NEW YORK STATE | Office of Mental Health | Department of Health

Postpartum Depression Screening Protocols and Tools:

A Review of Evidence on Adequacy and Equity

Chapter 384 of the Laws of 2022

Prepared by the New York State Office of Mental Health
and the New York State Department of Health

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Table of Contents

I. Key Terms

Perinatal*:* Refers to the roughly 2-year period around pregnancy, including the time during pregnancy before birth (***prenatal***) through the year following birth (***postpartum***).

"Postpartum blues": "Postpartum blues" or "baby blues" may include feelings of worry, unhappiness, and fatigue.[1] Baby blues are transient, do not impair function, and resolve within a matter of weeks without treatment.[2] Symptoms usually begin 2-3 days after birth.

Postpartum depression **(PPD)** or ***postnatal depression*** **(PND)**: PPD is more severe and lasts longer than "baby blues."[3] Postpartum depression is defined as a mood disorder, similar to major depressive disorder, but occurring between several weeks to one year after childbirth. For those experiencing postpartum depression, symptoms are often accompanied by anxiety.[4] The exact cause of postpartum depression is not known but is likely a combination of factors, including hormonal changes, genetic vulnerability, and psychosocial stressors. Postpartum depression usually begins 1-3 weeks after giving birth but can occur anytime within the following year. PPD interferes with an individual's ability to engage in activities of daily living (e.g., eating, dressing, preparing meals, etc.), and may include intense symptoms of sadness, anxiety, and hopelessness, loss of interest in activities, withdrawing from friends and family, or thoughts of hurting self or baby. PPD usually does not resolve on its own and therefore requires treatment to minimize or eradicate symptoms.[5]

Perinatal mood and anxiety disorder **(PMAD)**: A diagnostic category encompassing mood disorders that surface in the perinatal period. These disorders include ***postpartum anxiety***, ***postpartum obsessive-compulsive disorder*** **(OCD)**, *and* ***postpartum post-traumatic stress disorder*** **(PTSD)**. ***Postpartum PTSD*** can occur in women who have experienced a traumatic birth. ***Postpartum psychosis*** **(PPP)** is the least common but most serious of the postpartum mood disorders and requires immediate care. Symptoms of PPP can appear within the first 2-3 days postpartum and may include agitation, confusion, inability to sleep, delusions, and hallucinations.[6]

In keeping with the spirit of the legislation, this report focuses on postpartum depression, but occasionally refers to other perinatal mental health conditions, and describes other perinatal anxiety screening tools.

[1] CDC Vital Signs (May 2020).
[2] NIMH 2013; MMHLA 2020; Earls 2019.
[3] Ibid.
[4] https://www.postpartum.net/learn-more/anxiety/
[5] https://archive.cdc.gov/www_cdc_gov/reproductivehealth/vital-signs/identifying-maternal-depression/index.html
[6] Gale & Harlow, 2003; Sichel, 2000.

Social determinants of health **(SDOH)**: The World Health Organization defines the social determinants of health as "the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life."[7] The US Department of Health and Human Services' Healthy People 2030 broadly categorizes SDOH into five domains: economic stability, education access and quality, health care access and quality, neighborhood and built environment, and social and community context.[8] Examples of SDOH include access to nutritious food, air quality, literacy and language skills, racism, discrimination, and violence. These upstream factors exert a powerful impact on an individual's health and well-being throughout their lives. The unequal distribution of SDOH across a society contributes to disparities and inequities in population health.

A note on gendered language*:*
Perinatal mood and anxiety disorders and other issues surrounding pregnancy affect all birthing people, including cis-gendered women and girls, nonbinary, intersex, and Two-Spirit people, and transgender men. This report is meant to be inclusive of all birthing people. Descriptions of previous studies are, however, sometimes limited by the methodology and language used by those studies.

[7] WHO 2011

[8] Healthy People 2030, Retrieved June 12, 2023, from https://health.gov/healthypeople/objectives-and-data/social-determinants-health

II. Executive Summary

This report is issued pursuant to Chapter 384 of the Laws of 2022, which required the Office of Mental Health to conduct a comprehensive study of postpartum depression screening protocols and measures, and a review of any evidence of racial disparities connected to these protocols and measures. The report identifies potential questions for inclusion in postpartum mental health screening to detect needs and to address disparities arising from social determinants of health (SDOH) and other factors specifically outlined in this Chapter.

A. Key Findings

Several themes emerged from a review of the evidence. Primary among them:

1. **Postpartum individuals are not universally screened for postpartum depression in a standardized way.**
    - While national medical organizations recommend perinatal mental health screening, guidelines often lack specificity on how, when, and by whom screening should be done.[9]
    - Screening is not performed systematically, likely exacerbating existing inequities in postpartum care.
    - A widely used instrument, the Edinburgh Postnatal Depression Scale (EPDS), has been scientifically validated (i.e., proven to accurately identify people at risk and not inappropriately identify those not at risk).
    - However, as this report explores, there are opportunities for improvement in the tool's implementation, particularly with respect to accessibility and cultural humility when used with historically underserved, racial and ethnic minoritized populations.[10]

2. **New Yorkers report being asked about depression at a postpartum visit at a rate similar to the national average.**
    - Nationwide, the Centers for Disease Control and Prevention (CDC) estimate that 87.5% of postpartum people are asked about PPD at a postpartum visit, with estimates ranging from 50.7% in Puerto Rico to 96.2% in Vermont in 2018.[11]
    - Among postpartum New Yorkers reporting receiving a postpartum checkup, 82.4% reported being asked about depression at the visit in

[9] For summary of existing recommendations, see Appendix 2, from Perinatal Mental Health Education and Screening Phase 1 Final Report, published by the Maternal Mental Health Leadership Alliance (MMHLA) and March of Dimes, December 2022.

[10] This report strives to adhere to the recommended "Inclusive Language for Reporting Demographic and Clinical Characteristics" from the 11th edition of the AMA Manual of Style, as cited by https://jamanetwork.com/pages/inclusive-language (accessed June 15, 2023). These guidelines include, for example, the capitalization of both "Black" and "White."

[11] Bauman et al. 2020

2020,[12] a steady increase from previous years (2016: 76.1%; 2017: 77.6%; 2018: 78.9%; 2019: 81.4%).[13]
    - Whether a person is asked about depression is a proxy for being screened and is, therefore, an overestimate of how many individuals receive robust screening with a validated instrument (such as the EPDS).[14] In addition, the percentage of those being asked about depression only pertains to individuals who report receiving a postpartum visit and does not account for those who did not report receiving a postpartum visit.

3. **Disparities by race, ethnicity, and socioeconomic status have been seen in self-reported postpartum depression and in self-reported postpartum mental health care in New York State. Postpartum New Yorkers who are non-Hispanic Black or Hispanic, unmarried, insured by Medicaid, or reported lower educational attainment are less likely to report receiving a postpartum checkup, a missed opportunity for screening.[15]**
    - According to NYS PRAMS data, higher percentages of racial and ethnic minoritized populations and people of lower socioeconomic status have self-reported PPD[16] since 2012, though racial and ethnic differences in 2020 were not statistically significant: for non-Hispanic Black (NHB): 12.8%; non-Hispanic Other: 10.9%; non-Hispanic White (NHW): 10.1%; Hispanic: 8.0%.[17]
    - Significant inequities appear in postpartum care in NYS: 91.3% of NHW postpartum individuals in 2020 reported having a postpartum check-up, compared to 87.3% of non-Hispanic Other, 80.2% of NHB, and 78.3% of Hispanic postpartum people.[18]
    - Postpartum New Yorkers who were unmarried, insured by Medicaid, or had attained less than a high school education were consistently less likely (2004-2020) to report a postpartum check-up.[19]

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[12] Source: NYS PRAMS data, based on a self-reported "yes" answer to the survey question: "During your postpartum checkup, did a doctor, nurse, or other health care worker do any of the following things? … Ask me if I was feeling down or depressed." (See below section for more details on PRAMS data.) Does *not* include individuals who reported *not* receiving a postpartum checkup. PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.

[13] Caution should be exercised when interpreting estimates, especially those with wide confidence intervals.

[14] Per the Justification section of S.7753: "*According to both the Center for Disease Control (CDC) and the National Alliance on Mental Illness (NAMI) 1 in 8 women suffer from maternal depression. NAMI states that black women are three times more likely to experience maternal depression. It is estimated that over half of the instances of maternal depression in women of color go unreported*." The 1 in 8 statistic is widely referenced and is based on two PRAMS questions that ask the postpartum individual about depression symptoms experienced after the birth of their new baby.

[15] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.

[16] Respondents to PRAMS were categorized as having PPD if they answered that they "always" or "often" felt down, depressed, or hopeless, or had little interest in doing things (see PRAMS data section below).

[17] Maternal race and ethnicity information come from birth certificate data. Due to limited sample sizes, those selecting an identity other than Hispanic, Black, or White were categorized as "non-Hispanic Other." For more details on methodology, see PRAMS data section. PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.

[18] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.

[19] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.

- Among New Yorkers self-reporting postpartum depression symptoms in 2020,[20] only 33.8% reported being told by a health care provider that they had depression.[21] This proportion was higher for NHW (45.5%) than for NHB (29.9%), non-Hispanic Other (19.5%), or Hispanic postpartum people (18.4%).[22]
- The overall percentage of postpartum people reporting that they received counseling after being told by a healthcare provider that they had depression increased slightly from 50.2% in 2016 to 55.1% in 2020 (i.e., nearly half of New Yorkers who were told that they had depression after giving birth did not receive counseling).[23]
- Among postpartum New Yorkers told by a health care worker that they had depression, NHW individuals were much more likely to report taking medication for depression (70.6%) compared to Hispanic individuals (38%); small sample sizes for other respondent groups (NHB, non-Hispanic Other) prohibited additional comparison of self-reported medication treatment.[24]

4. **Regional differences were seen among racial and ethnic subgroups who were asked about postpartum depression at a postpartum checkup (a disproportionately White group). In New York City, the proportion of non-Hispanic White or non-Hispanic Other individuals who reported being asked about depression at a visit was smaller than that of non-Hispanic Black or Hispanic postpartum people. These differences did not appear for the rest of the state.[25]**
    - Postpartum people in areas of NYS outside of NYC ("Rest of State" (ROS)) overall were consistently more likely than NYC residents to report being asked about depression by a health care provider in 2016 through 2020 (in 2020: 87.7% for ROS vs. 75.8% for NYC).[26]
    - Regional differences were also seen by race and ethnicity:
        - In NYC in 2020, only 66.1% of NHW individuals reported being asked about depression symptoms at a postpartum check-up, compared to 88.0% of NHB, 85.2% of Hispanic, and 66.9% of non-Hispanic Other individuals.[27]
        - In ROS in 2020, the comparable proportions were 87.1% of NHW, 86.0% of NHB, 91.9% of Hispanic, and 86.8% of non-Hispanic Other postpartum individuals.[28]

[20] Ibid.
[21] This was assessed in PRAMS by asking respondents the following: "Since your new baby was born, has a doctor, nurse, or other health care worker told you that you had depression?"
[22] The difference among race and ethnicity groups was statistically significant (p-value=0.0459). Pregnancy Risk Assessment Monitoring System (PRAMS) data, New York State Department of Health, Public Health Information Group
[23] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.
[24] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.
[25] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.
[26] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.
[27] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.
[28] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.

B. Key Recommendations

1. Screening and Follow-up.
NYS health care providers should be supported in developing the capacity to incorporate the following screening into routine care from pre-conception planning through one year postpartum, with appropriate follow-up evaluation/diagnosis, education/brief intervention, treatment, and referral to services. Pediatricians, obstetricians/gynecologists (OB/GYNs), Reproductive Endocrinologists (REs), and Primary Care Providers (PCPs) should provide the following screenings at established visits (i.e., prenatal and postpartum check-ups, routine primary care visits within the first year postpartum, and child well visits through child's first year):

a) Universal, standardized perinatal mental health screening with validated instruments, not limited to postpartum depression (PPD) but including other perinatal mood and anxiety disorders (PMADs), with a clear standard for *how*, *when*, and *by whom* screening should be done through one year postpartum.
b) Screening for basic social needs with validated questions, including but not limited to:
    - social support
    - intimate partner violence (IPV)
    - food security
    - housing
    - diaper security
    - barriers to access to care (e.g., financial, transportation, technology)
c) Screening for substance use disorders (SUD) with validated tools.

2. Provider Training.
Providers (OB/GYNs, REs, PCPs, and pediatricians) should avail themselves of existing education and training efforts to support screening and follow-up (e.g., Project TEACH). Training should focus on health equity, acknowledging systemic racism and historical institutional biases and striving to improve the representation of racial and ethnic minoritized groups in the workforce. Training should include, at a minimum, the following topics:

a. screening, referral, and treatment options
b. resources and services available to patients
c. implicit bias and cultural competency training
d. trauma-informed, patient-centered care
e. patients' rights (e.g., to reduce stigma and fear of losing baby to child protective services (CPS) upon disclosure of MH condition or substance use)
f. up-to-date information on benefits/risks of continuing medications during pregnancy and postpartum and established safety of beginning meds during the perinatal period (e.g., anti-depressants, medication for opioid use disorder (MOUD))
g. payment and reimbursement options not solely focused on Medicaid

3. Access to Treatment for Mental Health and Substance Use Disorders and to Resources to Meet Social Needs.

The maternal mental health workgroup established per the 2023-24 NYS enacted budget will be exploring ways to improve pathways to care by increasing access and decreasing barriers to services and supports, including but not limited to:

a. Investing in enhancement and expansion of a variety of clinic- and community-based mental health services with increased financial support through the Fiscal Year 2024 NYS enacted budget.
b. Partnering with the NYS Office of Addiction Services and Supports (OASAS) to decrease stigma, increase perinatal treatment of SUD, and educate pregnant people about their right to priority treatment in OASAS-licensed clinics; and
c. Partnering with other state agencies to address access issues with housing, food, and items children need, including diapers, clothing, and other needs associated with social determinants of health. These resources, while not clinical, serve to address upstream risk factors for adverse mental and physical health outcomes for birthing people, infants, and their families.

4. Reimbursement.

Ensure adequate reimbursement for screening, education, and brief intervention to incentivize greater uptake by pediatricians and other primary care providers and provide technical support to assist providers to better understand the current billing structure.

5. Research.

Collaborate with researchers studying evidence-based models of care and population-level interventions that are culturally relevant and inclusive of racial and ethnic minoritized and other underserved populations. This work should include study of:

a. ways to update existing, validated screening tools to increase cultural relevance
b. additional screening questions to identify risk factors and social needs outlined in this report (e.g., social support, prior mental health diagnosis)
c. evidence-based education/brief intervention and prevention strategies, with particular attention to racial and ethnic minoritized populations
d. culturally congruent perinatal care outside the traditional medical model
e. potential for mobile phone-based screening and other technology
f. improved data collection, monitoring, and performance measures
g. existing NYS programs aimed at reducing disparities in perinatal mental health

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III. Introduction and Purpose

The New York State (NYS) Office of Mental Health (OMH) and Department of Health (DOH) have been asked to prepare and submit a report that (1) reviews current protocols and screening measures used to identify postpartum depression and overall birthing people's health after birth; (2) identifies any racial disparities within protocols and screening measures for postpartum depression; (3) examines additional questions or tools that could be implemented to minimize disparities found within the current screening protocols.

In accordance with Chapter 384 of the Laws of 2022, the findings are to be submitted to the governor, the temporary president of the senate, the speaker of the assembly, the minority leader of the senate and the minority leader of the assembly. As requested, this report includes specific recommendations for minimizing existing barriers and maximizing new techniques and tests to better aid postpartum depression testing and other maternal health testing and/or screening. *The findings and recommendations included in this report lay a piece of the groundwork for more extensive work by the maternal mental health workgroup whose formation and goals are detailed in the 2023-2024 NYS enacted budget*.

Postpartum depression (PPD) is a debilitating condition—the most common of all perinatal mood disorders—affecting at least 1 in 8 of the birthing population,[29] with even higher prevalence estimated among certain subgroups. While recognized and documented since antiquity,[30] PPD often goes undiagnosed and undertreated, despite the availability of effective treatments. Screening is key, as early identification and intervention can lead to better outcomes for both the mother and the infant. The repercussions of undiagnosed or undertreated PPD are significant and can be long-lasting—for birthing individuals, for their babies and families, and for society; these repercussions are even more pronounced among racial and ethnic minoritized and other underserved populations.

This report assesses the current state of postpartum depression screening protocols and tools and identifies ways to improve the existing system to ensure that it is equitably serving all postpartum New Yorkers. First, the report examines what is known about the epidemiology of postpartum depression (e.g., prevalence estimates, risk factors), and whether disparate patterns have been detected across populations. Second, the report reviews the protocols in place, with a focus on whether the most commonly used screening tool is adequate in identifying those at risk of the disorder, particularly among minoritized groups. Finally, the report makes recommendations for how screening processes and tools might be improved to address historic maternal health inequities experienced by birthing people, and, ultimately, to better support the mental health and well-being of all New Yorkers.

[29] CDC 2020
[30] Stewart 2019

A. Current Landscape

In 1998, New York State enacted its first law pertaining specifically to postpartum depression. New York Public Health Law, Article 28 (Hospitals), 2803j, "Information for Maternity Patients," mandated that an "informational leaflet" be distributed by all hospitals and birthing centers "at the time of pre-booking directly to each prospective maternity patient and, upon request, to the general public." The leaflet would "include information relating to the physical and mental health of the maternity patient after discharge from the hospital, including, but not limited to, information about maternal depression."[31]

Additional legislation signed in 2014 (Chapter 199 of the Laws of 2014) defined maternal depression and mandated that health care providers offer information to individuals during pregnancy and following childbirth on PPD, its symptoms, and available resources to promote awareness of and reduce stigmatization of maternal depression. This law required health insurers to cover maternal depression screening and treatment, including medication, without requiring prior authorization.

In 2016, the Department of Financial Services (DFS) issued guidance "to inform health insurers of their responsibility to provide health insurance coverage for maternal depression screenings." This guidance[32] came on the heels of the United States Preventive Services Taskforce's recommendations "that group health plans and insurers offering group or individual health coverage must provide, with no copayment, coinsurance, or deductible, preventative services such as depression screenings in pregnant and postpartum women." It was intended to ensure that all pregnant and postpartum people can receive the full array of services to which they are entitled.

Since late 2022, Medicaid fee-for-service and Medicaid Managed Care Plans have allowed reimbursement for postpartum depression screening using a validated screening tool up to 4 times within the first year after the end of pregnancy. "Screening can be provided by the maternal health care provider and/or by the infant's health care provider. This is an increase from the previous limit of three times within the first 12 months postpartum."[33]

Despite these laws and their encouragement of providers to promote postpartum depression screening using validated tools, screening is not universal.

[31] https://www.nysenate.gov/legislation/laws/PBH/2803-J
[32] https://www.dfs.ny.gov/industry_guidance/circular_letters/cl2016_01
[33] https://www.health.ny.gov/health_care/medicaid/program/update/2022/docs/mu_no8_jul22_pr.pdf

IV. Background

A. Pregnancy Risk Assessment Monitoring System (PRAMS) Data

The primary data source for this report is the Pregnancy Risk Assessment Monitoring System (PRAMS), a CDC-sponsored ongoing, population-based risk factor surveillance system that surveys a representative sample of individuals who delivered a live-born infant about their experiences before, during, and after pregnancy. The New York State PRAMS program (excluding NYC) is administered through the NYSDOH. A NYC-specific PRAMS project was implemented by the NYC Department of Health and Mental Hygiene (DOHMH) in 1998. The program aims to reduce infant and maternal morbidity and mortality by providing NYS-specific data that can inform health programs and help improve maternal and infant health. Its monthly survey includes items asking about postpartum depression screening. Since 2016, the survey has asked respondents a series of questions directly addressing postpartum depression:

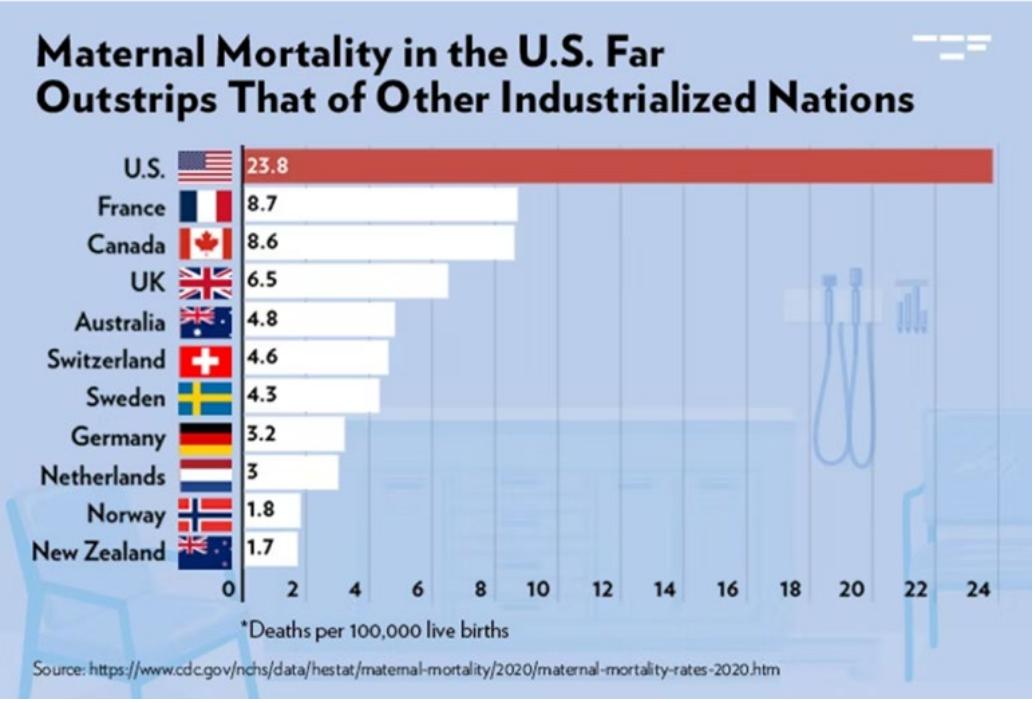
- Since your new baby was born, how often have you felt down, depressed, or hopeless?
- Since your new baby was born, how often have you had little interest or little pleasure in doing things you usually enjoyed?
- During your postpartum checkup, did a doctor, nurse, or other health care worker do any of the following things? … Ask me if I was feeling down or depressed.
- Since your new baby was born, have you asked for help for depression from a doctor, nurse, or other health care worker?
- Since your new baby was born, has a doctor, nurse, or other health care worker told you that you had depression?
- Since your new baby was born, have you gotten counseling for your depression?
- Since your new baby was born, have you taken prescription medicine for your depression?

