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ISSUE BRIEF

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State Medicaid Coverage of Evidence-Based Perinatal Services Varies Widely

The United States continues to have the highest rate of maternal mortality of any high-income nation. Moreover, large, persistent disparities in pregnancy-related deaths and other maternal outcomes exist across settings and demographic characteristics.[1] Most adverse maternal health outcomes, including pregnancy-related deaths, occur in the first year after birth, known as the postpartum period, and many are preventable with timely and comprehensive care. To explore the types of care and services that Medicaid-covered postpartum parents can access, the American Institutes for Research® (AIR®) analyzed coverage across state Medicaid programs of evidence-based perinatal services like home visits, maternal depression screening at well-child visits, and lactation support outside the hospital (see Methods). The results show wide variation in Medicaid coverage of evidence-based perinatal services across states. For example, only 11 states (22%) require and reimburse maternal depression screening during well-child visits. In addition, the analysis identified state characteristics that may influence maternity care and outcomes, including Affordable Care Act (ACA) Medicaid expansion status and the presence of maternity care deserts—counties without any obstetrical hospitals or birthing centers and obstetrical providers (obstetricians/gynecologists or certified nurse midwives/certified midwives).[2] Despite growing recognition of the importance of postpartum care, differences in state Medicaid coverage likely influence maternal health outcomes and worsen disparities in outcomes based on place.

Key Findings

- Wide variation exists in Medicaid coverage of evidence-based perinatal services that can improve outcomes, particularly alternative models of care like freestanding birth centers and whole-person, wraparound care.
- Despite growing recognition of the importance of postpartum care, state variation in Medicaid coverage of perinatal services likely influences maternal outcomes and worsens place-based disparities.

The State of Postpartum Care and Outcomes in the United States

After peaking at 32.9 deaths per 100,000 live births in 2021, the U.S. maternal mortality rate decreased to 22.3 deaths in 2022 but remains more than double, sometimes triple, the rate for most other high-income countries.[3] Adverse maternal outcomes are especially prevalent among those living in rural and underserved areas and among Black, American Indian, and Alaska Native women.[4,5] An estimated 4 in 5 pregnancy-related deaths are preventable.[6] Many adverse maternal outcomes happen up to 1 year after childbirth (postpartum), with more than half of pregnancy-related deaths (53%) occurring between 1 week and 1 year postpartum.[7]

Poor maternal health outcomes are often the result of unmanaged chronic health conditions such as hypertension and untreated mental and behavioral health conditions like postpartum depression and substance use disorder (SUD).[8] Adverse outcomes also include untreated complications from childbirth such as pelvic floor injuries and chronic pain from medical interventions during childbirth, which can impact the health and well-being of people for years.

Many negative pregnancy-related outcomes could be prevented through consistent care from providers, tailored education, whole-person supports, and coordinated care.[9] Comprehensive postpartum care—that is, not just a single visit, but a series of touchpoints and a range of coordinated services and supports tailored to the needs of each individual—has been shown to address elevated health risks during the postpartum period.[10] In 2018, the American College of Obstetricians and Gynecologists (ACOG) recommended that all postpartum women have contact with their provider within the first 3 weeks of birth and have a comprehensive postpartum visit no later than 12 weeks after birth. The ACOG recommendations also outline aspects of physical, social, and psychological well-being as critical components of postpartum care and emphasize the importance of transition of care to a primary care provider.[11]

Navigating postpartum health can be challenging because of various factors: Many women report not knowing who to reach out to when a health issue arises postpartum, a lack of continuity exists among providers, and patients experience disconnects with providers.[12] In addition, until recently disruptions to insurance coverage during the postpartum period were common among people with Medicaid coverage at childbirth.[13] Medicaid pays for about 4 in 10 U.S. births, and federal law requires Medicaid to provide pregnancy-related coverage for only 60 days postpartum, potentially leaving many people without access to care.[14] However, the 2021 American Rescue Plan Act gave states the option to expand pregnancy-related Medicaid coverage to 12 months postpartum, and as of January 2025, 48 states and the District of Columbia have implemented the 12-month postpartum Medicaid extension.[15]

Variation in state resources and services also impacts access to perinatal care and postpartum health outcomes.[16] Approximately 2.2 million women of childbearing age live in U.S counties without any obstetrical care providers—known as maternity care deserts.[17] Many women living in such deserts must travel long distances to receive perinatal care. In addition, some are more susceptible to poor postpartum outcomes because of social, contextual, and environmental factors, such as access to stable housing, safe neighborhoods, clean water, reliable transportation, quality health care, and nutritious food.[18] People of color, particularly Black postpartum women, are more likely to live in counties with higher maternal vulnerability and limited access to consistent care.[19]

