

Chapter 5:

Medicaid's Role in Maternal Health

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Key Points

- Approximately 700 women die annually as a result of pregnancy or related complications, which can occur during pregnancy, at birth, and in the postpartum period. Potentially life-threatening complications are increasing, as are the rates of preterm and low-birthweight infants. Women of color have significantly higher rates of maternal morbidity and mortality.
- Medicaid plays a key role in providing maternity-related services for pregnant women, financing more than 40 percent of births in 2018. Medicaid paid for a greater share of births in rural areas, among young women, among women with lower levels of educational attainment, and among Hispanic, African American, and American Indian and Alaska Native women.
- Compared to privately insured women, pregnant women covered by Medicaid have higher rates of severe maternal morbidity and mortality and are more likely to have certain pregnancy risk factors, such as obesity and a history of smoking.
- States are required to provide Medicaid coverage for pregnant women with incomes at or below 133 percent of the federal poverty level; such coverage must extend for 60 days postpartum. Although the vast majority of states provide full Medicaid benefits to all pregnant women, five states (Arkansas, Idaho, New Mexico, North Carolina, and South Dakota) cover only pregnancy-related services.
- Medicaid programs are taking steps to improve maternal outcomes. These include adopting policies to expand eligibility and simplify enrollment; offering education and outreach materials to beneficiaries and providers; enhancing covered benefits; implementing alternative models of care and payment arrangements; and building quality improvement and performance measurement into managed care contracting.
- The Centers for Medicare & Medicaid Services (CMS) has also focused efforts on improving outcomes for pregnant women, including two grant opportunities—Strong Start for Mothers and Newborns and the Maternal Opioid Misuse (MOM) model—under the aegis of the Center for Medicare and Medicaid Innovation. CMS has also provided several technical assistance opportunities to states and, more recently, has focused its attention on maternal health in rural areas.
- The Commission will continue to focus on Medicaid mechanisms to address poor maternal and infant health outcomes over the next report cycle. Future work will focus on the use of value-based purchasing, access to maternity providers, family planning services, and postpartum coverage.

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Although most births occur without adverse outcomes, poor maternal and infant outcomes are on the rise. Approximately 700 women die annually as a result of pregnancy or related complications, with such deaths occurring over the course of pregnancy and in the postpartum period (CDC 2019a, Petersen et al. 2019a). At least 50,000 women experience serious complications during birth (Creanga et al. 2014). Additionally, poor infant outcomes, including preterm births and low-birthweight infants, are increasing (Martin et al. 2019). Significant racial and ethnic disparities also exist, with black and American Indian and Alaska Native women having higher pregnancy-related death rates (Petersen et al. 2019b). Women of color are also at greater risk of maternal morbidity and giving birth to a preterm or low-birthweight infant (Martin et al. 2019). Women living in rural areas also face greater maternal health risks than those residing in urban areas (Kozhimannil et al. 2019a). These poor outcomes and disparities may be exacerbated by the current COVID-19 pandemic.

Although these worrisome trends are not limited to Medicaid, poor outcomes for many women and infants could be addressed through Medicaid policy. Medicaid has long played a key role in providing maternity-related services for pregnant women, financing more than two out of every five births in 2018 (MACPAC 2020a). Compared to privately insured women, pregnant women covered by Medicaid are more likely to have certain pregnancy risk factors, such as obesity and a history of smoking, and have higher rates of severe maternal morbidity and mortality (MACPAC 2020a, 2018; Kozhimannil et al. 2019b).

There is widespread interest among state and federal policymakers, providers, and advocates in improving maternal health outcomes. Some of this interest focuses on particular groups, such as women of color or women living in rural communities. Less attention has been paid to the role of Medicaid in

addressing these poor outcomes. Over the last year, the Commission has been gathering information to understand the experience of pregnant women covered by Medicaid and the efforts by states and the federal government to improve maternal and infant health. The Commission has analyzed birth certificate data, commissioned original research, met with stakeholder organizations, and convened multiple panels at public meetings. Our work in this area has been primarily descriptive. Although possible solutions have been raised in the course of our inquiry, the Commission is not making recommendations at this time. Nonetheless, given the importance of this topic to the Medicaid program, the mothers and infants it serves, and the detrimental societal effects of poor maternal and birth outcomes, the Commission plans to spend considerable time over the next year weighing different policy alternatives and highlighting evidence-based solutions.

This chapter begins by describing the maternal and infant health outcomes that are raising alarm. It then explains Medicaid's role in providing maternity care, including the share of births that are paid for by Medicaid, as well as an overview of Medicaid eligibility for pregnant women and the benefits available to them. The chapter then goes on to describe state-led and federal initiatives to improve access to care and the quality of services pregnant women in Medicaid receive. It concludes with a discussion of future areas of work for the Commission, including value-based payment, access to maternity providers, family planning services, and postpartum coverage.

Maternal and Infant Health Outcomes

Pregnant women in the United States are increasingly experiencing adverse maternal and birth outcomes. Pregnancy-related deaths occur during pregnancy, at birth, and up to a year postpartum; potentially life-threatening complications are increasing, as are the rates of

preterm and low-birthweight infants. There are also significant racial and ethnic disparities in outcomes. Research suggests that although a number of factors, such as higher prevalence of comorbidities and pregnancy complications, lower socioeconomic status, and less access to prenatal care, contribute to these disparities, they do not fully explain the differences in outcomes (Howell 2018).

Maternal mortality

Approximately 700 women die annually in the United States from pregnancy or related complications; about 60 percent of these deaths may be preventable (Petersen et al. 2019a).¹ The pregnancy-related mortality ratio (the number of deaths per 100,000 live births) has increased over the last 30 years, from 7.2 deaths per 100,000 live births in 1987 to 16.9 deaths per 100,000 live births in 2016. However, it is unclear how much the risk of a woman dying as the result of pregnancy-related causes has actually increased, because identification of such deaths has improved over time (CDC 2020a).²

Pregnancy-related deaths can result from a number of medical conditions. Cardiovascular conditions are responsible for approximately one-third of pregnancy-related deaths. Other medical conditions, infection, and obstetric hemorrhage are also leading causes of pregnancy-related deaths (Petersen et al. 2019a, 2019b). Pregnancy-related deaths due to hemorrhage, preeclampsia and eclampsia, and anesthesia complications have declined, while those due to cardiovascular conditions, cerebrovascular accidents, and other medical conditions have increased. An increasing number of pregnant women have chronic conditions that put them at higher risk of complications (CDC 2020a).

The leading causes of death vary by the time frame. About one-third of deaths occur during pregnancy, about one-third occur on the day of delivery or within one week, and about one-third occur postpartum. During pregnancy, other medical conditions and cardiovascular medical conditions are the most common cause of death for women. On the day of delivery, hemorrhage and amniotic

fluid embolism are the major causes of death; from six weeks postpartum through the end of the first year, cardiomyopathy is the leading cause of death (Petersen et al. 2019a).

There are considerable racial and ethnic disparities in pregnancy-related mortality, with rates two to three times higher among black, non-Hispanic women (40.8 per 100,000); American Indian and Alaska Native women also have higher pregnancy-related mortality (29.7 deaths per 100,000) (Petersen et al. 2019b). The causes and timing of deaths also differ by race. Cardiomyopathy, embolism, and hypertensive disorders contribute to a significantly higher proportion of deaths among black women; hemorrhage and hypertensive disorders contribute to a higher proportion of deaths among American Indian and Alaska Native women. A greater proportion of deaths among black women occurs in the late postpartum period (43–365 days) in comparison to white women (Petersen et al. 2019a).

Drug overdose, suicide, and homicide may also be leading causes of death during or within a year of pregnancy.³ For example, the Maternal Mortality and Morbidity Task Force of the Texas Department of Health and Human Services examined all maternal deaths occurring within one year of the end of pregnancy and found that between 2012 and 2015, drug overdose (17 percent) was the leading cause of maternal death. Almost 80 percent of these deaths occurred more than 60 days postpartum. Homicides accounted for 11 percent of maternal deaths and suicide was the cause of death in almost 9 percent of cases. Most of these maternal deaths also occurred more than 60 days postpartum (DHHS 2018).

State maternal mortality review committees (MMRCs) conduct comprehensive reviews of women's deaths during or within a year of pregnancy (Box 5-1). These committees are typically convened at the state or local level under the auspices of the state maternal and child health program, which is generally responsible for maternal mortality surveillance (Review to Action 2020b). In 38 jurisdictions, the MMRC is fully or

partially funded using the Maternal and Child Health Services Block Grant Program; additional jurisdictions reported using block grant funds for MMRC planning activities (GAO 2020).⁴ These committees have access to both clinical and non-clinical information (such as vital records, medical records, and receipt of social services) to illuminate the factors contributing to deaths during pregnancy, birth, and the postpartum period (Davis et al. 2019).

