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## Racial/Ethnic Disparities in Postpartum Health Insurance Coverage Among Rural and Urban U.S. Residents

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### Abstract

**Objective:** Half of maternal deaths occur during the postpartum year, with data suggesting greater risks among Black, Indigenous, and people of color (BIPOC) and rural residents. Being insured after childbirth improves postpartum health-related outcomes, and recent policy efforts focus on extending postpartum Medicaid coverage from 60 days to 1 year postpartum. The purpose of this study is to describe postpartum health insurance coverage for rural and urban U.S. residents who are BIPOC compared to those who are white.

**Materials and Methods:** Using data from the 2016–2019 Pregnancy Risk Assessment Monitoring System ( $n = 150,273$ ), we describe health insurance coverage categorized as Medicaid, commercial, or uninsured at the time of childbirth and postpartum. We measured continuity of insurance coverage across these periods, **focusing on postpartum Medicaid disruptions**. Analyses were conducted among white and BIPOC residents from rural and urban U.S. counties.

**Results:** Three-quarters (75.3%) of rural white people and 85.3% of urban white people were continuously insured from childbirth to postpartum, compared to 60.5% of rural BIPOC people and 65.6% of urban BIPOC people. Postpartum insurance disruptions were frequent among people with Medicaid coverage at childbirth, particularly among BIPOC individuals, compared to those with private insurance; 17.0% of rural BIPOC residents had Medicaid at birth and became uninsured postpartum **compared with 3.4% of urban white people**.

**Conclusions:** Health insurance coverage at childbirth, postpartum, and across these timepoints varies by race/ethnicity and rural compared with urban residents. Policy efforts to extend postpartum Medicaid coverage may reduce inequities at the **intersection of racial/ethnic identity and rural geography**.

**Keywords:** maternal health, rural health, racial disparities, health insurance, Medicaid

### INTRODUCTION

OVER THE LAST two decades, maternal mortality has increased more than 25% in the United States.<sup>1</sup> Rural residents face greater maternal morbidity and mortality risks than their urban counterparts,<sup>2,3</sup> and Black and Indigenous people have a three to four times greater risk compared with white people.<sup>4</sup> Recent increases in maternal mortality may be

driven, at least in part, by a growing proportion of maternal deaths occurring postpartum.<sup>5</sup> From 2011 to 2015, approximately half of pregnancy-related deaths occurred after childbirth.<sup>4</sup>

Access to health care after childbirth can improve postpartum health-related outcomes.<sup>4</sup> Black, Indigenous, and people of color face experiences of racism and discrimination that affect access to high quality, respectful maternity care.<sup>6–8</sup>

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Accessing care during and after childbirth is also a particular challenge for many rural residents due to distance to care, workforce shortages, transportation barriers, economic and social resource limitations, and lack of local services and supports.<sup>9–11</sup> Postpartum visits' attendance varies, with health insurance coverage playing an important role,<sup>12</sup> alongside challenges posed by racism and geography.<sup>13,14</sup>

Health insurance is crucial for ensuring access to care before, during, and after pregnancy, and expansions of insurance eligibility among low-income adults have been associated with decreases in maternal mortality.<sup>15</sup> Medicaid finances almost half of all births in the United States and more than half of births among rural residents and people who identify as among Black, Indigenous, and people of color (BIPOC).<sup>16</sup> In addition, BIPOC Medicaid beneficiaries have elevated risks of severe maternal morbidity and mortality.<sup>17</sup> These risks derive not from Medicaid coverage itself, which has shown to reduce maternal mortality,<sup>15</sup> but rather from structural inequities—including racism and urbanism—that render BIPOC and rural people at greater risk for poverty (and income-associated Medicaid eligibility), as well as adverse maternal and infant health outcomes.<sup>2,3,7,8,14,16</sup>

Postpartum Medicaid eligibility extensions beyond 60 days postpartum have been proposed as a central strategy for mitigating adverse health outcomes in the year after birth. Recent federal and state policy actions have begun to extend postpartum Medicaid eligibility beyond 60 days to improve access to care and health equity.<sup>18–21</sup> It is not clear how much these proposed policy changes to Medicaid eligibility would address inequities in perinatal health insurance coverage. While some prior research has shown racial/ethnic inequities in postpartum health insurance,<sup>18,22,23</sup> none has looked at the intersection of race/ethnicity and rurality. An intersectional approach to health policy and services research can further inform efforts to improve equity across multiple dimensions of identity.