Evidence-Based Perinatal Services

Evidence shows that insurance coverage of certain services and care during pregnancy and after childbirth can help mitigate poor postpartum outcomes and address differences in outcomes for at-risk populations. As part of this analysis, researchers reviewed the maternity care literature to identify perinatal services and care models that have improved outcomes for Medicaid-covered women during the postpartum period (see Methods). Based on the review, researchers grouped the evidence-based perinatal services into four categories:

- Alternatives models of care delivery
- Whole-person, wraparound care
- Mental and behavioral health support
- Lactation support beyond the hospital

Researchers prioritized services with evidence of impact during the postpartum period and for which complete quality data on state-level coverage exist (see Methods). As a result, some evidence-based services, such as coverage of health-related social needs and perinatal community health workers, were excluded because data on coverage of these services are limited. Exhibit 1 lists the services included in each category.

Exhibit 1. Evidence-Based Perinatal Services by Category

Alternative models of care delivery	Mental and behavioral health support
• Freestanding birth centers • Perinatal care coordination • Group prenatal care • Pregnancy medical homes • Certified midwives, certified professional midwives, and certified nurse midwives	• Maternal depression screening during well-child visits • Perinatal substance use disorder benefits
Whole-person, wraparound care	**Lactation support beyond the hospital**
• Home visiting • Doulas	• Outpatient lactation support in clinic or home

Alternative Models of Care Delivery. In the medical model, care is delivered by different health care providers, often with visits that focus primarily on identifying potential medical risks and complications. Childbirth delivery typically happens in a hospital setting and is overseen by an obstetrician. Alternative care models, such as the midwifery model of care,[20] care delivered in freestanding birth centers,[21] group prenatal care,[22,23] pregnancy medical homes,[24] and perinatal care coordination,[25] focus on continuity of care, patient-provider relationships, preventive and community care, and individual needs and cultural sensitivities. Alternative models of care have been shown to improve outcomes during the postpartum period, including psychosocial (e.g., decreased incidence of depression and anxiety),

physical (e.g., decreased cesarean births that can lead to complications, decreased hospitalizations and emergency department visits), and behavioral (e.g., improved breastfeeding uptake and duration, increased attendance at a postpartum visit).

Whole-Person, Wraparound Care. Whole-person care looks at the whole individual, not just an individual symptom or body part, and considers various factors for health and disease that include biological, behavioral, social, and environmental considerations.[26] Wraparound care in the maternal health context provides supplemental medical, emotional, and social support to standard clinical pregnancy, birth, and postpartum care. For example, doulas and home visitors provide in-home whole-person, wraparound support and care tailored to individual needs and circumstances, with a focus on early identification, screening, referrals, and follow-up. Studies on doula care[27,28] and home visiting services[29,30] demonstrate that these types of services can improve postpartum outcomes, including decreased incidence of depression and anxiety and improved breastfeeding rates and experience while mitigating complications such as hospitalizations.

Mental and Behavioral Health Support. Maternal mental health conditions, including depression, anxiety, suicide, and SUD, are the leading causes of pregnancy-related deaths through the 12-month postpartum period.[31] Approximately 1 in 8 women suffers from postpartum depression following a live birth.[32] Opioid-involved pregnancies may include as many as 6% of childbirths in areas most heavily impacted by the opioid crisis.[33] Research shows that pregnant and postpartum women who have access to maternal mental health services, including depression screening, counseling, medication, and SUD treatment, have improved health and well-being outcomes, as do their infants.[34] In addition, maternal depression screening during well-child visits is an effective strategy because postpartum mothers are more likely to attend pediatric visits for their newborns than attend their own postpartum visits.[35] The American Academy of Pediatrics recommends routinely screening mothers for postpartum depression at the 1-, 2-, 4-, and 6-month well-child visits.[36]

Lactation Support Beyond the Hospital. Maternal and infant health professionals recommend breastfeeding exclusively for the first 6 months following childbirth.[37] However, there are often barriers to beginning and sustaining breastfeeding, including lack of access to community lactation support and adverse interactions with providers not trained in or aware of breastfeeding best practices.[38] Out-of-hospital lactation support from highly trained providers, such as International Board Certified Lactation Consultants, can improve breastfeeding initiation and maintenance rates by helping to build skills; resolve challenges faced during the first few weeks postpartum and beyond; and mitigate stress, anxiety, and pain related to breastfeeding.[39]

State Medicaid Coverage of Evidence-Based Perinatal Services Varies Widely

State Medicaid programs have considerable latitude in what and how maternity care services are covered. To explore coverage of these services by state and examine variation across state Medicaid programs, researchers synthesized Medicaid coverage data from a variety of sources, including the Institute for Medicaid Innovation, the National Partnership for Women & Families, and the National Health Law Program.

