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Racial And Ethnic Inequities In Postpartum Depressive Symptoms, Diagnosis, And Care In 7 US Jurisdictions

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Abstract

Understanding whether racial and ethnic inequities exist along the postpartum mental health care continuum is vital because inequitable identification of depression can lead to inequitable referral to and receipt of care. We aimed to expand on existing cross-sectional and single-state data documenting potential racial and ethnic disparities in postpartum depression care. Using early (from two to six months) and late (from twelve to fourteen months) postpartum survey data from seven US jurisdictions, we documented patterns of early postpartum depressive symptoms, perinatal mood and anxiety disorder (PMAD) diagnosis, and receipt of postpartum mental health care overall and by racial and ethnic identity. Of 4,542 people who delivered live births in 2020, 11.8 percent reported early postpartum depressive symptoms. Among the sample with these symptoms, only 25.4 percent reported receiving a PMAD diagnosis, and 52.8 percent reported receiving some form of postpartum mental health care. There were no significant differences in diagnosis by race and ethnicity. Respondents identifying as Asian; Native Hawaiian or Pacific Islander; Southwest Asian, Middle Eastern, or North African; Hispanic; and non-Hispanic Black were significantly less likely than non-Hispanic White respondents to receive mental health care,

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demonstrating stark inequities in the management of postpartum depressive symptoms. Policies mandating and reimbursing universal postpartum depression screening, facilitating connection to care, reducing insurance coverage gaps, and enhancing clinician training in culturally responsive care may promote equitable postpartum mental health care.

Postpartum depressive symptoms affected approximately 13.2 percent of postpartum people in the US in 2018,[1] but some populations may be affected at much higher numbers. A nationally representative sample of people who delivered live births in 2018 shows the prevalence of postpartum depressive symptoms to be markedly higher among people identifying as American Indian or Alaska Native (22 percent), Asian or Pacific Islander (19 percent), or Black (18 percent) when compared with White people (11 percent).[1] Postpartum depression and its symptoms are associated with low social support,[2] less closeness and warmth with partners,[3] stunted infant growth,[4] delayed infant cognitive and language development,[5] poor infant sleep,[4] compromised maternal-infant attachment,[6] and difficulty initiating or maintaining breast-feeding.[7]

Effective management of postpartum depressive symptoms requires that people be supported along a care continuum by being screened for depression and, where applicable, diagnosed and treated.[8-11] Numerous cross-sectional and single-state studies suggest that people are not equitably supported along this continuum. For example, a study using electronic health records from women delivering in 2016 in a large health system in Minnesota found that people identifying as African American, Asian, Native American, and multiracial were less likely than White people to be screened for postpartum depression.[12] Another study using survey data among Medicaid enrollees in Michigan documented that Black people with perinatal mood and anxiety disorder (PMAD) symptoms were significantly less likely to receive a PMAD diagnosis than White people with PMAD symptoms.[13] Other research has found that referral to and provision of care represent one of the biggest drop-offs in the continuum,[14-16] with as many as three-quarters of people with postpartum depression not receiving any postpartum mental health care.[17,18] A study using cross-sectional data from women who gave birth in 2016 in the US found that Black and Asian women with postpartum depressive symptoms were less likely than White women to receive counseling services or medication.[19] Another study of California deliveries between 2012 and 2017 found that among women with a depression diagnosis, Latina and Asian women were less likely than White women to receive treatment postpartum.[20] A third study, looking at Medicaid enrollees who delivered between 2004 and 2007 in New Jersey, concluded similarly that the odds of receiving treatment after delivery were significantly lower for Black and Latina women compared with White women.[21]

To increase understanding of how disparities on the mental health care continuum relate to each other and whether they persist across various geographic settings, longitudinal research using recent data spanning multiple states is needed. One piece of the continuum is particularly understudied: diagnosis. It is vital to understand this piece because inequitable identification of depression can lead to inequitable referral to and receipt of care. In this study, we aimed to fill these gaps by using a longitudinal data set representative of postpartum people who delivered live births in six US states and New York City in 2020

to describe racial and ethnic disparities in postpartum depressive symptoms, diagnosis, and mental health care during the first year postpartum.