MMRCs also may make recommendations on ways to prevent deaths and improve outcomes overall (Davis et al. 2019). A 2020 review of MMRC reports found recommendations related to hospital procedures, payment mechanisms, and other preventive services guidelines to reduce

maternal mortality (MACPAC 2020b). For example, in 2015, Maryland's MMRC recommended the state implement universal screening at least once during pregnancy and postpartum for substance use conditions (DHMH 2015). In 2018, the Louisiana MMRC had a set of recommendations to improve the timeliness of emergency room responses and protocols for better coordination between emergency and obstetric providers (Kieltyka et al. 2018). Other states had recommendations around improving both provider and patient education; for example, in Arizona, the committee recommended implementing public awareness campaigns on the importance of healthy behaviors in preventing pregnancy complications in its 2019 report (Cabasag et al. 2019).

BOX 5-1. State Maternal Mortality Review Committees

Maternal mortality review committees (MMRCs) are multidisciplinary teams that conduct reviews of deaths among women during pregnancy and within a year of the end of a pregnancy. The committees typically include representatives from the provider community (e.g., obstetricians and gynecologists, maternal-fetal medicine specialists, midwives, and nurses), public health and behavioral health professionals, forensic pathologists, and advocacy or community-based organizations (CDC 2020b). Although state public health officials may participate in reviews in some states, it does not appear that Medicaid programs have a formal role in MMRCs (MACPAC 2020b). As of February 2019, 46 states and the District of Columbia had a functioning MMRC (Kozhimannil et al. 2019c).

Some committees have limited funding and rely on volunteers to do their work while others are more professional in nature; committees also vary in terms of which data they examine and how frequently they report (Kozhimannil et al. 2019c, Martin 2018). MMRC recommendations for improving data collection include increasing data completeness, implementing a comprehensive database of pregnancy-associated deaths, and identifying techniques to complete the death certificate, particularly as it relates to the pregnancy checkbox (McFarland 2017, DPHHS 2011).

There have been several efforts over the last few years to improve and expand the capabilities of MMRCs. In 2016, the Association of Maternal & Child Health Programs, the U.S. Centers for Disease Control and Prevention (CDC), and the CDC's Division of Reproductive Health collaborated to establish Building U.S. Capacity to Review and Prevent Maternal Deaths, an effort to improve and standardize data collection to identify the number of maternal deaths and improve data sharing (CDC Foundation 2016). The Preventing Maternal Deaths Act (P.L. 115-334), enacted in December 2018, authorizes \$12 million per year in new funds for five years to establish and support MMRCs. In 2019, the CDC awarded more than \$45 million for five-year grants to support the work of MMRCs through the Enhancing Reviews and Surveillance to Eliminate Maternal Mortality program. This funding directly supports MMRC efforts to identify and review maternal deaths and identify prevention opportunities (CDC 2020b).

Maternal morbidity

Each year at least 50,000 women experience potentially life-threatening complications in childbirth; the rate of severe maternal morbidity doubled between 1998 and 2011 (Creanga et al. 2014). One analysis of hospital discharge data showed that the share of deliveries involving severe maternal morbidity and mortality (SMMM) was higher among women whose deliveries were paid for by Medicaid than among women covered by private insurance (Fingar et al. 2018).⁵ Furthermore, researchers have also documented racial differences in SMMM, with black non-Hispanic, and American Indian and Alaska Native women having heightened risk of morbidity, compared with white non-Hispanic women (Admon et al. 2018). Rural residents also have worse health outcomes during pregnancy and childbirth than urban residents (Kozhimannil et al. 2019a, 2014; ACOG 2014).

A study commissioned by MACPAC found that Medicaid beneficiaries were almost twice as likely as those with private insurance to experience SMMM (Kozhimannil et al. 2019b). Further, this analysis confirmed prior findings indicating that there are elevated risks for SMMM among people of color and rural residents.⁶ There appears to be little variability across payers in racial and geographic disparities in SMMM—the risk for people of color and rural residents was similar when comparing Medicaid beneficiaries with women with private insurance and other payers. Clinical risk factors, including pulmonary hypertension and chronic kidney disease, as well as cesarean delivery, were among the strongest predictors of SMMM for Medicaid beneficiaries (Kozhimannil et al. 2019b).

Infant birth outcomes

Infants born preterm (that is, delivery prior to 37 weeks) or with low birthweight (less than 2,500 grams) are at increased risk for experiencing physical disabilities and developmental impairments (Colicchia and Simhan 2016). Preterm birth rates decreased from 2007 to 2014, but then began increasing; in 2018, the preterm birth rate

was 10 percent (Martin et al. 2019, Ferré et al. 2016). The rate of preterm birth is higher among women of color (Martin et al. 2019).⁷ In 2018, 11 percent of infants born to Medicaid-covered mothers were born preterm (MACPAC 2020a). The rate of preterm births in Medicaid varies by state and was highest in Mississippi and lowest in Vermont in 2018 (Table 5A-1).

The percentage of low-birthweight infants has also been on the rise since 2014; in 2018, the rate was about 8 percent. Between 2017 and 2018, the rate of low-birthweight infants declined among white non-Hispanic women but rose for the second consecutive year for black non-Hispanic women, to 14 percent (Martin et al. 2019).⁸ In 2018, about 10 percent of infants born to mothers with Medicaid were low birthweight (MACPAC 2020a). The rate of low-birthweight infants in Medicaid was highest in the District of Columbia and lowest in Alaska, California, and Utah (Table 5A-1).⁹

Medicaid's Role in Maternity Care

In 2018, Medicaid paid for 43 percent of all births in the United States (MACPAC 2020a). The share of births covered by Medicaid varies across states, with Medicaid paying for more than half of births in six states: Arizona, Louisiana, Mississippi, New Mexico, Oklahoma, and Tennessee (Table 5A-2). Medicaid paid for a greater share of births in rural areas, among young women (under age 19), and for women with lower levels of educational attainment than other payers did. Medicaid also paid for a greater share of deliveries by Hispanic, African American, and American Indian and Alaska Native women (Table 5A-3). Compared to privately insured women, women covered by Medicaid were more likely to have certain pregnancy risk factors, such as obesity and a history of smoking (MACPAC 2020a, 2018).

All states are required to provide Medicaid coverage for pregnant women with incomes at or below

133 percent of the federal poverty level (FPL).¹⁰ Currently, all but four states extend Medicaid coverage to pregnant women with higher incomes. As of April 2019, the median eligibility threshold was 195 percent FPL (MACPAC 2019a). States must extend coverage to these women for 60 days postpartum.¹¹ Women who are otherwise eligible for Medicaid (for example, as a low-income parent) and become pregnant can retain their existing coverage and generally are not required to shift to a pregnancy-related eligibility pathway; as such, they do not face an end to their coverage at 60 days postpartum.¹²

Pregnant women are typically entitled to the full Medicaid benefit package; however, for women covered through poverty-level pregnancy pathways (i.e., women with incomes above the state's income threshold for the former Aid to Families with Dependent Children (AFDC) program), states may limit services to those related to pregnancy.¹³ As a result, Medicaid benefit packages for pregnant women may differ by eligibility pathway both across and within states. Although the vast majority of states provide the full Medicaid package to all pregnant women, five states (Arkansas, Idaho, New Mexico, North Carolina, and South Dakota) provide only pregnancy-related services (Brooks et al. 2019). Pregnancy-related services are defined as those that are necessary for the health of the pregnant woman and fetus, including prenatal care, delivery, postpartum care, family planning services, and services for other conditions that might complicate the pregnancy, threaten carrying the fetus to full term, or create problems for the safe delivery of the fetus (42 CFR 440.210). If a state proposes not to cover certain services or items for pregnant women that it covers for other adults, the state must describe in its state plan the basis for determining that such services are not pregnancy-related (CMS 2012a).¹⁴

State Efforts to Improve Maternal Outcomes

Medicaid programs have implemented a number of policies, programs, and initiatives designed to improve maternal outcomes. In many cases, states have adopted these approaches under existing federal guidelines that offer state flexibility in terms of coverage and benefits and gone beyond the standard Medicaid requirements. Under contract with MACPAC, Mathematica compiled an inventory of these Medicaid activities (Mathematica 2020). This inventory is descriptive in nature and was compiled from publicly available information and then confirmed by the states and territories. Mathematica also sought to collect information related to outcomes, but that information was available for only a small subset of policies. As such, the information about the effectiveness of these interventions is not generally included in the inventory.

The inventory includes Medicaid-led initiatives and policies specific to pregnant and postpartum women.¹⁵ However, some of these state efforts are designed to improve the outcomes for both mother and infant. Although Mathematica conducted a thorough document review and had a high response rate from states, it is possible that not all relevant policies were captured.

Mathematica examined state efforts in the following areas: eligibility and enrollment, education and outreach (to providers and beneficiaries), covered benefits, models of care, payment, managed care contracting, performance measurement, and other (Table 5-1). Overall, Mathematica captured almost 400 policies in place over the last 10 years across all states, the District of Columbia, and Puerto Rico.¹⁶

TABLE 5-1. Overview of Medicaid Policies, Programs, or Initiatives to Improve Maternal Outcomes across States and Territories

Category or initiative	Number of states or territories
Eligibility and enrollment	43
Education and outreach to beneficiaries or providers	44
Covered benefits	47
Models of care delivery	18
Payment models or policies	41
Managed care contracting strategies	40
Performance measurement, performance improvement projects, and quality improvement projects	32
Other	34

Notes: The inventory includes information from all 50 states, the District of Columbia, and Puerto Rico.