Coverage of evidence-based perinatal services varies widely across state Medicaid programs (Exhibit 2). The most commonly covered services include care at freestanding birth centers (covered by 78% of states), prenatal care coordination (69%), and perinatal SUD benefits (78%). The least commonly covered services include group prenatal care (35%), maternal depression screening during well-child visits (22%), and pregnancy medical homes (10%).

Looking at variation in coverage across the four categories, the fewest number of states cover services in the alternative models of care delivery and whole-person, wraparound care categories. As described previously, strong evidence points to the benefits of alternative models of care and whole-person, wraparound care during the postpartum period. For example, evidence suggests that group prenatal care—compared with traditional, individualized care—is associated with positive outcomes in the postpartum period, including decreased rates of pregnancy complications that impact postpartum health (such as preterm birth), increased breastfeeding initiation and duration, and reductions in depression symptoms.[40,41] However, only 18 states cover group prenatal care.

In addition, home visiting has been shown to improve maternal—as well as pediatric—outcomes postpartum by helping to ensure that mothers get needed physical and behavioral health care, referrals, and education. Although more than half of states (55%) cover postpartum home visiting services under Medicaid, an opportunity exists for more states to invest in this type of evidence-based care. Evidence suggests that case management, care coordination, screening for physical and socioemotional needs, and family support and counseling are associated with improved postpartum outcomes and demonstrated cost savings.[42]

Another important finding is that only 11 states (22%) require and reimburse maternal depression screening during well-child visits. With nearly 25% of low-income women experiencing symptoms of depression after giving birth, screening during well-child visits is a relatively low-cost intervention to identify and address symptoms before serious complications arise.[43]

Reviewing coverage of evidence-based perinatal services by ACA Medicaid expansion status shows that expansion states generally cover more services across the four categories than non-expansion states. This finding is particularly true for whole-person, wraparound care and outpatient lactation support. About half of expansion states offer at least one whole-person, wraparound care service compared with 30% of non-expansion states, while 73% of expansion states cover outpatient lactation support compared with 50% of non-expansion states.

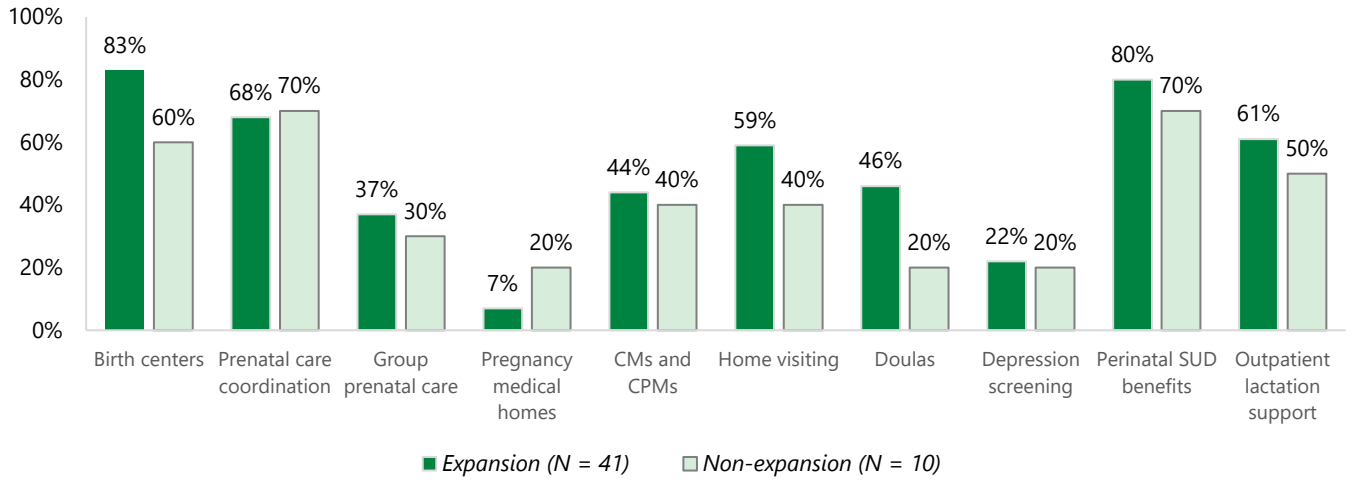
Exhibit 2. Percentage of State Medicaid Programs That Cover Benefit Category, by All States and by ACA Medicaid Expansion Status

Benefit category	All state Medicaid programs (*N* = 51)	Expansion states (*N* = 41)	Non-expansion states (*N* = 10)
Alternative models of care delivery	47%	48%	44%
Whole-person, wraparound care	48%	52%	30%
Mental and behavioral health support	53%	54%	50%
Lactation support beyond the hospital	69%	73%	50%

Source for state Medicaid expansion status: KFF. (2024, November 12). *Status of state Medicaid expansion decisions.* https://www.kff.org/affordable-care-act/issue-brief/status-of-state-medicaid-expansion-decisions-interactive-map/
Note. Numbers may not add up due to rounding.