Through linkage to other data sources (e.g., birth certificate data), PRAMS can be used to identify potential disparities by race and ethnicity, insurance status, maternal age, marital status, and education level. For example, maternal race and ethnicity information can be extracted from birth certificates. Following the CDC's approach, NYS PRAMS participants are categorized as Hispanic, non-Hispanic Black, non-Hispanic White, or non-Hispanic Other. The category "Other" includes several and varied racial and ethnic identities (e.g., all people identifying as Asian) and exposes a problematic limitation and challenge of using PRAMS data. Future research should find ways to disaggregate this group, which in our findings often appears to be the most underserved (e.g., reports lowest rates of being asked about depression at a postpartum visit).

B. Significance

Maternal Health Crisis: A recent CDC report[34] highlights the ongoing maternal mortality crisis in the United States, where death rates[35] (23.8 per 100,000 live births as reported in 2020) are nearly three times that of the industrialized nation that follows the US in this international ranking (Figure 1). In an analysis of pregnancy-related deaths from 36 states from 2017-2019, over 80% of pregnancy-related deaths were determined to have been preventable.[36] Mental health conditions are major contributors to this crisis,[37] and have only grown worse since the COVID-19 pandemic.[38]

Figure 1. International comparison of maternal mortality rates



Source: The Century Foundation, CDC Data[39]

Racial Disparities: Even more pronounced than national averages are the striking disparities in US maternal mortality rates when broken down by race and ethnic background (Figure 2): for non-Hispanic Black women in 2021, the rate was 69.9 deaths per 100,000 live births, 2.6 times the rate for non-Hispanic White women (26.6 per 100,000). The rate increases from 2020 to 2021 for these groups and for Hispanic women were all statistically significant. While COVID-19 was an unquestionable driver

[34] https://www.cdc.gov/nchs/data/hestat/maternal-mortality/2021/maternal-mortality-rates-2021.htm

[35] The World Health Organization defines a maternal death as "the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes" (WHO 2009).

[36] Trost et al. 2022.

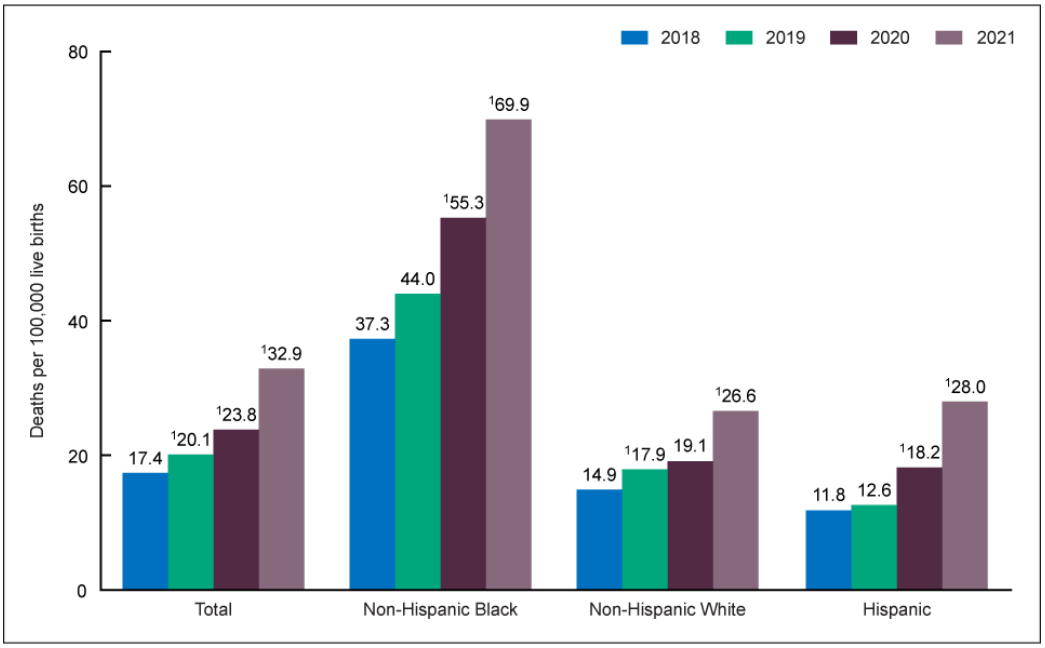
[37] Ibid.

[38] Firestein et al. 2022.

[39] https://tcf.org/content/commentary/worsening-u-s-maternal-health-crisis-three-graphs/#:~:text=Maternal%20Mortality%20in%20the%20U.S.,is%20far%20from%20an%20inevitability.

of mortality in 2020 and 2021, the upward climb in rates had already been steady for decades before the pandemic.

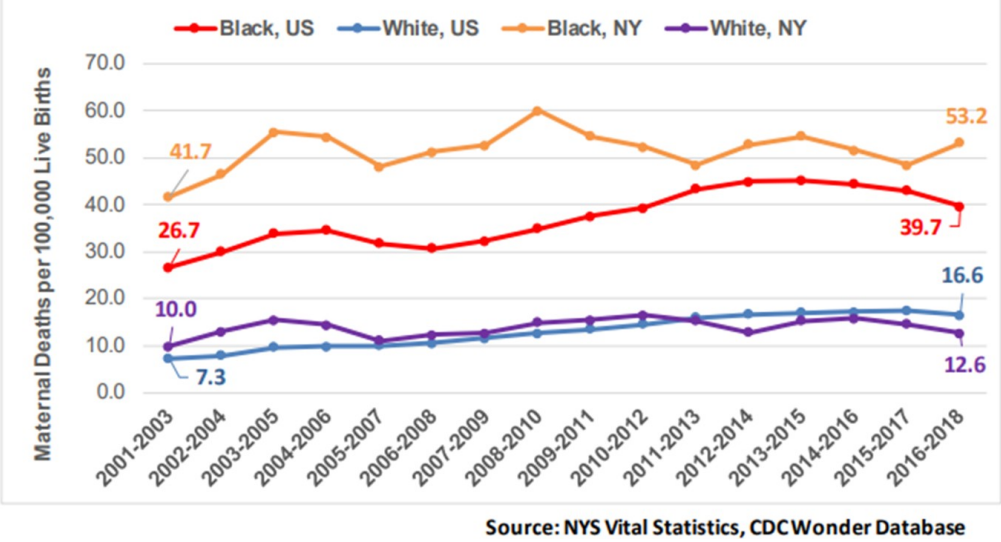
Figure 2. Maternal mortality by race and Hispanic origin: United States, 2018-2021



[1]Statistically significant increase from previous year ($p < 0.05$).
NOTE: Race groups are single race.
SOURCE: National Center for Health Statistics, National Vital Statistics System, Mortality.

Maternal Mortality in New York State: Racial disparities in maternal mortality for New York State have been even starker than those for the nation (Figure 3). Comparisons of 3-year rolling average maternal mortality rates from 2016-2018 reveal a more than three-fold difference: 53.2 per 100,000 for Black New Yorkers compared to 16.6 per 100,000 for White New Yorkers.

Figure 3. NYS rolling average, maternal mortality rate, by race



The Role of Mental Health: A recent report by the New York State Department of Health[40] determined that mental health conditions were a leading cause of pregnancy-related deaths[41] in 2018 (15%); that 100% of those deaths attributable to mental health were preventable; and that discrimination was a probable or definite circumstance surrounding nearly half of pregnancy-related deaths. Among pregnancy-associated deaths, mental health conditions were the leading cause of death (48.7%).[42] Substance use disorder (SUD) played a role in 86.5% of pregnancy-associated deaths due to mental health conditions.

While the mandated focus of the present report is postpartum depression, these findings point to the urgent need to address mental health conditions and SUD during the full perinatal period, in addition to pre-existing conditions before pregnancy. A broader study of these issues (e.g., other perinatal mood and anxiety disorders)—and a second report to follow—will be undertaken by the maternal mental health workgroup constituted as part of the 2023-2024 NYS enacted budget.

Prevalence of PPD: The estimated prevalence of postpartum depression varies based on the population studied, time period examined, and diagnostic criteria used. The overall average proportion of birthing people affected generally falls between 13% and 19%.[43] These percentages translate to roughly 400,000 individuals experiencing postpartum depression annually in the United States.[44] In some high-risk populations,

[40] https://www.health.ny.gov/community/adults/women/docs/maternal_mortality_review_2018.pdf

[41] "Pregnancy-related death" is defined as "a death during pregnancy or within one year of the end of pregnancy from a pregnancy complication, a chain of events initiated by pregnancy, or the aggravation of an unrelated condition by the physiologic effects of pregnancy."

[42] "Pregnancy-associated death" is defined as "a death during pregnancy or within one year of the end of pregnancy from a cause that is not related to pregnancy."

[43] Keefe 2016; O'Hara & McCabe, 2013

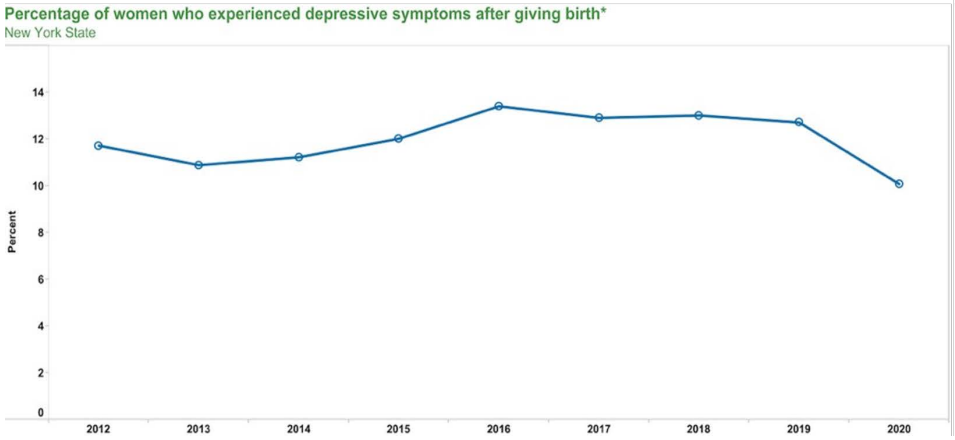
[44] NPR.

such as individuals with a history of depression, those of low income, and members of racial and ethnic minority groups, the prevalence of PPD can be much higher. Among new mothers of color, for example, prevalence has been estimated to be as high as 38% (more on disparities in prevalence in Section C below).[45] These populations are also at greater risk of severe outcomes related to PPD. When looking more broadly at perinatal mood and anxiety disorders, an estimated 1 in 5 of the pregnant or postpartum population is affected.

New York State Context: According to the Postpartum Resource Center of New York, over 100,000 New Yorkers (birthing parents as well as non-birthing partners[46]) experience a perinatal mood and anxiety disorder each year.[47]

PRAMS data indicate that 10.1% of New Yorkers giving birth in 2020 reported symptoms of depression postpartum (answering that they "always" or "often" felt down, depressed, or hopeless, or had little interest in doing things), a decline from 12.7% in 2019 (Figure 4) following an increase and relative plateau in previous years. In most years for which there are data, there were negligible differences between prevalence using this measure in New York City versus the rest of New York State (ROS).[48]

Figure 4. Overall prevalence of self-reported PPD, NYS, 2012-2020



Year	New York State Percentage (95% CI)
2012	11.7 (10.1-13.5)
2013	10.9 (9.4-12.6)
2014	11.2 (9.7-12.9)
2015	12.0 (10.4-13.8)
2016	13.4 (11.8-15.1)
2017	12.9 (11.2-14.8)
2018	13.0 (11.2-15.0)
2019	12.7 (10.8-14.9)
2020	10.1 (8.4-12.1)

Source: PRAMS data

[45] Keefe 2016; Gress-Smith et al. 2012

[46] While outside the scope of this report (which is focused on birthing individuals), postpartum depression in the non-birthing partner(s) is an important, yet underrecognized issue that impacts both mood/experience and warrants further study.

[47] https://postpartumny.org; accessed March 24, 2023

[48] It is important to note the confidence intervals ("95% CI") provided in tables showing PRAMS data. When the ranges of these numbers (appearing in parentheses in the table) are wide, it is an indication of a lack of precision. Overlapping ranges for different estimates indicate a lack of statistical significance between those differences. PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.

C. Disparities in Prevalence

Studies have identified disparities in prevalence estimates of postpartum depression in the U.S., with higher prevalence of PPD seen in certain subpopulations, including minoritized populations, individuals of lower socioeconomic status, and those living in rural areas.

Race and Ethnicity and Related Disparities in Prevalence

Growing evidence suggests that members of racial and ethnic minority groups in the United States are often more likely than their White counterparts to experience postpartum depression.[49]

As noted by the Maternal Mental Health Leadership Alliance (MMHLA), studies have found that up to 40% of Black mothers and birthing people may experience maternal mental health conditions.[50] Some evidence suggests that, compared to White individuals, Black individuals may be twice as likely to experience a perinatal mental health disorder (but roughly half as likely to receive treatment).[51] In one study of 655 women, 44% of African American women and 47% of Hispanic women reported depressive symptoms postpartum, compared with 31% of White women. Even after controlling for demographic characteristics and other risk factors, the odds of African American study participants reporting PPD symptoms was over two times that of White women, and the odds of Hispanic women experiencing PPD symptoms was 1.89 times that of White women.[52]

The average incidence of PPD symptoms among Native American women has also been found to be higher relative to other groups, with 23% of Native American postpartum individuals reporting depressive symptoms in one study[53] and a recent scoping review reporting that the PPD prevalence among American Indian/Alaska Native (AI/AN) individuals across studies ranged from 14% to 29.7%.[54] In addition, the CDC has estimated that the postpartum depression rate among Native American mothers is twice that of White mothers.[55] This demographic group also experiences the highest maternal suicide rates.[56]

There is also evidence of higher rates of PPD among different Asian groups compared to White women.[57] One study of over 10,000 women who had just given birth in a major delivery hospital in Illinois found that Asian women were 9 times more likely that their

[49] Doe et al., 2017; Howell et al., 2005; Liu & Tronick, 2014; Segre et al., 2006; Wenzel et al., 2021; Matthews et al. 2021

[50] MMHLA; UPMC Health Beat (2020). Black Maternal Mental Health: The Challenges Facing Black Mothers. And: Taylor and Gamble (2017). Suffering in Silence: Mood Disorders Among Pregnant and Postpartum Women of Color

[51] MMHLA; Taylor and Gamble 2017; Kozhimannil 2011

[52] Howell et al., 2005

[53] Baker 2005: n=151; PDSS was used.

[54] Heck, 2021

[55] CDC; https://www.nbcnewyork.com/news/a-native-american-mothers-wisdom-confronting-postpartum-depression/4038024/ on NY's Shinnecock Nation.

[56] Stone et al. 2022.

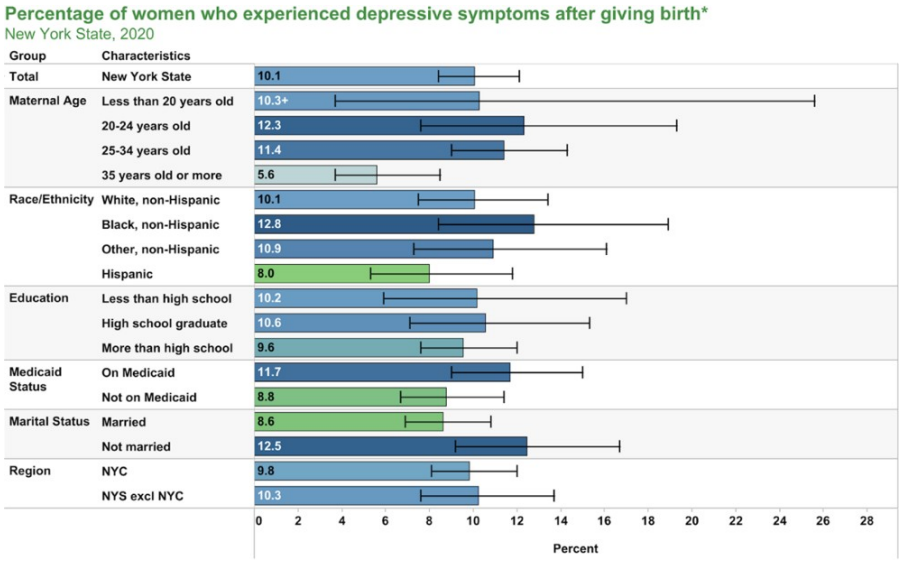
[57] Hayes et al. 2010; using PRAMS data for Hawaii

White counterparts to have suicidal ideation (SI) in the immediate postpartum period (the same study found Black women were also at elevated risk: they were 2 times as likely as White women to reporting having SI).[58] Research findings suggest that Asian mothers are less likely to seek help for mental illness, regardless of health insurance or socioeconomic status.[59] The stigmatization of mental illness in Asian cultures has been well documented,[60] [61] and likely inhibits help-seeking behavior and contributes to underreporting and undertreatment of PPD and other perinatal mental health conditions.

Disparities in PPD Prevalence in New York State

Analysis of NYS PRAMS data from 2012-2020 highlights characteristics associated with greater likelihood not only of experiencing postpartum depression but also of being underdiagnosed with the condition. Disparities in the prevalence of self-reported depression among postpartum New Yorkers in 2020 (the most recent year for which PRAMS data are available) are seen by maternal age group, race and ethnicity, education level, marital status, and Medicaid status, though very few of these differences are statistically significant (Figure 5; Table 1). Black non-Hispanic women had the highest percentage reporting depressive symptoms after giving birth: 12.8%, compared to 10.1% of White non-Hispanic women and 8% of Hispanic women; 10.9% of those categorized as “non-Hispanic Other” reported experiencing depressive symptoms after giving birth. There was a statistically significant difference in subgroup analyses among the 2020 cohort of New Yorkers: those 35+ years of age had a lower prevalence of self-reported depression after birth than those aged 25-34 (5.6% vs. 11.4%).[62]

Figure 5. Prevalence breakdowns of self-reported PPD, NYS, 2020



Source: PRAMS data

[58] Tabb et al. 2020
[59] Ta and Chen 2008; Ta et al. 2008
[60] Georg Hsu et al., 2008.
[61] Wynaden et al., 2005.
[62] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.

Table 1. Prevalence breakdowns of self-reported PPD, NYS, 2020

Percentage of women who experienced depressive symptoms after giving birth*
New York State, 2020

Group	Characteristics	Respondents	Estimated number of people affected	Percentage	95% CI
Total	New York State	1,876	18,587	10.1	(8.4-12.1)
Maternal Age	Less than 20 years old	37	449	10.3+	(3.7-25.6)
	20-24 years old	211	3,063	12.3	(7.6-19.3)
	25-34 years old	1,091	12,522	11.4	(9.0-14.3)
	35 years old or more	537	2,554	5.6	(3.7-8.5)
Race/Ethnicity	White, non-Hispanic	811	9,093	10.1	(7.5-13.4)
	Black, non-Hispanic	283	3,439	12.8	(8.4-18.9)
	Other, non-Hispanic	291	2,373	10.9	(7.3-16.1)
	Hispanic	457	3,464	8.0	(5.3-11.8)
Education	Less than high school	213	2,146	10.2	(5.9-17.0)
	High school graduate	412	4,614	10.6	(7.1-15.3)
	More than high school	1,242	11,331	9.6	(7.6-12.0)
Medicaid Status	On Medicaid	861	9,617	11.7	(9.0-15.0)
	Not on Medicaid	1,014	8,970	8.8	(6.7-11.4)
Marital Status	Married	1,202	9,914	8.6	(6.9-10.8)
	Not married	674	8,673	12.5	(9.2-16.7)
Region	NYC	1,181	8,396	9.8	(8.1-12.0)
	NYS excl NYC	695	10,191	10.3	(7.6-13.7)

CI denotes confidence interval.

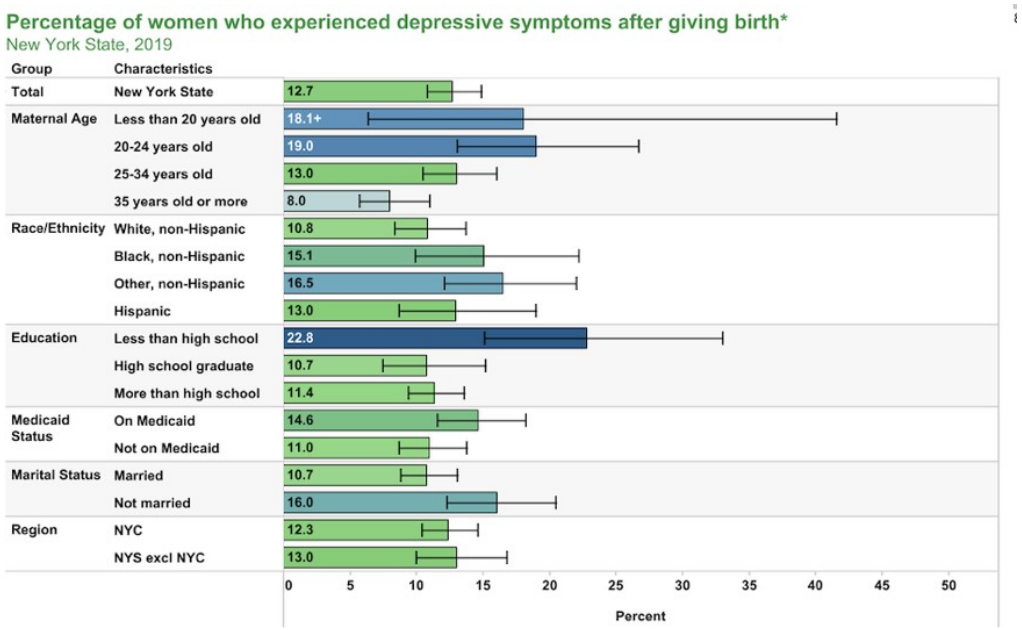
Note: This question was changed in 2012. Therefore, percentage cannot be compared to 2011 or earlier.
*Women were asked if they felt down, depressed, hopeless, or had little interest or pleasure in doing things they usually enjoyed.