Source: Mathematica 2020.

Eligibility and enrollment

As discussed above, states must cover pregnant women with incomes up to 133 percent FPL and extend coverage for 60 days postpartum. States also have options to broaden coverage to pregnant women, including using presumptive eligibility, covering women who are immigrants, and extending the postpartum period through a waiver or by using state-only funds.

Presumptive eligibility. States have the option to allow qualified entities to screen pregnant women for Medicaid eligibility based on their income and temporarily enroll them in Medicaid (§ 1920 of the Social Security Act (the Act), 42 CFR 435.1101). Qualified entities include health care providers, schools, and agencies that administer other assistance, such as the Special Supplemental Nutrition Program for Women, Infants and Children (42 CFR 435.1101). Presumptive eligibility allows women to obtain Medicaid-covered prenatal care immediately and ensures that providers are paid for any services they deliver during the presumptive eligibility period, even if the pregnant woman is not subsequently determined eligible. Currently, 31 states have adopted this option (Mathematica 2020).

Immigrant coverage. To qualify for the full range of benefits offered under Medicaid, individuals must be citizens or nationals of the United States or qualified aliens.¹⁷ Legal permanent residents entering after August 22, 1996, are generally barred from receiving full Medicaid benefits for five years, after which coverage becomes a state option.¹⁸ However, pregnant women who are lawfully residing may be covered during the five-year waiting period at state option (§ 1903(v)(4) of the Act). States can also extend coverage to other immigrants using state-only funds. Twenty-seven states provide coverage to immigrant pregnant women under such policies (Mathematica 2020).

Postpartum coverage. As described above, Medicaid coverage extends 60 days postpartum for women who are eligible for the program by virtue of their pregnancy. At that point, states are required to screen a woman for continued eligibility through other pathways (such as a low-income parent) or transfer her to the federal or state health care exchange if she is no longer eligible for any type of Medicaid. A handful of states have expanded coverage beyond the typical 60-day postpartum period, although they may target a particular population (such as women

with a mental health or substance use disorder) or a particular service (such as family planning). To receive federal matching funds for this coverage, states need approval of a demonstration waiver under Section 1115 of the Act.¹⁹ Some of the states taking such actions are awaiting federal approval for implementation and others are using state-only funds. For example, South Carolina received approval in December 2019 to extend coverage to as many as 500 postpartum women with substance use disorders or serious mental illness under a Section 1115 demonstration waiver (Mathematica 2020, CMS 2019a). As another example, Wyoming extends family planning services to eligible postpartum women (Mathematica 2020).

Education and outreach

Medicaid programs may provide educational resources to beneficiaries to help them understand the benefits to which they are entitled, connect them to care, and instruct them on maternal health issues, such as smoking cessation and healthy eating. Medicaid may also educate providers about issues related to maternal health.

Education and outreach to beneficiaries. Thirty-three states have initiatives to educate pregnant women in Medicaid about a variety of maternal health issues; 34 states have initiatives to contact pregnant women for additional reasons, such as case management. In Idaho, for example, managed care organizations are required to send newly identified pregnant women information from the Idaho Department of Health and Welfare about the importance of obtaining dental care during their pregnancy. Wisconsin provides more comprehensive care coordination for high-risk pregnant women via prenatal care coordination agencies, which offer personal supports, referrals to health care services, nutrition counseling, and help locating other relevant community services. They also conduct outreach, perform assessments, and develop care plans (Mathematica 2020).

Education of providers. Seventeen states have initiatives to educate providers about maternal

health issues, including how to identify high-risk women. In Virginia, for example, providers are trained to know what to do when a patient screens positive on the Behavioral Health Risks Screening Tool, what treatment services are available to these women, and how to bill Medicaid for using the screening tool. Providers also receive continuing medical education credits for their participation in the training (Mathematica 2020).

Covered benefits

Some states offer benefits to pregnant women that are not offered to other Medicaid enrollees. Although these benefits are not mandated pregnancy-related services, states offer them with the goal of improving pregnancy and birth outcomes.

Behavioral health. More than half of states and territories cover postpartum depression screening under the infant's Medicaid identification number (i.e., as a benefit to the child). Postpartum depression is estimated to occur in 5 percent to 25 percent of all pregnant, postpartum, and parenting women; low-income mothers are more likely to experience depression, with rates as high as 40 percent to 60 percent (CMS 2016a). Postpartum depression can lead to adverse effects for both the mother and the child, and screening for maternal depression is recommended by the U.S. Preventive Services Task Force and the American Academy of Pediatrics (Earls et al. 2019; USPSTF 2019a, 2019b; CMS 2016a). In 2016, CMS issued an informational bulletin detailing how Medicaid agencies may cover maternal depression screening as part of a well-child visit (CMS 2016a). Pregnant women may need treatment for behavioral health conditions other than postpartum depression; almost half of states provide treatment services for mental health or substance use disorders (Mathematica 2020). (For more on pregnant women with substance use disorders, see Chapter 6.)

Dental services. Oral health care is also a concern for pregnant and postpartum women. Studies have suggested that maintaining good oral health may

have a positive effect on cardiovascular disease, diabetes, and other disorders. Some studies have shown a possible association between periodontal infections and preterm birth. However, more than half of pregnant women reported that they did not have a dental visit during pregnancy, with the lowest income women least likely to have received care (MACPAC 2015, ACOG 2013). A few states have targeted initiatives to improve access to dental services.²⁰ For example, Maryland provides pregnant women with dental coverage, including services such as fluoride treatments, root canals, and crowns, until their delivery dates. In Virginia, pregnant women receive dental services through the end of the 60-day postpartum period and are the only adult Medicaid population in the state with access to comprehensive dental coverage through the Smiles for Children program (Mathematica 2020).

Home visiting. Through home visiting programs, trained individuals provide support and evidence-based prevention and health promotion activities to pregnant women or families with young children. Home visiting programs typically include services such as screening, case management, family support, counseling, and skills training. Multiple federal and state funding streams, including

through Medicaid and the Maternal, Infant, and Early Childhood Home Visiting Program, can be combined to finance home visiting for women and their families (CMS and HRSA 2016). (For more on home visiting, see Chapter 6.)

Twenty-six Medicaid programs cover prenatal or postpartum home visits, and some target these services to high-risk mothers (Box 5-2) (Mathematica 2020). In Colorado, home visitors are registered nurses who provide targeted case management services. Since 2009, the Nurse Home Visitor Program has been available for first-time mothers or mothers whose first child is less than one month old who have family incomes at or below 200 percent FPL. Women can receive up to three home visits per month until the child turns two years old, with a lifetime maximum of 75 visits. Michigan's home visiting program, the Maternal Infant Health Program (MIHP), uses community-based providers to conduct at least two home visits (one prenatal and one postpartum) for women and their infants, with additional visits for high-risk women. MIHP services also include risk assessment, care coordination, and referral to services such as parenting education and lactation support (Mathematica 2020).

BOX 5-2. Home Visiting Models

Home visits during pregnancy and early childhood by a nurse, social worker, early childhood educator, or other trained professional have been shown to be effective in preventing child abuse and neglect, supporting positive parenting, improving maternal and child health, and promoting child development and school readiness (HRSA 2020). Among numerous evidence-based approaches, three home visiting models that are commonly used by state Medicaid agencies are Healthy Families America, Nurse-Family Partnership (NFP), and Parents as Teachers. These models all meet the U.S. Department of Health and Human Services criteria for being evidence-based (CMS and HRSA 2016).

Healthy Families America. The Healthy Families America model includes weekly hour-long home visits as well as screenings and assessments for adverse childhood experiences, maternal depression, child development, and parent-child interactions. Home visits begin during the prenatal period or within the first three months postpartum, and continue until the child reaches six months old, with the possibility of less frequent visits until age five. Local sites select the target population they plan to serve, which could be parents on Medicaid (ACF 2018). Maryland, Michigan, Minnesota,

BOX 5-2. (continued)

and New Jersey all use this model as one option for providing home visiting services (Massey 2020, Mathematica 2020).

Nurse-Family Partnership. NFP serves first-time mothers and low-income women and their children through one-on-one home visits with a registered nurse. Women must receive their first home visit no later than the end of the 28th week of pregnancy and continue to receive visits until the child's second birthday (ACF 2019a). NFP receives some form of Medicaid payment in 24 states (McGee 2020).

Parents as Teachers. This model serves families from pregnancy through kindergarten entry, and families can enroll at any point during this time frame. Parents as Teachers includes one-on-one home visits, monthly group meetings, developmental screenings, and connections to resources. Local sites offer at least 12 one-hour home visits with parent educators annually, and these visits may occur in a family's home or another location (ACF 2019b). Michigan, New Jersey, and New Mexico use this model as an option for home visiting services (Massey 2020, Mathematica 2020).

Doula services. A doula is an individual who provides physical and emotional support during pregnancy, labor and delivery, and postpartum. Only six states (Indiana, Minnesota, New Jersey, New York, Oregon, and Washington) currently provide or are preparing to cover doula services. For example, Minnesota Medicaid covers services including childbirth education and physical and emotional support during pregnancy, labor, birth, and postpartum, provided by a certified doula (Mathematica 2020). A study of doula services used by Medicaid beneficiaries in Minnesota found that women who received doula support had lower preterm and cesarean birth rates than Medicaid beneficiaries regionally (Kozhimannil et al. 2016).

