



Jud C Janak¹, Elizabeth Packnett¹, Ryan D Ross¹, Brenna L Brady¹, Liisa A Palmer¹

¹Merative, Real World Data Research & Analytics, Cambridge MA, USA

Study Summary

Study Question: Among women of childbearing age with a birth outcome, do Black and Hispanic women with Medicaid insurance have a higher incidence of postpartum complications than White women in 2022.

Study Design: Retrospective Cohort study using the Merative™ MarketScan® Multi-State Medicaid Database from 01/01/2022 to 12/31/2022

Study Results:

Conclusion: Disparities in the cumulative incidence of postpartum complications among women with Medicaid were not consistent across outcomes. Minority women had a higher incidence of postpartum sepsis, hemorrhage, and acute kidney failure while White women had a higher incidence of postpartum depression. Results indicate a better understanding of patient outcomes based on social determinants of health may be able to help develop targeted interventions to improve maternal care.

Background

- In the US, studies have shown that racial and ethnic minorities are at a greater risk of maternal mortality and pregnancy complications such as postpartum hemorrhage and major puerperal infections¹.
- In recent years, an increase in severe maternal morbidities such as sepsis and acute kidney failure have been reported². However, less is known about differences in these outcomes by race and ethnicity.

Objective

- To report the cumulative incidence per of postpartum complications per 10,000 women of childbearing age covered by public Medicaid insurance in the United States by race and ethnicity. The postpartum complications of interest included:
 - postpartum hemorrhage;
 - postpartum sepsis;
 - acute kidney failure; and
 - postpartum depression

Methods

Data Sources

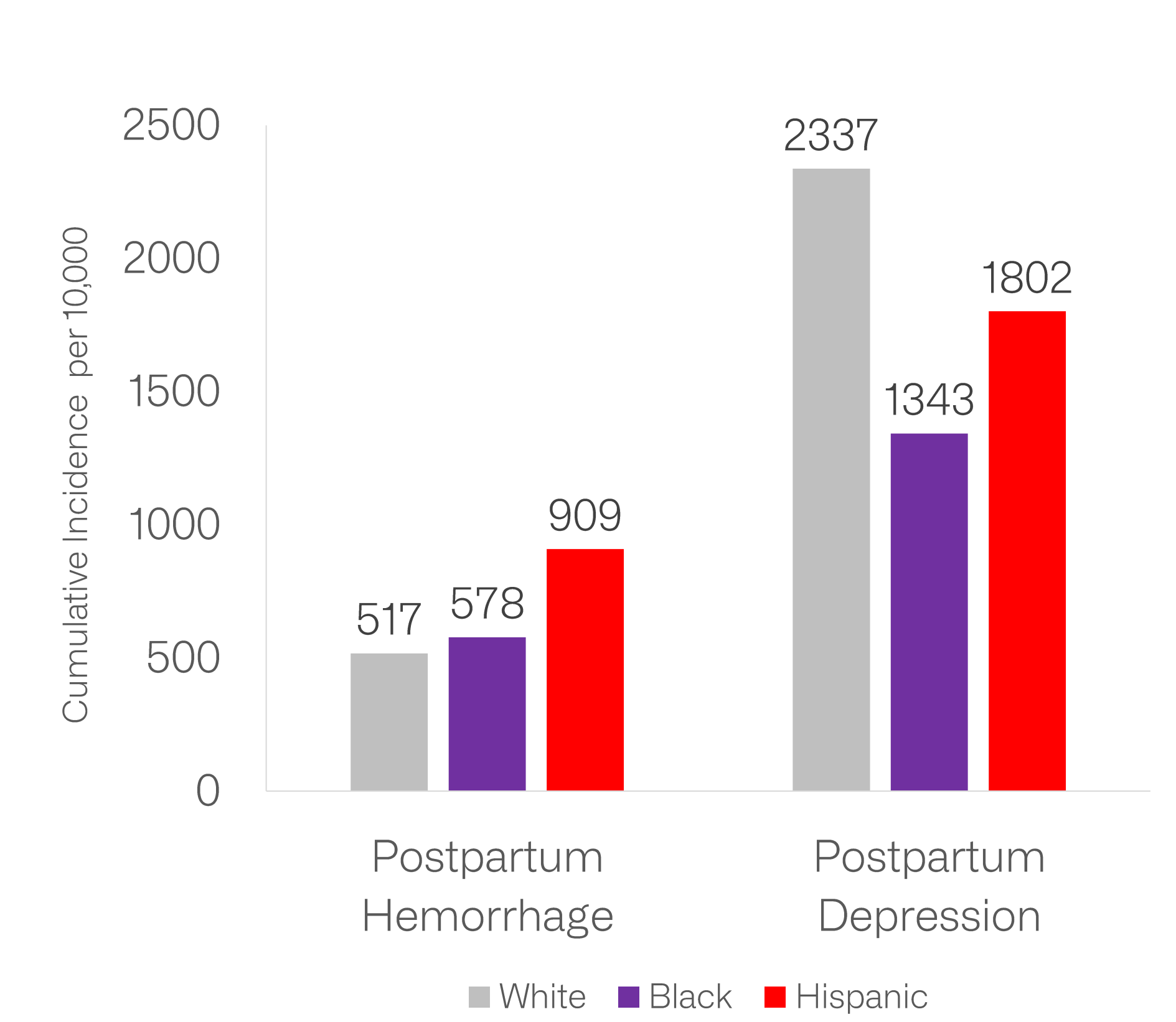
- Merative™ MarketScan® Multi-State Medicaid Database from January 1, 2022 through December 31, 2022
 - The MarketScan administrative claims databases contain data on the full healthcare experience (inpatient, outpatient, and outpatient pharmacy) for individuals with Medicaid insurance in the United States.