Source: PRAMS data

For those giving birth in 2019, significant differences in PPD prevalence were seen by education level: self-reported PPD was twice as common among respondents with less than a high school education compared to those with more than a high school diploma (22.8% vs 11.4%) (Figure 6; Table 2). Differences were also seen by marital status (10.7% for married vs 16.0% for unmarried) and by age (<20 years old: 18.1%; 20-24 years old: 19.0%; 25-34: 13.0%; 35+: 8.0%).[63]

[63] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.

Figure 6. Prevalence breakdowns of self-reported PPD, NYS, 2019



Source: PRAMS data

Table 2. Prevalence breakdowns of self-reported PPD, NYS, 2019

Percentage of women who experienced depressive symptoms after giving birth*
New York State, 2019

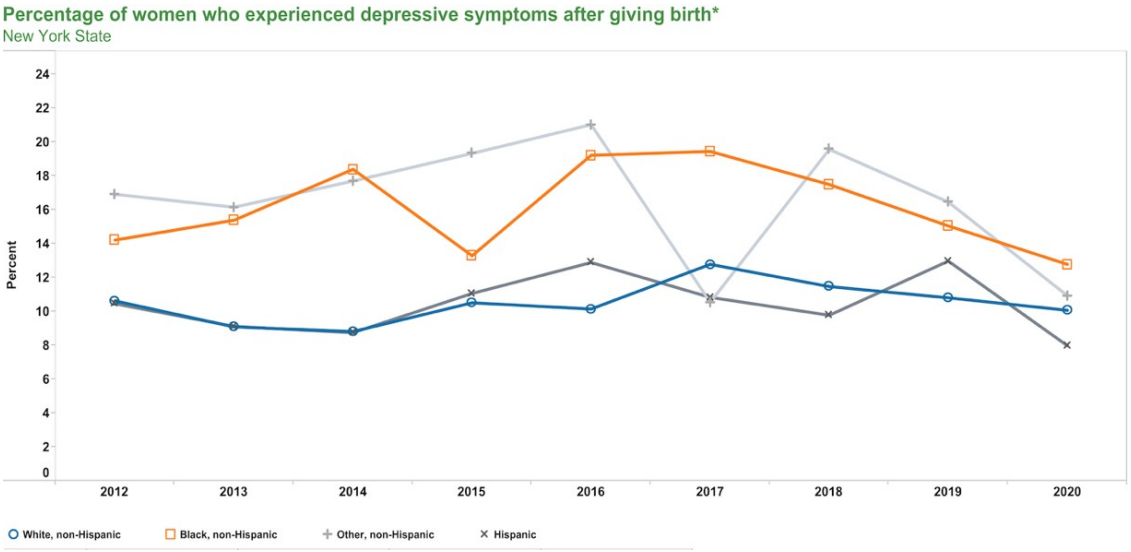
Group	Characteristics	Respondents	Estimated number of people affected	Percentage	95% CI
Total	New York State	1,993	25,052	12.7	(10.8-14.9)
Maternal Age	Less than 20 years old	35	662	18.1+	(6.4-41.6)
	20-24 years old	256	5,278	19.0	(13.1-26.7)
	25-34 years old	1,120	15,225	13.0	(10.5-16.0)
	35 years old or more	582	3,887	8.0	(5.7-11.0)
Race/Ethnicity	White, non-Hispanic	889	10,391	10.8	(8.4-13.7)
	Black, non-Hispanic	269	3,672	15.1	(9.9-22.2)
	Other, non-Hispanic	332	4,467	16.5	(12.1-22.0)
	Hispanic	466	6,072	13.0	(8.7-19.0)
Education	Less than high school	229	6,120	22.8	(15.1-33.0)
	High school graduate	405	4,541	10.7	(7.5-15.2)
	More than high school	1,346	14,391	11.4	(9.4-13.6)
Medicaid Status	On Medicaid	888	13,700	14.6	(11.6-18.2)
	Not on Medicaid	1,104	11,352	11.0	(8.7-13.8)
Marital Status	Married	1,315	13,260	10.7	(8.8-13.1)
	Not married	678	11,791	16.0	(12.3-20.5)
Region	NYC	1,237	11,640	12.3	(10.4-14.6)
	NYS excl NYC	756	13,412	13.0	(10.0-16.8)

CI denotes confidence interval.

Source: PRAMS data

While the above data from 2020 and 2019 show no statistically significant differences by race and ethnicity in the State averages, previous years do expose significant disparities. In 2018, for example, 11.5% of NHW and 9.8% of Hispanic postpartum respondents reported depressive symptoms, compared to 17.5% of those identifying as NHB and 19.6% of those categorized as "Other" (Figure 7; Table 3).[64]

Figure 7. Prevalence of self-reported PPD by race and ethnicity, NYS, 2012-2020



Source: PRAMS data

Table 3. Prevalence of self-reported PPD by Race/Ethnicity, NYS, 2012-2020

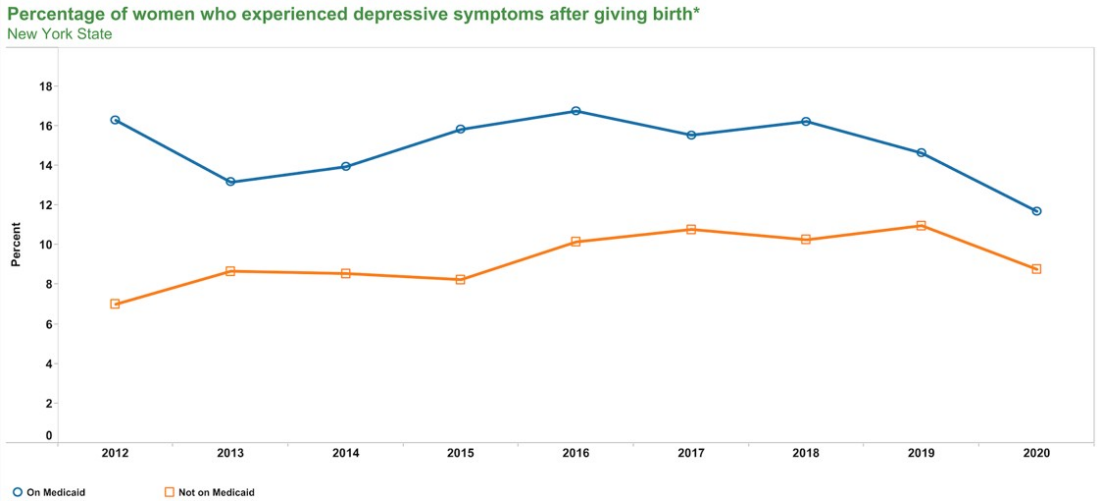
Year	White, non-Hispanic Percentage (95% CI)	Black, non-Hispanic Percentage (95% CI)	Other, non-Hispanic Percentage (95% CI)	Hispanic Percentage (95% CI)
2012	10.6 (8.4-13.4)	14.2 (10.2-19.5)	16.9 (12.1-23.1)	10.5 (7.7-14.0)
2013	9.1 (7.0-11.7)	15.4 (11.2-20.8)	16.2 (11.7-21.9)	9.1 (6.4-12.7)
2014	8.8 (6.8-11.3)	18.4 (13.8-24.1)	17.7 (13.2-23.3)	8.7 (6.3-12.1)
2015	10.5 (8.4-13.1)	13.3 (9.7-18.0)	19.3 (14.7-25.0)	11.1 (8.1-14.9)
2016	10.1 (8.1-12.6)	19.2 (14.9-24.5)	21.0 (16.3-26.7)	12.9 (9.9-16.7)
2017	12.8 (10.3-15.8)	19.4 (14.5-25.7)	10.5 (7.3-15.0)	10.8 (7.8-14.9)
2018	11.5 (9.0-14.6)	17.5 (12.9-23.4)	19.6 (14.8-25.4)	9.8 (6.8-13.8)
2019	10.8 (8.4-13.7)	15.1 (9.9-22.2)	16.5 (12.1-22.0)	13.0 (8.7-19.0)
2020	10.1 (7.5-13.4)	12.8 (8.4-18.9)	10.9 (7.3-16.1)	8.0 (5.3-11.8)

Source: PRAMS data

[63] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.

Consistent disparities are also apparent when New Yorkers are divided into those insured by Medicaid and those not Medicaid-insured. The prevalence of self-reported PPD remains higher across time for postpartum people insured by Medicaid compared to their peers, though the gap between the groups has narrowed in more recent years and has lost its statistical significance (Figure 8; Table 4).[65]

Figure 8. Prevalence of self-reported PPD by Medicaid status, 2012-2020



Source: PRAMS data

Table 4. Prevalence of self-reported PPD by Medicaid status, 2012-2020

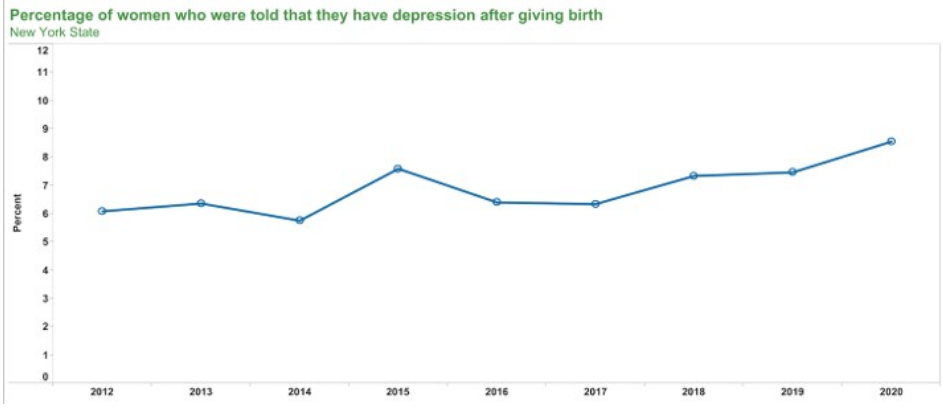
Year	On Medicaid Percentage (95% CI)	Not on Medicaid Percentage (95% CI)
2012	16.3 (13.7-19.2)	7.0 (5.4-9.1)
2013	13.2 (10.8-15.9)	8.7 (6.8-11.0)
2014	13.9 (11.6-16.7)	8.6 (6.8-10.7)
2015	15.8 (13.3-18.7)	8.2 (6.5-10.4)
2016	16.7 (14.3-19.6)	10.2 (8.3-12.3)
2017	15.5 (12.9-18.7)	10.8 (8.7-13.3)
2018	16.2 (13.3-19.7)	10.3 (8.3-12.7)
2019	14.6 (11.6-18.2)	11.0 (8.7-13.8)
2020	11.7 (9.0-15.0)	8.8 (6.7-11.4)

Source: PRAMS data

[65] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.

PRAMS data reveal that the proportion of New Yorkers reporting that a health care provider at a postpartum visit told them they had depression was 8.5% in 2020, an increase from 7.5% in 2019 (Figure 9).[66]

Figure 9. Individuals told by a health care worker at a postpartum visit that they had depression, NYS, 2012-2020



Year	New York State Percentage (95% CI)
2012	6.1 (4.9-7.5)
2013	6.4 (5.2-7.8)
2014	5.8 (4.6-7.1)
2015	7.6 (6.3-9.2)
2016	6.4 (5.3-7.8)
2017	6.3 (5.1-7.8)
2018	7.3 (5.9-9.1)
2019	7.5 (6.0-9.2)
2020	8.5 (6.9-10.6)

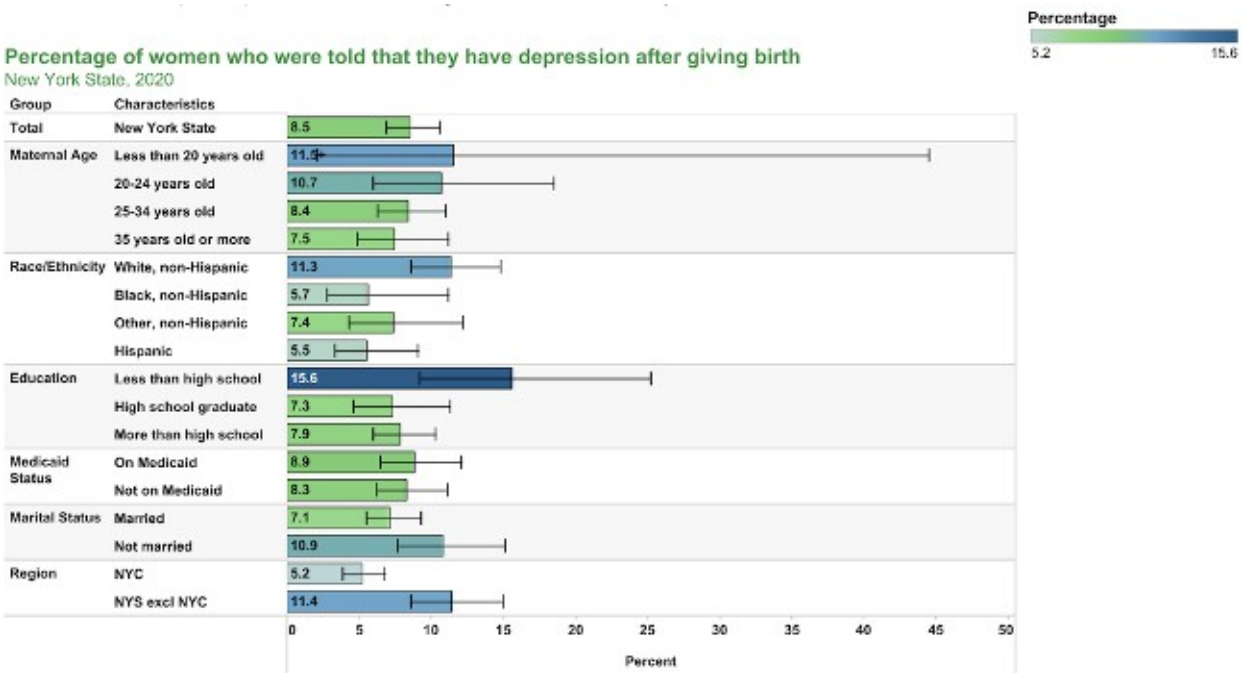
Source: PRAMS data

Proportions vary by maternal age, race and ethnicity, education level, marital staus, and region of State (Figure 10). These subgroup variations do not align with the group differences seen in self-reported PPD prevalence. There is a mismatch between self-reported PPD prevalence and provider-identified PPD. For example, in contrast to the 12.8% of NHB postpartum people self-reporting symptoms of depression postpartum,[67] just 5.7% reported being told by a health care worker that they had depression.[68] Each of the four subgroups had lower percentages reporting being told by a provider that they had depression than self-reported depression, except for non-Hispanic White individuals (for NHB: 5.7% vs. 12.8%; non-Hispanic Other: 7.4% vs. 10.9%; Hispanic: 5.5% vs. 8.0%; and NHW 11.3% vs. 10.1%). This mismatch highlights the cases of PPD providers are missing and shows that the miss is more pronounced for non-White postpartum people.[69]

[66] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH. [67] I.e., answered that they "always" or "often" felt down, depressed, or hopeless, or had little interest in doing things. [68] I.e., answered "yes" to the question, "Since your new baby was born, has a doctor, nurse, or other health care worker told you that you had depression?"

[69] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.

Figure 10. Characteristics of individuals told by a health care worker at a postpartum visit that they had depression, NYS, 2020



Source: PRAMS data

It is noteworthy that among those New Yorkers reporting depression symptoms postpartum in 2020,[70] only 33.8% also reported being told by a health care provider that they had depression.[71] Within this group, there was evidence of racial disparities: for NHW individuals, 45.5% of those self-reporting depression symptoms postpartum also reported being told they were depressed, while for NHB people the percentage was 29.9%, for non-Hispanic Other, 19.5%, and for Hispanic postpartum people, 18.4%. The difference among race and ethnicity groups was statistically significant (p-value= 0.0459) [72]

It is important to note that the necessarily broad nature of the PRAMS questions (e.g., “Since your new baby was born, has a doctor, nurse, or other health care worker told you that you had depression?”) do not capture information on whether a validated screening tool was used, whether a diagnosis followed a positive screen, etc.

Timing

The timing of the onset of perinatal mental health disorders is particularly important when considering screening protocols. Perinatal mental health disorders appear early:

[70] PRAMS NYS.

[71] This was assessed in PRAMS by asking the following: “Since your new baby was born, has a doctor, nurse, or other health care worker told you that you had depression?”

[72] Note: The difference was statistically significant among race and ethnicity groups. Smaller sample sizes result in wider confidence intervals.The estimates listed above had the following 95% confidence intervals (in parentheses): NHW 45.5 (29.8 - 61.3); NHB: 29.9 (8.8 - 51.0); NH Other: 19.5 (2.3 - 36.8) unstable due to small number of respondents in the numerator; Hispanic: 18.4 (5.7 - 31.1). Pregnancy Risk Assessment Monitoring System (PRAMS) data, New York State Department of Health, Public Health Information Group

among individuals who experience these disorders, 27% enter pregnancy with anxiety or depression, 33% develop symptoms during pregnancy, and 40% develop symptoms following childbirth.[73] Evidence suggests that postpartum depression onset peaks 3-6 months postpartum; incidence of suicide peaks 6-9 months postpartum.[74] There is evidence that these illnesses can last beyond the first year postpartum: in one recent study, 25% of those experiencing perinatal mental health disorders still had symptoms three years postpartum.[75]

Consequences

When left untreated, postpartum depression is associated with detrimental outcomes for both mother and child, including poor physical health, risky behaviors, and suicide in the affected mother,[76] as well as poor bonding between parent and infant.[77] Additionally, behavioral problems, lower educational attainment, and delayed cognitive and language development have been documented in children of affected mothers.[78]

The COVID-19 Pandemic and Related Disparities

The COVID-19 pandemic elevated stressors that influence mental health outcomes and further widened existing disparities in health. This fueled a rise in the rates of depression and anxiety among pregnant and postpartum individuals.[79] Additional challenges to mental health arose from sudden changes in modes of care (virtual, telehealth); reduced support and increased demand for caregiving for infants and children; increased financial, job, and food insecurity; elevated partner/spouse conflict; and increased isolation. Members of racial and ethnic minority groups, those of lower income, and individuals with serious mental illness (SMI) were at higher risk and had lower access to care through restricted in-person services.[80]

There is evidence that Black pregnant and birthing individuals experienced higher rates of COVID-related anxiety and depression and reported more concerns about childbirth and childcare.[81]

Other Stressors

Even before the COVID-19 pandemic, stressors were not equally distributed across socioeconomic strata. Prenatal life stress has been linked to a higher likelihood of postpartum depression, and research shows that screening for different domains of life stress (e.g., financial, relational, and physical health) could be particularly valuable in determining the risk of PPD among minoritized populations.[82] Low socioeconomic status (SES) has been linked to a higher risk of postpartum depression, with one study showing an 11-fold increase for women with four measures of low SES (unmarried,

[73] Wisner et al. 2013; MMHLA 2023
[74] MMHLA 2023
[75] Putnick et al., 2020; MMHLA 2023
[76] Putnam 2017; Sit et al. 2015
[77] Goyal 2010
[78] Letourneau 2017; Netsi et al. 2018
[79] Chen 2022. Dr. Fitelson Grand Rounds, May 10, 2023.
[80] Fitelson presentation. Njoroge 2022
[81] Njoroge 2022
[82] Liu et al. 2016.

unemployed, low monthly income, and less than a college education), even after accounting for prenatal depression.[83] In addition to financial stressors, partner conflict, unintended pregnancy, and problematic substance use by someone close have emerged as risk factors for postpartum depression.[84]

Note: Prevalence estimates of postpartum depression are very likely underestimates, especially among minoritized groups. By its very nature, information on perinatal *mortality* (during pregnancy and postpartum) is more reliable than that on perinatal *depression*, which relies on self-report. Wide racial and ethnic disparities seen in perinatal mortality data suggest that more pronounced disparities in postpartum depression would likely be apparent with more culturally appropriate, universal screening. Maternal health experts suspect that depression among members of racial and ethnic minority groups in particular often goes underreported, due to stigma and distrust of health care providers.

D. Risk Factors

Clinical risk factors (e.g., a previous diagnosis of depression) are among the predictors of postpartum depression and other perinatal mood and anxiety disorders. Those with a history of depression may be up to 20 times more likely to develop PPD.[85] It is estimated that 72% to 88% of women who develop postpartum psychosis just after childbirth are those with bipolar or schizoaffective disorder.[86]

Interpersonal and psychosocial factors also influence the risk of postpartum depression and other perinatal mental health disorders, as does the broader context in which an individual lives. These social determinants of health play a significant role in the risk of developing PMADs. For example, lack of social support and lower socioeconomic status (SES) leave pregnant individuals at increased risk of depression in the perinatal period.[87] Subpopulations who have been historically underserved by mental health systems are at increased risk of underdiagnosis and undertreatment for PPD. This could include lesbian, gay, bisexual, transgender, queer and Two-Spirit (LGBTQ2S+) individuals, who, research suggests, may be at elevated risk for perinatal depression and anxiety.[88] Non-binary and transgender individuals may be at particular risk, due to discrimination, and because they must navigate the often gendered, heteronormative world of pregnancy and childbirth.[89] Table 5 presents some of the strongest risk factors for mental health conditions during pregnancy, postpartum, and throughout the perinatal period.