Models of care delivery

Some states have changed how they provide services to pregnant women, for example, by establishing pregnancy medical homes or providing prenatal care in a group setting.

Pregnancy medical homes. Also known as maternity medical homes or maternity care homes, pregnancy medical homes are based on the patient-centered medical home concept. The

pregnancy medical home model is patient-centered and features a single provider who coordinates care, quality improvement measures, and timely access to care (Hill et al. 2018). Four states use this model, with North Carolina being one of the earliest adopters (Mathematica 2020). Under the state's Pregnancy Management Program, all pregnant Medicaid beneficiaries are eligible to participate in the comprehensive maternity care model. A clinical provider, which can be a family physician, obstetrician, or maternal-fetal medicine specialist, is paired with a care coordinator and receives incentive payments for certain services.²¹ They then work with a team of care managers to provide in-person interaction and home visits (Dowler 2020, Mathematica 2020). Women participating in the pregnancy medical home model in North Carolina have better outcomes on many measures. For example, such women have a 20 percent lower rate of low-birthweight infants compared to women who are not in the pregnancy medical home. In addition, almost 70 percent of medical home participants receive prenatal care beginning in the first trimester (Dowler 2020).

Group prenatal care. Nine states allow prenatal care to be provided in a group setting, most often

using the CenteringPregnancy model. This model includes a clinical component, in which routine medical exams are completed, and a group visit component. During the group visit, women who have similar due dates participate in a facilitated discussion on topics such as nutrition, stress management, labor and delivery, and infant care (Centering Healthcare Institute 2020). The use of CenteringPregnancy in South Carolina has been successful in improving maternal outcomes such as lowering rates of preterm births, cesarean sections, and gestational diabetes, and increasing rates of breastfeeding (Mathematica 2020, CMS 2019b).

Payment initiatives

States have designed payment policies to encourage use of certain services, such as long-acting reversible contraception (LARC) and prenatal and postpartum visits. States have also established a range of value-based payment arrangements, some of which are designed to discourage use of certain services, such as early elective deliveries, while others are designed to improve quality measures and reduce costs.

Long-acting reversible contraception. LARC, which includes intrauterine devices and contraceptive implants, are highly effective methods of birth control and contribute to improved maternal health by assisting in birth spacing (CDC 2019b). However, LARC is used at lower rates in the U.S. than in other countries due to administrative and payment barriers.²² For example, LARC placement may require significant upfront costs to providers to obtain the devices. To promote the availability of effective contraception, CMS released an informational bulletin in 2016 describing state approaches to LARC coverage and payment (CMS 2016b). Thirty-one Medicaid programs have policies that make it easier for women to receive LARC immediately postpartum. For example, Alabama covers LARC immediately after delivery, during the delivery hospitalization, or immediately after discharge from inpatient hospital delivery. The cost of the device and insertion are both paid for by Medicaid (Mathematica 2020).

Value-based payment. To reduce the rate of early elective deliveries and unnecessary cesarean deliveries, improve access to prenatal and postpartum care, improve quality, and reduce costs, states are seeking to change financial incentives for providers.²³ In some cases, states have adopted multiple payment approaches (MACPAC 2019b, Mathematica 2020). Approximately one-third of Medicaid programs have implemented reduced-payment or non-payment policies for maternity services. That is, these states do not cover procedures that do not follow clinical guidelines, such as early elective deliveries, elective inductions, and cesarean deliveries that are not medically indicated. Almost one-quarter of states have adopted pay-for-performance programs to provide financial incentives to hospitals or health professionals to meet perinatal care quality metrics. For example, Connecticut provides annual payments to eligible providers, in addition to current fee-for-service payments, for achieving a suite of metrics related to the receipt of prenatal and postpartum care (Mathematica 2020).

Fewer states have implemented bundled-payment or blended-payment arrangements. A bundled payment is a single fixed payment for a group of services provided to treat a condition during a defined episode of care. Implementation of a bundled-payment arrangement is meant to create incentives for providers to manage costs for each episode, because they are not paid more for providing additional or more costly services (MACPAC 2019b). For example, Ohio has instituted perinatal episodes of care for Medicaid beneficiaries, with a bundled payment covering all pregnancy-related care that a beneficiary receives 40 weeks before birth, labor and delivery services, and postpartum care up to 60 days after the birth (Mathematica 2020). However, some states have found that unbundling the postpartum visit from the bundled prenatal and delivery care payment can improve rates of postpartum care visits (CMS 2019c).

A blended payment consists of a single payment for a birth, regardless of mode of delivery. Payment rates for cesarean delivery are generally higher than those for vaginal delivery. By eliminating this discrepancy, a

blended payment may reduce the financial incentive to perform cesarean sections or minimize adoption of practices that lead to cesarean deliveries (such as limits on time in labor or management of fetal heart tracings) (MACPAC 2019b). Minnesota and Tennessee have adopted a blended-payment approach (MACPAC 2019b, Mathematica 2020).

Managed care and performance measurement

Managed care is the predominant Medicaid delivery system in most states and is often the system through which pregnant women receive services. As such, Medicaid programs can use managed care contracting strategies to encourage improvement in maternal health. For example, 32 states require managed care organizations (MCOs) to report on prenatal and postpartum Healthcare Effectiveness Data and Information Set (HEDIS) measures. Almost half of Medicaid programs base decisions about capitation payments, incentive payments,

or penalties on MCO performance on specific maternity measures. For example, Delaware requires MCOs to report on such quality measures; if the managed care plans do not achieve the performance levels set by the state, they face financial penalties of up to 1 percent of their total net revenue (Mathematica 2020).

Medicaid programs may also impose contract requirements for performance improvement projects (PIPs) or quality improvement projects (QIPs) to improve outcomes among pregnant or postpartum women enrolled in managed care.²⁴ For example, six states have PIPs or QIPs related to the receipt of prenatal care and three have PIPs or QIPs related to postpartum visits. In Michigan, MCOs are required to submit HEDIS data reporting maternal and child health measures by race and ethnicity as part of the state's Medicaid Health Equity Project (Box 5-3). Plans are also required to conduct PIPs to identify and address disparities in the timeliness of prenatal care (Mathematica 2020).

BOX 5-3. Michigan Mother Infant Health and Equity Improvement Plan

In the years 2011 to 2015, 66 women died of pregnancy-related causes in Michigan; 44 percent of these deaths were determined preventable. Women of color face a higher risk of death from pregnancy complications, even when controlling for age, socioeconomic status, and education. Black non-Hispanic women were three times more likely to die from pregnancy-related causes than white non-Hispanic women. In 2017, more than 760 babies in Michigan did not live to their first birthdays and babies born to black non-Hispanic women were more than twice as likely to die before their first birthdays than babies born to white non-Hispanic women (DHHS 2019).

To address these racial disparities, Michigan requires health plans to submit maternal and child Healthcare Effectiveness Data and Information Set (HEDIS) measures by race and ethnicity as part of the state's Medicaid Health Equity Project. These data are used to identify areas for targeted quality improvement; measures that are below the 50th percentile are tied to a performance payment withhold in managed care contracts. The state also works with managed care organizations (MCOs) to develop interventions to address barriers to and gaps in care experienced by women of color; these interventions are developed through literature reviews, data analysis, and member engagement. In addition, the state requires that MCOs pick a measure for a focused performance improvement project. Of the plans that have selected maternal and infant health measures, many are targeting interventions to social determinants of health, such as referring women to food assistance (Mathematica 2020, Massey 2020).

BOX 5-3. (continued)

Michigan has also launched a broader program to address racial disparities in maternal mortality. The Michigan Department of Health and Human Services has partnered with Medicaid and behavioral health agencies, as well as various stakeholders, to introduce the Mother Infant Health and Equity Improvement Plan. The goals of the plan include a reduction in disparities in the infant mortality rate by 15 percent by 2023. The plan also seeks to reduce the rate of low-birthweight infants by 11 percent, reduce the rate of preterm births by 8 percent, decrease the rate of severe maternal morbidity by 23 percent, and decrease the rate of maternal mortality by 37 percent during this time frame. As part of the plan, agencies within the department, including maternal and infant health programs, Medicaid, behavioral health, and human services, are working with external partners, such as the regional perinatal quality collaboratives, home visiting programs, and providers, to align programs and extend their reach (DHHS 2019).

Federal Initiatives

The federal government has also focused efforts on improving outcomes for pregnant women.²⁵ The Center for Medicare and Medicaid Innovation (CMMI) established two grant opportunities focused on maternal health: the Strong Start for Mothers and Newborns initiative, which ended in 2017, and the Maternal Opioid Misuse (MOM) model, which is ongoing. The MOM model seeks to address the opioid epidemic by supporting coordination of clinical care and other services critical for well-being and recovery (for more on the MOM model, see Chapter 6). In 2014, CMS launched the Maternal and Infant Health Initiative to provide technical assistance to states. The current administration has focused on improving access to maternal health care in rural communities and plans to launch a department-wide initiative in 2020 to address maternal health more broadly.