Looking at coverage of individual services provides a richer picture of the variation in coverage by expansion and non-expansion states (Exhibit 3). The biggest coverage differences include freestanding birth centers (83% vs. 60%), doulas (46% vs. 20%[44]), and home visiting (59% vs. 40%), with a larger proportion of expansion states covering these services compared with non-expansion states. However, interestingly, a greater proportion of non-expansion states cover prenatal care coordination (70%) and pregnancy medical homes (20%) than expansion states (68% and 7%, respectively).

Exhibit 3. Percentage of State Medicaid Programs That Cover Benefit by ACA Medicaid Expansion Status



Source for state Medicaid expansion status: KFF. (2024, November 12). *Status of state Medicaid expansion decisions.* https://www.kff.org/affordable-care-act/issue-brief/status-of-state-medicaid-expansion-decisions-interactive-map/
Note. CMs: certified midwives; CPMs: certified professional midwives.

When looking at coverage by maternity care desert status, as illustrated in Exhibit 4, states with a lower percentage of counties designated as maternity care deserts are more likely to cover evidence-based perinatal services benefits across the four categories than states with more maternity care deserts. As such, women living in states with limited access to maternity care options likely also have limited access to comprehensive postpartum care, further exacerbating their risk of poor outcomes and disparity by place, particularly in rural and underserved communities. A promising finding is that 87% of states with a high percentage of counties designated as maternity care deserts cover freestanding birth centers. Freestanding birth centers can help fill provider gaps in places without hospital facilities, thereby expanding access to care. However, coverage alone does not mean freestanding birth centers are accessible to women in underresourced communities.

Exhibit 4. State Medicaid Program Coverage of Evidence-Based Perinatal Services, by Percentage of Counties Designated as Maternity Care Deserts

Benefit	0%–15% of counties (*N* = 19)	15%–35% of counties (*N* = 17)	>35% of counties (*N* = 15)
Alternative models of care delivery			
Freestanding birth centers	79%	71%	87%
Prenatal care coordination	74%	76%	53%
Group prenatal care	47%	35%	20%
Pregnancy medical homes	5%	12%	13%
Certified midwives and certified professional midwives	58%	47%	20%
Whole-person, wraparound care			
Home visiting	63%	59%	40%
Doulas	53%	35%	33%
Mental and behavioral health support			
Maternal depression screening during well-child visits	26%	18%	20%
Perinatal substance use disorder benefits	79%	76%	80%
Lactation support beyond the hospital			
Outpatient lactation support	74%	76%	53%

Source for maternity care deserts: March of Dimes. (2024). *Nowhere to go: Maternity care deserts across the U.S.* https://www.marchofdimes.org/maternity-care-deserts-report

Looking across states, some overlap exists between non-expansion states and states with a large proportion of maternity care deserts. Mississippi and Alabama, both non-expansion states with racially and ethnically diverse Medicaid populations and more than 35% of counties without maternity care, cover fewer services across the four categories than most other states. These two states have some of the highest maternal mortality rates in the country (second and third, respectively).[45] Arkansas also has a racially and ethnically diverse Medicaid population, a high percentage of counties without maternity care, and the fourth highest maternal mortality rate. Arkansas covers four of the 10 benefits across the categories. Although Arkansas did implement Medicaid expansion under the ACA, it is the only state that does not currently plan to extend Medicaid coverage to 12 months postpartum.

Policy Implications

The increased focus on maternal health outcomes in this country since the COVID-19 pandemic has emphasized the importance of postpartum care and fostered opportunities to find innovative ways to improve care during the postpartum period. Recent efforts by states and the federal government to improve access to perinatal care overall, and thereby improve postpartum outcomes, will likely have an impact on mitigating maternal health disparities. However, variation in state Medicaid coverage of evidence-based perinatal services underscores opportunities for states to enhance coverage of services shown to promote health and well-being during the first year of parenthood. The findings also draw attention to the need for policies and programs to strengthen and grow the maternal health workforce, particularly in rural areas and underserved communities. Some states are exploring initiatives such loan repayment programs, tax credits, and other incentives for providers in maternity health care deserts and investing in telehealth/telephonic perinatal mental health resources to stabilize the maternal health workforce in their states.[46,47] Some states are also looking at different pathways to certify, license, and reimburse community-based maternal health workers, such as doulas, to address the shortage of clinical maternal care providers. Further, some states have or are considering modifying scope of practice and prescriptive authority for midwives.[48]