[83] Goyal et al. 2010.
[84] Mukherjee et al. 2017.
[85] Silverman et al., 2017
[86] Sit 2006
[87] Beck 2001
[88] MMHLA 2022; Ross 2005; Naccio and Pangburn 2011.
[89] Kirubarajan et al. 2022; Kirubarajan et al. 2022; Light et al. 2014

Table 5. Risk factors for perinatal mental health disorders

Risk factors for Perinatal Mental Health Disorders[90]

Social Risk Factors

- Parents living in poverty
- Individuals who have been incarcerated
- Military birthing parent (active duty, dependent, veterans)
- Low social support, especially from partner
- Subject to weathering (erosion of health by chronic exposure to stress), such as experienced by racial and ethnic minoritzed groups, LGBTQ2S+ people[91]
- Stressful life events during pregnancy or the early postpartum period
- Domestic violence
- Lower income
- Lower educational attainment
- Medicaid insurance
- Smoking
- Single status
- Poor financial support
- Adolescent parenthood

Clinical Risk Factors

- Fertility challenges[92]
- Pregnancy complications
- Pregestational or gestational diabetes
- Previous sexual trauma or traumatic birth
- Personal (pre-pregnancy) or family history of mental health disorders
- Mental health conditions during pregnancy, such as anxiety or depression
- Preterm birth/infant admission to neonatal intensive care
- Breastfeeding challenges
- Unintended pregnancy

[90] Curry, SJ, et al. Interventions to Prevent Perinatal Depression US Preventive Services Task Force Recommendation Statement. JAMA. 2019;321(6):580-587. doi:10.1001/jama.2019.0007
[91] Geronomius 1992
[92] Though beyond the scope of this report, additional study is needed on the particular mental health needs of those who have faced fertility challenges, as well as of those individuals who have experienced miscarriage or stillbirth.

V. Review of Current Screening Tools and Protocols

A. Depression Screening Tools

Screening tools are critical for identifying individuals most at risk of experiencing depression and for determining when a clinical assessment and referral to services, treatment, and follow-up care are needed. Due to the significant role these screening instruments play, the question has been raised regarding the appropriateness and effectiveness of these tools for use within different subpopulations.

The seven validated depression screening tools recommended by the American College of Obstetricians and Gynecologists (ACOG) for use during the perinatal period are presented in Table 6 below. Of these, the Edinburgh Postnatal Depression Scale (EPDS) and the Patient Health Questionnaire Depression Scale (PHQ-9) are the most commonly used.

Table 6. Depression screening tools

Screening Tool	Number of Items	Time to Complete (Minutes)	Sensitivity and Specificity	Spanish Available
Edinburgh Postnatal Depression Scale	10	Less than 5	Sensitivity 59–100% Specificity 49–100%	Yes
Postpartum Depression Screening Scale	35	5–10	Sensitivity 91–94% Specificity 72–98%	Yes
Patient Health Questionnaire 9	9	Less than 5	Sensitivity 75% Specificity 90%	Yes
Beck Depression Inventory	21	5–10	Sensitivity 47.6–82% Specificity 85.9–89%	Yes
Beck Depression Inventory-II	21	5–10	Sensitivity 56–57% Specificity 97–100%	Yes
Center for Epidemiologic Studies Depression Scale	20	5–10	Sensitivity 60% Specificity 92%	Yes
Zung Self-Rating Depression Scale	20	5–10	Sensitivity 45–89% Specificity 77–88%	No

Source: ACOG

Edinburgh Postnatal Depression Scale

The Edinburgh Postnatal Depression Scale (Appendix 3) is a brief, self-reported 10-item tool that can be completed in less than 5 minutes. Developed in the United Kingdom by John Cox, Jenifer Holden, and Ruth Sagovsky in 1987, the EPDS has since been translated into over 60 languages and validated for use in many countries to identify women at risk of PPD, including residents of low-income countries.[93] The tool consists of 10 questions about an individual's feelings and behaviors over the past week. Answers to each question use a Likert scale of 0 to 3, for a possible total score ranging

[93] Lawrie et al. 1998; Levis et al. 2020.

from 0 to 30. The EPDS includes questions about anxiety and suicidality and has been shown to have good sensitivity and specificity for detecting PPD. It has also been shown to be effective during pregnancy. Studies have found that the EPDS is twice as effective as a clinician's interview in detecting depression.[94]

Patient Health Questionnaire Depression Scale (PHQ-9)

The other most commonly used depression screening tool is the Patient Health Questionnaire depression scale (PHQ-9), a validated instrument used in clinical, research, and other practice settings to screen for depression, measure depression severity, and monitor response to treatment.[95] [96] It is a 9-question tool that asks respondents to rate the answers to the questions over the past 2 weeks from "Not at all" (score 0) to "Nearly every day" (score 3). There is a summative question at the end, separate from the previous 9, that asks, "If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?" Answer choices for this question ranges from "Not difficult at all" to "Extremely difficult." This question "correlate[s] strongly with a number of quality of life, functional status, and health care usage measures."[97]

The PHQ-9 has been well studied and validated for use in the general United States population (including the OB/GYN population[98]). A study examining over 30,000 individuals concluded that use of the PHQ-9 was adequate for measurement in "major US sociodemographic groups" with "minimal risk of bias."[99] This study also supported the use of the PHQ-9 "as medicine moves toward wider adoption of alternative payment models emphasizing high-quality and cost-efficient care, which will likely incentivize behavioral health integration and population health management."[100]

The PHQ-9 lacks questions about anxiety (which the EPDS contains)[101] and was not developed specifically for the postpartum period. It is the EPDS, therefore, whose validity and adequacy are assessed in this report.

B. Recommended Best Practices

In recognition of the importance of early identification and treatment of PPD, several national organizations have made recommendations or offered screening guidelines (Appendix 2). Universal PPD screening across maternal and child health care settings has been recommended by the US Preventive Services Task Force (USPSTF), the American College of Obstetricians and Gynecologists (ACOG), the American Academy of Pediatrics (AAP), and the American Psychological Association (APA). However, these

[94] Evins 2000
[95] Huang et al. 2006
[96] Patel et al. 2019
[97] Kroenke and Spitzer 2002
[98] Kroenke et al. 2001
[99] Patel et al. 2019
[100] Patel et al. 2019
[101] Van Niel 2020

calls for screening are not always aligned and generally lack specificity. Decisions about screening—*when, by whom, and if done at all*—are left up to health care systems, hospitals, and individual practices and providers to determine. In addition, recommendations do not necessarily specify which tool should be used. This situation only exacerbates existing screening disparities due to unequal access to services and other barriers to care.

VI. Review of Evidence on Disparities within Postpartum Screening

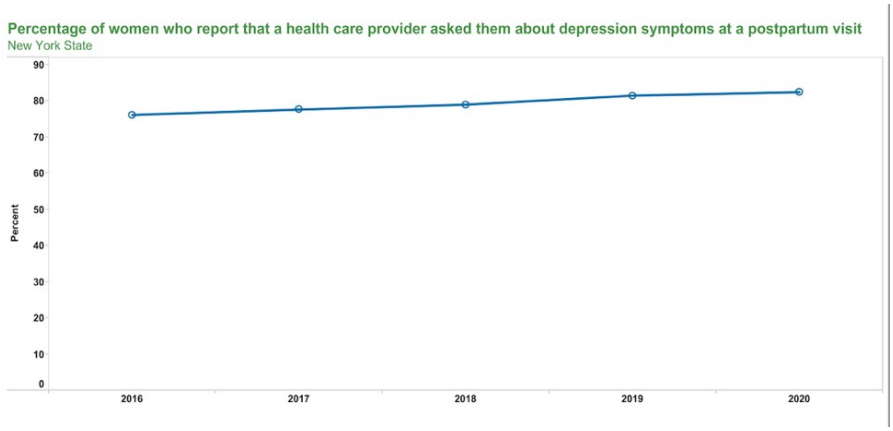
A. Screening

The CDC has reported that roughly 1 in 5 pregnant people in the US are not asked about depression during a prenatal visit, and 1 in 8 are not asked about depression at a postpartum visit. Among those diagnosed with depression, more than half do not receive treatment.[102] Estimates of the proportion of individuals screened at prenatal visits ranges widely, with 51% to 91% of women asked about depression during a prenatal visit and 51% to 96% asked during a postpartum visit.[103]

New York State Context

PRAMS data for New York State document a slight but steady increase, from 2016 to 2020, in the proportion of postpartum people reporting that a health care provider asked them about depression at a postpartum checkup: from 76.1% in 2016 to 82.4% in 2020 (Figure 11).[104] These numbers are close to the national average but still indicate that nearly 1 in 5 postpartum New Yorkers are not asked about depression at their postpartum visits.

Figure 11. Postpartum individuals reporting that a health care provider asked about depression symptoms at a postpartum visit, NYS, 2016-2020



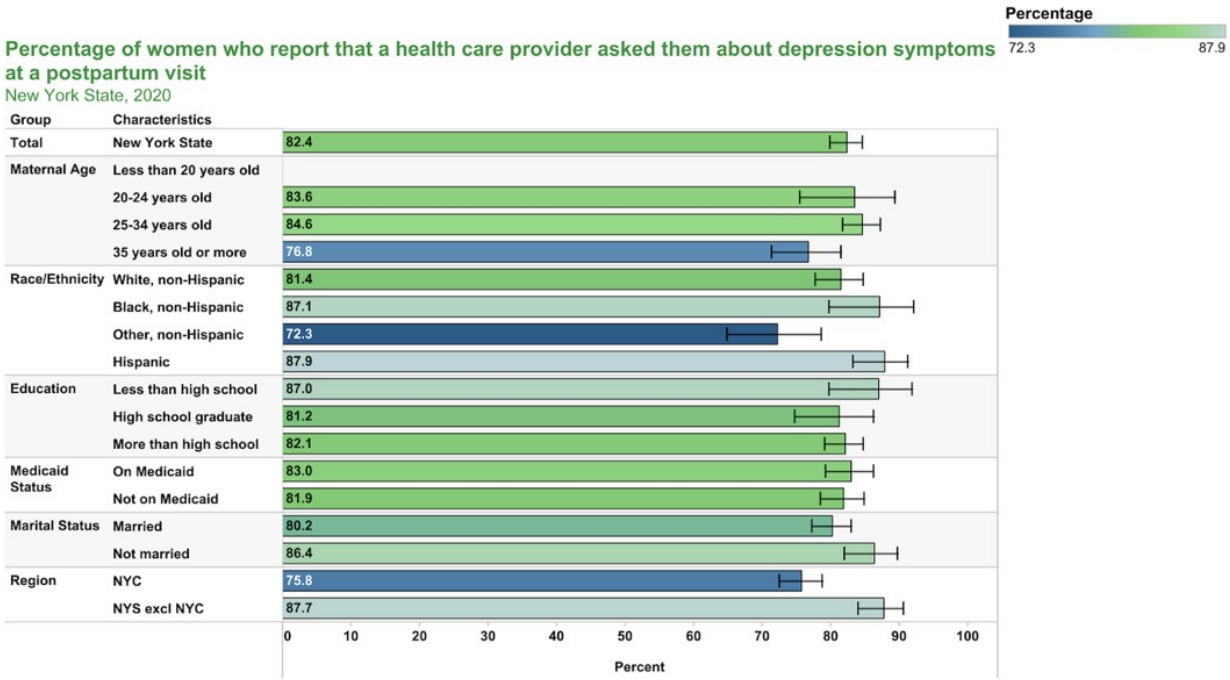
Year	New York State Percentage (95% CI)
2016	76.1 (73.9-78.2)
2017	77.6 (75.2-79.8)
2018	78.9 (76.5-81.2)
2019	81.4 (79.1-83.6)
2020	82.4 (79.9-84.6)

Source: PRAMS data

[102] CDC May 2020
[103] Bauman et al. 2020.
[104] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.

Differences by age group and educational attainment emerge, with those 35+ years old having the lowest rates (though low sample sizes prohibit estimates for teens) and those with less than a high school education more likely to report having been asked about depression at a postpartum visit (Figure 12; Table 7).[105]

Figure 12. Characteristics of individuals reporting that a health care provider asked them about depression symptoms at a postpartum visit, NYS, 2020



Source: PRAMS data

[105] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.

Table 7. Characteristics of individuals reporting that a health care provider asked them about depression symptoms at a postpartum visit, NYS, 2020

Percentage of women who report that a health care provider asked them about depression symptoms at a postpartum visit
New York State, 2020

Group	Characteristics	Respondents	Estimated number of people affected	Percentage	95% CI
Total	New York State	1,603	129,301	82.4	(79.9-84.6)
Maternal Age	Less than 20 years old	29	**	**	
	20-24 years old	171	17,150	83.6	(75.5-89.4)
	25-34 years old	943	80,671	84.6	(81.7-87.2)
	35 years old or more	460	29,297	76.8	(71.4-81.5)
Race/Ethnicity	White, non-Hispanic	734	66,726	81.4	(77.7-84.7)
	Black, non-Hispanic	227	18,466	87.1	(79.7-92.1)
	Other, non-Hispanic	250	13,297	72.3	(64.9-78.6)
	Hispanic	363	29,347	87.9	(83.3-91.3)
Education	Less than high school	152	12,883	87.0	(79.8-91.9)
	High school graduate	330	28,160	81.2	(74.8-86.3)
	More than high school	1,115	87,555	82.1	(79.1-84.7)
Medicaid Status	On Medicaid	705	54,142	83.0	(79.3-86.2)
	Not on Medicaid	897	75,138	81.9	(78.5-84.9)
Marital Status	Married	1,064	81,927	80.2	(77.2-83.0)
	Not married	539	47,374	86.4	(82.0-89.8)
Region	NYC	984	52,882	75.8	(72.5-78.8)
	NYS excl NYC	619	76,420	87.7	(84.0-90.6)

CI denotes confidence interval.
+ Fewer than 10 respondents in the numerator; therefore, estimates are unstable. ** Estimates are not presented for categories with fewer than 30 respondents.

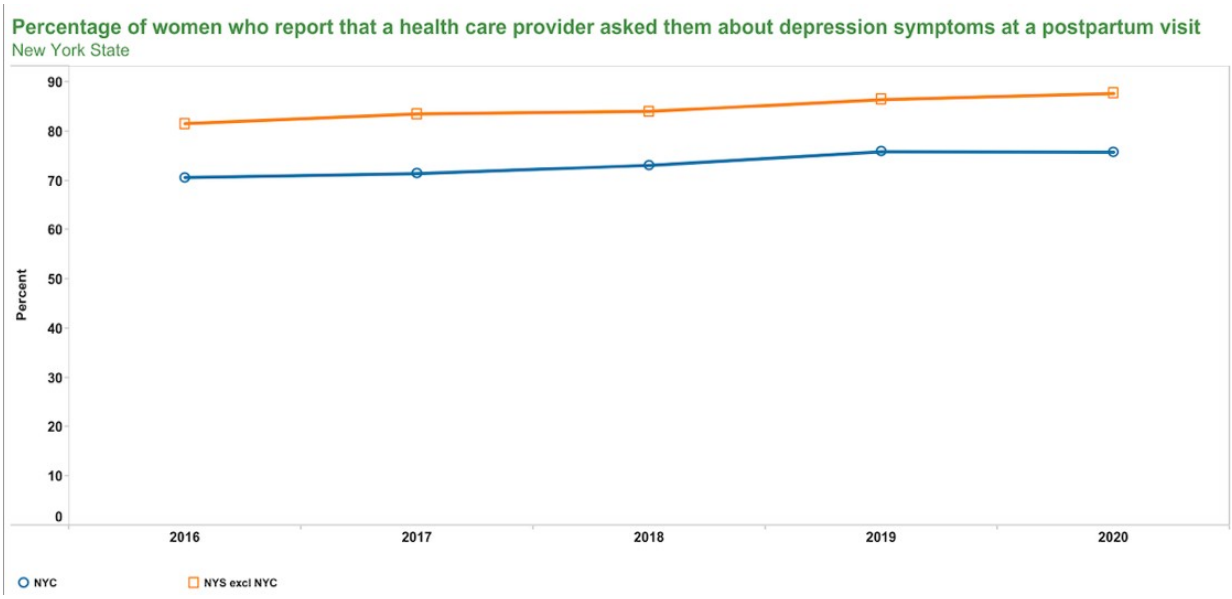
NYS = New York State. NYC = New York City. NYS excl NYC = New York State excluding New York City

Source: PRAMS data

Also of note are differences in rates by region, which are consistently higher in areas of NYS outside of NYC compared to in New York City. In 2020, for example, 88% of postpartum individuals outside of NYC reported that a health care provider asked about depression symptoms at a postpartum visit compared to 76% of their New York City counterparts (Figure 13).[106]

[106] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.

Figure 13. Postpartum individuals reporting that a health care provider asked them about depression symptoms at a postpartum visit, by region, 2016-2020

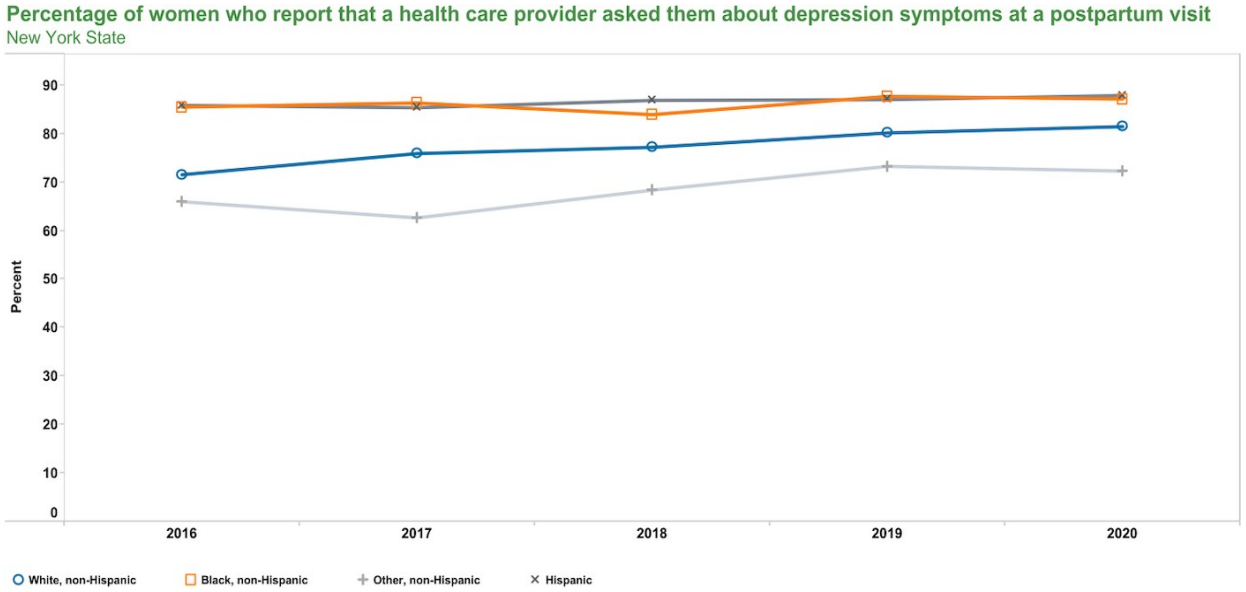


Source: PRAMS data

There are clear differences by race and ethnicity, driven purely by NYC numbers: statewide from 2016-2020, *among those receiving a postpartum visit,* NHB and Hispanic individuals had the highest percentage of reporting being asked about depression at a visit, with a difference in 2020 of 15 percentage points between the highest and lowest groups: 87.9% for Hispanic people, 87.1% for NHB, 81.4% for NHW, and 72.3% for "non-Hispanic Other" (Figure 14; Table 8).[107] When the prevalence for NHB or Hispanic people is compared to those categorized as "non-Hispanic Other," there is a statistically significant difference. However, when examined by region (NYC vs ROS), these differences appear only for NYC, but not for ROS.

[107] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.

Figure 14. Postpartum individuals reporting that a health care provider asked about depression symptoms at a postpartum visit, by race, NYS, 2016-2020



Source: PRAMS data

Table 8. Postpartum individuals reporting that a health care provider asked about depression symptoms at a postpartum visit, by race, NYS, 2016-2020

	White, non-Hispanic	Black, non-Hispanic	Other, non-Hispanic	Hispanic
Year	Percentage (95% CI)	Percentage (95% CI)	Percentage (95% CI)	Percentage (95% CI)
2016	71.5 (68.0-74.8)	85.5 (80.3-89.5)	66.0 (59.6-71.8)	85.8 (81.9-89.0)
2017	75.9 (72.4-79.1)	86.3 (81.0-90.3)	62.6 (55.7-69.1)	85.3 (80.2-89.3)
2018	77.2 (73.5-80.5)	83.9 (77.4-88.8)	68.3 (61.0-74.8)	86.8 (82.2-90.4)
2019	80.1 (76.8-83.1)	87.7 (79.7-92.8)	73.3 (67.0-78.7)	87.0 (81.2-91.2)
2020	81.4 (77.7-84.7)	87.1 (79.7-92.1)	72.3 (64.9-78.6)	87.9 (83.3-91.3)

CI denotes confidence interval.
\+ Fewer than 10 respondents in the numerator; therefore, estimates are unstable. ** Estimates are not presented for categories with fewer than 30 respondents.