Study Data And Methods

Data

We used secondary data from the 2020 Postpartum Assessment of Health Survey (PAHS), a collaboration between Columbia University and seven participating health departments in Kansas, Michigan, New Jersey, New York City, Pennsylvania, Utah, and Virginia.[22] PAHS was administered at twelve to fourteen months postpartum to respondents to the 2020 Centers for Disease Control and Prevention's Pregnancy Risk Assessment Monitoring Survey (PRAMS) who did not opt out of being recontacted (or who opted in, in Michigan). PRAMS is an ongoing annual survey administered to people from two to six months postpartum who are identified from a stratified random sample of live births drawn monthly from state and city birth certificates.[23] Data collected on the birth certificate (delivery) were linked to PRAMS (two to six months, early postpartum) and PAHS (twelve to fourteen months, late postpartum) to create a longitudinal data set with variables covering preconception through to one year after birth. The PAHS sample included 4,598 people who were twelve to fourteen months postpartum and who resided in one of the seven jurisdictions at the time of their delivery.

Measures

Early postpartum depressive symptoms were ascertained from a modified version of the Patient Health Questionnaire-2 (PHQ-2) on PRAMS (two to six months postpartum; mean: four months). Respondents indicating "always" or "often/almost always" to either question were considered to have early postpartum depressive symptoms (see online appendix I for the exact wording of survey questions and response choices used in this analysis).[24] This categorization has been previously used in other PRAMS analyses and mimics the widely used cutoff of a score of 3 or higher on the PHQ-2.[1,25,26] Previous studies among postpartum samples show the PHQ-2 to have a sensitivity of 80 percent and a specificity of 86 percent for identifying probable depression.[27] As such, people with early postpartum depressive symptoms were considered to be at a high risk for postpartum depression and were therefore used as the subsample to conduct analyses focused on diagnosis and care.

PMAD diagnosis was self-reported on PAHS during late postpartum (twelve to fourteen months postpartum; mean: twelve months), with timing options of before, during, or after pregnancy (appendix I).[24] Among those with early postpartum depressive symptoms, those who reported receiving a PMAD diagnosis during or after pregnancy were categorized as receiving a diagnosis. Receipt of a diagnosis during pregnancy was included because depression documented in prenatal charts likely carries forward to postpartum care, precluding many people from receiving a second diagnosis, and respondents were only able to check one time frame.

Receipt of mental health care in the first year postpartum was self-reported on PAHS during late postpartum (appendix I).[24] Among those with postpartum depressive symptoms,

receipt of mental health care included all respondents who indicated receiving counseling or therapy, medication, or support group or care from a home visitor. Only receiving care from the hospital or a visit to the emergency department, which may be indicative of a lack of care, was not included.

Our stratification variable (race and ethnicity) was self-reported on PAHS. Where race and ethnicity data were missing (n = 47), data were imputed from birth certificate data. Six mutually exclusive categories were used: non-Hispanic American Indian or Alaska Native; non-Hispanic Asian, Native Hawaiian, Pacific Islander, South-west Asian, Middle Eastern, or North African; Hispanic; multiple racial and ethnic identities; non-Hispanic Black; and non-Hispanic White. Hereafter, all racial groups are assumed to be non-Hispanic.

Analysis

PAHS data are weighted to account for PRAMS and PAHS sampling, coverage, and nonresponse, resulting in estimates that are representative of all people with a live birth in 2020 in the seven participating jurisdictions.[22,28,29] Weighted percentages of sociodemographic variables were calculated for the analytic sample. The weighted prevalence of early postpartum depressive symptoms and 95% confidence intervals were calculated by these same sociodemographic factors. Among those with early postpartum depressive symptoms, the weighted proportions and 95% confidence intervals for reporting a PMAD diagnosis and postpartum mental health care were calculated overall and by racial and ethnic category. Among samples smaller than ten, proportions were suppressed. To understand how prepregnancy diagnosis may play a role in postpartum mental health care, we employed a subanalysis investigating ever receiving a depression, anxiety, or mood disorder diagnosis (before, during, or after pregnancy), overall and by race and ethnicity. We performed a sensitivity analysis including treatment at a hospital or emergency department in the definition of mental health care. For all analyses, non-overlapping 95% confidence intervals were considered statistically significant.