Covering 41% of births nationally and most births in some states, Medicaid is a powerful policy lever that states and the federal government can use to improve access to evidence-based perinatal care and outcomes for low-income people. The importance of Medicaid is particularly true for states that have not expanded the program under the ACA and for states with significant barriers to comprehensive maternal health care because of geographic, workforce, and socioeconomic factors. Some research indicates that the services described in this brief not only improve maternal health outcomes but also can be cost-effective. The federal Strong Start for Mothers and Newborns initiative that supported alternative approaches to prenatal care in Medicaid through the use of birth centers, group prenatal care, and maternity care homes saw improved outcomes at lower cost for certain benefits.[49] Similarly, community-based doula services have also shown potential to lower maternal health cost while improving health outcomes and the care experience.[50] The extension of postpartum coverage through 12 months by most states presents an opportunity for state Medicaid programs to consider coverage policies that expand access to a breadth of care and services that are potentially cost-effective, improve maternal care, and save lives.

This analysis is meant to offer a descriptive understanding of Medicaid coverage of evidence-based perinatal services across states. At the same time, comparing coverage of services by counts has limitations because it gives equal weight to each service regardless of potential impact and does not account for variation in *how* services are implemented. To build on this study, further investigation of how state Medicaid programs implement perinatal services is needed to characterize state approaches; document variation; and assess impacts on access, cost, and quality and outcomes of care for postpartum women and their infants and to identify additional best or promising practices.

METHODS

To identify evidence-based services, the team searched a variety of databases and search engines using key words to find peer-reviewed literature, gray literature, and trade press articles that were published within the last 10 years and based in the United States. The articles were reviewed by the team for relevance to the study goals (e.g., Medicaid focus, postpartum outcomes), and data were extracted for analysis and summarized. Services in which there are multiple peer-reviewed studies of varying designs and scale that demonstrate positive impact on postpartum outcomes were considered evidence based. The coverage analysis used the most recent publicly available data on services covered by state Medicaid programs from the Institute for Medicaid Innovation[51] (November 2023), the National Partnership for Women & Families[52] (April 2022), and the National Health Law Program[53] (November 2024), with supplemental reviews of state Medicaid websites and Medicaid State Plan Amendments.

The analysis included services for which (a) there is documented evidence in the literature that the service improves postpartum outcomes, particularly for Medicaid-covered women; (b) federal and state sources have cited the service as a Medicaid priority; and (c) complete data exist on state-level coverage. For this reason, some services, such as coverage of health-related social needs and perinatal community health workers, are excluded because state coverage data are limited and incomplete.

Using the descriptions provided by the Institute for Medicaid Innovation, the team determined whether a state Medicaid program covered each service using the following definitions:

- Freestanding birth centers: Medicaid covers maternity care provided in freestanding birth centers.
- Perinatal care coordination: Medicaid covers perinatal care coordination models of care.
- Group prenatal care: Medicaid covers care provided through group prenatal models.

- Pregnancy medical home models: Medicaid covers care provided through pregnancy medical homes.
- Midwives: Medicaid covers services provided by direct entry midwives (certified midwives and certified professional midwives), in addition to certified nurse midwives
- Home visiting: Medicaid covers services related to home visiting.
- Doulas: Medicaid covers services provided by doulas.
- Depression screening: Medicaid requires depression screening as part of a well-child visit.
- Perinatal SUD benefits: Medicaid covers SUD benefits for pregnant and postpartum women.
- Lactation counseling: Medicaid covers lactation counseling for outpatient and/or home visits.

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Endnotes

[1] National Academies of Sciences, Engineering, and Medicine. (2020). *Birth settings in America: Outcomes, quality, access, and choice.* https://nap.nationalacademies.org/catalog/25636/birth-settings-in-america-outcomes-quality-access-and-choice

[2] March of Dimes. (2022). *Nowhere to go: Maternity care deserts across the U.S.* https://www.marchofdimes.org/sites/default/files/2022-10/2022_Maternity_Care_Report.pdf

[3] Gunja, M. Z., Gumas, E. D., Relebohile, M., & Zephyrin, L. C. (2024, June 4). *Insights into the U.S. maternal mortality crisis: An international comparison.* The Commonwealth Fund. https://www.commonwealthfund.org/publications/issue-briefs/2024/jun/insights-us-maternal-mortality-crisis-international-comparison#:~:text=In%202022%20there%20were%20approximately,deaths%20per%20100%2C000%20live%20births

[4] Centers for Disease Control and Prevention. (2024, November 14). *Pregnancy mortality surveillance system.* https://www.cdc.gov/maternal-mortality/php/pregnancy-mortality-surveillance/