Strong Start for Mothers and Newborns

Strong Start for Mothers and Newborns (Strong Start) was a four-year (funded from February 2013 to February 2017) initiative to test and evaluate alternative enhanced prenatal care for women enrolled in Medicaid or the State Children's Health

Insurance Program (CHIP) who were at risk for having a preterm birth. The goal of the initiative was to reduce the rate of preterm births, improve health outcomes for pregnant women and newborns, and decrease the total cost of medical care during pregnancy, delivery, and the infant's first year of life (CMS 2015a).²⁶

In 2013, 27 cooperative agreements were awarded, covering 211 provider sites across 32 states, the District of Columbia, and Puerto Rico. Strong Start funded enhanced services through three evidence-based, prenatal care models which served approximately 46,000 women:²⁷

- Birth centers followed the midwifery model of care, a more holistic approach to pregnancy that is typically more time-intensive. This care was supplemented by peer counselors who provided psychosocial support, health education, and referrals to additional resources. This model was implemented by two grantees across 47 sites and served about 20 percent of Strong Start participants.
- Group prenatal care paired comprehensive prenatal care with facilitated discussions covering a broad range of issues in a group setting; topics included nutrition and exercise, stress reduction, family planning, parenting,

domestic violence, and childbirth preparation. Group prenatal care was implemented by 15 awardees in 60 sites, serving approximately 23 percent of participants.

- Maternity care homes supplemented prenatal care with care managers to coordinate and provide psychosocial support, although the intensity level of these interventions varied. Seventeen awardees at 112 sites implemented maternity care homes. This model served the largest proportion of participants, at 57 percent (Hill et al. 2018).

All Strong Start models went beyond the typical medical model of prenatal care and provided educational interventions designed to improve outcomes. These activities addressed nutrition, exercise, stress management, pregnancy, childbirth, breastfeeding, and family planning, among other topics. Additionally, staff in the Strong Start models worked to connect women to non-medical services that could support a healthy pregnancy, such as food support, transportation services, and child care. Finally, all the models emphasized psychosocial support through relationship-based care (Hill et al. 2018).

The five-year national evaluation of Strong Start found that overall, women who received prenatal care in birth centers had dramatically better outcomes at lower cost compared to risk-matched Medicaid enrollees who were not in Strong Start and received more typical prenatal care.²⁸ Specifically, infants born to women served by Strong Start birth centers were 26 percent less likely to be born preterm and 20 percent less likely to be born with low birthweight than infants born to mothers in the comparison groups. Rates of cesarean deliveries were 40 percent lower for mothers served in Strong Start birth centers than for women in typical care. Furthermore, delivery expenditures were, on average, 21 percent lower and total expenditures from delivery until the infant's first birthday were 16 percent lower for women enrolled in birth centers than for women and infants in the comparison groups. Although prenatal care expenditures for

Strong Start group prenatal care enrollees were lower than for women in typical Medicaid prenatal care, the evaluation found that this model produced few statistically significant improvements in maternal or infant outcomes. Finally, the evaluation found no evidence that Strong Start maternity care homes improved birth outcomes or reduced costs relative to typical Medicaid prenatal care. Improvements in outcomes for birth center enrollees were largely attributed to centers' use of the midwifery model of care, which is more time-intensive and emphasizes prenatal care that focuses on education and psychosocial support (Dubay et al. 2020, Hill et al. 2018).

In November 2018, CMS issued an informational bulletin describing the promising results of the Strong Start initiative. The bulletin suggests that states use these evaluation results in considering how to improve care for pregnant women and that they study the availability of birth centers in their states. The bulletin also explains federal requirements and optional coverage for midwifery and birth center services (CMS 2018a).

Maternal and Infant Health Initiative

In June 2012, CMS convened an expert panel to explore program, policy, and payment opportunities that could result in better care, improved birth outcomes, and reductions in costs of care for mothers and infants in Medicaid and CHIP. Based on the expert panel recommendations, in July 2014, CMS launched the Maternal and Infant Health Initiative (MIHI). The initiative had two primary goals: (1) increase the rate and improve the content of postpartum visits; and (2) increase access and use of effective methods of contraception (CMS 2014a).²⁹ The key components of the strategy included:

- promoting coverage of women before and after pregnancy;
- strengthening technical assistance on policies that enhance provider service delivery, including contraception and postpartum services;

- expanding beneficiaries' engagement in their care through enhanced outreach; and
- collaborating with other agencies to improve data and coordination (CMS 2014b).

Through the MIHI, CMS has worked to improve maternal and infant health by focusing on quality measurement and state reporting on relevant core set measures.³⁰ A majority of states are now reporting on these measures, which include the timeliness of prenatal care, the receipt of postpartum care, and the percentage of low-birthweight infants (CMS 2019d, 2019e). CMS also worked with the U.S. Department of Health and Human Services (HHS) Office of Population Affairs and the U.S. Centers for Disease Control and Prevention to develop two measures of contraceptive care. In 2015, 12 states and one territory were awarded grants to test and report these measures. These measures have since been added to the Maternity Core Set and states have used them, for example, to understand the barriers to hospital and provider uptake of LARC (CMS 2019f).

Under MIHI and related activities, CMS has also conducted a number of technical assistance efforts. For example, CMS launched a pilot project with four states (California, Louisiana, Ohio, and Oklahoma) to assess the effectiveness of using mobile technology to engage pregnant and postpartum Medicaid enrollees in their health care. Text4baby, a free service that delivers educational text messages timed to a woman's stage of pregnancy or her infant's age, was customized to address CMS's maternal health priorities, such as reducing early elective deliveries and ensuring appropriate postpartum visits.³¹ During the first year, the pilot focused on identifying and engaging outreach partners; states saw an increase in both the number of partnerships and the percentage of pregnant women actively subscribed to Text4baby (CMS 2015c). Another study suggested that Text4baby may be a successful tool for promoting health information and improving knowledge, given that subscribers were more likely to report receiving high-priority health information

during pregnancy and exhibited a higher level of health knowledge (HHS 2015).³²

Additionally, CMS held a learning collaborative with 10 states to share experiences developing quality improvement plans, engaging stakeholders, implementing interventions, specifying measures, and to consider opportunities to build on lessons learned (CMS 2014c). CMS also convened the Postpartum Care Action Learning Series for 10 states to develop and implement QIPs to improve the rate of postpartum visits (CMS 2019g).

In March 2017, the Medicaid Innovation Accelerator Program launched the MIHI Value-Based Payment (VBP) Technical Support project to assist states in selecting, designing, and testing value-based payment approaches to maternal and infant health. Beginning in June 2017, Colorado, Maine, Mississippi, and Nevada participated for a two-year period (CMS 2018b, 2017).

To mark the fifth anniversary of the original 2014 MIHI expert workgroup recommendations, CMS has reconvened a maternal and infant health expert workgroup to help chart the trajectory of the initiative over the next five years and recommend priority areas of focus. CMS anticipates using these recommendations to develop new technical assistance opportunities and resources for states (CMS 2020b).

Rural health

As part of a larger strategy targeting rural health, CMS has more recently focused its attention on maternal health among women living in rural areas (CMS 2018c). In June 2019, CMS collaborated with other partners to host a forum examining maternal health care in rural communities.³³ The top priorities emerging from the forum were in the areas of payment, workforce, and clinical and quality improvement (CMS 2019h). The agency subsequently published an issue brief to focus attention on the scope of the problem (CMS 2019b). In February 2020, CMS released a request for information to learn more about the barriers that

exist in rural communities and opportunities for improving access, quality, and outcomes for women in rural communities before, during, and after pregnancy (CMS 2020c).³⁴

Forthcoming initiatives

HHS held a series of stakeholder roundtables on ways to improve maternal health in the fall of 2019, meeting with states, providers, health plans, advocates, and funders (Marks 2020, Cirruzzo 2019). The department also conducted listening sessions in several states to gain a better understanding of how states are seeking to address poor maternal and infant health outcomes. Based on these meetings, the department is working on an action plan to address the goals laid out in the President's fiscal year (FY) 2021 budget, which include: achieving healthy outcomes for all women of reproductive age by improving prevention and treatment; achieving healthy pregnancies and births by prioritizing quality improvement; achieving healthy futures by optimizing postpartum health; and improving data and bolstering research to inform future interventions. The President's FY 2021 budget would provide \$74 million in new resources to address these goals (OMB 2020). The action plan is slated to be released sometime in 2020.

Next Steps

MACPAC'S work over the course of this year was primarily descriptive, seeking to identify factors affecting maternal health, the role Medicaid plays in providing maternity and postpartum services, and how states and the federal government are using Medicaid to address the issues. Going forward, the Commission will focus on a number of areas for analysis and possible recommendations. These areas include VBP, access to maternity providers, family planning services, and postpartum coverage. Given poor maternal and infant health outcomes, as well as Medicaid's critical role in providing such services, the Commission views this topic as a high priority. As it continues to explore these areas, the

Commission will focus on how various policies and evidence-based solutions can be designed to help improve maternal and infant health in Medicaid.