Limitations

This study had limitations. First, the ascertainment of postpartum depressive symptoms was reliant on a modified version of the PHQ-2 that is a screening tool, not a diagnostic tool. Further, the PHQ-2 at the time of the PRAMS survey might not capture experiences of postpartum depressive symptoms outside the PRAMS data collection period. However, the PHQ-2 has been shown to be reliable for identifying probable depression in postpartum samples,[27] which is how it was operationalized in the current analysis. Second, this study relied on self-reported measures of diagnosis and care. The validity of self-report of care is understudied, but self-reporting receipt of a depression diagnosis has been shown to have 81 percent agreement with an actual diagnosis from a psychiatrist.[30] Third, sample sizes among the American Indian or Alaska Native population were small, requiring suppression of results, which obscures the postpartum mental health care needs of this population. Fourth, although PAHS included representation from all major US regions, our findings might not be generalizable outside of the seven included jurisdictions. Last, study respondents experienced pregnancy and postpartum in 2020–21, when the COVID-19 pandemic had a

large effect on health care use; thus, results might not be generalizable outside of this time frame.

Study Results

Approximately 71.1 percent of 2020 PRAMS respondents in the seven jurisdictions opted into being recontacted for PAHS (n = 6,021). Of those people, 76.4 percent replied, resulting in a PAHS sample size of 4,598. For the current analysis, all participants with data on early postpartum depressive symptoms were included (n = 4,542). After weighting, the distribution of age, marital status, race, ethnicity, education, insurance at birth, and parity in the PAHS sample was within 1 percentage point of the distribution within the PRAMS sample. Among the analytical sample, 0.3 percent were American Indian or Alaska Native; 9.5 percent were Asian, Native Hawaiian, Pacific Islander, Southwest Asian, Middle Eastern, or North African; 13.7 percent were Black; 17.8 percent were Hispanic; 4.6 percent reported multiple racial and ethnic identities; and 54.1 percent were White (exhibit 1). More than a third (38.1 percent) were enrolled in public insurance at delivery, 53.2 percent had a college degree, 77.7 percent were married, 40.0 percent were having their first pregnancy, and 9.9 percent lived in a rural area.

The weighted prevalence of early postpartum depressive symptoms was 11.8 percent (data not shown). It was highest among those identifying as divorced, widowed, or separated (19.4 percent), without a college degree (14.8 percent), covered by public insurance (13.7 percent), having their first pregnancy (13.2 percent), and residing in rural areas (14.4 percent) (exhibit 2). The weighted prevalence of early postpartum depressive symptoms varied by race and ethnicity as follows: multiple racial and ethnic identities (17.8 percent); Black (16.0 percent); Asian, Native Hawaiian, Pacific Islander, Southwest Asian, Middle Eastern, or North African (13.8 percent); White (10.9 percent); and Hispanic (9.1 percent).

Among those with early postpartum depressive symptoms, 25.4 percent reported receiving a PMAD diagnosis, and 52.8 percent reported receiving some form of mental health care in the year postpartum (exhibits 3 and 4). The proportion reporting a diagnosis was lower among respondents identifying as Asian, Native Hawaiian, Pacific Islander, Southwest Asian, Middle Eastern, or North African (16.1 percent) or Black (22.4 percent) compared with White respondents (28.4 percent), but this difference was not statistically significant (exhibit 3). The proportion that received mental health care was significantly lower among respondents identifying as Asian, Native Hawaiian, Pacific Islander, Southwest Asian, Middle Eastern, or North African (19.7 percent); Hispanic (37.2 percent); or Black (37.1 percent) compared with White respondents (67.4 percent; exhibit 4).