Study Design

- This retrospective cohort study used the Merative™ MarketScan® Multi-State Medicaid Database from 01/01/2022 to 12/31/2022.
 - Patients were included if they met the following inclusion criteria:
 - Women of childbearing age (15-44 years)
 - Livebirth or Stillbirth outcome in 2022
 - Continuous enrollment ≥ 300 days prior to birth
 - Continuous enrollment ≥42 days after birth
 - Race/Ethnicity of White, Black, or Hispanic
- Using ICD-10-CM diagnostic codes, the cumulative incidence of postpartum complications per 10,000 women were reported for the following outcomes:
 - postpartum hemorrhage (≤14 days of birth);
 - postpartum sepsis (≤42 days of birth);
 - acute kidney failure (≤42 days of birth); and
 - postpartum depression (≤365 days of birth)

- The cumulative incidence ratio (CIR) with 95% confidence intervals were reported by race and ethnicity with White women as the reference.

Figure 1. Cumulative Incidence of Postpartum Hemorrhage and Depression in 2022, Stratified by Race and Ethnicity



Results among women of childbearing age (15-44 years) with a birth outcome (livebirth or stillbirth) in 2022 and Medicaid insurance. Outcomes were assessed during different windows after birth: postpartum hemorrhage (≤14 days of birth); postpartum sepsis (≤42 days of birth); acute kidney failure (≤42 days of birth); and postpartum depression (≤365 days of birth)

Figure 2. Cumulative Incidence of Postpartum Sepsis and Acute Kidney Failure in 2022, Stratified by Race and Ethnicity