Value-based payment

The Commission is interested in understanding how states are using VBP models to improve the quality of maternity care. Over the years, the Commission has examined state efforts to implement VBP through a variety of projects. Most recently, MACPAC studied five states using managed care to implement VBP strategies. Two of the study states use episode-based models for maternity care. New York State designed a maternity episode-of-care model as an option for managed care plans, although interviewees noted that MCOs had not opted to implement the state-designed model. In Ohio, managed care plans and providers are required to participate in the model. Based on the quality and cost of care provided over the course of the episode, providers may be eligible for a shared savings payment or liable for downside risk payment (Bailit Health 2020). Preliminary results from Ohio's use of a perinatal episode of care show an improvement in screening rates and a three percent increase in medical spending (Ohio Medicaid 2019, Moody 2018).

Future work will more closely examine how states are designing and implementing various payment models to improve maternal health outcomes. These payment approaches could include pay-for-performance, shared savings, and episodes of care. The Commission will examine the drivers and barriers to implementation, review data on their effectiveness, and explore how state models are evolving.

Access to maternity providers

Given the promising results of the Strong Start evaluation in terms of both outcomes and costs, the Commission has expressed interest in examining the barriers to expanding the use of midwives and birth centers in Medicaid. Nurse-midwife services

are a mandatory Medicaid benefit; the Patient Protection and Affordable Care Act (ACA, P.L. 111-148, as amended) required coverage for care at birth centers in states that license the facilities.³⁵ There are currently 370 freestanding birth centers in the United States, and the number has been steadily growing for the past decade (Bauer 2019). However, almost all births financed by Medicaid occur in a hospital setting and more than 90 percent of Medicaid-financed births were attended by a doctor (MACPAC 2020a). Barriers such as capacity constraints, scope of practice, and payment policies may make it difficult to increase access to midwives and birth centers.

The Commission is also interested in learning more about the role that doulas can play in supporting healthy birth outcomes and how Medicaid can provide that service. As discussed above, only a few states cover doulas, despite evidence that they can improve outcomes. Further information about how these services are covered and how Medicaid programs can integrate a typically community-based service into medical care may help guide other states as they pursue coverage for doulas.

Finally, the Commission is concerned that access issues may arise, particularly in rural areas, where hospitals and obstetric units have closed. One study found that more than half of all rural counties were without hospital obstetric services in 2014 (Hung et al. 2017). Because almost all births financed by Medicaid occurred in a hospital setting, this low density of obstetric services may leave fewer options for women living in rural areas (MACPAC 2020a, CMS 2019b, Hung et al. 2017). The loss of hospital obstetric services in rural counties not adjacent to urban areas was associated with increases in out-of-hospital and preterm births and births in hospitals without obstetric units (Kozhimannil et al. 2018). The Commission is concerned about hospital closures and rural access more generally, but as the Commission considers the role of all maternity providers (including obstetricians, family physicians, and midwives), it will consider how they might address barriers to access in rural areas.

Family planning

Family planning can help prevent unintended pregnancies and assist in birth spacing. Unintended pregnancy is associated with poorer preconception health, delayed prenatal care, and increased risks of low-birthweight and preterm infants (CMS 2014b). Medicaid provides coverage for more than 70 percent of family planning services for low-income individuals (CMS 2016b). Family planning services are a mandatory benefit under Medicaid and must be provided to individuals of childbearing age without cost sharing. States can also extend eligibility for only family planning services through Section 1115 demonstration waivers or under the state plan. However, states may establish different coverage requirements for family planning services for different eligibility pathways (Walls et al. 2016).

The Commission is interested in learning more about how states are covering family planning services. Medicaid agencies typically pay for multiple types of family planning services and 31 states have a payment policy specifically designed to encourage LARC insertion immediately postpartum (Mathematica 2020, CMS 2016b, Walls et al. 2016). However, there are payment challenges related to LARC. For example, the use of a single payment for labor and delivery services may not address the additional costs associated with purchasing the device or payment to the hospital or provider for the placement (CMS 2016b). There are also issues related to informed consent when LARC insertion is offered immediately postpartum, not only related to the requirement that women have the choice of contraceptive methods but also related to the appropriate timing of that choice (ACOG 2016, ASTHO 2016). The Commission is interested in learning more about these barriers and what states have done to mitigate them. The Commission is also interested in understanding how states have extended family planning benefits to individuals who may not otherwise have coverage for the services, including the interaction between other Medicaid eligibility pathways and coverage under exchange plans.

Postpartum care and continuity of coverage

As discussed above, approximately one-third of pregnancy-related deaths occur postpartum, including almost 12 percent that occur between 43 and 365 days postpartum, highlighting the importance of follow-up care (Petersen et al. 2019a). Postpartum care offers the opportunity to monitor recovery from childbirth as well as to address other health care needs, such as postpartum depression, chronic conditions, and family planning. Not all Medicaid-covered women, however, are accessing services during the postpartum period; only about 60 percent of women in Medicaid had a postpartum visit within eight weeks of delivery (CMS 2019d).

Furthermore, Medicaid coverage for women eligible for the program by virtue of their pregnancy ends at 60 days postpartum, and in states that have chosen not to expand Medicaid under provisions of the ACA, women who become ineligible at the end of the postpartum period may not be eligible under another Medicaid pathway. This disrupts coverage and access to care for postpartum women. Between 2015 and 2017, one-third of women experienced a change in health insurance from preconception to postpartum; in states that expanded Medicaid, a higher proportion of women were continuously insured and the churning rate on and off Medicaid was less pronounced (Daw et al. 2019). There are also racial and ethnic disparities in insurance status and continuity of insurance coverage for women spanning the preconception to postpartum period (Daw et al. 2020).

The 60-day postpartum coverage period has been described as a barrier to ongoing care and has sparked interest in extending coverage for a longer period of time among state and federal lawmakers. For example, in January 2020, Illinois submitted a Section 1115 demonstration application to extend the postpartum coverage period to 12 months and New Jersey submitted an amendment to its existing demonstration to extend the postpartum coverage period to 6 months in March 2020

(HFS 2020, DHS 2020). Furthermore, MMRCs in Georgia, Illinois, Mississippi, and Washington have recommended extending Medicaid postpartum coverage for pregnant women (MACPAC 2020b). In addition, several professional societies, including the American College of Obstetricians and Gynecologists, the American Medical Association, and the Society for Maternal-Fetal Medicine, have endorsed extending the postpartum period to 12 months (ACOG 2020, SMFM 2020, AMA 2019). The President's FY 2021 budget called for allowing states to extend Medicaid coverage for pregnant women with substance use disorder to one year postpartum (OMB 2020). The Commission will explore the issues related to extending coverage, including the interaction with the Medicaid expansion for adults, as well as the provision of limited benefits to certain groups of pregnant women in some states.

Endnotes

¹ Pregnancy-related death is defined as the death of a woman while pregnant or within one year of the end of a pregnancy from a pregnancy complication, a chain of events initiated by pregnancy, or the aggravation of an unrelated condition by the physiologic effects of pregnancy (CDC 2019a).

The National Center for Health Statistics (NCHS) also reports data on maternal mortality through the National Vital Statistics System (NVSS). These data rely on the definition of maternal mortality used by the World Health Organization (WHO): deaths of women while pregnant or within 42 days of being pregnant, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes. Due to implementation of the standard death certificate, NCHS did not publish the maternal mortality rate between 2008 and 2017 (Hoyert and Miniño 2020).

² According to the U.S. Centers for Disease Control and Prevention (CDC), the reasons for the overall increase in pregnancy-related mortality are unclear. Due to the use of computerized data linkages by states, changes in the way causes of death are coded, and the addition of a pregnancy

checkbox to the death certificate, the identification of pregnancy-related deaths has improved. However, noted errors in reported pregnancy status on death certificates may be leading to overestimation of the number of pregnancy-related deaths. It is not clear whether the actual risk of a woman dying from pregnancy-related causes has increased, and in recent years the pregnancy-related mortality ratios (the estimate of the number of pregnancy-related deaths for every 100,000 live births) have been relatively stable (CDC 2020a). Currently available data do not report the number of women covered by Medicaid who die from pregnancy-related causes.

³ These deaths are considered pregnancy-associated deaths, which are defined as the death of a woman while pregnant or within one year of the termination of pregnancy, regardless of the cause. However, depending upon the particular circumstances of the case and the criteria used in the review, they may or may not be considered pregnancy-related (see also endnote 1) (Review to Action 2020a).

⁴ Fifty-nine states or jurisdictions receive grants from the Health Resources and Services Administration (HRSA) under the Maternal and Child Health Services Block Grant Program.

⁵ Severe maternal morbidity refers to potentially life-threatening complications or the need to undergo a lifesaving procedure during or immediately following childbirth.

⁶ Specifically, the analysis for MACPAC showed 20 percent to 80 percent increased likelihood of severe maternal morbidity and mortality (SMMM) for all people of color (black non-Hispanic, Hispanic, Asian or Pacific Islander, American Indian or Alaska Native, or other or unknown) compared with white non-Hispanic women (Kozhimannil et al. 2019b). National data looking at the time period from pregnancy through the postpartum year show maternal mortality rates are two to three times higher for black and indigenous women than for white non-Hispanic women (Petersen et al. 2019b). The analysis for MACPAC included measures of morbidity as well as mortality, but only focused on the childbirth hospitalization, which may account for some of the differences. The findings with regard to the elevated risks of SMMM among rural residents—Medicaid beneficiaries as well as patients with other payers—were similar to previously-published results (Kozhimannil et al. 2019a).