In the subanalysis, 59.6 percent of those with early postpartum depressive symptoms reported ever receiving a depression, anxiety, or mood disorder diagnosis. Those identifying as Asian, Native Hawaiian, Pacific Islander, Southwest Asian, Middle Eastern, or North African (30.4 percent) or Hispanic (34.2 percent) were significantly less likely than White respondents (74.0 percent) to report ever receiving a diagnosis (appendix II).[24] The sensitivity analysis where only receiving care from the hospital or emergency

department was considered receipt of mental health care resulted in recategorization of two observations, and results did not change.

Discussion

Using longitudinal survey data from postpartum people in seven US jurisdictions, we found that approximately one in nine people reported early postpartum depressive symptoms measured from two to six months postpartum. Of those with postpartum depressive symptoms, only one-quarter reported receipt of a PMAD diagnosis, and half reported receiving any mental health care in the year postpartum. The prevalence of early postpartum depressive symptoms was highest among people identifying as Asian, Native Hawaiian, Pacific Islander, Southwest Asian, Middle Eastern, or North African (approximately one in seven); multiple racial and ethnic identities (approximately one in six); or Black (approximately one in six). Among respondents with early postpartum depressive symptoms, receipt of a PMAD diagnosis did not significantly differ by race and ethnicity, but people identifying as Asian, Native Hawaiian, Pacific Islander, Southwest Asian, Middle Eastern, or North African; Hispanic; or Black were significantly less likely than White people to report receiving any postpartum mental health care. Incongruent with the potentially increased burden of postpartum depressive symptoms, the lack of care received by Asian, Native Hawaiian, Pacific Islander, Southwest Asian, Middle Eastern, or North African people or Black people demonstrates stark racial and ethnic inequities in postpartum mental health care. The current study provides crude, unadjusted estimates in an attempt to document inequities and provide background for future research. We used Ronald Andersen's Behavioral Model of Health Service Use to guide our discussion of the observed disparities and, in turn, to make recommendations.[33,34] But future research investigating the mechanisms behind the observed disparities and using causal frameworks to understand the role of structural and interpersonal racism is needed.

Although we did not detect statistically significant differences in postpartum depressive symptoms by race and ethnicity, this could reflect small sample sizes. The higher proportion of postpartum depressive symptoms observed among those identifying as Asian, Native Hawaiian, Pacific Islander, Southwest Asian, Middle Eastern, or North African or Black is consistent with much of the literature showing an increased likelihood of postpartum depression for these populations compared with White people.[1,31,32,35] The highest prevalence of early postpartum depressive symptoms was observed for those with multiple racial and ethnic identities. The identities of people in this group are likely highly heterogeneous, warranting future research in larger samples allowing for disaggregation of individuals identifying as more than one race or ethnicity.[36]

It must be noted that any observed racial and ethnic disparities in postpartum depressive symptoms and care do not stem from biological differences.[37,38] Rather, interpersonal and structural racism experienced by groups that have been historically marginalized increases stress, weathering, and allostatic load, which can increase depressive symptoms,[39,40] a process that has been demonstrated in the perinatal period.[41,42] The respondents in this study gave birth and were postpartum during 2020–21, years that saw the co-occurrence of the COVID-19 pandemic, heightened xenophobia and violence against Asian-identifying

populations, and the rise of Black Lives Matter movements in response to police brutality against Black people. These co-occurring systems of oppression may have compounded to create a heightened burden of postpartum depressive symptoms among those identifying as Asian, Native Hawaiian, Pacific Islander, Southwest Asian, Middle Eastern, or North African or Black in our sample.[43-45] Although these temporal instances may partially explain some of the observed patterns, their repercussions and persistent structural racism may result in a sustained heightened burden of postpartum depressive symptoms for these groups.

PMAD diagnosis patterns indicate that people identifying as Asian, Native Hawaiian, Pacific Islander, Southwest Asian, Middle Eastern, or North African; multiple racial and ethnic identities; or Black may be less likely to receive a diagnosis than White people. Although estimates were not significantly different, the patterns are consistent with the recent study among Medicaid enrollees in Michigan finding that Black postpartum people with PMAD symptoms were significantly less likely than White people with symptoms to receive a PMAD diagnosis.[13] To our knowledge, no other studies have investigated racial and ethnic disparities in PMAD diagnosis, using all-payer or multijurisdiction data. The low rates of diagnosis among the entire sample with postpartum depressive symptoms also merits discussion. The fact that more respondents reported receiving care (52.8 percent) than a diagnosis (25.4 percent) indicates that pathways exist where people receive care without a diagnosis. Although it is possible that people were not informed of or did not recall a diagnosis, they may have independently sought out care, regardless of receiving a formal screening or diagnosis.