[5] Tipre, M., Bolaji, B., Blanchard, C., Harrelson, A., Szychowski, J., Sinkey, R., Julian, Z., Tita, A., Baskin, M. L. (2022). Relationship between neighborhood socioeconomic disadvantage and severe maternal morbidity and maternal mortality. *Ethnicity & Disease, 32*(4), 293–304. https://pubmed.ncbi.nlm.nih.gov/36388861/

[6] Centers for Disease Control and Prevention. (2022, September 19). *Four in 5 pregnancy-related deaths in the U.S. are preventable* [Press release]. https://www.cdc.gov/media/releases/2022/p0919-pregnancy-related-deaths.html

[7] Centers for Disease Control and Prevention. (2022, September 19). *Four in 5 pregnancy-related deaths in the U.S. are preventable* [Press release]. https://www.cdc.gov/media/releases/2022/p0919-pregnancy-related-deaths.html

[8] Eunice Kennedy Shriver National Institute of Child Health and Human Development. (2020, May 14). *What are examples and causes of maternal morbidity and mortality?* https://www.nichd.nih.gov/health/topics/maternal-morbidity-mortality/conditioninfo/causes

[9] Centers for Medicare & Medicaid Services. (n.d.). *Postpartum care.* https://www.medicaid.gov/medicaid/quality-of-care/quality-improvement-initiatives/maternal-infant-health-care-quality/postpartum-care/index.html

[10] Office of the Surgeon General. (2020, December 4). *The Surgeon General's call to action to improve maternal health.* U.S. Department of Health and Human Services. https://www.ncbi.nlm.nih.gov/books/NBK568218/

[11] American College of Obstetricians and Gynecologists. (2018, May). *Optimizing postpartum care* [Number 736]. https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2018/05/optimizing-postpartum-care

[12] Martin, A., Horowitz, C., Balbierz, A., & Howell, E. A. (2014). Views of women and clinicians on postpartum preparation and recovery. *Maternal and Child Health Journal, 18*(3), 707–713. https://doi.org/10.1007/s10995-013-1297-7

[13] Daw, J. R., Kozhimannil, K. B., & Admon, L. K. (2018, September 16). *High rates of perinatal insurance churn persist after the ACA.* https://www.healthaffairs.org/content/forefront/high-rates-perinatal-insurance-churn-persist-after-aca

[14] Corallo, B., Tolbert, J., Saunders, H., & Frederiksen, B. (2022, July 14). *Medicaid enrollment patterns during the postpartum year.* KFF. https://www.kff.org/medicaid/issue-brief/medicaid-enrollment-patterns-during-the-postpartum-year/

[15] KFF. (2025, January 17). *Medicaid postpartum coverage extension tracker.* https://www.kff.org/medicaid/issue-brief/medicaid-postpartum-coverage-extension-tracker/

[16] Lubell, J. (2024, August 1). *How maternal care access varies by where moms live*. https://www.ama-assn.org/delivering-care/public-health/how-maternal-care-access-varies-where-moms-live

[17] March of Dimes. (2024). *Nowhere to go: Maternity care deserts across the U.S.* https://www.marchofdimes.org/maternity-care-deserts-report

[18] March of Dimes. (2024). *2024 March of Dimes report card for the United States*.

[19] Valerio, V., Downey, J., Sgaier, S., Callaghan, W., Hammer, B., & Smittenaar, P. (2023). Black-White disparities in maternal vulnerability and adverse pregnancy outcomes: An ecological population study in the United States, 2014–2018. *The Lancet Regional Health Americas, 20*. https://www.thelancet.com/journals/lanam/article/PIIS2667-193X(23)00030-3/fulltext

[20] Bagheri, A., Simbar, M., Samimi, M., Nahidi, F., Alavimajd, H., & Sadat, Z. (2021). Comparing the implications of midwifery-led care and standard model on maternal and neonatal outcomes during pregnancy, childbirth and postpartum. *Journal of Midwifery & Reproductive Health, 9*(3), 2863–2872. http://doi.org/10.22038/jmrh.2021.55639.1678

[21] Alliman, J., Bauer, K., & Williams, T. (2022). Freestanding birth centers: An evidence-based option for birth. *The Journal of Perinatal Education, 31*(1), 8–13. http://doi.org/10.1891/JPE-2021-0024

[22] Avalos, L. A., Oberman, N., Gomez, L., Quesenberry, C., Sinclair, F., Kurtovich, E., Gunderson, E., Hedderson, M., & Stark, J. (2024, May 21). Group multimodal prenatal care and postpartum outcomes. *JAMA Network Open, 7*(5), e2412280. http://doi.org/10.1001/jamanetworkopen.2024.12280

