leaño, M., Hsieh, W.-J., Sbrilli, M. D., Ables-Torres, L. A., Huang, H., Ryckman, K., & Tabb, K. M. (2021). Meta-Analysis Of Antenatal Depression And Adverse Birth Outcomes In US Populations, 2010–20: Study is a meta-analysis of antenatal depression and adverse birth outcomes in the US, 2010–20. *Health Affairs*, *40*(10), 1560–1565. https://doi.org/10.1377/hlthaff.2021.00801

43. Newman, L., Sivaratnam, C., & Komiti, A. (2015). Attachment and early brain development – neuroprotective interventions in infant–caregiver therapy. *Translational Developmental Psychiatry*, *3*(1), 28647. https://doi.org/10.3402/tdp.v3.28647

44. Winston, R., & Chicot, R. (2016). The importance of early bonding on the long-term mental health and resilience of children. *London Journal of Primary Care*, *8*(1), 12–14. https://doi.org/10.1080/17571472.2015.1133012

45. Gress-Smith, J. L., Luecken, L. J., Lemery-Chalfant, K., & Howe, R. (2012). Postpartum Depression Prevalence and Impact on Infant Health, Weight, and Sleep in Low-Income and Ethnic Minority Women and Infants. *Maternal and Child Health Journal*, *16*(4), 887–893. https://doi.org/10.1007/s10995-011-0812-y

46. *Expanding Postpartum Medicaid Benefits To Combat Maternal Mortality And Morbidity | Health Affairs*. (n.d.). Retrieved August 25, 2023, from https://www.healthaffairs.org/content/forefront/expanding-postpartum-medicaid-benefits-combat-maternal-mortality-and-morbidity

47. Women Who Experience Intimate Partner Violence and Prenatal and/or Postpartum Depression: Prevalence and Interventions. (n.d.). *NCDVTMH*. Retrieved August 25, 2023, from https://ncdvtmh.org/resource/women-who-experience-intimate-partner-violence-and-prenatal-and-or-postpartum-depression-prevalence-and-interventions/

48. 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*, *62*(6), 619–625. https://doi.org/10.1176/ps.62.6.pss6206_0619

49. Bauman, B. L. (2020). Vital Signs: Postpartum Depressive Symptoms and Provider Discussions About Perinatal Depression — United States, 2018. *MMWR. Morbidity and Mortality Weekly Report*, *69*. https://doi.org/10.15585/mmwr.mm6919a2

50. *Black Mothers Get Less Treatment For Postpartum Depression Than Other Moms | KFF Health News*. (n.d.). Retrieved August 25, 2023, from https://kffhealthnews.org/news/black-mothers-get-less-treatment-for-postpartum-depression-than-other-moms/

51. Ko, J. Y., Rockhill, K. M., Tong, V. T., Morrow, B., & Farr, S. L. (2017). Trends in Postpartum Depressive Symptoms—27 States, 2004, 2008, and 2012. *MMWR. Morbidity and Mortality Weekly Report*, *66*(6), 153–158. https://doi.org/10.15585/mmwr.mm6606a1

52. *Postpartum Depression: Racial Differences and Ethnic Disparities*. (n.d.). Medscape. Retrieved August 25, 2023, from https://www.medscape.com/viewarticle/581579

53. Ginsburg, G. S., Barlow, A., Goklish, N., Hastings, R., Baker, E. V., Mullany, B., Tein, J.-Y., & Walkup, J. (2012). Postpartum Depression Prevention for Reservation-Based American Indians: Results from a Pilot Randomized Controlled Trial. *Child & Youth Care Forum*, *41*(3), 229–245. https://doi.org/10.1007/s10566-011-9161-7

54. *PF_Reimbursement-Efforts-to-Address-Depression-Among-Pregnant-and-Postpartum-Women.pdf*. (n.d.). Retrieved August 25, 2023, from https://cdphe.colorado.gov/sites/cdphe/files/PF_Reimbursement-Efforts-to-Address-Depression-Among-Pregnant-and-Postpartum-Women.pdf

55. *Maternal Depression Screening and Treatment: A Critical Role for Medicaid in the Care of Mothers and Children*. (n.d.). Retrieved August 25, 2023, from https://www.medicaid.gov/sites/default/files/Federal-Policy-Guidance/Downloads/cib051116.pdf

56. Moore, J. E., McLemore, M. R., Glenn, N., & Zivin, K. (2021). Policy Opportunities To Improve Prevention, Diagnosis, And Treatment Of Perinatal Mental Health Conditions: Study examines policy opportunities to improve prevention, diagnosis, and treatment of perinatal mental health. *Health Affairs*, *40*(10), 1534–1542. https://doi.org/10.1377/hlthaff.2021.00779

57. Lindsay.Capozzi. (2021, July 14). *Addressing Postpartum Depression in Pediatric Settings* [Text]. https://policylab.chop.edu/policy-briefs/addressing-postpartum-depression-pediatric-settings

58. Slomian, J., Honvo, G., Emonts, P., Reginster, J.-Y., & Bruyère, O. (2019). Consequences of maternal postpartum depression: A systematic review of maternal and infant outcomes. *Women's Health*, *15*, 174550651984404. https://doi.org/10.1177/1745506519844044