Our finding that respondents with early postpartum depressive symptoms who identified as Asian, Native Hawaiian, Pacific Islander, Southwest Asian, Middle Eastern, or North African; Hispanic; or Black were significantly less likely than White people to receive any mental health care in the first year postpartum demonstrates stark racial and ethnic inequities in the management of postpartum depressive symptoms. These patterns are consistent with the aforementioned studies investigating disparities in perinatal mental health care.[19-21] Of note, we found that respondents identifying as Asian, Native Hawaiian, Pacific Islander, Southwest Asian, Middle Eastern, or North African exhibited a high level of postpartum depressive symptoms and were the least likely to report receiving diagnosis and care. As previously mentioned, the pandemic and societal context may have greatly affected health care use for these people. In fact, a 2020 survey among Asian, Native Hawaiian, or Pacific Islander adults found that experiencing or witnessing an anti-Asian, Native Hawaiian, or Pacific Islander hate incident was significantly associated with forgoing health care.[46] Our subanalysis investigating lifetime depression, anxiety, or mood disorder diagnosis may shine light on the observed disparities in care. People with postpartum depressive symptoms who identified as Asian, Native Hawaiian, Pacific Islander, Southwest Asian, Middle Eastern, or North African or Hispanic were significantly less likely than White people to report ever receiving a diagnosis. They were also significantly less likely than White people to report receiving postpartum depression care. It is possible that disparities in diagnosis before pregnancy contributed to disparities in mental health care received during the perinatal period.

Our results, in concert with the existing literature, indicate that racial and ethnic inequities along the postpartum mental health care continuum may be the most present at the care stage.[19-21] Previous studies have reported numerous barriers to care, including access issues (for example, cost, transportation, child care, and language) and fear of judgment (for example, hesitation to disclose symptoms or receive treatment because of fear of stigma),[47-51] all of which may disproportionately affect people with historically marginalized racial and ethnic identities. We used Andersen's Behavioral Model of Health Services Use to guide our recommendations for intervention at the systems, health care, and provider levels.[33,34]

At the systems level, gaps in postpartum insurance coverage are a well-established barrier to mental health care and may contribute to the observed racial-ethnic disparities.[52] Previous research has shown stark racial and ethnic disparities in continuity of postpartum insurance where non-Hispanic Black women and Hispanic women have the highest rates of discontinuous insurance, potentially due to an increased likelihood of being covered by Medicaid or experiencing language or immigration-related barriers.[53] As of February 2024, adoption of extended postpartum Medicaid coverage is currently implemented in only forty-four states including Washington, D.C.[54] Our findings underscore the Centers for Medicare and Medicaid Services' recommendations for all states to not only extend coverage for Medicaid and the Children's Health Insurance Program to twelve months postpartum, but also use all available Medicaid program resources.[55] Specifically, states could use their own funds to support extended postpartum coverage for recent and undocumented immigrants. Because of the potential for inequitable screening to contribute to inequitable diagnosis and care, states should take advantage of coverage of postpartum depression screening and care at well-child visits as a service for the child under the Early and Periodic Screening, Diagnostic, and Treatment benefit.