This study describes postpartum health insurance continuity and coverage among rural and urban U.S. residents, with a focus on racial equity. Specifically, we report health insurance status at the time of childbirth and postpartum and continuity of coverage across these periods for white and BIPOC rural and urban U.S. residents and describe potential equity implications of postpartum Medicaid extension policy proposals.

## Materials and Methods

We used 2016–2019 data from the Pregnancy Risk Assessment Monitoring System (PRAMS), a representative survey of people who recently gave birth conducted by the Centers for Disease Control and Prevention in collaboration with state/city health departments.<sup>24</sup> The sample is representative of ~83% of births in the United States and includes data from 42 states and two municipalities.

The PRAMS data classify county of residence classified as “urban” (small metro, medium metro, large fringe metro, and large central metro) or “rural” (micropolitan or noncore) based on the National Center for Health Statistics Urban-Rural Classification Scheme for Counties and is the most granular measure of geography available in this dataset.<sup>25</sup> Maternal race and ethnicity were obtained from the linked birth certificate data. We categorized race/ethnicity as (1) “white,” including those who were white, non-Hispanic, or

(2) “BIPOC,” including those who were Black, Non-Hispanic; Hispanic; Asian or Pacific Islander; Indigenous; Other; and Mixed. We excluded ~3% of respondents with missing race/ethnicity information and less than 2% of respondents for missing rural/urban location or insurance coverage data.

Health insurance status at childbirth comes from the birth certificate records. Postpartum health insurance is self-reported at the time of PRAMS survey completion, on average four months after birth (range 2–6 months, interquartile range 3–5 months). Consistent with prior research, we followed Centers for Disease Control and Prevention (CDC) methods to hierarchically characterize insurance coverage into one of three categories: Medicaid, private, or uninsured.<sup>18,21,23</sup> The Medicaid category included those enrolled in a state-named Medicaid program. The private category included respondents who reported private insurance alone or in combination with Medicaid and those who reported TRICARE or other military insurance. The uninsured category included respondents who reported no insurance, as well as those who only reported Indian Health Service (IHS), because the IHS provides a system of health care delivery, not health insurance.

In addition, we measured continuity and disruptions in health insurance coverage by assessing changes in respondents' health insurance between the time of childbirth and the time of the survey, similar to prior studies.<sup>18,21</sup> Continuity indicated that respondents reported having the same category of health insurance coverage at childbirth and postpartum; disruptions were defined as a change in health insurance coverage category between childbirth and the postpartum period. Given current policy discussions, this analysis focused on postpartum disruptions for people with Medicaid coverage at the time of childbirth, and the postpartum time period gathered data after pregnancy-related Medicaid eligibility ended for most survey respondents (60 days after childbirth).

To describe racial/ethnic inequities and differences by geography, we estimated survey-weighted proportions using survey weights provided by PRAMS, which account for the complex stratified survey design. We compared insurance status at childbirth and postpartum between white and BIPOC people and stratified by rural and urban residence. Data were deidentified, and this study was designated exempt from review by the University of Minnesota Institutional Review Board.

## Results

The analytic sample included 150,273 respondents who gave birth between 2016 and 2019. Approximately 19.9% ( $n=29,965$ ) were rural residents, and 51.4% were BIPOC ( $n=77,306$ ). A higher proportion of urban residents (54.2%) were BIPOC compared to rural residents (40.5%).

Table 1 presents health insurance status at childbirth and postpartum and continuity across these timepoints by race/ethnicity for rural and urban residents. At childbirth, rural BIPOC people had the highest rates of Medicaid coverage (68.8%), followed by urban BIPOC people (56.9%), rural white people (43.8%), and urban white people (25.9%). Rural BIPOC people had the lowest rate of commercial coverage at childbirth (24.4%), and urban white people had the highest (72.3%). Rates of uninsurance at childbirth were highest

TABLE 1. PRIMARY PAYER AT CHILDBIRTH AND POSTPARTUM, BY RACE/ETHNICITY FOR RURAL AND URBAN U.S. RESIDENTS (N=150,273)