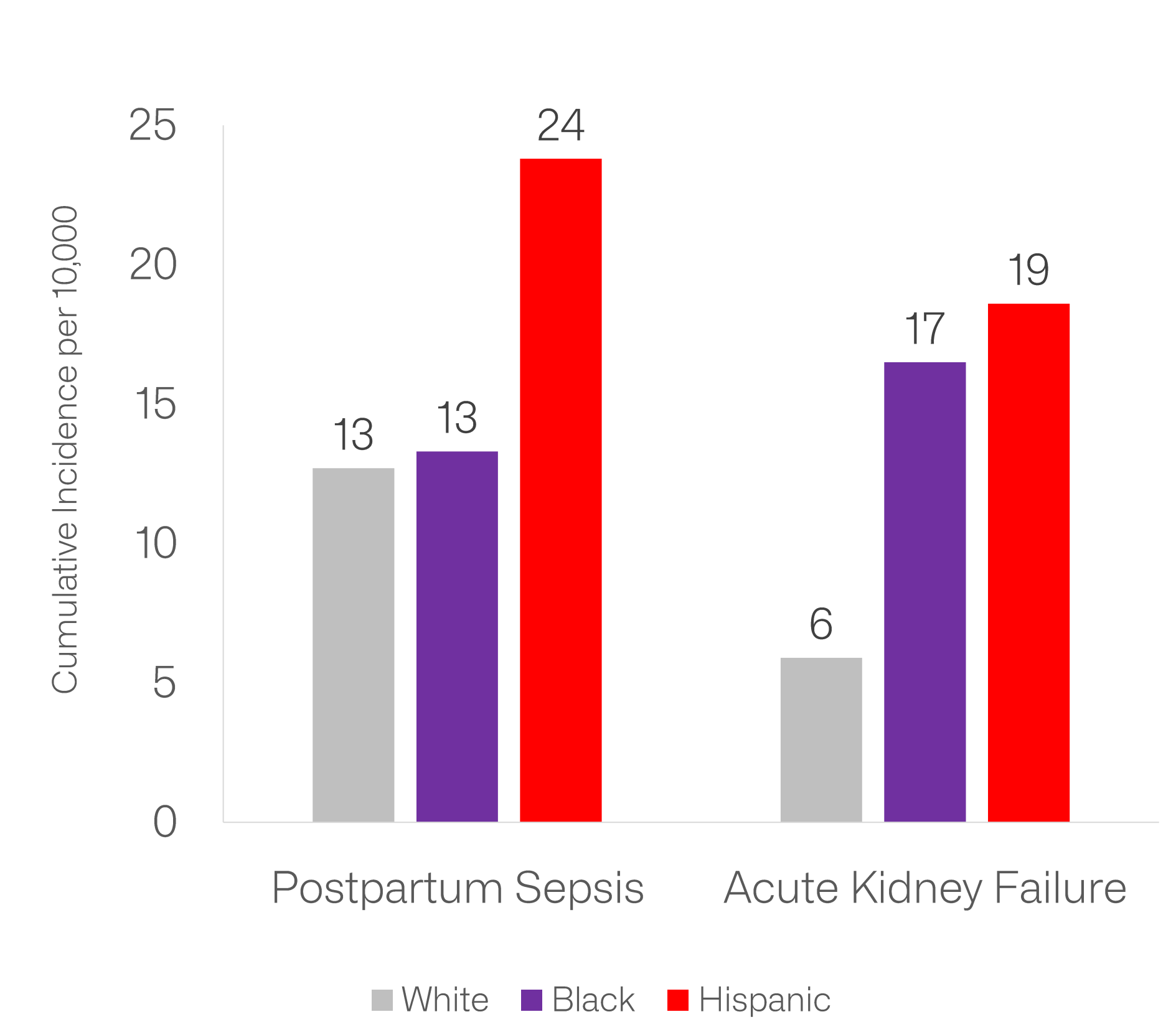


Table 1. Cumulative Incidence Ratio of Postpartum Complications in 2022, Stratified by Race and Ethnicity

| | Black vs White | 95% CI | Hispanic vs White | 95% CI |
|-----------------------|----------------|-----------|-------------------|-----------|
| Postpartum Hemorrhage | 1.12 | 1.06-1.18 | 1.76 | 1.64-1.89 |
| Postpartum Sepsis | 1.04 | 0.73-1.50 | 1.87 | 1.17-2.99 |
| Acute Kidney Failure | 2.79 | 1.83-4.25 | 3.15 | 1.77-5.59 |
| Postpartum Depression | 0.57 | 0.56-0.59 | 0.77 | 0.74-0.81 |

Results

- For all women, postpartum hemorrhage and depression were the most burdensome complications assessed (Figure 1).
 - Compared to White women,
 - Both Hispanic (CIR: 1.76; 1.64-1.89) and Black women (CIR: 1.12; 1.06-1.18) had a higher incidence of postpartum hemorrhage (Table 1).
 - Both Hispanic (CIR: 0.77; 0.74-0.81) and Black women (CIR: 0.57; 0.56-0.59) had a lower incidence of postpartum depression (Table 1).
- For all women, postpartum sepsis and acute kidney failure were rare but health disparities were still found (Figure 2).
 - Compared to White women,
 - Hispanic women (CIR: 1.87; 1.17-2.99) had a higher incidence of postpartum sepsis but Black women did not (CIR: 1.04; 0.73-1.50) (Table 1).
 - Both Hispanic (CIR: 3.15; 1.77-5.59) and Black women (CIR: 2.79; 1.83-4.25) had a higher incidence of acute kidney failure (Table 1).

Limitations

- This study was based on patients with Medicaid coverage, and results may not be generalizable to patients with other types of insurance or without health insurance coverage.
- This study does not address differences in access to care such as screening for depression known to vary by race and ethnicity³; therefore, the cumulative incidence of outcomes may be negatively biased.

Conclusions

- This study found that long standing disparities in post-partum hemorrhage were evident among women insured with Medicaid in 2022. Although rare, less known disparities in severe morbidities of acute kidney failure and sepsis were also identified and warrant further study.

References

1. Howell EA. Reducing Disparities in Severe Maternal Morbidity and Mortality. Clin Obstet Gynecol. 2018 Jun;61(2):387-399. doi: 10.1097/GRF.0000000000000349. PMID: 29346121; PMCID: PMC5915910.).
2. Fink DA, Kilday D, Cao Z, Larson K, Smith A, Lipkin C, Perigard R, Marshall R, Deirmenjian T, Fink A, Tatum D, Rosenthal N. Trends in Maternal Mortality and Severe Maternal Morbidity During Delivery-Related Hospitalizations in the United States, 2008 to 2021. JAMA Netw Open. 2023 Jun 1;6(6):e2317641. doi: 10.1001/jamanetworkopen.2023.17641. PMID: 37347486; PMCID: PMC10288331.
3. Kozhimannil KB, Trinacty CM, Busch AB, Huskamp HA, Adams AS. Racial and ethnic disparities in postpartum depression care among low-income women. Psychiatr Serv. 2011 Jun;62(6):619-25. doi: 10.1176/ps.62.6.pss6206_0619. PMID: 21632730; PMCID: PMC3733216.

Disclosure

Jud Janak, Ryan Ross, Brenna Brady, and Liisa Palmer, are employees of Merative. This study was funded by Merative.