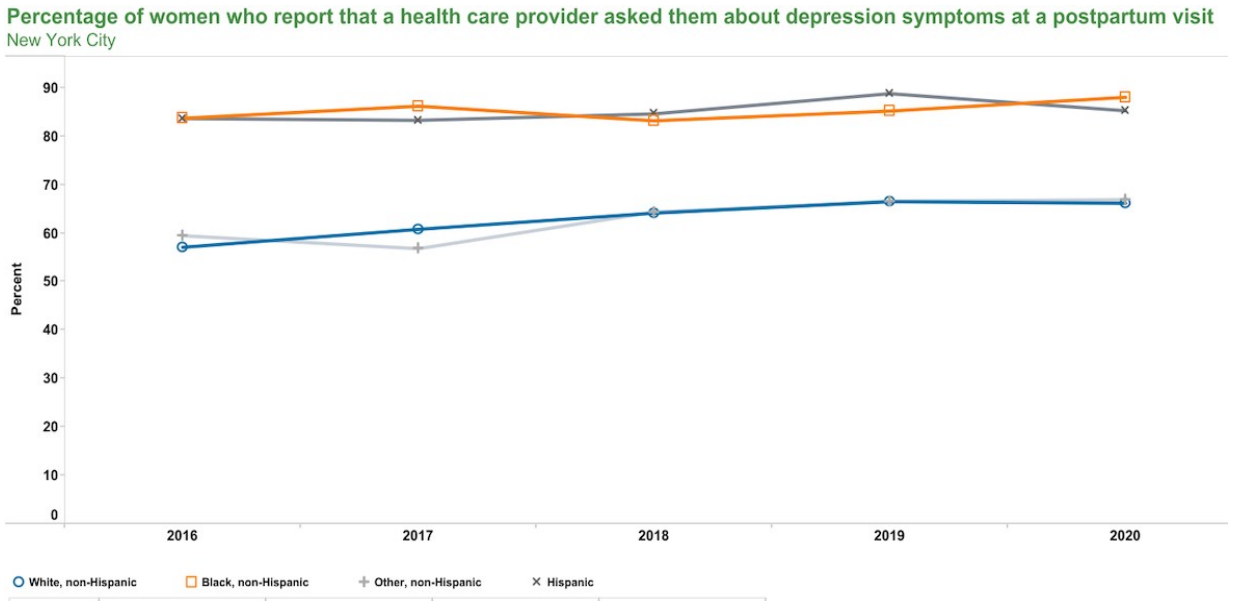
Source: PRAMS data

These racial differences are driven by New York City (Figure 15) and are not seen in the rest of the state. Among those in the 2020 cohort *in NYC*, 88.0% of NHB and 85.2% of Hispanic postpartum people reported being asked about depression symptoms at a postpartum visit; only 66.9% of those grouped as "Other" and 66.1% of non-Hispanic White people said the same.[108]

[108] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.

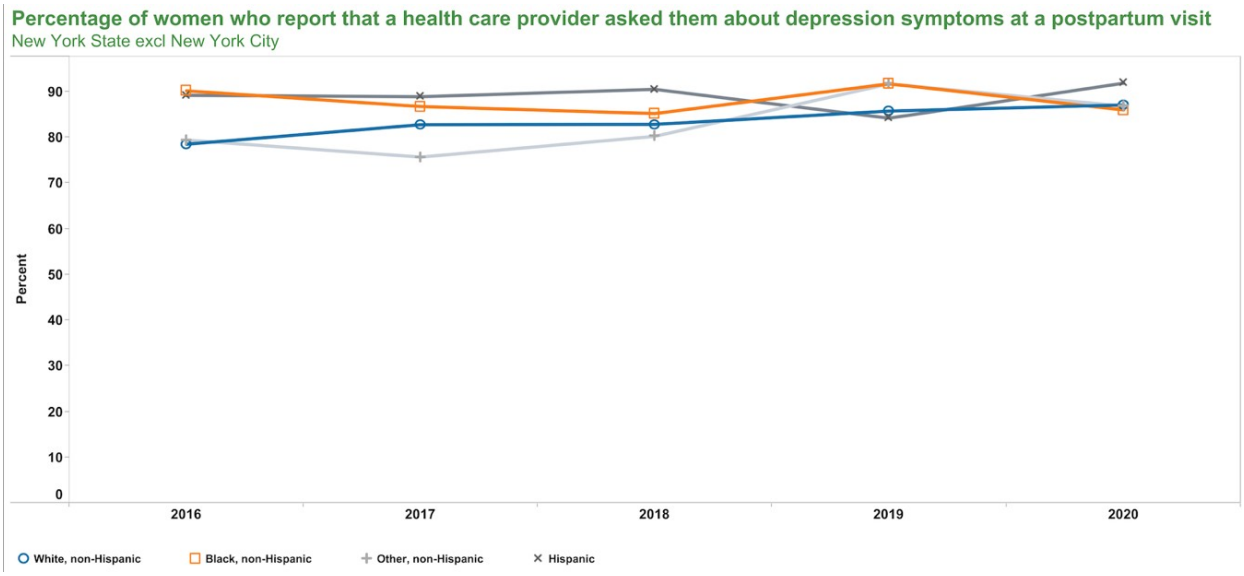
In stark contrast, in ROS in 2020, the comparable proportions were 87.1% of NHW, 86.0% of NHB, 91.9% of Hispanic, and 86.8% of non-Hispanic Other postpartum individuals (Figure 16).[109]

*Figure 15. Postpartum individuals reporting that a health care provider asked about depression at a postpartum visit, by race, **NYC only**, 2016-2020*



Source: PRAMS data

*Figure 16. Postpartum individuals reporting that a health care provider asked about depression at a postpartum visit, by race, **Rest of State only**, 2016-2020*



Source: PRAMS data

[109] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.

B. Validity of the Edinburgh Postnatal Depression Scale (EPDS)

In their recommendations for postpartum depression screening, ACOG and other national organizations emphasize that use of a validated tool is critical. As described above, such tools include the Edinburgh Postnatal Depression Scale (EPDS), Patient Health Questionnaire-9 (PHQ-9), Generalized Anxiety Disorder-7 (GAD-7), and Generalized Anxiety Disorder-2 (GAD-2). ACOG notes that, unlike the PHQ-9, the EPDS includes questions about anxiety (a common component of perinatal mood disorders) and does not include somatic or constitutional symptoms of depression (e.g., changes in sleep), which are to be expected postpartum. The EPDS, therefore, is more specifically tailored to the postpartum period than most other tools are. For this reason and for ease of use, it is the tool most commonly used in both the clinical setting and for research purposes.[110] Concerns have recently grown about whether this tool is effective in screening for depression across various populations—especially among minoritized groups—within the US. These concerns include anecdotal evidence from clinicians and researchers, as well as from patients themselves.[111] A brief summary of the evidence on the statistical validity of the EPDS follows.

Statistical validation *involves comparing a tool (in this case, the EPDS) to an already validated tool, or to a directed clinical interview, or to the Structured Clinical Interview for DSM Disorders, which is the gold standard. Statistical validity refers to the accuracy of a measure or a tool, and its ability to correctly classify individuals as either having a condition or not having a condition.[112] Both sensitivity (ability to correctly identify those at risk of PPD) and specificity (ability to not miss an individual who may be at risk of PPD) provide a mathematical assessment of how accurate a tool is in achieving this identification. Sensitivity is the probability (given as a percentage) of a positive test result among individuals who have a condition. Specificity is the probability (also given as a percentage) of a negative result among those who do not have the condition.*

Validation internationally

Originally validated in the United Kingdom, the EPDS has since been translated into 60 languages.[113] It has been validated in dozens of countries across several continents.[114]

A recent systematic review and meta-analysis of the EPDS and other screening tools for pregnant and postpartum women concluded that the EPDS "showed excellent performance" in terms of predictive validity and should be chosen over the alternative tools.[115] However, the authors acknowledged that one limitation of their analysis was the inclusion of studies using a range of cut-off scores.

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[110] Boyd et al. 2005
[111] Moyer et al. 2023
[112] https://www.health.ny.gov/diseases/chronic/discreen.htm#:~:text=A%20highly%20sensitive%20test%20means,are %20few%20false%20positive%20results
[113] Cox 2019.
[114] Cox et al. 2014
[115] Park & Kim 2023

Published reviews on international populations have demonstrated differences in sensitivity/specificity of the EPDS based on cut-off scores across different populations, raising concerns for potential linguistic limitations or cultural bias.[116] [117] Studies have shown that optimal cut-off scores range from 4/5[118] to 13/14,[119] suggesting variation across cultures.[120]

Validation in the US

Over the decades since its development, many studies have found the EPDS to be an important and valid screening tool in various settings and populations, including low-income and minoritized patient groups. However, more recently, there have been calls for further research to draw definitive conclusions about the adequacy of the EPDS across socioeconomic or racial and ethnic groups in the US. Expert opinion—including critical qualitative research and feedback from members of minoritized groups—suggests that adaptations to the EPDS and other tools would improve their performance within specific populations.

A recently published review examined studies validating the EPDS for use among pregnant and postpartum people, specifically in the United States. Of the nine studies the researchers found that met their criteria for inclusion, all concluded that the EPDS was sensitive and specific in screening for depressive symptoms.[121] Of these studies, one had a sample exclusively composed of non-Hispanic Black individuals with low socioeconomic status[122] and one entirely of participants of Hispanic ethnicity.[123]

Anecdotal and qualitative concerns

- However, in this same scoping review, the authors cite criticisms voiced by colleagues and postpartum individuals regarding the wording and interpretation of certain EPDS items.
    - “For example, in our experience as clinicians and researchers, individuals have repeatedly expressed confusion about several items in this scale, specifically item #6, which states, ‘Things have been getting on top of me.’ Additionally, individuals reported that they were not sure about how to answer questions with the qualifying statements ‘for no [very] good reason.’ They indicated that this statement was judgmental and made them doubt or negate their feelings.” [124]

[116] Gibson et al. 2009
[117] Shrestha et al. 2016
[118] Stewart et al., 2013
[119] Rubertsson et al., 2011
[120] Vázquez and Míguez 2019
[121] Moyer et al. 2023
[122] Lee King 2012
[123] Hartley et al. 2014
[124] Moyer et al. 2023

- The need to use varying cut-off points for scoring the EPDS has been noted in studies, including a systematic review of the scale's validity.[125] In an analysis of multiple screening tools, the investigators noted that a lower cut-off score than the published recommended score for the EPDS yielded better sensitivity in their sample population. They concluded that high-risk populations might have higher rates of comorbid medical and mental health concerns that influence the optimal cut points.[126]
- EPDS developer John Cox has recently stated[127] that the wide range in sensitivity and specificity of the EPDS[128] could bring cross-cultural validity into question. Cox has emphasized that care should be taken when using this screening tool.[129] In published "recommendations for the optimal use of the Edinburgh Postnatal Depression Scale (EPDS)" in 2017,[130] he stressed the importance of looking more closely at specific populations. The first of his ten updated recommendations states: "Be careful to check the validity of the scale for the population of mothers completing the EPDS." Cox has also advised that "When using the EPDS in other languages, make sure that the back translation is satisfactory and that there is also evidence of satisfactory face, semantic, conceptual and technical validity."
- In addition to concerns related to varying cut-off points, others have raised this potential issue of back translation that Cox notes.[131] While the EPDS is written in English, it was developed in the UK and was not translated into American English.
- In addition to evidence of potentially confusing vernacular of the EPDS's 6th item noted above ("Things have been getting on top of me"), criticisms have been made about its 10th item, which asks about suicidality and is less direct than most questions assessing suicide ("The thought of harming myself has occurred to me").
- Factor analysis has indicated that the EPDS might be measuring different domains for different groups, suggesting that its performance—and what it is actually measuring—may differ by the racial and ethnic background of the population.[132] [133]

Still, researchers have recommended the continued use of the EPDS, sometimes advocating for further concurrent evaluation, given that the instrument is easy, free, and can be used in multiple languages.[134]

[125] Gibson et al. 2009
[126] Chaudron et al. 2010
[127] See, for example, Cox's editorial in British Journal of Psychiatry, 2019.
[128] Gibson et al. 2009.
[129] Cox 2017, 2019
[130] Cox, 2017 in *Archives of Women's Mental Health*
[131] Moyer et al. 2023
[132] Lee King 2012
[133] Chiu et al. 2017
[134] Chaudron et al. 2010

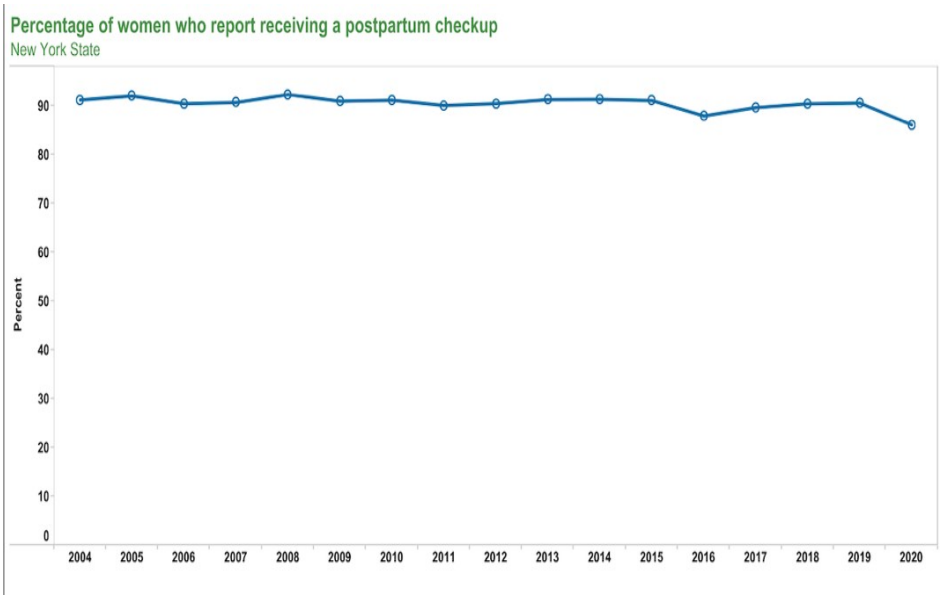
C. Evidence of Inequities and Barriers

In addition to concerns about inadequacies of existing screening tools, inequities exist in access, referral, treatment, and follow-up. There is evidence of racial and other disparities in screening and care, reflecting under-diagnosis and under-treatment after diagnosis. A 2021 study of a large non-profit health care system in Minnesota indicated that women who were African American, Asian, Native American, or multi-racial were less likely to be screened postpartum than were White women. The same was true for women insured by Medicaid/Medicare compared to those who were privately insured.[135]

New York State Context

The statewide average for the proportion of postpartum individuals reporting receiving a postpartum checkup has remained steady from 2004-2020, with a slight drop in 2020, likely a function of the COVID-19 pandemic (Figure 17: 2004: 91.2%; 2019: 90.6%; 2020: 86.1%).[136]

Figure 17. Postpartum individuals reporting that they received a postpartum checkup, NYS, 2004-2020



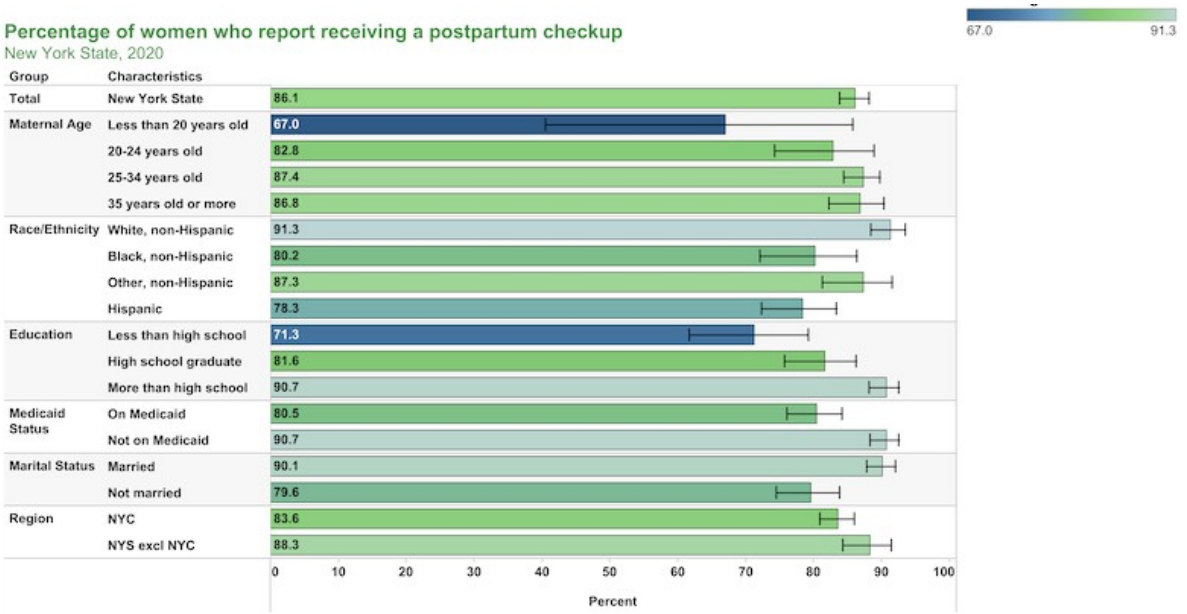
Year	New York State Percentage (95% CI)
2004	91.2 (89.3-92.8)
2005	92.0 (90.5-93.4)
2006	90.5 (88.9-91.8)
2007	90.7 (89.1-92.1)
2008	92.3 (90.8-93.6)
2009	91.0 (89.3-92.4)
2010	91.2 (89.6-92.5)
2011	90.1 (88.4-91.6)
2012	90.5 (88.8-91.9)
2013	91.3 (89.7-92.7)
2014	91.3 (89.7-92.7)
2015	91.1 (89.5-92.5)
2016	87.9 (86.2-89.5)
2017	89.6 (87.7-91.3)
2018	90.4 (88.6-92.0)
2019	90.6 (88.6-92.3)
2020	86.1 (83.8-88.2)

Source: PRAMS data

Subgroup analysis of the NYS PRAMS data reveals inequities in access. While NHB New Yorkers in NYC may be screened at a higher rate once a health care provider sees them, they are less likely to have that chance. Figure 18 shows disparities in receipt of postpartum checkups. In 2020, self-reported postpartum visits varied by age, race/ethnicity, Medicaid status, education level, marital status, and region.[137]

[135] Sidebottom, 2021
[136] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.
[137] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.

Figure 18. Characteristics of individuals reporting that they received a postpartum checkup, NYS, 2020



Percentage of women who report receiving a postpartum checkup
New York State, 2020

Group	Characteristics	Respondents	Estimated number of people affected	Percentage	95% CI
Total	New York State	1,869	157,953	86.1	(83.8-88.2)
Maternal Age	Less than 20 years old	37	2,925	67.0	(40.5-85.8)
	20-24 years old	211	20,568	82.8	(74.3-88.9)
	25-34 years old	1,086	95,199	87.4	(84.4-89.8)
	35 years old or more	535	39,260	86.8	(82.2-90.4)
Race/Ethnicity	White, non-Hispanic	810	82,050	91.3	(88.4-93.5)
	Black, non-Hispanic	285	21,472	80.2	(72.1-86.4)
	Other, non-Hispanic	287	18,634	87.3	(81.3-91.6)
	Hispanic	453	33,798	78.3	(72.3-83.4)
Education	Less than high school	211	14,710	71.3	(61.7-79.2)
	High school graduate	410	35,396	81.6	(75.7-86.3)
	More than high school	1,239	107,081	90.7	(88.2-92.6)
Medicaid Status	On Medicaid	860	66,106	80.5	(76.1-84.2)
	Not on Medicaid	1,008	91,825	90.7	(88.3-92.6)
Marital Status	Married	1,196	102,729	90.1	(87.8-92.1)
	Not married	673	55,224	79.6	(74.5-83.8)
Region	NYC	1,177	70,798	83.6	(80.9-86.0)
	NYS excl NYC	692	87,155	88.3	(84.3-91.4)

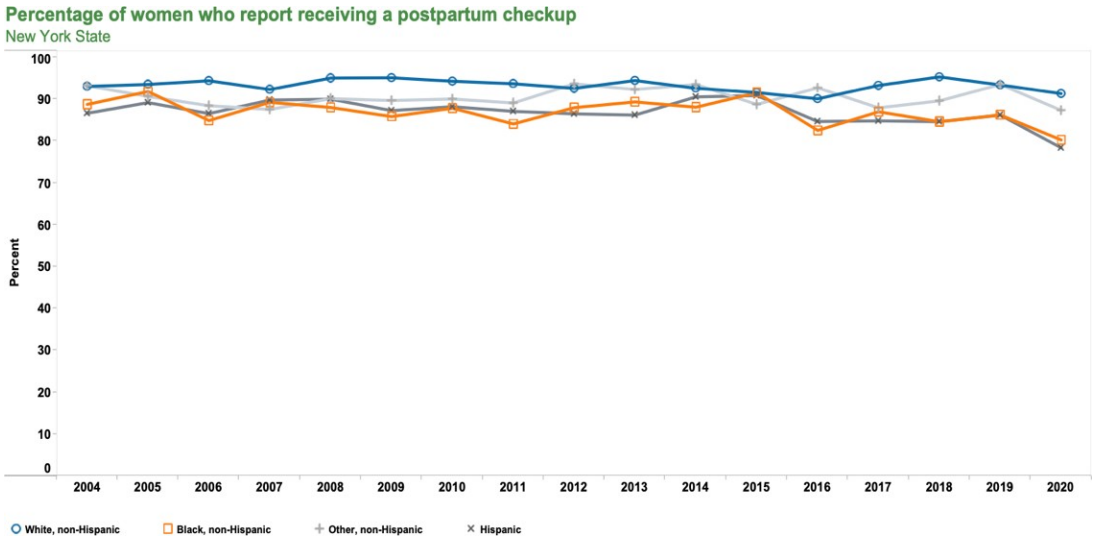
CI denotes confidence interval.
+ Fewer than 10 respondents in the numerator; therefore, estimates are unstable. ** Estimates are not presented for categories with fewer than 30 respondents.