	<i>BIPOC rural residents</i> (N = 12,102)	<i>BIPOC urban residents</i> (N = 65,204)	<i>White rural residents</i> (N = 17,863)	<i>White urban residents</i> (N = 55,104)
Primary payer at childbirth; %, (95% CI)				
Medicaid	68.8 (67.2–70.4)	56.9 (56.3–57.5)	43.8 (42.7–44.9)	25.9 (25.4–26.4)
Commercial	24.4 (23.0–25.8)	39.2 (38.6–39.8)	52.2 (51.1–53.3)	72.3 (71.7–72.8)
Uninsured	6.8 (5.9–7.8)	3.9 (3.7–4.2)	4.0 (3.6–4.5)	1.9 (1.7–2.1)
Primary payer postpartum; % (95% CI)				
Medicaid	44.9 (43.0–46.7)	37.7 (37.1–38.3)	32.3 (31.2–33.3)	19.7 (19.3–20.2)
Commercial	32.4 (30.7–34.0)	46.3 (45.7–46.9)	57.9 (56.8–59.0)	75.3 (74.8–75.8)
Uninsured	22.8 (21.3–24.4)	16.1 (15.6–16.6)	9.8 (9.2–10.6)	5.0 (4.7–5.3)

Data are weighted proportions.

BIPOC, Black, Indigenous, and people of color (includes Hispanic, Asian/Pacific Islander, and other/mixed); CI, confidence interval.

among rural BIPOC people (6.8%), similar among urban BIPOC and rural white people (3.9% and 4.0%, respectively), and lowest among urban white people (1.9%).

In the postpartum period, there are substantial differences across the racial/ethnic and rural/urban groups in health insurance coverage. Rates of Medicaid coverage ranged from 44.9% and 37.7% for BIPOC rural and urban residents, respectively, to 32.3% and 19.7% for white rural and urban residents, respectively. Commercial insurance coverage was reported by 32.4% of rural BIPOC people, 46.3% of urban BIPOC people, 57.9% of rural white people, and 75.3% of urban white people. BIPOC people living in both rural (22.8%) and urban (16.1%) communities had higher rates of uninsurance compared to white people, and rural white people (9.8%) had double the uninsurance rate of urban white people (5.0%).

Table 2 presents information on health insurance continuity between childbirth and the postpartum period. There were large differences across groups in the proportion of people who lost health insurance in the immediate weeks and months following childbirth. Among rural BIPOC people, 17.0% transitioned from having Medicaid to being uninsured, and 4.6% went from commercial coverage to uninsurance. For urban BIPOC people, rates were 11.7% and 2.5%, res-

spectively. Proportions of white people losing health insurance postpartum were substantially lower: 6.1% of white rural residents and 3.4% of white urban residents transitioned from Medicaid to uninsured, and 2.4% of white rural residents and 0.6% of white urban residents went from commercial health insurance to being uninsured after giving birth.

Postpartum health insurance disruptions were most common between Medicaid and either uninsurance or commercial coverage and varied across groups. Transitions between Medicaid at childbirth and commercial coverage postpartum occurred for 13%–14% of rural residents—both white and BIPOC. Among urban residents, rates of Medicaid-commercial transition were higher for BIPOC residents (16.9%) compared to white residents (8.5%). Transitions from Medicaid at childbirth to uninsurance postpartum were more frequent among rural BIPOC (17.0%) and urban BIPOC (11.7%), compared with rural white (6.1%) and urban white (3.4%) residents.

One of the highest risk groups are those who were continuously uninsured during pregnancy and postpartum. Nearly 5% (4.6%) of rural BIPOC people were continuously uninsured, compared with 2.5% of rural white people, 2.4% of urban BIPOC people, and <1% (0.6%) of urban white people. Looking at continuity of coverage, three-quarters

TABLE 2. HEALTH INSURANCE DISRUPTIONS BETWEEN CHILDBIRTH AND POSTPARTUM, BY RACE/ETHNICITY FOR RURAL AND URBAN U.S. RESIDENTS (N=150,273)