[23] Heberlein, E. C., Picklesimer, A. H., Billings, D. L., Covington-Kolb, S., Farber, N., & Frongillo, E. (2016). The comparative effects of group prenatal care on psychosocial outcomes. *Archives of Women's Mental Health, 19,* 259–269. https://doi.org/10.1007/s00737-015-0564-6

[24] Zephyrin, L., Seervai, S., Lewis, C., & Katon, J. G. (2021, March 4). *Community-based models to improve maternal health outcomes and promote health equity*. The Commonwealth Fund. https://doi.org/10.26099/6s6k-5330

[25] Kroll-Desrosiers, A. R., Crawford, S. L., Moore Simas, T. A., Rosen, A. K., & Mattocks, K. M. (2016). Improving pregnancy outcomes through maternity care coordination: A systematic review. *Women's Health Issues, 26*(1), 87–99. https://doi.org/10.1016/j.whi.2015.10.003

[26] National Center for Complementary and Integrative Health. (2021, May). *Whole person health: What it is and why it's important.* https://www.nccih.nih.gov/health/whole-person-health-what-it-is-and-why-its-important

[27] Gruber, K. J., Cupito, S. H., & Dobson, C. F. (2013). Impact of doulas on healthy birth outcomes. *Journal of Perinatal Education*, *22*(1), 49–58. https://pmc.ncbi.nlm.nih.gov/articles/PMC3647727/

[28] Robles-Fradet, A. (2019, August 26). *Women are dying in childbirth: Doulas are part of the solution*. National Health Law Program. https://healthlaw.org/women-are-dying-in-childbirth-doulas-are-part-of-the-solution/

[29] Olds, D. L., Kitzman, H., Knudtson, M. D., Anson, E., Smith J. A., & Cole R. (2014). Effect of home visiting by nurses on maternal and child mortality: Results of a 2-decade follow-up of a randomized clinical trial. *JAMA Pediatrics*, *168*(9), 800–806. https://pubmed.ncbi.nlm.nih.gov/25003802/

[30] Office of Planning, Research & Evaluation. (2023, June). *Early childhood home visiting models: Reviewing evidence of effectiveness* (OPRE Report #2023-128). U. S. Department of Health & Human Services, Administration for Children & Families. https://www.acf.hhs.gov/opre/report/home-visiting-evidence-effectiveness-review

[31] Medicaid.gov. (n.d.). *Addressing maternal mental health and substance use care and outcomes*. U. S. Department of Health & Human Services, Centers for Medicare & Medicaid Services. https://www.medicaid.gov/medicaid/quality-of-care/quality-improvement-initiatives/maternal-infant-health-care-quality/addressing-maternal-mental-health-and-substance-use-care-and-outcomes/index.html

[32] Centers for Disease Control and Prevention. (n.d.). *Symptoms of depression among women.* Reproductive Health. https://www.cdc.gov/reproductive-health/depression/index.html

[33] American Society of Addiction Medicine. (n.d.). *Public policy statement on substance use and substance use disorder among pregnant and postpartum people*. https://2022-sud-pregnant-postpartum.pdf

[34] Task Force on Maternal Mental Health. (2024, May). *National strategy to improve maternal mental health care*. Substance Abuse and Mental Health Services Administration. https://www.samhsa.gov/sites/default/files/mmh-strategy.pdf

[35] Earls, M. F., Yogman, M. W., Mattson, G., Rafferty, J., Baum, R., Gambon, T., Lavin, A., & Wissow, L. (2019). Incorporating recognition and management of perinatal depression into pediatric practice. *Pediatrics*, *143*(1), e20183259. https://publications.aap.org/pediatrics/article/143/1/e20183259/37241/Incorporating-Recognition-and-Management-of?autologincheck=redirected

[36] Earls, M. F., Yogman, M. W., Mattson, G., Rafferty, J., Baum, R., Gambon, T., Lavin, A., & Wissow, L. (2019). Incorporating recognition and management of perinatal depression into pediatric practice. *Pediatrics*, *143*(1), e20183259. https://publications.aap.org/pediatrics/article/143/1/e20183259/37241/Incorporating-Recognition-and-Management-of?autologincheck=redirected

[37] Centers for Disease Control and Prevention. (n.d.). *Strategies for continuity of care in breastfeeding*. https://www.cdc.gov/breastfeeding/php/strategies/public-health-strategies-for-continuity-of-care-in-breastfeeding.html

[38] Centers for Disease Control and Prevention. (n.d.). *Strategies for continuity of care in breastfeeding*. https://www.cdc.gov/breastfeeding/php/strategies/public-health-strategies-for-continuity-of-care-in-breastfeeding.html