⁷ Rates of preterm births and low-birthweight infants were higher among black non-Hispanic women, as well as among American Indian, Alaska Native, Native Hawaiian or other Pacific Islander women, than among white women. Hispanic women experience preterm births and low-birthweight infants at rates that are more similar to (although still higher than) those of white women (Martin et al. 2019).

⁸ See endnote 7.

⁹ In a prior MACPAC analysis, women with Medicaid for prenatal care and delivery were more likely than women who were uninsured for prenatal care and delivery to have a low-birthweight baby. Less than 10 percent of women with Medicaid for prenatal care and delivery had a preterm birth and there was no statistically significant difference when compared to women who were uninsured. Demographic characteristics and potentially complicating health factors can influence a woman's likelihood of having a preterm delivery or low-birthweight infant. However, when controlling for these factors, women with Medicaid coverage still were more likely than uninsured women to have a low-birthweight infant. There were no differences in these outcomes when comparing women with Medicaid to those with private insurance (MACPAC 2018).

¹⁰ Specifically, federal law requires that states provide Medicaid coverage to pregnant women whose household income is the higher of: (1) 133 percent FPL or (2) the income standard, up to 185 percent FPL, that the state had established as of December 19, 1989, for determining eligibility for pregnant women, or, as of July 1, 1989, had authorizing legislation to do so (42 CFR 435.116). As such, there are 19 states that have a mandatory minimum eligibility threshold for pregnant women above 133 percent FPL (MACPAC 2014).

¹¹ The postpartum period begins on the last day of the pregnancy and extends through the end of the month in which the 60-day period concludes (42 CFR 440.210(a)(3)). This extension for 60 days postpartum also applies to pregnant women who, because of a change in household income, would not otherwise remain eligible (§ 1902(e)(6) of the Act).

¹² Generally, when an individual is eligible for more than one category, she has a choice of which eligibility pathway to enroll in (42 CFR 435.404). States are not required to track the pregnancy status of a current enrollee, so unless she self-identifies, she would remain enrolled in her current

eligibility group. Although pregnant women are not eligible for the new adult group that covers individuals with incomes below 138 percent FPL, the self-identification rule still applies and those already enrolled in the group may remain in the group (CMS 2012a).

¹³ Mandatory coverage for pregnant women under Section 1931 and Section 1902(a)(10)(A)(i)(III) of the Act, as well as coverage through the optional pathways of Section 1902(a)(10)(A)(ii)(I) and Section 1902(a)(10)(A)(ii)(IV), must provide full Medicaid coverage. However, for women covered under Section 1902(a)(10)(A)(i)(IV) and Section 1902(a)(10)(A)(ii)(IX), states may limit coverage to pregnancy-related services. As such, states can limit coverage to pregnancy-related services for women with family incomes above the May 1, 1988, AFDC levels; women below the 1988 AFDC levels must receive full Medicaid benefits (MACPAC 2014, 2013).

For additional information on Medicaid and State Children's Health Insurance Program (CHIP) eligibility and coverage of services for pregnant women, see Chapter 1, *Maternity Services: Examining Eligibility and Coverage in Medicaid and CHIP*, in MACPAC's June 2013 report to Congress (MACPAC 2013).

¹⁴ It is not clear from published data what services are not covered in states offering pregnancy-related services only. MACPAC will conduct additional research to understand these benefit limitations and how they might affect pregnant women.

¹⁵ Initiatives in CHIP, programs that exclusively target newborn outcomes (e.g., hearing, lead screening), and general family planning programs are excluded. Federal, local, and health system programs are also excluded. For example, a smoking cessation program run by a state's department of public health may improve outcomes among pregnant women, but it is not a Medicaid initiative so it would not be captured in the inventory. Additionally, if a managed care plan was providing home visiting services, this would not be included unless it was a state requirement.

Mathematica also captured policies that are not currently in effect, either because they are no longer active (but occurred within the last 10 years) or because they have not yet been implemented. The time frame was expanded to include inactive programs because there may exist evidence of the effectiveness of programs that existed for a longer period

of time. Programs that have not yet been implemented (e.g., legislation passed) were also included to capture future plans. However, legislation that had not yet been enacted into law was excluded. Similarly, waivers that had been submitted to, but not yet approved by, CMS were excluded. Note that the summary information includes all programs, regardless of active status.

In addition, policies, programs, and initiatives were placed into subcategories based on available information and may be subject to interpretation. Furthermore, the data collection methodology did not allow the researchers to definitively confirm the absence of activity in a particular state or territory in certain subcategories.

¹⁶ Mathematica did look for policies and initiatives targeted toward maternal health in the other territories, but did not find any. It is possible that this is because the Medicaid programs in the territories differ in many respects from those in the 50 states and the District of Columbia. For more, see MACPAC's issue brief *Medicaid and CHIP in the Territories* (MACPAC 2020c).

¹⁷ The term qualified alien was created by the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA, P.L. 104-193) and includes legal permanent residents, refugees, and asylees.

¹⁸ States have the option to provide legal permanent residents with Medicaid coverage after five years of residency if they otherwise meet Medicaid eligibility criteria (§ 403 of PRWORA).

¹⁹ States can provide family planning services through the state plan; however, for a state to limit the services to a particular category of individual (such as postpartum women), it needs a Section 1115 demonstration waiver. States also need a waiver to extend coverage beyond the statutorily-mandated 60-day postpartum period, regardless of whether the state is targeting a particular category of women (e.g., those with substance use disorders).

²⁰ Note that this does not include states that offer dental benefits under the standard Medicaid package.

²¹ Providers receive \$50 for each standardized risk screening completed, \$150 for each postpartum visit conducted, and an increased rate for vaginal deliveries. Providers must also decline to do elective deliveries before 39 weeks, maintain a cesarean delivery rate of less than 16 percent,

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APPENDIX 5A: Medicaid's Role in Financing Maternity Care

TABLE 5A-1. Prenatal Care and Birth Outcomes among Medicaid Births, by State, 2018

State	Prenatal care began in first trimester	Nine or more prenatal care visits	Cesarean section	Preterm birth	Low-birthweight baby
United States	68.3%	76.3%	31.7%	11.0%	9.7%
Alabama	60.9	72.6	33.9	12.9	11.3
Alaska	66.5	63.2	19.7	10.3	6.7
Arizona	65.3	73.1	25.6	9.9	7.7
Arkansas	59.5	71.2	33.4	12.0	9.4
California	78.5	83.6	31.4	9.3	6.7
Colorado	69.7	69.7	24.8	9.5	9.0
Connecticut	78.3	81.5	34.0	10.8	8.5
Delaware	68.7	71.7	31.9	11.7	10.6
District of Columbia	52.4	55.1	30.9	13.8	13.1
Florida	65.4	73.1	36.1	11.5	9.7
Georgia	66.7	75.9	33.8	12.8	10.8
Hawaii	65.5	66.2	24.9	10.7	7.1
Idaho	73.3	80.7	24.1	10.0	7.3
Illinois	66.3	74.1	29.5	11.6	9.3
Indiana	60.8	74.2	29.8	11.0	9.0
Iowa	72.2	82.7	30.6	10.5	7.4
Kansas	74.5	79.0	30.5	11.3	8.3
Kentucky	73.6	80.1	35.2	12.5	9.9
Louisiana	70.6	77.6	36.9	13.8	11.8
Maine	79.1	87.3	30.4	9.5	7.7
Maryland	61.6	68.2	33.0	11.6	9.3
Massachusetts	71.6	79.7	31.0	9.6	7.5
Michigan	71.4	80.1	31.8	11.5	9.8
Minnesota	71.5	74.6	26.4	9.8	7.2
Mississippi	72.7	80.8	37.2	14.4	12.8
Missouri	64.2	73.1	29.7	12.0	9.9
Montana	67.6	73.0	28.3	11.4	9.1

TABLE 5A-1. (Continued)

State	Prenatal care began in first trimester	Nine or more prenatal care visits	Cesarean section	Preterm birth	Low-birthweight baby
Nebraska	63.0%	72.7%	29.9%	11.1%	8.0%
Nevada	67.1	77.5	34.4	11.9	9.8
New Hampshire	75.0	81.5	28.8	9.3	7.7
New Jersey	61.8	70.4	33.7	10.1	7.5
New Mexico	66.6	69.8	23.0	10.3	9.0
New York	72.4	76.5	32.1	9.0	7.9
North Carolina	65.3	78.5	28.9	11.7	10.5
North Dakota	61.1	62.1	30.9	10.3	7.5
Ohio	67.1	74.2	30.8	12.3	10.3
Oklahoma	67.9	75.4	32.1	12.0	8.8
Oregon	72.7	81.1	27.9	9.4	7.1
Pennsylvania	68.6	75.1	30.6	11.5	9.8
Rhode Island	78.3	91.5	30.3	9.4	7.8
South Carolina	65.2	77.4	33.0	12.8	10.9
South Dakota	61.1	61.0	25.5	10.6	6.8
Tennessee	68.4	75.7	32.0	12.5	10.3
Texas	59.7	72.7	34.2	11.1	8.3
Utah	72.2	78.7	24.0	10.2	6.7
Vermont	84.8	89.4	26.6	8.7	7.7
Virginia	64.3	79.9	32.5	11.2	9.2
Washington	69.7	74.9	26.9	9.5	6.9
West Virginia	70.7	75.7	35.1	13.4	10.7
Wisconsin	73.0	78.9	26.5	11.3	9.0
Wyoming	66.1	71.2	25.8	9.3	8.1

Notes: Universe is births paid for by Medicaid. Percentage columns are calculated based on number of births. Total number of births may not be consistent across breakdowns due to missing values or suppression. State is mother's legal state of residence recorded on the birth certificate. Low birthweight is defined as less than 2,500 grams.