	<i>BIPOC rural residents</i> (N = 12,102)	<i>BIPOC urban residents</i> (N = 65,204)	<i>White rural residents</i> (N = 17,863)	<i>White urban residents</i> (N = 55,104)
Health insurance disruption from childbirth to postpartum; % (95% CI)				
Medicaid-commercial <sup>a</sup>	11.4 (10.3–12.5)	12.7 (12.2–13.1)	9.6 (9.0–10.4)	5.8 (5.5–6.1)
Medicaid-uninsured <sup>a</sup>	17.0 (15.7–18.4)	11.7 (11.3–12.1)	6.1 (5.5–4.2)	3.4 (3.2–3.6)
Commercial-Medicaid	3.2 (2.6–3.9)	4.3 (4.0–4.5)	3.7 (3.3–4.2)	2.7 (2.6–2.9)
Other <sup>b</sup>	3.3 (2.8–3.9)	3.4 (3.1–3.6)	2.9 (2.6–3.3)	2.2 (2.0–2.4)
Continuous uninsurance from childbirth to postpartum, % (95% CI)				
Continuous uninsured	4.6 (3.9–5.6)	2.5 (2.3–2.7)	2.4 (2.1–4.2)	0.6 (0.5–0.8)
Continuous health insurance from childbirth to postpartum; % (95% CI)				
Continuous commercial	20.1 (18.8–21.4)	33.0 (32.5–33.6)	47.2 (46.1–48.3)	68.6 (68.0–69.1)
Continuous Medicaid	40.5 (38.7–42.3)	32.5 (32.0–33.1)	28.1 (27.1–29.1)	16.7 (16.3–17.2)

Data are weighted proportions.

<sup>a</sup>Groups that have potential to avoid insurance transitions under proposals to extend postpartum Medicaid.

<sup>b</sup>Other transitions include: Commercial-uninsured, uninsured-commercial, and uninsured-Medicaid.

(75.3%) of rural white people and 85.3% of urban white people had continuous health insurance from childbirth to postpartum, compared to 60.5% of rural BIPOC people and 65.6% of urban BIPOC people.

## Discussion

There are substantial differences in health insurance coverage at childbirth and postpartum based on geography and race/ethnicity, and this analysis reveals the particular vulnerability of rural BIPOC people who give birth to changes in health insurance coverage (disruptions in coverage or lack of continuity in insurance type) or to losing health insurance completely. Compared to urban residents and white people, rural residents and BIPOC people are more likely to be covered by Medicaid at childbirth and postpartum and are substantially less likely to have private health insurance. In addition, rural residents and BIPOC people are also the most likely groups to report not having health insurance at the time of childbirth and during the postpartum period. Nearly one in four (22.8%) rural BIPOC people and 16.1% of urban BIPOC people were uninsured postpartum. Only 5.0% of urban white people reported being uninsured in the postpartum period.

Both at the time of childbirth and postpartum, vulnerability to uninsurance is highest for those with both minoritized racial/ethnic identity and who are living in geographically rural communities. Not having health insurance during pregnancy is a substantial risk factor for adverse maternal and infant health outcomes, including maternal and infant morbidity and mortality,<sup>4,5,7,15,16</sup> and policy and clinical efforts that target the uninsured continue to be necessary to reach those without health insurance at the time of childbirth, as well as postpartum.

Health insurance transitions—moving between different types of insurance or losing or gaining insurance—affect BIPOC people substantially more frequently than white people living in both rural and urban areas. This analysis showed that a sizable portion (35%–40%) of BIPOC respondents experienced a health insurance transition after giving birth. While distinct from losing health insurance entirely (becoming uninsured), transitions in health insurance coverage from Medicaid to commercial insurance can disrupt ongoing care relationships and treatment (by forcing changes in primary care or specialty clinicians, health care delivery systems, provider networks) and have substantial out-of-pocket financial impacts (copayments, deductibles, employee contributions), which may impact access and care seeking.<sup>12,21,22</sup>

Continuous health insurance can facilitate access to postpartum care, reducing health risks associated with a range of conditions—from behavioral health to cardiovascular conditions.<sup>22,26</sup> Our findings indicated the highest risk of postpartum insurance disruptions among rural BIPOC people, nearly 40% of whom did not have continuous health insurance coverage from childbirth to postpartum. Prior research shows that health insurance disruptions, as well as barriers associated with racism and geography, can amplify the risk of going without care in the postpartum period.<sup>13,14</sup> Access to continuous health insurance coverage during pregnancy and after childbirth is a key determinant of postpartum health and well-being,<sup>4,21,24</sup> and a potential target for policies aimed at addressing known racial and geographic disparities in U.S. maternal health.<sup>16</sup>