To inform recommendations at the health care and provider levels, we looked to qualitative work by Esti Iturralde and colleagues.[56] The authors found that postpartum people from historically marginalized racial and ethnic groups experience additional barriers to mental health care, including past trauma with medical care and feelings that clinicians lacked the skills and cultural competency to establish trusting relationships and communicate, screen, and treat in different languages.[56] All of these factors may contribute to the gaps in care we observed. We highlight their recommendations to increase racial, ethnic, and linguistic diversity among clinicians and mandate provider training on validated universal depression screening, referral, and treatment options for different types of insurance plans, as well as culturally responsive and language-specific screening and treatment options.[56] Implementing these strategies at the screening stage may help in diffusing disparities down the road. Other interventions that reduce the likelihood that people "fall off" the postpartum mental health care continuum after a positive screen or diagnosis include warm hand-offs, referral check-ins, case managers, home visits, and collaborative care models.[55,57]

Using postpartum survey data from people who delivered in 2020 in six states and New York City, we found that only one-quarter of people with postpartum depressive symptoms reported receiving a PMAD diagnosis, and only half reported receiving postpartum mental health care. Postpartum people identifying as Asian, Native Hawaiian, Pacific Islander,

Southwest Asian, Middle Eastern, or North African or Black had a high prevalence of postpartum depressive symptoms but were significantly less likely than White people to report receiving mental health care. Future research must investigate the mechanisms that drive these inequities to inform the development and evaluation of interventions at the systems, health care, and provider levels to reduce mental health disparities. Policies that require and reimburse universal mental health screening at postpartum visits, ensure connection to care, reduce gaps in postpartum insurance coverage, and require clinician training in culturally responsive resources could improve equity of postpartum depression diagnoses and care in the US.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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NOTES

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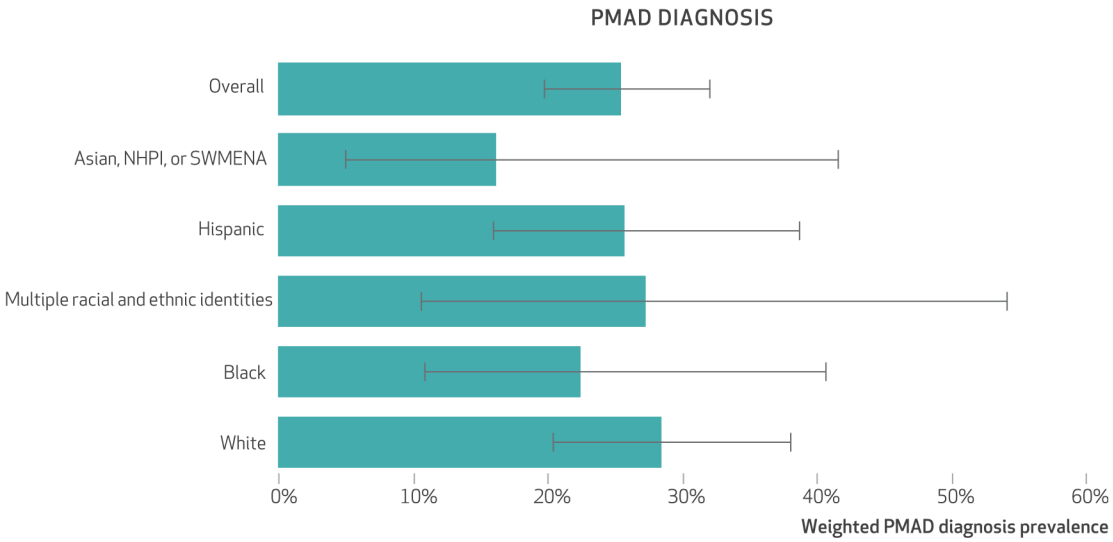

Exhibit 3. Weighted prevalence of perinatal mood and anxiety disorder (PMAD) diagnosis among people with early postpartum depressive symptoms in 7 US jurisdictions, 2020

SOURCE Authors' analysis of data from the 2020 Postpartum Assessment of Health Survey (PAHS) linked to the 2020 Pregnancy Risk Assessment Monitoring System (PRAMS) and birth certificates. **NOTES** $n = 593$. Percentages shown are weighted to be representative of the seven sample jurisdictions (Kansas, Michigan, New Jersey, New York City, Pennsylvania, Utah, and Virginia) and account for the PAHS and PRAMS nonresponse and sampling design. Results for the American Indian or Alaska Native category suppressed because the sample was fewer than 10 people. NHPI is Native Hawaiian or Pacific Islander. SWMENA is Southwest Asian, Middle Eastern, or North African. All racial groups shown are non-Hispanic. *p* values were calculated for differences with the White group. All p values were greater than 0.10. The whiskers indicate 95% confidence intervals for the weighted mean.