NYS = New York State. NYC = New York City. NYS excl NYC = New York State excluding New York City

Source: PRAMS data

While the statewide average in receiving postpartum visits was 86.1% in 2020, there were marked differences by race and ethnic background (Figure 19): for NHW, 91.3%; "Others," 87.3%; NHB, 80.2%; and Hispanic, 78.3%.[138]

Figure 19. Postpartum individuals reporting that they received a postpartum checkup, by race, NYS, 2004-2020



Subgroup differences also appear when looking at which postpartum people sought help for depression, who received counseling after being told they were depressed, and who reported taking prescription medication for depression after being told they were depressed. A summary of these data from 2020:

Help-seeking

- Non-Hispanic White respondents were more likely to ask for help for depression after giving birth (15%) compared to non-Hispanic Black respondents (9%) and Hispanic respondents (6.9%).[139]
- Education level was a predictor of seeking help for depression. In NYC, those with a high school diploma or higher were nearly twice as likely to seek help (10.7% vs 5.5%). The opposite was true among ROS respondents – those with less than a high school diploma were more likely to ask for help (22.4%) compared to those with at least a high school diploma (13%).[140]

Counseling

- The percentage of respondents who reported receiving counseling after being told they had depression postpartum was higher among NYC Medicaid recipients (57.1%) compared to privately insured NYC respondents (49.2%); the opposite

[138] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.
[139] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.
[140] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.

was true in ROS, where 57.2% of non-Medicaid respondents reported counseling, compared to 53.9% of Medicaid respondents.[141]

- The overall percentage of postpartum people reporting that they received counseling after being told they were depressed increased slightly from 50.2% in 2016 to 55.1% in 2020, mirroring the national average. But these statistics mean that nearly half of New Yorkers who were told that they were depressed after giving birth did not receive counseling.[142]

Medication

- Of those told by a health care worker that they had depression postpartum, non-Hispanic White respondents were much more likely to report taking medication to treat the depression (70.6%) compared to Hispanic respondents (38%); there were not enough non-Hispanic Black respondents reporting medication treatment to assess.[143]

Barriers

Clinic and community-based providers have given feedback emphasizing the following barriers to screening:[144]

- Need for training on how to administer screening in a non-stigmatizing,[145] culturally appropriate, and trauma-informed manner
  - Obstetric care is usually reimbursed with bundled, flat fees; it does not usually include screening for PPD/PMAD
  - Medicaid reimburses pediatricians for screening for perinatal mental health disorders but at a very low rate with a high administrative burden
- Time constraints and challenges incorporating screening into existing workflow and health record maintenance
- Coordination of care often fails due to inadequate linkages between clinical and community-based providers
- Challenges of insurance matching (need not met; waitlists to be seen by provider results in missing contact during a critical time)
- Lack of awareness of existing resources and availability for referrals (e.g., where to send patients) for further evaluation and treatment if screens are positive
  - Providers are reluctant to screen without resources; potential professional liability (e.g., if a patient expresses suicidality through EPDS' 10th item, the provider must act, but resources are limited)
  - There are resources currently available that providers may not be aware of:
    - New national maternal mental health hotline (federally funded, 24/7, voice and text, HHS fund, and Postpartum Support International (PSI)). Spanish and English, translation services.

[141] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.
[142] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.
[143] PRAMS data dashboard (https://apps.health.ny.gov/public/tabvis/PHIG_Public/prams/reports/#annual), NYSDOH.
[144] MMHLA 2023
[145] For providers treating pregnant people with substance use disorders: https://www.hivguidelines.org/substance-use/sud-treatment-pregnancy/

        - Psychiatry access programs
            - Project TEACH
        - Postpartum Support International, New York State chapter
        - Postpartum Resource Center
    - Research needed to identify more resource gaps.

Parents and pregnant people have offered additional insight into the following barriers, which reiterate many identified in the previous section:[146]

- Stigma and shame can prevent people from seeking care
- Limits of insurance matching; long waits to be seen
- For groups with historical experiences of harm by the health care system:
    - Mistrust of the health care system, fear of losing child(ren) or custody of them, fear of being seen as a "bad parent"
    - Child Protective Services (CPS) fears:
        - "You're afraid to say it because you think the next step is to take your children away from you," she says. "You're young and you're African American so it's like [people are thinking], 'She's going to be a bad mom.'"[147]
    - Immigration/legal status concerns
    - Substance use
        - Fears over losing child custody
        - Pregnant people have different protections depending on the state in which they live. New York does not criminalize substance use during pregnancy[148] and is relatively protective, even granting pregnant people priority admission to NYS Office of Addiction Services and Supports (OASAS) certified programs[149]. NYS also does not require drug testing or reporting when drug use is suspected or known, which is not true in many other states.[150]
        - Per NYS DOH, "When there is reasonable cause, beyond substance use, to suspect a child is at risk of abuse or neglect, hospitals and birth centers should continue to follow existing policies and protocols for making a report to the Statewide Central Register for Child Abuse and Maltreatment (SCR). Substance use alone, whether disclosed through the development of a plan of safe care (POSC), self-report, screening, toxicology, medical record note, or newborn symptoms, is not evidence of child abuse or neglect."[151]
- Lack of information on symptoms, resources for additional help
- Screening tools are not asking the right questions
- Systemic issues, inequitable access:

[146] MMHLA 2023
[147] https://www.npr.org/sections/health-shots/2019/11/29/760231688/black-mothers-get-less-treatment-for-their-postpartum-depression?t=1594202958935
[148] https://www.guttmacher.org/state-policy/explore/substance-use-during-pregnancy Accessed June 10, 2023.
[149] https://oasas.ny.gov/treatment/pregnant-and-parenting-persons
[150] Guttmacher, cited above.
[151] https://health.ny.gov/prevention/captacara/index.htm

  - Harder for pregnant and parenting members of racial and ethnic minority groups, and people with low SES
  - People living in “maternity care deserts” (i.e., certain rural areas) have particular difficulty accessing screening and treatment
  - Digital divide, with those of lower SES having less access to telehealth
- Racial, cultural, and linguistic diversity: screening tools may not be culturally appropriate/sensitive/competent
- Gendered nature of screening tools may not be responsive to the identities of LGBTQ2S+ people[152]

VII. Opportunities for Identifying Risk and Addressing Disparities

As the evidence above suggests, additional validated questions asked during postpartum screening would be valuable in providing comprehensive care and in addressing disparities. Among the most critical are those tools assessing social needs and other known risk factors for postpartum depression or other pregnancy-related mood and anxiety disorders. It is critical for community and clinical providers to understand the social contexts in which their patients and clients live.
As mandated by Chapter 384 of the Laws of 2022, this report researches and identifies questions to be used within postpartum depression screenings to detect, at a minimum, the following:

- stress around food scarcity within the home;
- financial stressors;
- quality of sleep;
- quality of health;
- substance abuse issues;
- additional maternal depression disorders, including but not limited to perinatal and postpartum mood disorders, postpartum anxiety, post-partum psychosis;
- symptoms of isolation, including but not limited to symptoms caused by the COVID-19 pandemic; and
- different family structures and possible causes of stressors that could result from such family structures.

The following sections address the questions posed above.

It would be of benefit if a single screening questionnaire could capture all of the items in the above ask. Unfortunately, such a tool does not exist at present. Below are descriptions of two of the most widely used validated social determinants of health screening tools, which cover a significant portion of a-h listed above. Additional information on screening tools, number of questions, domains covered, research settings, and tool administration can be found in Appendix 5.

[152] MMHLA; Matthews et al. 2021

Social Determinants of Health Screening Tools

According to Healthy People 2030, Social Determinants of Health (SDOH) "are the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks."[153] These fall broadly into 5 domains: economic stability; education access and quality; health care access and quality; neighborhood and built environment; and social and community context.

Identifying SDOH screening tools that are readily administered in community non-clinical settings is challenging. Without dedicated funding for research, non-profit agencies may develop their own screening questions to assess client needs and help guide referrals to community resources that can meet those needs. These screening questions or tools may be based on locally available resources, identified community needs, and/or may be part of long-standing intake procedures.

Electronic Health Records (EHR) systems incorporate SDOH screening tools and have entire segments of the chart dedicated to screening and linking patients to community resources. The SDOH screening tool and program is built by the EHR with the community resources being input by the health system. While this may link a patient to a community resource, this only occurs if the EHR is being used and may therefore not be useful for screening by a community-based organization that does not use EHRs.[154]

The PRAMS questionnaire contains questions about SDOH that have been validated in the pregnant population in the United States. However, these questions were not designed to be a clinical screening tool to be implemented within a provider-patient setting. Additionally, questions cannot be picked at random and grouped to create a new version of a questionnaire without significant investment and investigation (e.g., to establish validity and reliability), which is outside the scope of this report.

A recent review of SDOH screening tools found that, despite increased acknowledgment of social factors' impact on overall health, there is variation in these screening tools and whether and how to incorporate them into practice. Issues such as proprietary electronic medical/health records, a lack of standard definitions, and lack of communication between providers and systems are noted barriers to more consistent implementation of screening tools.[155] The review identified nine screening tools, all researched and tested in clinical settings. Many of these tools are administered by health care providers (physicians, medical assistants), while others are self-administered on paper or digitally. The researchers identified 15 common domains and noted that 8 of the domains were assessed by 70% or more (6 or more) of the tools. Some of the least frequently assessed domains include legal stability, moving and transience, social support, and multilevel assessment. See Appendix 5 for additional

[153] https://health.gov/healthypeople/priority-areas/social-determinants-health
[154] Adriel Kramer, MD, e-mail communication, June 2023
[155] Moen et al. 2020

information on screening tools, number of questions, domains covered, research settings, and tool administration.

There are 2 validated SDOH tools that would be of benefit for screening for items a-h and cover the majority of the relevant domains.

1. Protocol for Responding to and Assessing Patient Assets, Risks, and Experiences (PRAPARE): This validated screening tool asks evidence-based questions and collects demographic data, assessing social determinants of health in the domains of: housing, food insecurity, transportation, financial security, social support, and stress. It is administered by a health care provider, computer-based, and available in multiple languages (https://prapare.org).

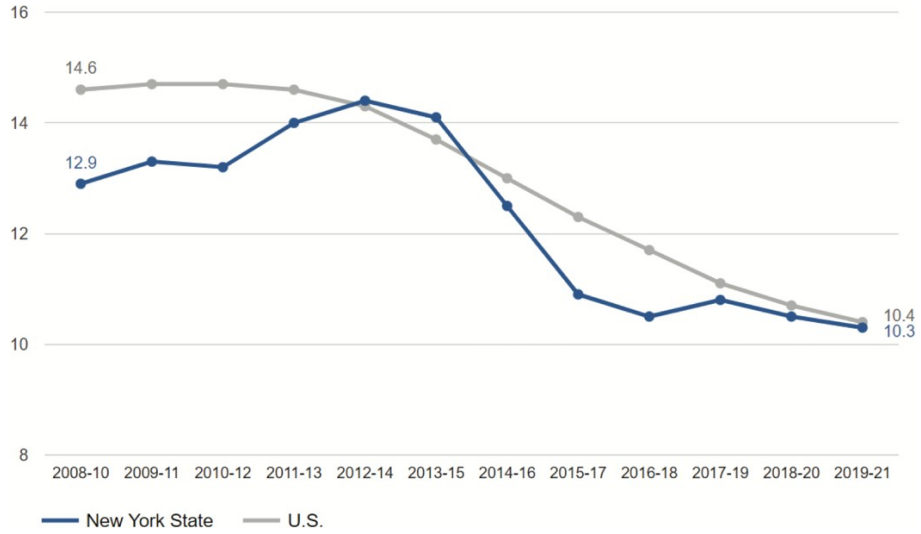
2. Accountable Health Communities (AHC) Health-Related Social Needs Screening Tool: Developed by the Centers for Medicare and Medicaid Services (CMS) to assess health-related social needs (HRSN) and social determinants of health for beneficiaries of Medicare and Medicaid. Other domains captured in the AHC are housing instability, transportation, food insecurity, utility needs, interpersonal violence, and others. This tool assesses housing instability, transportation, food insecurity, utility needs, interpersonal violence, and others. Each question or group of questions is collected from a study or screening tool.

A. Stress around Food Security Within the Home

The United States Department of Agriculture Economic Research Service classifies a household as “food insecure” if there’s a lack of enough food to ensure that all members of the household were able to lead healthy, active lives in the past 12 months.[156] Food insecurity has been linked to poorer physical and mental health,[157] including postpartum mental health disorders.[158] Recent data suggest that 10.2% of households in the U.S. were food insecure in 2021, and 3.8% had very low food security.[159] The proportion of food-insecure households in New York State has mirrored that of the nation for the past several years (Figure 20). A March 2023 report by the New York State Comptroller[160] found that roughly 1 in 10 (about 800,000) households in the State experienced food insecurity during the 3-year period from 2019-2021.

[156] Coleman-Jensen et al. 2022.
[157] Gunderson and Ziliak 2015.
[158] Tarasuk et al. 2020, and references within.
[159] Coleman-Jensen et al. 2022.
[160] “New Yorkers in Need,” March 2023.

Figure 20. Rates of food insecurity, NYS and the U.S., 2008-2010 - 2019-2021



Source: USDA ERS (Figure from NYS Comptroller's March 2023 Report)

A validated tool to assess food insecurity based on the much longer 18-item U.S. Household Food Security Survey Module, the Hunger Vital Sign™ [161] consists of just two statements assessing food security, with response options "often true," "sometimes true," "never true," or "don't know/refused":

1. "Within the past 12 months, we worried whether our food would run out before we got money to buy more."
2. "Within the past 12 months, the food we bought just didn't last and we didn't have money to get more."

A response of "often true" or "sometimes true" to either or both of these questions results in a positive screen.

This 2-item food insecurity tool has been recommended by the AAP for use in its "Screen and Intervene: A Toolkit for Pediatricians to Address Food Insecurity."[162] These two questions are included in the Accountable Health Communities (AHC) Health-Related Social Needs Screening Tool.

[161] Hager et al. 2010
[162] FRAC_AAP_Toolkit_2021_032122.pdf

B. Financial Stressors

1. AHC Direct Measures of Financial Stressors

Question 11 of the AHC asks: “How hard is it for you to pay for the very basics like food, housing, medical care, and heating? Would you say it is:” and the answer choices are: very hard, somewhat hard, and not hard at all.

The AHC cites the “Race and Financial Strain are Independent Correlates of Sleep in Midlife Women: The SWAN Sleep Study” for the origin of this question. The question was not validated and was created for this specific study. The study did find that financial strain had additive effects on sleep, and there was no statistical difference by race.[163]

2. AHC Indirect Measures of Financial Stressors

Questions 5, 6, and 12 of the AHC have the ability to indirectly measure financial strain by measuring transportation, utilities, and employment.

The AHC’s transportation question (question 5) asks, “In the past 12 months, has lack of reliable transportation kept you from medical appointments, meetings, work or from getting things needed for daily living?” Answers are yes or no. Interestingly, this question is adapted from the PRAPARE questionnaire question 15, where the question is slightly different: “Has lack of transportation kept you from medical appointments, meetings, work, or from getting things needed for daily living? Check all that apply.” Answer choices are: Yes, it ha kept me from medical appointments or from getting my medications; Yes, it has kept me from non-medical meetings, appointments, work, or from getting things that I need; No; and I choose not to answer this question.

Question 6 measuring utilities, asks, “In the past 12 months has the electric, gas, oil, or water company threatened to shut off services in your home?” The answer choices are: Yes, No, Already shut off. The study that this question was derived from was investigating child health and development in the United States. The study found that if children had severe energy insecurity, they had higher food insecurity, developmental concerns, and fair or poor health and increased hospitalizations.[164]

Question 12 of the AHC was developed by the Technical Expert Panel after discussion and review. This question and 1 other were developed by the panel of the 26 questions of the AHC. Question 12 asks, “Do you want help finding or keeping work or a job?” Answer choices are: Yes, help finding work; Yes, help keeping work; I do not need or want help.

[163] Hall et al. 2009
[164] Cook et al. 2008

3. PRAPARE Direct Measures of Financial Stressors

PRAPARE question 11 asks, “What is your current work status?” Answer choices include: unemployed; part-time or temporary work; full time work; Otherwise unemployed but not seeking work (ex: student, retired, disabled, unpaid primary care giver); I choose not to answer this question.

Question 13 asks, “During the past year, what was the total combined income for you and the family members you live with? This information will help us determine if you are eligible for any benefits.” This is an open-ended question.

These questions together will allow the examiner to have a better understanding of the financial situation of the individual.

4. PRAPARE Indirect Measures of Financial Stressors

The PRAPARE has a section titled “Money and Resources.” This includes questions 10 – 15. Questions 11 and 13 are addressed above. Question 15 is the source for the AHC question 5 which is also addressed above.

Question 10 asks, “What is the highest level of school that you have finished?” which is more of an “Education” question than a financial stress question.

The PRAPARE question 12 asks, “What is your main insurance?” Answer choices are: None/uninsured, Medicaid, CHIP Medicaid, Medicare, Other public, insurance (not CHIP), Other Public Insurance (CHIP), Private Insurance. Qualifying for Medicaid or CHIP requires proof of income which can clue examiners in to possible financial stressors. Persons who are uninsured can face financial challenges that would require further screening to see if they qualify for services.

Question 14 queries, “In the past year, have you or any family members you live with been unable to get any of the following when it was really needed? Check all that apply.” Answer choices include: Food; Clothing; Utilities; Child Care; Medicine or Any Health Care (Medical, Dental, Mental Health, Vision); Phone; Other (please write); I choose not to answer this question. This question allows the screener to match the person with specific community resources that meet their needs if any are identified.

C. Quality of Sleep

Neither the AHC nor the PRAPARE inquire about quality of sleep. However, both the PHQ-9 and the EPDS have questions regarding sleep.

Question 3 of the PHQ-9 asks, “Over the past 2 weeks, how often have you been bothered by trouble falling or staying asleep, or sleeping too much?” Answer choices are: not at all, several days, more than half the days, and nearly every day. In comparison, question 7 of the EPDS asks, “In the past 7 days, I have been so unhappy

I have had difficulty sleeping." Answer choices are: Yes, most of the time; yes, sometimes; no, not very often; and no, not at all.

It is known that sleep is fragmented in the first few months of a newborn's life, however, if fatigue and poor sleep quality persists at 12 months postpartum, this is correlated with PPD.[165]

D. Quality of Health

Between the AHC and the PRAPARE, there are no direct assessments of patient reported feelings surrounding quality of health. There are questions that indirectly assess health and the person's ability to function.

Physical activity is measured with the AHC questions 17 and 18. This can be used as a weak proxy for health quality. Question 17 asks: "In the last 30 days, other than the activities you did for work, on average, how many days per week did you engage in moderate exercise (like walking fast, running, jogging, dancing, swimming, biking, or other similar activities)?" Answer choices range from 0 to 7. As a follow-up, question 18 asks: "On average, how many minutes did you usually spend exercising at this level on one of those days?" There are 10 answer choices: 0; 10-60 in intervals of 10; 90; 120; and 150 or greater. Using the answer from Question 17 (days of exercise) multiplied by answer from Question 18 (minutes of exercise), results in number of minutes of exercise per week. For persons 18 and older, less than 150 minutes per week shows a health-related social need (age 6 to 18 years old less than 60 minutes per *day*) is a health-related social need.[166] This information comes from a study where an exercise vital sign (EVS) was seen to have a potential to show a relationship with chronic disease and health care use.[167]

The PHQ-9 contains a summative question that can indirectly measure if depression symptoms (a health problem) have affected their life: "If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?" It is graded with the options being "not difficult at all," "somewhat difficult," "very difficult," and "extremely difficult." This can give the examiner an insight into the person's overall mental health.

E. Substance Use Issues

The AHC covers substance use issues with questions 19-22. All answer responses are on a 5-point Likert scale with choices being: Never, Once or Twice, Monthly, Weekly, or Daily or Almost Daily. Respondents are asked regarding the past 12 months.

[165] Howard et al. 2022
[166] AHC
[167] Coleman et al. 2012

Alcohol

Question 19 on the AHC reads: “How many times in the past 12 months have you had 5 or more drinks in a day (males) or 4 or more drinks in a day (females)? One drink is 12 ounces of beer, 5 ounces of wine, or 1.5 ounces of 80-proof spirits.”

This question is derived from the recommendations from the “Helping Patients Who Drink Too Much: A Clinician’s Guide” written in 2005 from the US Department of Health and Human Services.[168] The section that discusses information regarding this question cites the AUDIT (Alcohol Use Disorders Identification Test)[169] as the source material, however, the original AUDIT question asks “How often do you have six or more drinks on one occasion?” with the answer choice of “once or twice” being replaced by “less than monthly.”

In the Guide, it is noted that for pregnant persons, there is a screening questionnaire called the TWEAK.[170] This is an acronym for the questions asked: Tolerance (How many drinks does it take to feel high/good?), Worried (Has anyone told you they are worried about your drinking?), Eye Opener (Do you have a drink in the morning when you first get up?), Amnesia (Do you black out when drinking or not remember events when drinking?), K/Cut Down (Do you feel the need to cut down on your drinking?). The TWEAK was normed on subgroups including black pregnant persons in inner-city Detroit, and male and female general population sample in several settings including outpatient in family care centers in Western NY.

Tobacco and Nicotine

Question 20 of the AHC asks, “How many times in the past 12 months have you used tobacco products (like cigarettes, cigars, snuff, chew, electronic cigarettes)?”

The AHC cites the “Helping Patients Who Drink Too Much: A Clinician’s Guide” as the source for this question. Upon review of the Guide, there is no mention of “cigarettes” or “tobacco” within the entire document.

Any amount of tobacco or e-cigarette smoking is not advised in pregnancy, as there are significant perinatal risks and harms to infant health. Screening for tobacco use “in all forms” is recommended by ACOG.[171]

Drug Use

Question 21 and 22 are derived from a study where researchers understood that screening for prescription and illicit drug use in primary care was under-utilized. Smith et al. validated a single screening question for illegal drug and/or prescription medication

[168] NIH 2005
[169] Saunders et al. 1993
[170] Russell 1994
[171] ACOG Committee Opinion Summary, Number 807, 2020

misuse. If a patient responded with 1 or more, this was a positive screen and allowed clinicians to counsel and refer patients for treatment if indicated.

The AHC questions differs from the study question in that they separate prescription drug use from illegal drug use:[172]

AHC Question 21: "How many times in the past year have you used prescription drugs for non-medical reasons?"

AHC Question 22: "How many times in the past year have you used illegal drugs?"

Smith et al. Study Question: "How many times in the past year have you used an illegal drug or used a prescription medication for non-medical reasons?"

F. Additional Perinatal Mood and Anxiety Disorders (PMADs)

Perinatal mood disorders occur during pregnancy and the 12 months postpartum. These mental health conditions can also precede a pregnancy.