Source: MACPAC, 2019, analysis of U.S. Centers for Disease Control and Prevention WONDER online database, Natality information: Live births, <https://wonder.cdc.gov/natality.html>.

TABLE 5A-2. Number of Births, by Payer, by State, 2018

State	Total	Medicaid		Private insurance		Uninsured		Other	
	Number	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	3,832,168	1,647,833	43.0%	1,881,528	49.1%	156,604	4.1%	146,203	3.8%
Alabama	58,908	29,120	49.4	26,348	44.7	1,272	2.2	2,168	3.7
Alaska	10,267	4,026	39.2	3,877	37.8	325	3.2	2,039	19.9
Arizona	81,696	43,517	53.3	33,241	40.7	2,713	3.3	2,225	2.7
Arkansas	37,003	16,921	45.7	18,036	48.7	1,072	2.9	974	2.6
California	471,142	202,943	43.1	229,115	48.6	19,000	4.0	20,084	4.3
Colorado	64,186	25,261	39.4	33,088	51.6	1,642	2.6	4,195	6.5
Connecticut	35,144	13,058	37.2	19,499	55.5	1,836	5.2	751	2.1
Delaware	10,841	4,855	44.8	5,403	49.8	215	2.0	368	3.4
District of Columbia	9,540	4,155	43.6	4,608	48.3	77	0.8	700	7.3
Florida	222,687	109,078	49.0	93,061	41.8	13,701	6.2	6,847	3.1
Georgia	129,008	59,425	46.1	50,350	39.0	8,633	6.7	10,600	8.2
Hawaii	17,491	5,490	31.4	7,382	42.2	573	3.3	4,046	23.1
Idaho	22,156	8,196	37.0	11,890	53.7	1,269	5.7	801	3.6
Illinois	148,709	60,852	40.9	84,181	56.6	2,280	1.5	1,396	0.9
Indiana	81,993	33,693	41.1	42,903	52.3	3,764	4.6	1,633	2.0
Iowa	38,410	15,381	40.0	21,429	55.8	1,230	3.2	370	1.0
Kansas	36,398	11,466	31.5	20,435	56.1	2,487	6.8	2,010	5.5
Kentucky	54,331	26,158	48.2	24,024	44.2	1,914	3.5	2,235	4.1
Louisiana	61,016	38,340	62.8	20,648	33.8	504	0.8	1,524	2.5
Maine	12,260	4,804	39.2	6,703	54.7	478	3.9	275	2.2
Maryland	71,263	28,631	40.2	38,102	53.5	2,232	3.1	2,298	3.2
Massachusetts	70,598	19,652	27.8	47,788	67.7	542	0.8	2,616	3.7
Michigan	111,097	46,989	42.3	61,988	55.8	1,586	1.4	534	0.5
Minnesota	68,454	21,871	32.0	43,378	63.4	1,607	2.4	1,598	2.3
Mississippi	37,307	23,339	62.6	12,358	33.1	1,149	3.1	461	1.2
Missouri	72,008	27,919	38.8	40,071	55.7	2,508	3.5	1,510	2.1
Montana	11,774	4,864	41.3	5,616	47.7	617	5.2	677	5.8
Nebraska	25,501	8,822	34.6	14,905	58.5	980	3.8	794	3.1
Nevada	35,508	16,834	47.4	15,589	43.9	1,746	4.9	1,339	3.8
New Hampshire	12,029	3,091	25.7	8,316	69.1	202	1.7	420	3.5
New Jersey	101,221	31,194	30.8	60,977	60.2	7,966	7.9	1,084	1.1
New Mexico	23,737	13,350	56.2	6,781	28.6	1,546	6.5	2,060	8.7
New York	228,873	110,653	48.4	107,662	47.0	2,784	1.2	7,774	3.4
North Carolina	120,010	51,686	43.1	54,138	45.1	8,327	6.9	5,859	4.9
North Dakota	10,602	2,677	25.3	5,940	56.0	283	2.7	1,702	16.1
Ohio	135,913	57,120	42.0	68,586	50.5	6,407	4.7	3,800	2.8

TABLE 5A-2. (Continued)

State	Total	Medicaid		Private insurance		Uninsured		Other	
	Number	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Oklahoma	50,095	25,959	51.8%	20,066	40.1%	1,038	2.1%	3,032	6.1%
Oregon	43,518	19,639	45.1	22,409	51.5	886	2.0	584	1.3
Pennsylvania	133,209	45,537	34.2	78,578	59.0	6,146	4.6	2,948	2.2
Rhode Island	10,627	5,146	48.4	5,216	49.1	71	0.7	194	1.8
South Carolina	56,874	28,253	49.7	24,518	43.1	1,626	2.9	2,477	4.4
South Dakota	12,080	3,871	32.0	7,162	59.3	360	3.0	687	5.7
Tennessee	76,755	39,045	50.9	33,041	43.1	1,521	2.0	3,148	4.1
Texas	381,322	180,969	47.5	151,035	39.6	27,959	7.3	21,359	5.6
Utah	47,016	12,222	26.0	30,281	64.4	2,506	5.3	2,007	4.3
Vermont	5,644	2,421	42.9	2,951	52.3	91	1.6	181	3.2
Virginia	100,237	30,247	30.2	62,394	62.3	5,238	5.2	2,358	2.4
Washington	86,174	34,135	39.6	45,417	52.7	962	1.1	5,660	6.6
West Virginia	18,557	9,261	49.9	8,757	47.2	365	2.0	174	0.9
Wisconsin	64,104	23,500	36.7	37,472	58.5	1,832	2.9	1,300	2.0
Wyoming	6,875	2,197	32.0	3,815	55.5	536	7.8	327	4.8

Notes: Percentage columns are calculated based on number of births. State is mother's legal state of residence recorded on the birth certificate.

Source: MACPAC, 2019, analysis of U.S. Centers for Disease Control and Prevention WONDER online database, Natality information: Live births, <https://wonder.cdc.gov/natality.html>.

TABLE 5A-3. Number and Share of Births, by Payer and Maternal Characteristics, 2018

Characteristic	Total	Medicaid	Private	Uninsured	Other
Total births	3,832,168	43.0%	49.1%	4.1%	3.8%
Residence					
Rural	516,779	50.0	41.1	4.9	4.0
Urban	3,315,389	41.9	50.3	4.0	3.8
Maternal age					
0–19	194,988	77.5	15.2	3.6	3.8
20–34	2,962,002	44.1	48.0	4.0	4.0
35 and older	675,178	28.2	63.9	4.8	3.1
Maternal Hispanic ethnicity					
Hispanic or Latino	894,418	60.2	28.5	6.7	4.7
Not Hispanic or Latino	2,906,389	37.8	55.3	3.3	3.6
Maternal race					
American Indian or Alaska Native, non-Hispanic	29,699	67.3	19.5	1.8	11.4
White non-Hispanic	1,979,495	30.5	63.1	3.0	3.4
Black non-Hispanic	557,571	65.9	27.7	3.0	3.4
Asian non-Hispanic	248,410	25.0	65.2	6.8	2.9
Native Hawaiian or Pacific Islander, non-Hispanic	9,315	56.2	28.6	6.3	8.9
More than one race, non-Hispanic	81,899	49.3	43.0	2.1	5.6
Maternal years of education					
8th grade or less	123,476	66.7	7.3	21.2	4.8
Some high school	378,566	79.1	10.8	6.0	4.1
High school diploma or GED certificate	967,101	65.8	26.8	3.6	3.8
Some college or associate degree	1,090,106	44.4	48.5	2.6	4.6
College or graduate degree	1,224,980	10.2	83.4	3.5	2.9

Notes: Percentages are calculated based on number of births. Total number of births may be inconsistent across breakdowns due to missing values or suppression. Urban and rural categories are based on the mother's legal county of residence as recorded on the birth certificate and are defined using the 2013 National Center for Health Statistics Urban-Rural Scheme for Counties. Urban includes counties classified as large central metro, large fringe metro, medium metro, and small metro. Rural includes counties classified as micropolitan and non-core. GED is general equivalency diploma.

Source: MACPAC, 2019, analysis of U.S. Centers for Disease Control and Prevention WONDER online database, Natality information: Live births, <https://wonder.cdc.gov/natality.html>.