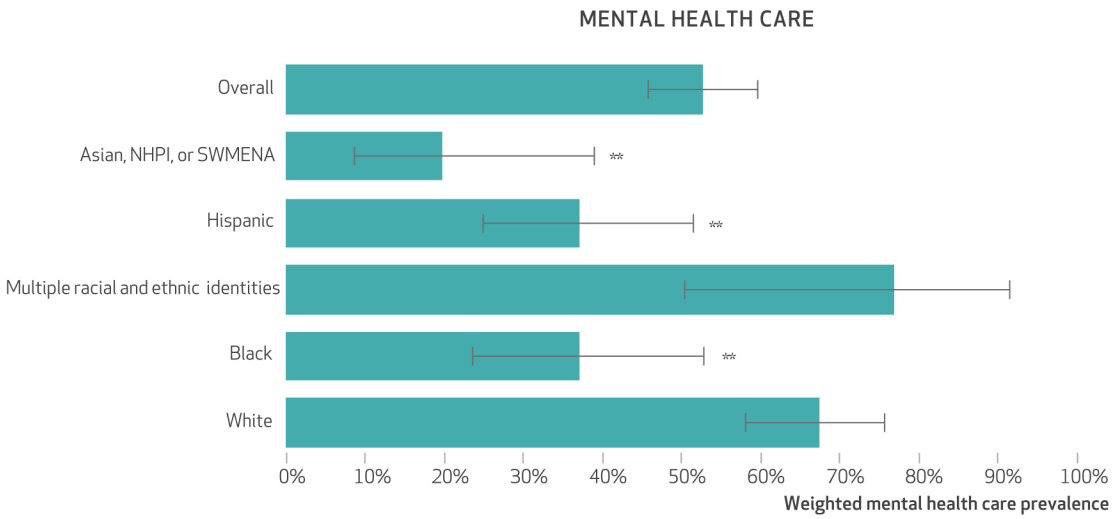

Exhibit 4. Weighted prevalence of mental health care in the first year postpartum among people with early postpartum depressive symptoms in 7 US jurisdictions, 2020

SOURCE Authors' analysis of data from the 2020 Postpartum Assessment of Health Survey (PAHS) linked to the 2020 Pregnancy Risk Assessment Monitoring System (PRAMS) and birth certificates. **NOTES** $n = 593$. Percentages shown are weighted to be representative of the seven sample jurisdictions (Kansas, Michigan, New Jersey, New York City, Pennsylvania, Utah, and Virginia) and account for the PAHS and PRAMS nonresponse and sampling design. Results for the American Indian or Alaska Native category suppressed because the sample was fewer than 10 people. NHPI is Native Hawaiian or Pacific Islander. SWMENA is Southwest Asian, Middle Eastern, or North African. All racial groups shown are non-Hispanic. p values were calculated for differences with the White group. The whiskers indicate 95% confidence intervals for the weighted mean. $^{**}p < 0{:}05$.

Exhibit 1

Characteristics of postpartum sample in 7 US jurisdictions, study of racial and ethnic inequities in postpartum depressive symptoms, diagnosis, and care in the United States, 2020

Characteristics	Unweighted no.[a]	Weighted %	95% CI
Age, weighted mean (SE)	30 (0.1)	__[b]	__[b]
Marital status			
Single	794	20.1	18.6, 21.7
Married or living with a partner	3,626	77.7	76.0, 79.4
Divorced, widowed, or separated	103	2.2	1.6, 2.9
Racial and ethnic identity			
American Indian or Alaska Native	23	0.3	0.2, 0.5
Asian/NHPI/SWMENA	344	9.5	8.2, 10.2
Hispanic	762	17.8	17.2, 18.5
Multiple racial and ethnic identities	227	4.6	3.8, 5.5
Black	575	13.7	13.1, 14.3
White	2,609	54.1	53.1, 55.1
Education			
Less than a college degree	1,948	46.8	45.3, 48.4
College degree or higher	2,585	53.2	51.6, 54.7
Insurance for delivery			
Private	2,892	58.9	57.0, 60.7
Public	1,501	38.0	36.2, 39.8
None	135	3.2	2.4, 4.1
Parity			
First	1,825	40.0	38.2, 41.9
Second	1,446	33.9	31.9, 36.0
Third or more	1268	26.1	24.4, 27.8
Residence			
Urban	3,831	90.1	88.4, 91.2
Rural	495	9.9	8.5, 11.6
Missing	216	__[b]	__[b]