1. Perinatal Anxiety Screening Tools

Screening for anxiety in the perinatal period can be accomplished through validated tools for the general population as well as pregnancy-specific tools. Since perinatal depression screening is standard of care, screening for anxiety and other perinatal mood disorders should occur once a patient screens positive for perinatal depression as perinatal depression is a risk factor for other perinatal mood disorders.[102]

EPDS

The EPDS was only intended to be a depression screening tool, however, at this time is the only validated screening tool for anxiety in pregnancy, as it screens for both depression and anxiety.[103] A specific anxiety version (EPDS-3A, which is questions 3-6 of the EPDS) has separated out the anxiety questions to better isolate anxiety screening.[104]

Generalized Anxiety Disorder-7 (GAD-7) and Generalized Anxiety Disorder-2 (GAD-2)

The GAD-7 screening tool is a 7-item questionnaire with each item describing a symptom and the answer the patient can give is a 0-3 Likert scale with 0 being not at all and 3 equating to experiencing that symptom nearly every day over the past 2 weeks. The GAD-2 is a simplified version with only 2 items with the same 0-3 Likert scale. The questions are completed by the patient in one to two minutes. The GAD-7 and GAD-2 are used in the general population ages 12 and older.[105]

Although it has not been specifically validated in the pregnant population, the GAD-7 and/or the GAD-2 are used in clinician assessments[106] and in many studies regarding perinatal anxiety. [107] [108] [109] [110] [173]

[172] Smith et al. 2010

[173] Screening and Diagnosis of Mental Health Conditions During Pregnancy and Postpartum: ACOG Clinical Practice Guideline No. 4:. Obstetrics & Gynecology 141(6):p 1232-1261, June 2023. | DOI: 10.1097/AOG.0000000000005200

2. Obsessive Compulsion Disorder (OCD)

Many pregnant persons experience distressing intrusive thoughts that require further investigation. Intrusive thoughts can be caused by anxiety, PTSD (post-traumatic stress disorder), and or OCD. The prevalence of OCD was 3% in the prenatal period and 7% in postpartum. By 6 months postpartum, the cumulative incidence is as high as 9%.[174] Treatment should be initiated with an antidepressant and often needs additional support from psychiatric professionals.[175]

3. Postpartum Psychosis (PPP)

ACOG states that the 3 strongest risk factors for postpartum psychosis are a personal history of bipolar disorder, a family history of bipolar disorder, and a prior episode of postpartum psychosis in a previous pregnancy. Since almost 25% of all perinatal patients who screen positive on a perinatal depression screening test will have bipolar, it is important to keep this diagnosis in mind—especially since the treatment for depression can worsen bipolar symptoms.

In June 2023, ACOG revised their mental health screening guidelines to include that all pregnant persons to be screened at least once during each pregnancy for bipolar disorder AND before initiating pharmacotherapy for anxiety or depression with a validated bipolar screening tool.[176]

ACOG lists 2 validated bipolar screening tools in their guidance: The Mood Disorder Questionnaire (MDQ) and the Composite International Diagnostic Interview (CIDI).

The MDI has 5 questions. However, question 1 has 13 parts to it, as question 1 is a list of symptoms with yes/no responses. Question 2 asks if the symptoms with yes responses all occurred within the same time (yes/no answer). Question 3 asks, “of a problem did any of these cause you — like being able to work; having family, money, or legal troubles; getting into arguments or fights?” Answer responses are: no problem, minor problem, moderate problem, and serious problem. Questions 4 and 5 are not used for scoring. Question 4 asks if family has been diagnosed with bipolar disorder and question 5 asks if you have been diagnosed with bipolar disorder. Both have yes/no answer responses.

If the patient answers yes to 7 or more of the items in question 1 AND yes to 2 AND moderate or serious to question 3 then further assessment for bipolar is warranted.

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[174] Screening and Diagnosis of Mental Health Conditions During Pregnancy and Postpartum: ACOG Clinical Practice Guideline No. 4:. Obstetrics & Gynecology 141(6):p 1232-1261, June 2023. | DOI: 10.1097/AOG.0000000000005200
[175] Treatment and Management of Mental Health Conditions During Pregnancy and Postpartum: ACOG Clinical Practice Guideline No. 5:. Obstetrics & Gynecology 141(6):p 1262-1288, June 2023. | DOI: 10.1097/AOG.0000000000005202
[176] Screening and Diagnosis of Mental Health Conditions During Pregnancy and Postpartum: ACOG Clinical Practice Guideline No. 4:. Obstetrics & Gynecology 141(6):p 1232-1261, June 2023. | DOI: 10.1097/AOG.0000000000005200

For the CDI, it is not a patient questionnaire, but a provider administered where the provider is asking the questions to the patient. The questions are similar to questions 1-3 of the MDI.

ACOG notes that the sensitivity and specificity are both greater for the CIDI than the MDQ.[177] See Appendix 6 for a table comparing sensitivity and specificity.

G. Symptoms of Isolation

Both the Accountable Health Communities (AHC) tool and the PRAPARE®: Protocol for Responding to and Assessing Patient Assets, Risks, and Experiences cover this topic.

1. AHC Question 14

The AHC sources question 14 from a magazine article from the American Association of Retired Persons (AARP) of an AARP Foundation survey that one-third of adults 45 and older feel lonely. Given that, according to NYS Vital Statistics data,[178] just 0.5% of babies delivered in NYS in 2020 were born to persons aged 45 or older, these findings do not necessarily relate to the population of pregnant persons. However, the question "How often do you feel lonely or isolated from those around you?" with the answer ranging from, never, rarely, sometimes, often, to always, could be capable of screening for isolation.

2. PRAPARE Question 16

The PRAPARE screening tool question 16 asks, "How often do you see or talk to people that you care about and feel close to? (For example: talking to friends on the phone, visiting friends or family, going to church or club meetings)" with the available answer choices: less than once a week, 1 or 2 times a week, 3 to 5 times a week, 6 or more times a week, or I choose not to answer this question.

3. AHC and PRAPARE Comparison

Either the AHC's question 14 or PRAPARE's question 16 would be a suitable question to screen for isolation, with PRAPARE question 16 being slightly more relevant given that the AHC question 14 was developed in a population 45 years of age and above.

H. Differences in Family Structures Leading to Stress

Using a questionnaire or screening tool to evaluate a family structure can be challenging. PRAPARE employs an open-ended question to investigate household

[177] Screening and Diagnosis of Mental Health Conditions During Pregnancy and Postpartum: ACOG Clinical Practice Guideline No. 4:. Obstetrics & Gynecology 141(6):p 1232-1261, June 2023. | DOI: 10.1097/AOG.0000000000005200

[178] https://health.ny.gov/statistics/vital_statistics/2020/table05.htm

structure that can be assessed further by the clinician if warranted. The question asks: "How many family members, including yourself, do you currently live with?"

I. Additional Risk Factors Not Identified in Mandated List

In addition to the above topics legislatively required to be covered in this report, the following sections describe screening questions to be considered for use during the perinatal period. They focus on three known risk factors for PPD, risk factors whose relationship with stress and depression is particularly strong. Effective identification of individuals facing challenges with *intimate partner violence*, *housing insecurity*, and *diaper need* could allow providers to hone in on those at increased risk of postpartum depression. While prevention would be the ideal, appropriate referral to services to address needs arising from these challenges could also serve to narrow existing perinatal mental health disparities seen at the population level.

1. Intimate Partner Violence (IPV)

A 2022 systematic review of 33 studies found a strong association between exposure to IPV and development of postpartum depression.[179] These findings corroborated those of a previous systematic review and meta-analysis showing that exposure to any IPV increased the risk of PPD by 1.5-2.0 times.[180] IPV is very common, with 25-30% of U.S. women reporting physical and/or sexual abuse by an intimate partner during their lifetime, and 2-12% reporting physical and/or sexual IPV during the last year.[181] [182] Disparities have been seen in both the effects and perpetration of IPV, with those of lower income or having less social support among the most impacted.[183] There is also evidence of racial and ethnic disparities, with one study finding that police-reported IPV rates were 2–3 times higher among Black and Hispanic women than among White women.[184]

The AHC models questions 7-10 after the HITS screening mnemonic that was developed for Family Practice settings to screen for IPV. HITS asks how often the respondent's partner physically Hurt, Insulted, Threatened with harm, and Screamed at them.[185] Questions 7-10 are listed below. The answer choices for each question are: Never, Rarely, Sometimes, Fairly Often, and Frequently.

7. How often does anyone, including family and friends, physically hurt you?
8. How often does anyone, including family and friends, insult or talk down to you?
9. How often does anyone, including family and friends, threaten you with harm?
10. How often does anyone, including family and friends, scream or curse at you?

[179] Ankerstjerne et al. 2022
[180] Beydoun et al. 2012
[181] Haggerty and Goodman 2003
[182] Lipsky et al. 2009
[183] Okuda et al. 2015
[184] Lipsky et al. 2009
[185] Sherin et al. 1998

PRAPARE question 21 falls in the "Optional Additional Questions" section. It asks, "In the past year, have you been afraid of your partner or ex-partner?" Answer choices are: Yes, No, Unsure, I have not had a partner in the past year, I choose not to answer this question.

USPSTF and AGOG recommend screening for IPV. Per the ACOG Committee Opinion #518, the recommended intervals are at the first prenatal visit, at least once per trimester, and at the postpartum checkup. IPV can have negative pregnancy consequences including poor pregnancy weight gain, stillbirth, fetal injury, preterm delivery, among others. Since homicide by current or former partners is a leading cause of maternal mortality, screening is vital.[186]

2. Housing Security

Housing instability has been linked to increased risk of developing postpartum depression.[187] Racial and ethnic disparities exist with respect to housing and home ownership, with Black and Puerto Rican individuals at a particular disadvantage.[188] In addition, pregnant individuals who are unhoused are more likely to experience adverse birth outcomes (e.g., preterm birth, low birth weight) compared to the general population, and the unintended pregnancy rate for homeless women is higher than that of the general population. For all of these reasons, it is important to screen for housing security and to refer for services if an individual screens positive. [189]

AHC question 1 asks, "What is your living situation today?" Answer choices include: I have a steady place to live; I have a place to live today, but I am worried about losing it in the future; I do not have a steady place to live (I am temporarily staying with others, in a hotel, in a shelter, living outside on the street, on a beach, in a car, abandoned building, bus or train station, or in a park). This question is developed by combining PRAPARE questions 7 AND 8.

PRAPARE question 7 asks, "What is your housing situation today?" Answer options are: I have housing; I do not have housing (staying with others, in a hotel, in a shelter, living outside on the street, on a beach, in a car, or in a park); and I choose not to answer this question.

Question 8 from PRAPARE asks, "Are you worried about losing your housing?". Answers are: Yes, No, I choose not to answer this question.

Additional questions in the "Family and Home" in the PRAPARE section include an open-ended "How many family members, including yourself, do you currently live with?" (number 6) and "What address do you live at?" with requests for Street, City, State, and

[186] ACOG Committee Opinion No. 518: Intimate partner violence. Obstet Gynecol. 2012 (reaffirmed 2022);119(2 Pt 1):412-417. doi:10.1097/AOG.0b013e318249ff74
[187] Chavez et al. 2023
[188] Kuebler and Rugh 2013
[189] ACOG Committee Opinion No. 576: Health Care for Homeless Women. Obstet Gynecol. 2013 (reaffirmed 2021);122):936-40.

Zip code (number 9). In the "Optional Additional Questions", there is a question (number 20) that asks, "Do you feel physically and emotionally safe where you currently live?" Answer choices are: Yes, No, Unsure, I choose not to answer this question. The grouping creates a robust picture of the home dynamic.

3. Diaper Need

Diapers are a significant financial burden for families with babies and small children, with monthly costs estimated at $70-$80,[190] and low-income families spending up to 14% of post-tax income on diapers.[191] "Diaper need" or "diaper insecurity" occurs when other basic needs (e.g., food, utilities, medical care) must be compromised in order for a family to secure needed diapers.[192] Diaper insecurity is associated not only with adverse physical health outcomes for the child (e.g., dermatitis, urinary tract infections),[193] but also with food insecurity[194] and with maternal depression.[195] In fact, diaper insecurity more strongly predicts maternal stress than do neighborhood crime and food insecurity, and it independently predicts postpartum depression.[196] Despite increased media attention to the issue during the COVID-19 pandemic,[197] the proportion of families experiencing diaper insecurity may now be close to half.[198] Families of low income and those living in poverty are most likely to experience diaper insecurity.[199]

The Maine Medical Center (MMC) Pediatric Clinic recently developed and has piloted a MaineHealth Diaper Insecurity question,[200] modeled after the Hunger Vital Sign™ (described above), consists of the statement:

> "Within the past 12 months, we worried about how to pay for diapers."

Response options include "never true," "sometimes true," and "often true." A response of "often true" or "sometimes" true results in a positive screen.

Screening for diaper insecurity would allow providers to then connect individuals with diaper bank locations, such as those tracked by the Postpartum Resource Center of New York (https://postpartumny.org/diaperbanksnys/). Addressing this most basic and critical of needs would alleviate stress in the postpartum period, lowering the likelihood of a new parent developing PPD. By most assisting the parents of lowest income, it could serve to narrow the gap between the mental health of those on each end of the income spectrum.

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[190] Belarmino et al. 2022.
[191] Badger and Eilperin, *Washington Post*, March 14, 2016.
[192] Porter and Steedel 2015.
[193] Sobowale et al. 2021.
[194] Belarmino et al. 2021.
[195] Austin and Smith 2017;
[196] Smith et al. 2013.
[197] Grose, *The New York Times*, July 29, 2020; Breen, *Today*, May 5, 2020.
[198] NDBN Diaper Check 2023.
[199] Hannah Denham, "Millions couldn't afford diapers before the pandemic. Now, diaper banks can't keep up," *The Washington Post*, March 1, 2021.
[200] https://assets.mainehealth.io/s3fs-public/imported_images/MaineHealth-Diaper-Insecurity-Toolkit.pdf

VIII. New York State's Initiatives

New York State has taken several steps to improve postpartum depression screening, diagnosis, and treatment. Although it is considered "standard of practice" by many national organizations, namely ACOG and AAP, screening is far from universal and is not standardized.

New York State has expanded Medicaid, increasing access to preventive care during pregnancy. The State has recently acted to extend coverage for pregnant individuals beyond the previous 60 days covered postpartum to one full year. The March of Dimes notes that Medicaid reimbursement for midwifery services in New York State is at 95% of the Physician Fee Schedule.

In April 2018, New York State announced a comprehensive Doula Pilot program for pregnant people enrolled in Medicaid in Erie County. The pilot program provides up to four visits with the doula before delivery and up to four visits after delivery, in addition to doula support during labor and delivery. To date, approximately 82% of claims are for prenatal visits, 6% are for labor and delivery support, and 12% are for postpartum visits. The pilot program also facilitates surveys to all participants to assess satisfaction. Ninety-six percent of respondents have indicated that having a doula improved their childbirth experience.

In 2019, the NYSDOH established the Maternal Mortality Review Board (MMRB) to examine information related to pregnancy-associated deaths and to issue findings and recommendations to advance the prevention of maternal mortality. The NYS Maternal Mortality Review Board, led by NYSDOH, reviews all pregnancy-associated deaths in NYS that occur outside of NYC. The NYC Maternal Mortality and Morbidity Review Committee (M3RC), led by the New York City Department of Health and Mental Hygiene, reviews pregnancy-associated deaths that occur within NYC.

The New York State Taskforce on Maternal Mortality and Disparate Racial Outcomes was launched in April 2018. OMH remains engaged with DOH Taskforce on Maternal Mortality and Disparate Racial Outcomes. Additional efforts include a #MaternalHealthMatters campaign and a newly released Issue Brief from New York State Maternal Mortality Review Board: Spotlight on Perinatal Mental Health: Issue Brief from New York State 2018 Pregnancy-Associated Deaths.

NYSDOH also oversees the New York State Perinatal Quality Collaborative (NYSPQC), a nationally recognized initiative that engages a statewide network of birthing hospitals and centers that seek to provide the best, safest, and most equitable care for NYS's birthing people and infants. The NYSPQC was initiated in 2010 and has successfully implemented 12 intervention-based projects. The NYSPQC improves maternal and infant outcomes, reducing morbidity and mortality, by moving evidence-based and informed guidelines to action through intervention-specific projects.

In the fall of 2020, the Maternity Care Clinical Advisory Group (CAG) reconvened and made recommendations to the State on quality measures, data collection, data reporting, and support required for providers to be successful in a Value-Based Payment (VBP) environment. The Measurement Year (MY) 2021 Maternity Care Quality Measure Set was created in collaboration with the Maternity Care CAG and the NYS Value-Based Payment Workgroup. The goal is to align with measure sets put forth in the Delivery System Reform Incentive Payment (DSRIP) Program, the Quality Assurance Reporting Requirements (QARR), the Merit-based Incentive Payment System (MIPS), where applicable, and for the State's Vital Statistics maternity care measures. A Postpartum Depression Screening and Follow-Up was included as a category 2 measure[201] to improve PPD screening practices. Data from this measure are not yet available.

A. Project TEACH

The New York State Office of Mental Health's (OMH) Maternal Mental Health Initiative (MMHI) was developed in 2018 as part of a state effort to address maternal mental health. In January 2022, OMH's child psychiatry access program, Project TEACH (Training and Education for the Advancement of Children's Health), expanded its focus beyond child and adolescent support to include maternal mental health consultation, training, and linkage/referral services. Since this expansion, MMHI has been supported through these efforts and is no longer referred to as an initiative but rather: Project TEACH, Maternal Mental Health (PT MMH).
PT MMH supports the ability of maternal health providers, psychiatrists, and Primary Care Providers (PCPs) to identify and treat mental health concerns during the reproductive and/or perinatal periods by providing:

- access to consultation with Reproductive Psychiatrists having expertise in maternal mental health, open to psychiatrists and any maternal health care providers, including OB/GYNs, Nurse Practitioners, midwives, and PCPs
- training and education in maternal mental health topics
- referral and linkage services
- information and resources regarding maternal mental health and substance use disorders on the Project TEACH website

In 2022, Project TEACH MMH added:

- increased access to phone consultation via a warm line operated 40 hours/week
- >2,150 outreach contacts made by Project TEACH Reproductive Psychiatrists

[201] "Category 2 measures have been accepted by the State based on the agreement of clinical importance, validity, and reliability, but flagged as presenting concerns regarding implementation feasibility. The State has discussed measure testing approaches, data collection, and reporting requirements with MCOs and VBP Contractors as part of the CAGs."
https://www.health.ny.gov/health_care/medicaid/redesign/vbp/quality_measures/2023/docs/maternity_qms.pdf

- Maternal Clinical Rating Scales that are available for download from the Project TEACH website
    - These evidence-based questionnaires are applicable in primary care and reproductive health practices.
- 2 half-day intensive trainings with five one-hour follow-up sessions for case-based learning, along with five web-based core trainings
- an advisory group for feedback, which includes representation from The American College of Obstetricians and Gynecologists (ACOG), other reproductive health stakeholders, and individuals with lived experience

Further information about all services can be found on the Project TEACH website: https://projectteachny.org/. The warmline went live in 2022. A total of 100 phone consultations occurred regarding 128 patient cases. Demographics of these patients can be found in Appendix 4.

B. Healthy Steps

HealthySteps is an evidence-based program that delivers dyadic services to young children (0-3) and their families in a pediatric health care setting, which is non-stigmatizing and offers universal access. Pediatricians often serve as the initial point of contact for new caregivers. Infants typically have seven (7) well-child visits within the first year of life, often occurring before families have contact with any other system. This early and frequent access affords opportunities to partner with families.

The HealthySteps model includes the addition of a HealthySteps Specialist who is a professional with expertise in child development and partners with families during well-child visits as part of the primary care team. The HealthySteps Specialist can support the health care team in promoting the child's developmental, social-emotional, and behavioral health. The HealthySteps Specialist uses a two-generational approach to promote well-being and address concerns such as screening for family needs, maternal depression, and social determinants. HealthySteps sites use a risk-stratified approach to offer Tier 2 and Tier 3 services as determined by need.

HealthySteps demonstrate positive outcomes in multiple domains for the child, the family, and the medical practice.203 The evidence base includes impacts on maternal depression.[204] The initial cohort of OMH-funded HealthySteps sites continues to positively impact the lives of thousands of children and their families. They have conducted more than 17,000 screenings for maternal depression and provided connections and support as indicated.

[202] ZERO TO THREE HealthySteps - Early Childhood Development Experts in Pediatrics. HealthySteps. https://www.healthysteps.org/

[203] ZERO TO THREE HealthySteps. Our Impact. The Evidence https://www.healthysteps.org/our-impact/the-evidence-base/

[204] ZERO TO THREE HealthySteps. Evidence-based. Maternal Depression. https://www.healthysteps.org/our-impact/the-evidence-base/maternal-depression/

HealthySteps sites universally screen all mothers of young children in their practices. The OMH-funded sites typically use one or more of the following screening tools: Patient Health Questionnaire PHQ-2, and PHQ-9; Edinburgh Postpartum Depression Scale (EPDS); or The Survey of Well-Being of Young Children (SWYC).

There are currently 13 OMH-funded legacy HealthySteps sites that have been in operation since 2016. In 2022, OMH awarded funds to support 38 new HealthySteps sites, expanding HealthySteps in 10 counties across NYS that were previously unrepresented. Another significant addition of 70 HealthySteps sites is expected in 2023-24.

This expansion will foster the opportunity to reach and support thousands of additional children and their families throughout New York State, especially focused on counties with the highest percentages of children in poverty. This will also support ongoing work to enhance protective factors to promote childhood resiliency, a trauma-informed approach to care, and a means of addressing social determinants of mental health in children and families.

C. Moving on Maternal Depression (MOMD)

Moving on Maternal Depression (MOMD) started as a Technical Assistance Project through the Center for Law and Social Policy (CLASP). New York State was one of three states involved in this 18-month project, which started in September 2018. OMH served as the state agency lead for this project, partnering with the Schuyler Center for Advocacy and Analysis.

CLASP provided: technical assistance from CLASP and peer-to-peer learning opportunities to strengthen maternal depression policies and systems. CLASP provided technical assistance through phone calls with national experts, in-person convenings, and written materials. States were also offered the opportunity to participate in a broader learning community.

The NYS MOMD project structure included a “Core Team” consisting of representatives from state agencies, state associations, and non-profits, which met on a bi-monthly basis and four workgroups to meet their goals:

- The **Voices Workgroup** is composed of women with the lived experience. The group contributed to the definition used by the project, efforts of the Workforce Workgroup to identify how to best accomplish screening, referral, and treatment across the stages of pregnancy and the Equity Workgroup’s identification of best practices and gaps in the delivery of services for diverse communities. The group has also engaged with the Office of Mental Health and NYSDOH on PSAs on maternal mental health. Project TEACH has included a representative from this workgroup in the Project TEACH Maternal Mental Health (MMH) Advisory Committee and will further engage with members of the Voices Workgroup for

their input and guidance as the Project TEACH Maternal Mental Health Initiative develops resources for patients.