As of March 2022, 26 states have taken action to extend pregnancy-related Medicaid, either through federal waivers or state plan amendments, starting in April 2022.<sup>20</sup> There have been several pieces of federal legislation that would make this extension mandatory for all states.<sup>21</sup> Our findings provide critical information on the potential impact of these policy actions in addressing geographic and racial/ethnic inequities in access to stable insurance for postpartum people. All transitions from Medicaid at childbirth to another status postpartum (Commercial or uninsured) could potentially be affected by postpartum extension of pregnancy-related Medicaid eligibility. We found that approximately one in four BIPOC people, both rural (28.4%) and urban (24.4%), currently transition from Medicaid to Commercial or no coverage postpartum and, thus, may benefit from postpartum Medicaid extensions. These extensions are likely to also benefit the 15% of rural white people and 10% of urban white people with Medicaid at childbirth who lose coverage at 60 days postpartum.

Importantly, 17.0% of rural BIPOC residents had Medicaid at birth and became uninsured postpartum. Taking an intersectional approach to analysis—addressing both race/ethnicity and geography—highlights the potential harm of overlapping inequities, as well as the potential promise of tailored programs and policy responses in maternal and infant health, including perinatal Medicaid policy.<sup>3,7,16,17</sup> Ultimately, the equity impact of postpartum Medicaid extensions will depend on whether adoption is optional or mandatory for states, on heterogeneity in the populations that are defined as eligible, and on challenges in enrollment among those who are eligible. Intersectional policy analysis can inform policy design and evaluation. For example, exclusions for recent immigrants or undocumented people or limiting Medicaid extension only to people with particular diagnoses or health conditions (*e.g.*, substance use disorder, mental illness) could affect both racial/ethnic and geographic inequities.

Furthermore, translating insurance coverage to reduced disparities will depend on the availability and geographic distribution of high-quality, culturally-centered maternity and postpartum care that is tailored for BIPOC people, especially rural BIPOC people, who experience a greater burden of maternal and infant health challenges.<sup>3,4,23</sup> Postpartum Medicaid extensions could ultimately provide access to care and resources to innovate and improve postpartum care models in rural communities and communities of color.

The use of the BIPOC category in this analysis masks known variability by region and among BIPOC people, in both rural and urban areas. Racial/ethnic diversity among rural residents, especially, is geographically distinct across regions (*e.g.*, rural tribal communities in the Western United States, rural Latinx communities in the Southwest, and rural Black communities in the Southeast), and geography also correlates with state-based programs—like Medicaid—that affect health insurance coverage. Future research should focus on differences by race/ethnicity among rural residents, especially on Spanish-speaking Latinx, Indigenous, and Black people, separately.<sup>18,23</sup> The intersection of race/ethnicity and rurality is complex and deserving of further exploration; this analysis provides a first look. In addition, a more granular definition of rural was not available in this analysis, and rural areas vary tremendously from sparsely-populated frontier areas to remote small towns to urban-adjacent rural places

with a high degree of commuting to a metropolitan area.<sup>27</sup> There is a need for future research to examine variability in health insurance coverage dynamics among BIPOC people and especially among rural BIPOC residents. Further investigation into diverse rural communities will require research using different data, including data that cover insurance status later in the postpartum period. While data on postpartum health are extremely limited, it is essential to use currently-available data while also expanding available information sources on the postpartum period.<sup>28</sup>

### Conclusion

Health insurance coverage during and after childbirth vary by race/ethnicity and rural/urban residency. Postpartum loss of health insurance was most common among rural BIPOC residents with Medicaid coverage. This group experiences some of the worst maternal and infant health outcomes, and may benefit from continuous health insurance coverage following childbirth. Policy efforts to extend postpartum Medicaid coverage may reduce racial/ethnic and geographic inequities in health insurance disruption after childbirth.

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### Authors' Contributions

K.B.K. conceptualized and designed the study with input from all coauthors. She acquired the data, led interpretation of the data, and drafted portions of the article and oversaw the study. J.D.I. contributed to the study design, led the statistical analysis, and drafted portions of the article; she contributed to interpretation of the data and article revisions. J.D., L.K.A., B.B.I., M.J.M., and P.C. contributed to the study design, interpretation of data, and critical revision of the article for important intellectual content.

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No competing financial interests exist.

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