59. Women of Color and Mental Health: From Silence to Solutions for Success and Resilience. (2017, November 17). *Center for American Progress*. https://www.americanprogress.org/events/women-color-mental-health-silence-solutions-success-resilience/

60. *Practice Management*. (n.d.). Retrieved August 27, 2023, from https://www.aap.org/en/practice-management/

61. Wyckoff, A. S., & Editor, A. (2016). *Ruling on Medicaid coverage of maternal depression screening a 'victory' for children*. https://publications.aap.org/aapnews/news/13444/Ruling-on-Medicaid-coverage-of-maternal-depression

62. *Maternal-Depression-Fact-Sheet.pdf*. (n.d.). Retrieved August 27, 2023, from https://nashp.org/wp-content/uploads/2019/01/Maternal-Depression-Fact-Sheet.pdf

63. *Legislative Report*. (2019).

64. Washington State Health Care Authority (Director). (2023, March 30). *Improving Perinatal Outcomes: Next phase for HCA's maternal care model*. https://www.youtube.com/watch?v=QXEqwRvtlUU

65. *Medicaid Authorities and Options to Address Social Determinants of Health (SDOH) | KFF*. (n.d.). Retrieved August 27, 2023, from https://www.kff.org/medicaid/issue-brief/medicaid-authorities-and-options-to-address-social-determinants-of-health-sdoh/

66. Hinton, E., Musumeci, M., & 2019. (2019, May 15). A First Look at North Carolina's Section 1115 Medicaid Waiver's Healthy Opportunities Pilots. *KFF*. https://www.kff.org/medicaid/issue-brief/a-first-look-at-north-carolinas-section-1115-medicaid-waivers-healthy-opportunities-pilots/

67. Services, D. of H. C. (n.d.). *Whole Person Care Pilots*. Retrieved August 25, 2023, from https://www.dhcs.ca.gov/services/Pages/WholePersonCarePilots.aspx

68. Kent, J., & Newsom, G. (n.d.). *Department of Health Care Services*.

69. Ranji, U., Gomez, I., & 2021. (2021, March 9). Expanding Postpartum Medicaid Coverage. *KFF*. https://www.kff.org/womens-health-policy/issue-brief/expanding-postpartum-medicaid-coverage/

70. Admon, L. K., Dalton, V. K., Kolenic, G. E., Ettner, S. L., Tilea, A., Haffajee, R. L., Brownlee, R. M., Zochowski, M. K., Tabb, K. M., Muzik, M., & Zivin, K. (2021). Trends in Suicidality 1 Year Before and After Birth Among Commercially Insured Childbearing Individuals in the United States, 2006-2017. *JAMA Psychiatry*, *78*(2), 171. https://doi.org/10.1001/jamapsychiatry.2020.3550

71. Kaiser Family Foundation. (2023, July 20). *Medicaid Postpartum Coverage Extension Tracker*. https://www.kff.org/medicaid/issue-brief/medicaid-postpartum-coverage-extension-tracker/

72. *Dyadic Treatment – NCCP*. (n.d.). Retrieved August 27, 2023, from https://www.nccp.org/dyadic-treatment/

73. *Chapter 2: Advancing Maternal and Infant Health by Extending the Postpartum Coverage Period*. (2021).

74. Institute for Medicaid Innovation. (2023). *Innovation in Perinatal and Child Health in Medicaid: Investing the Prenatal-to-Three Framework to Support Communities and Advance Equity*. https://medicaidinnovation.org/wp-content/uploads/2023/04/IMI-2023-Innovation-in-Perinatal-and-Child-Health-in-Medicaid-FINAL.pdf

75. Heberlein, M. (n.d.). *Arkansas Perinatal Episode of Care*.

76. *Patient Journey: Perinatal Episode.pdf*. (n.d.). Retrieved August 25, 2023, from https://medicaid.ohio.gov/static/Providers/PaymentInnovation/DEF/Perinatal.pdf

77. *Perinatal Episode of Care Pilot*. (n.d.). New Jersey Department of Human Services Division of Medical Assistance and Health Sciences. Retrieved August 15, 2023, from https://www.nj.gov/humanservices/dmahs/info/perinatalepisode.html

78. Pourat, N., Martinez, A. E., Tieu, L., Huynh, M. P., Chen, X., Needleman, J., & Warrick, A. (n.d.). *Preliminary Summative Evaluation of California's Public Hospital Redesign and Incentives in Medi-Cal (PRIME) Program*.

79. *Perinatal-Thresholds.pdf*. (n.d.). Retrieved August 25, 2023, from https://medicaid.ohio.gov/static/Providers/PaymentInnovation/Threshold/Perinatal-Thresholds.pdf

80. ForwardHealth Wisconsin Department of Health Services. (2016). *2016-2017 BadgerCare Plus and Medicaid SSI HMO Contract Language—Obstetric Medical Home Initiative (OB MH) for High-Risk Pregnant Women*. https://www.forwardhealth.wi.gov/WIPortal/content/Managed%20Care%20Organization/OBMH/2016-2017HMO_Contract_Language.pdf.spage