SOURCE Authors' analysis of data from the 2020 Postpartum Assessment of Health Survey (PAHS) linked to the 2020 Pregnancy Risk Assessment Monitoring System (PRAMS) and birth certificates. **NOTES** n = 4,542 people with data on early postpartum depressive symptoms. Characteristics were self-reported late postpartum. Percentages shown are weighted to be representative of the seven sample jurisdictions (Kansas, Michigan, New Jersey, New York City, Pennsylvania, Utah, and Virginia) and account for the PAHS and PRAMS nonresponse and sampling design. All variables except residence had less than 1 percent missing values. All racial groups are non-Hispanic. Insurance for delivery defined by insurance type at delivery self-reported late postpartum. Private insurance includes employer, parent, Marketplace, TRICARE, or other military health care coverage; public insurance includes Medicaid, Children's Health Insurance Program, Indian Health Service or other tribal program, or other state public plan. Residence rurality was based on rural-urban commuting area codes for ZIP code self-reported late postpartum. NHPI is Native Hawaiian or Pacific Islander. SWMENA is Southwest Asian, Middle Eastern, or North African. [a]Data reported for age are weighted mean and standard error. [b]Not applicable.

Exhibit 2

Prevalence of early postpartum depressive symptoms (PDS) in 7 US jurisdictions, by postpartum characteristics, 2020

Characteristics	Unweighted no.[a]	Weighted %	95% CI
Age among sample with early PDS, weighted mean (SE)	28.2 (0.3)	—[b]	—[b]
Marital status			
Single	146	17.9	13.9, 22.7
Married or living with a partner	425	10.1	8.6, 11.9
Divorced, widowed, or separated	21	19.4	9.4, 36.0
Racial and ethnic identity			
American Indian or Alaska Native	—[c]	—[c]	—[c]
Asian/NHPI/SWMENA	58	13.8	9.6, 19.3
Hispanic	92	9.1	6.7, 12.1
Multiple racial and ethnic identities	42	17.8	9.6, 30.8
Black	93	16.0	11.8, 21.3
White	306	10.9	9.0, 13.1
Education			
Less than a college degree	334	14.8	12.3, 17.7
College degree or higher	259	9.3	7.7, 11.2
Insurance for delivery			
Private	329	10.7	9.0, 12.8
Public	245	13.7	11.1, 16.7
None	17	9.4	4.1, 20.1
Parity			
First	254	13.2	11.0, 15.6
Second	178	12.4	9.9, 15.4
Third or more	162	9.3	7.1, 12.0
Residence			
Urban	477	11.3	9.8, 13.0
Rural	83	14.4	9.6, 21.1

SOURCE Authors' analysis of data from the 2020 Postpartum Assessment of Health Survey (PAHS) linked to the 2020 Pregnancy Risk Assessment Monitoring System (PRAMS) and birth certificates. **NOTES** $n = 4{,}542$ people with data on early postpartum depressive symptoms. Characteristics were self-reported late postpartum. Percentages shown are weighted to be representative of the seven sample jurisdictions (Kansas, Michigan, New Jersey, New York City, Pennsylvania, Utah, and Virginia) and account for the PAHS and PRAMS nonresponse and sampling design. All racial groups are non-Hispanic. Insurance for delivery and residence rurality are defined in the exhibit 1 notes. NHPI is Native Hawaiian or Pacific Islander. SWMENA is Southwest Asian, Middle Eastern, or North African. [a]Data reported for age are weighted mean and standard error. [b]Not applicable. [c]Results suppressed because the numerator was fewer than 10 people.