[39] Mildon, A., Francis, J., Stewart, S., Underhill, B., Ng, Y. M., Richards, E., Rousseau, C., Di Ruggiero, E., Dennis, C-L., O'Connor, D. L., & Sellen, D. W. (2021). Effect on breastfeeding practices of providing in-home lactation support to vulnerable women through the Canada Prenatal Nutrition Program: Protocol for a pre-post intervention study. *International Breastfeeding Journal*, *16*(49). https://doi.org/10.1186/s13006-021-00396-y

[40] Masters, C., Carandang, R. R., Lewis, J. B., Hagaman, A., Metrick, R., Ickovics, J. R., & Cunningham S. D. (2024). Group prenatal care successes, challenges and frameworks for scaling up: A case study in adopting health care innovations. *Implementation Science Communications*, *5*(20). https://doi.org/10.1186/s43058-024-00556-1

[41] Buultjens, M., Farouque, A., Karimi, L., Whitby, L., Milgrom, J., & Erbas, B. (2021). The contribution of group prenatal care to maternal psychological health outcomes: A systematic review. *Women and Birth*, *34*(6), e631–e642. https://doi.org/10.1016/j.wombi.2020.12.004

[42] Michalopoulos, C., Faucetta, K., Warren, A., & Mitchell, R. (2017, September). Evidence on the long-term effects of home visiting programs: Laying the groundwork for long-term follow-up in the mother and infant home visiting program evaluation (MIHOPE) (OPRE Report 2017-73). Office of Planning, Research & Evaluation. https://files.eric.ed.gov/fulltext/ED579153.pdf

[43] American Academy of Pediatrics. (2022, June 6*). *Integrating postpartum depression screening in your practice in 4 steps*. https://www.aap.org/en/patient-care/perinatal-mental-health-and-social-support/integrating-postpartum-depression-screening-in-your-practice-in-4-steps/#:~:text=AAP%20recommends%20that%20birth%20parent,common%20predictor%20of%20postpartum%20depression

[44] Florida covers doula services under Medicaid managed care as an optional service. The benefit is not available to fee-for-service enrollees. For the purposes of this research, we included Florida as a state that does offer Medicaid doula coverage, but the scope of coverage varies by the managed care plan.

[45] KFF. (n.d.). *Maternal deaths and mortality rates per 100,000 live births*. https://www.kff.org/other/state-indicator/maternal-deaths-and-mortality-rates-per-100000-live-births/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Maternal%20Mortality%20Rate%20per%20100,000%20Live%20Births%22,%22sort%22:%22desc%22%7D

[46] Staren, D. (2024, December 2). *State strategies to strengthen the perinatal health care system*. National Academy for State Health Policy. https://nashp.org/state-strategies-to-strengthen-the-perinatal-health-care-system/

[47] National Conference of State Legislatures. (2024, June 12). *Workforce supports: Improving maternal health outcomes*. https://www.ncsl.org/health/workforce-supports-improving-maternal-health-outcomes

[48] National Conference of State Legislatures. (2024, June 12). *Workforce supports: Improving maternal health outcomes*. https://www.ncsl.org/health/workforce-supports-improving-maternal-health-outcomes

[49] Dubay, L., Hill, I., Garrett, B., Blavin, F., Johnston, E., Howell, E., Morgan, J., Courtot, B., Benatar, S., & Cross-Barnet, C. (2020). Improving birth outcomes and lowering costs for women on Medicaid: Impacts of "Strong Start for Mothers and Newborns". *Health Affairs*, *39*(6). https://www.healthaffairs.org/doi/10.1377/hlthaff.2019.01042

[50] Zephyrin, L. C., Seervai, S., Lewis, C., & Katon, J. G. (2021, March 4). *Community-based models to improve maternal health outcomes and promote health equity*. https://www.commonwealthfund.org/publications/issue-briefs/2021/mar/community-models-improve-maternal-outcomes-equity

[51] Johnson, R., Eldridge, G. N., Khanal, P., & Zephyrin, L. C. (2023, November 20). *State policies to improve perinatal outcomes*. Institute for Medicaid Innovation, Center for Health Care Strategies, and Commonwealth Fund. https://docs.google.com/spreadsheets/d/1U6T9FW-DDVSCJOBMrM0st51ALkuQu63mYS6AlwvvId4/edit?gid=466512121#gid=466512121

[52] National Partnership for Women and Families. (2022, April). *Improving our maternity care now through community birth settings*. https://nationalpartnership.org/wp-content/uploads/2023/02/improving-maternity-community-birth-settings.pdf

[53] National Health Law Program. (2024, November). *Current state doula Medicaid efforts*. https://healthlaw.org/current-state-doula-medicaid-efforts/

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