- The **Data Workgroup** focused on developing better metrics for measuring maternal mental health. The group is continuing to compile a spreadsheet of data indicators across programs. A meeting of State agency data representatives to discuss what metrics could be adopted across State agencies and how this could be implemented is on hold.

- The **Workforce Workgroup** developed a comprehensive continuum of care that outlines stages of women's health and pregnancy where mental health conditions could be identified and by which providers. Outcomes of the convening are identified priorities for educating a range of providers on maternal mental health and expanding training for screening and referral.

- The **Equity Workgroup** identified best practices for ensuring racial equity in maternal mental health programs and will be considering what policies can be used to expand these practices.

The MOMD project developed a **webinar series** in conjunction with the Postpartum Resource Center of New York. Two webinars were taped: one on COVID-19 and maternal mental health and one highlighting programs at Northwell Health. Additional webinars are being planned.

NYS MOMD Project Highlights 2018–2020

- Provided an avenue for communication on maternal mental health among State agencies/divisions and with programs around the State.
- Created a mechanism for advocacy organizations for impacted constituencies – mothers, babies, providers who care for them, mental health advocates, etc. – to collaborate on maternal mental health.
- Took full advantage of New York's participation in the CLASP Moving on Maternal Depression (MOMD) national learning collaborative to learn from other states and access technical assistance.
- Invited and supported women who have experienced maternal mental health issues to engage in developing policy through the Voices Workgroup
- Made progress toward identifying key metrics and data points from across sectors (health, mental health, substance abuse services) that will inform policy development.
- Examined how to integrate racial equity into policy-making on maternal mental health.
- Developed a continuum of care for families in need of maternal mental health services to guide workforce development.
- Developed a special page on the SCAA website for the MOMD project with materials including webinars by the workgroups, materials developed by the workgroups

- Assisted the NYS Department of Health with the needs assessments for both the Maternal, Infant Early Childhood Home Visiting (MIECHV) program and Maternal and Child Health Block Grant.

Although the MOMD project ended in June 2021, the connections and work that began in the project have continued through:

- Ongoing Webinar Series hosted through the SCAA and the Postpartum Resource Center;
- Leverage of the Voices Workgroup to inform a public awareness campaign developed and implemented by DOH;
- Continued meetings of the Core Team after the end of the project, providing a setting for ongoing sharing of resources, networking, and collaboration.

D. Perinatal and Infant Home Visiting Programs

NYSDOH supports three maternal and child health home visiting programs: the Nurse-Family Partnership (NFP), the Perinatal and Infant Community Health Collaboratives (PICHC), and Healthy Families New York (HFNY). HFNY is administered through the NYS Office of Children and Family Services through a combination of state funds and a federal Maternal, Infant, and Early Childhood Home Visiting (MIECHV) grant. Both state and federal MIECHV funds also support NFP.

NFP is a nationally recognized evidence-based intervention with origins in New York State and ongoing implementation through MIECHV since 2010. The initiative targets communities with concentrations of premature birth, low-birth-weight infants, and infant mortality. Ten NFP programs are supported across NYS in Bronx, Chautauqua, Chemung, Erie, Kings, Monroe, Nassau, Oneida, Onondaga, and Queens counties.

PICHC is an evidence- and theory-informed community health worker model of home visiting, previously implemented under the “Maternal and Infant Community Health Collaboratives” name and continuously supported since 2010. PICHC is designed to improve perinatal and infant health outcomes for high-need, low-income, and Medicaid-eligible individuals and their families. Clients may enroll in PICHC programs before or after childbirth and can remain with the program until their youngest child reaches two years of age. PICHC was competitively procured in 2022 to support 26 programs across the state. Programs implement individual-level strategies to address perinatal health behaviors and community-level strategies to address social determinants of health (SDOH). Individual-level strategies include client education, referrals to medical and social support services in their communities, and client empowerment. Community-level strategies include collaboration with diverse community partners and promoting community mobilization activities to address SDOH.

HFNY is an evidence-based model of home visiting based on the Healthy Families America program. HFNY uses paraprofessional home visitor services across New York State. NYSDOH supports 10 HFNY programs with MIECHV federal funds. Additionally, in 2022, the HFNY program administered by OCFS was expanded with support from the

NYS Legislature and Governor Kathy Hochul, expanding to serve every county of the state. HFNY offers systematic assessment of people who are pregnant and new parents for risks that may lead to poor infant health and development outcomes and/or child abuse. Families identified with high risk factors are offered long-term home visiting services until the child is in school or a Head Start program. The program focuses on supporting parents and building on the inherent strength of families.

Screening for postpartum depression (with informed consent) is a requirement for all these programs. The most commonly implemented screening tools include EPDS and PHQ-9. Among the eight MIECHV-funded NFP programs, the number of clients who screen positive (and thus may be referred to clinical and/or counseling supports) has varied annually, ranging from 3% in FY2022 to 10.6% in FY2018[205]. Rates increased at the beginning of the COVID-19 pandemic compared to pre-pandemic levels, then decreased as the pandemic continued (FY2019: 5.7%; 2020: 8.2%; 2021: 4.5%; and 2022: 3.0%). Generally, the number of postpartum clients screening positive is lower than the expected range of 10-20%, as previously stated. This may be because the clients are already engaged in a supportive program before childbirth (NFP clients must be enrolled by the 28th week of pregnancy). Therefore, clients may be getting informal support from their home visitor or utilizing tools and techniques suggested by the home visitor to reduce stressors and other non-biological contributors to PPD.

Screening and referral data are not currently available for PICHC programs and state-funded HFNY programs.

IX. Recommendations

The following recommendations are based on the findings detailed above:

1. Screening and Follow-up.
NYS health care providers should be supported in developing the capacity to incorporate the following screening into routine care from pre-conception planning through one year postpartum, with appropriate follow-up evaluation/diagnosis, education/brief intervention, treatment, and referral to services. Pediatricians, obstetricians/gynecologists (OB/GYNs), Reproductive Endocrinologists (REs), and Primary Care Providers (PCPs) should provide the following screenings at established visits (i.e., prenatal and postpartum check-ups, routine primary care visits within the first year postpartum, and child well visits through child's first year):

a) Universal, standardized perinatal mental health screening with validated instruments, not limited to postpartum depression (PPD) but including other perinatal mood and anxiety disorders (PMADs), with a clear standard for *how*, *when*, and *by whom* screening should be done through one year postpartum.
b) Screening for basic social needs with validated questions, including but not limited to:
    - social support

[205] MIECHV fiscal year operates October 1 of the preceding year through September 30 of the stated year, e.g., FY2022 is October 1, 2021 – September 30, 2022.

- intimate partner violence (IPV)
- food security
- housing
- diaper security
- barriers to access to care (e.g., financial, transportation, technology)

c) Screening for substance use disorders (SUD) with validated tools.

2. Provider Training.

Providers (OB/GYNs, REs, PCPs, and pediatricians) should avail themselves of existing education and training efforts to support screening and follow-up (e.g., Project TEACH). Training should focus on health equity, acknowledging systemic racism and historical institutional biases and striving to improve the representation of racial and ethnic minoritized groups in the workforce. Training should include, at a minimum, the following topics:

a. screening, referral, and treatment options
b. resources and services available to patients
c. implicit bias and cultural competency training
d. trauma-informed, patient-centered care
e. patients' rights (e.g., to reduce stigma and fear of losing baby to child protective services (CPS) upon disclosure of MH condition or substance use)
f. up-to-date information on benefits/risks of continuing medications during pregnancy and postpartum and established safety of beginning meds during the perinatal period (e.g., anti-depressants, medication for opioid use disorder (MOUD))
g. payment and reimbursement options not solely focused on Medicaid

3. Access to Treatment for Mental Health and Substance Use Disorders and to Resources to Meet Social Needs.

The maternal mental health workgroup established per the 2023-24 NYS enacted budget will be exploring ways to improve pathways to care by increasing access and decreasing barriers to services and supports, including but not limited to:

a. Investing in enhancement and expansion of a variety of clinic- and community-based mental health services with increased financial support through the Fiscal Year 2024 NYS enacted budget.
b. Partnering with the NYS Office of Addiction Services and Supports (OASAS) to decrease stigma, increase perinatal treatment of SUD, and educate pregnant people about their right to priority treatment in OASAS-licensed clinics; and
c. Partnering with other state agencies to address access issues with housing, food, and items children need, including diapers, clothing, and other needs associated with social determinants of health. These resources, while not clinical, serve to address upstream risk factors for adverse mental and physical health outcomes for birthing people, infants, and their families.

4. Reimbursement.
Ensure adequate reimbursement for screening, education, and brief intervention to incentivize greater uptake by pediatricians and other primary care providers and provide technical support to assist providers to better understand the current billing structure.

5. Research.
Collaborate with researchers studying evidence-based models of care and population-level interventions that are culturally relevant and inclusive of racial and ethnic minoritized and underserved populations. This work should include study of:

a. ways to update existing, validated screening tools to increase cultural relevance
b. additional screening questions to identify risk factors and social needs outlined in this report (e.g., social support, prior mental health diagnosis)
c. evidence-based education/brief intervention and prevention strategies, with particular attention to racial and ethnic minoritized populations
d. culturally congruent perinatal care outside the traditional medical model
e. potential for mobile phone-based screening and other technology
f. improved data collection, monitoring, and performance measures
g. existing NYS programs aimed at reducing disparities in perinatal mental health

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Appendix 1: Bill Language (S.7753)

Section 1. 1. The office of mental health, in conjunction with the department of health and any other department or experts within the maternal health field shall conduct a comprehensive study and prepare a report on the differential impacts of postpartum depression screening measures in relation to black women, brown women and birthing people. This study shall examine what additional questions or tools could be implemented to minimize disparities found within the current screening protocols. The data collected shall only be utilized as authorized under state and federal law to inform the state's efforts to advance the maternal health scope for birthing people, in relation to providing fair and equal medical care.

2. The purpose of this study shall be to:

(a) identify any racial disparities within protocols and screening measures for postpartum depression; and

(b) review current protocols and screening measures used to identify postpartum depression and overall birthing people's health after birth.

3. This study shall research and identify questions to be used within postpartum depression screenings to detect, at a minimum, the following:

(a) stress around food scarcity within the home;

(b) financial stressors;

(c) quality of sleep;

(d) quality of health;

(e) substance abuse issues;

(f) additional maternal depression disorders, including but not limited to perinatal and postpartum mood disorders, postpartum anxiety, postpartum psychosis;

EXPLANATION--Matter in ***italics*** (underscored) is new; matter in brackets [ ] is old law to be omitted.

LBD13720-03-2

S. 7753 2

(g) symptoms of isolation, including but not limited to symptoms caused by the COVID-19 pandemic; and

(h) different family structures and possible causes of stressors that could result from such family structures.

4. Not later than one year after the effective date of this act, the commissioners of the office of mental health and department of health shall prepare and submit to the governor, the temporary president of the senate, the speaker of the assembly, the minority leader of the senate and the minority leader of the assembly, a report of the study's findings, together with specific recommendations for minimizing existing barriers and maximizing new techniques and tests to better aid postpartum depression testing and other maternal health testing and/or screening.

§ 2. This act shall take effect immediately.

Appendix 2: Existing Screening Recommendations

Organization	Recommendation(s)
American Academy of Family Physicians (2019)	• **All postpartum women should be screened for depression, including at least once during the perinatal period.** • The general adult population should be screened for depression. Screening should be implemented with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up.
American Academy of Pediatrics (2019)	• The AAP recommends integrating postpartum depression surveillance and screening at the 1-, 2-, 4-, and 6-month visits. • As a notable resource, the American Academy of Pediatrics provides the most robust guidance around PMH screening (as well as screening for intimate partner violence, and maternal drug and alcohol use), with its Bright Futures guidelines. The guidelines include details about when to screen and what questions to ask.
American College of Nurse Midwives (2019)	• All perinatal clients should be evaluated for depression and other mental health **disorders at least twice during pregnancy and at regular intervals postpartum using a validated tool.** • All people receiving midwifery care should be assessed for depression and other mental health disorders **during routine visits**. • Every midwifery practice should have a systematic response to a positive screen or risk assessment, including knowledge of treatment modalities and referral to trained mental health providers.
American College of Obstetricians & Gynecologists (2018)	• Perinatal patients should be screened **at least once during the perinatal period for depression and anxiety symptoms using a standardized, validated tool.** • Obstetrician-gynecologists and other obstetric care providers should complete a full assessment of mood and emotional wellbeing during the comprehensive postpartum visit for each patient. • If a patient is screened for depression and anxiety during pregnancy, additional screening should then occur during the comprehensive postpartum visit
American Medical Association (2017)	• Encourages implementing a routine protocol for depression **screening in pregnant and**

	postpartum women during prenatal, postnatal, pediatric, or emergency room visits.
American Psychiatric Association (2019)	• **All perinatal patients should be evaluated for depressive, anxiety, and psychotic disorders** throughout the pregnancy and postpartum period. • Recommend screening for depression with a validated screening tool **twice during pregnancy, once in early pregnancy for preexisting psychiatric disorders and once later in the pregnancy** and **during pediatric visits throughout the first six months postpartum** as recommended by the American Academy of Pediatrics. • A systematic response to screening should be in place to ensure that psychiatric disorders are appropriately assessed, treated, and followed.
Mental Health America (2018)	• Universal **screening is beneficial during pregnancy and the first twelve months after birth** if mental health service follow-up is available. • **Maternal depression screening and intervention** should be fully implemented in obstetrics and pediatrics, in addition to adult preventive care visits. • Screening may take place in mental health settings, obstetrical care settings, pediatric care settings, primary care, emergency departments, WIC offices or occupational health settings. • Screening is successful with any of several instruments including the **PHQ-9 and the Edinburgh Postnatal Depression Scale** (EPDS).
United States Preventive Services Task Force (2019)	• Recommends screening for depression and anxiety in adults, **including pregnant and postpartum women**. • Clinicians should provide/refer pregnant and postpartum persons who are at increased risk of perinatal depression to counseling interventions.
Source: MMHLA's Perinatal Mental Health Education and Screening Report: Phase 1 Final Report (2022).	

Appendix 3: Edinburgh Postnatal Depression Scale (EPDS)

Edinburgh Postnatal Depression Scale[1] (EPDS)

Name: _____ Address: _____

Your Date of Birth: _____ _____

Baby's Date of Birth: _____ Phone: _____

As you are pregnant or have recently had a baby, we would like to know how you are feeling. Please check the answer that comes closest to how you have felt **IN THE PAST 7 DAYS**, not just how you feel today.

Here is an example, already completed.

I have felt happy:
- ☐ Yes, all the time
- ☒ Yes, most of the time
- ☐ No, not very often
- ☐ No, not at all

This would mean: "I have felt happy most of the time" during the past week. Please complete the other questions in the same way.

In the past 7 days:

1. I have been able to laugh and see the funny side of things
   - ☐ As much as I always could
   - ☐ Not quite so much now
   - ☐ Definitely not so much now
   - ☐ Not at all

2. I have looked forward with enjoyment to things
   - ☐ As much as I ever did
   - ☐ Rather less than I used to
   - ☐ Definitely less than I used to
   - ☐ Hardly at all

*3. I have blamed myself unnecessarily when things went wrong
   - ☐ Yes, most of the time
   - ☐ Yes, some of the time
   - ☐ Not very often
   - ☐ No, never

4. I have been anxious or worried for no good reason
   - ☐ No, not at all
   - ☐ Hardly ever
   - ☐ Yes, sometimes
   - ☐ Yes, very often

*5 I have felt scared or panicky for no very good reason
   - ☐ Yes, quite a lot
   - ☐ Yes, sometimes
   - ☐ No, not much
   - ☐ No, not at all

*6. Things have been getting on top of me
   - ☐ Yes, most of the time I haven't been able to cope at all
   - ☐ Yes, sometimes I haven't been coping as well as usual
   - ☐ No, most of the time I have coped quite well
   - ☐ No, I have been coping as well as ever

*7 I have been so unhappy that I have had difficulty sleeping
   - ☐ Yes, most of the time
   - ☐ Yes, sometimes
   - ☐ Not very often
   - ☐ No, not at all

*8 I have felt sad or miserable
   - ☐ Yes, most of the time
   - ☐ Yes, quite often
   - ☐ Not very often
   - ☐ No, not at all

*9 I have been so unhappy that I have been crying
   - ☐ Yes, most of the time
   - ☐ Yes, quite often
   - ☐ Only occasionally
   - ☐ No, never

*10 The thought of harming myself has occurred to me
   - ☐ Yes, quite often
   - ☐ Sometimes
   - ☐ Hardly ever
   - ☐ Never

Administered/Reviewed by _____ Date _____

[1]Source: Cox, J.L., Holden, J.M., and Sagovsky, R. 1987. Detection of postnatal depression: Development of the 10-item Edinburgh Postnatal Depression Scale. *British Journal of Psychiatry* 150:782-786 .

[2]Source: K. L. Wisner, B. L. Parry, C. M. Piontek, Postpartum Depression N Engl J Med vol. 347, No 3, July 18, 2002, 194-199

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Edinburgh Postnatal Depression Scale[1] (EPDS)

Postpartum depression is the most common complication of childbearing.[2] The 10-question Edinburgh Postnatal Depression Scale (EPDS) is a valuable and efficient way of identifying patients at risk for "perinatal" depression. The EPDS is easy to administer and has proven to be an effective screening tool.

Mothers who score above 13 are likely to be suffering from a depressive illness of varying severity. The EPDS score should not override clinical judgment. A careful clinical assessment should be carried out to confirm the diagnosis. The scale indicates how the mother has felt ***during the previous week***. In doubtful cases it may be useful to repeat the tool after 2 weeks. The scale will not detect mothers with anxiety neuroses, phobias or personality disorders.

SCORING

QUESTIONS 1, 2, & 4 (without an *)
Are scored 0, 1, 2 or 3 with top box scored as 0 and the bottom box scored as 3.

QUESTIONS 3, 5-10 (marked with an *)
Are reverse scored, with the top box scored as a 3 and the bottom box scored as 0.

Maximum score: 30
Possible Depression: 10 or greater
Always look at item 10 (suicidal thoughts)

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Instructions for using the Edinburgh Postnatal Depression Scale:

1. The mother is asked to check the response that comes closest to how she has been feeling in the previous 7 days.
2. All the items must be completed.
3. Care should be taken to avoid the possibility of the mother discussing her answers with others. (Answers come from the mother or pregnant woman.)
4. The mother should complete the scale herself, unless she has limited English or has difficulty with reading.

[1]Source: Cox, J.L., Holden, J.M., and Sagovsky, R. 1987. Detection of postnatal depression: Development of the 10-item Edinburgh Postnatal Depression Scale. *British Journal of Psychiatry* 150:782-786.

[2]Source: K. L. Wisner, B. L. Parry, C. M. Piontek, Postpartum Depression N Engl J Med vol. 347, No 3, July 18, 2002, 194-199

Appendix 4: Project TEACH

Demographics of New Cases for 2022 (N=128) Project TEACH, Maternal Mental Health (PT MMH)

Maternal Age	Count (#)	Percentage (%)
Under 18	1	1%
18 to 22	11	9%
23 and over	111	87%
unknown	5	4%
Race		
Black or African American	13	10%
White	57	45%
Asian	10	8%
More than one race	3	2%
unknown	45	35%
Ethnicity		
Hispanic or Latino	14	11%
Black or African American	2	14%
White	6	43%
More than one race	2	14%
Unknown	4	29%
Non-Hispanic or Latino	59	46%
Unknown	55	43%

Appendix 5: Screening Tools for Social Determinants of Health

Screening Tool and size	Domains Included	Administrator	Implementation Setting
Iscreen – 23 questions each with 2 follow-up questions	Violence, Education, Financial resource strain, Race/ethnicity, Employment, Housing, Income/source, Legal, Moving/transience	Self-administered or Research Assistant, Computer-based	Pediatric ED
WE CARE 6 questions	Violence, Education, Employment, Housing	Self-administered, Paper-based	Community Health Center – Well-child Visit
HealthBegins 15 main questions plus 14 optional/additional questions	Violence, Education, Financial resource strain, Social Support, Employment, Housing, Legal, Social support, Moving/transience	Health care staff/provider or student, Paper-based	Various clinical settings
Health Leads 9 questions plus additional questions per domain	Violence, Education, Financial resource strain, Race/ethnicity, Social support, Employment, Housing, Income/source, Legal, Social support, Moving/transience	Self-administered or student/volunteer; Paper-based Available in Spanish	Emergency Departments and Primary Care
PRAPARE 12 questions plus demographic information	Violence, Education, Race/ethnicity, Social support, Employment, Housing, Income/source,	Health care provider or staff; Computer based Available in multiple languages	Various clinical settings

	Legal, Social support		
WellRX 11 questions	Violence, Education, Employment, Housing, Income/source	Self-administered or staff; Paper-based	Primary and Family Medicine Clinics
The Accountable Health Communities Screening Tool 26 questions	Violence, Employment, Housing	Health care provider, staff or self-administered Paper and Computer-based	Various clinical settings
HelpStep 12 primary questions with additional follow-up questions	Violence, Education, Financial resource strain, Race/ethnicity, Social support, Employment, Housing, Income/source, Legal, Social support	Self-administered; Computer/web-based	Adolescent and Young Adult Clinics; Various settings
Social Needs Screening Tool – EveryONE Project 14 questions (long form)	Violence, Education, Financial resource strain, Employment, Housing	Health care provider or self-administered Paper-based	Family or pediatric practice

Adapted from Moen, et. al., 2020.

Appendix 6: Perinatal Mental Health Screening Tools

Table 2. Commonly Used Perinatal Mental Health Validated Screening Instruments

PMH Condition	Screening Instrument	No. of Items/Self-Administered (Y/N)	Sensitivity and Specificity	Score for Positive Screen
Depression	EPDS	10/Y	Sensitivity: 55–98% Specificity: 68–97%	≥10
	PHQ-9	9/Y	Sensitivity: 53–77% Specificity: 85–94%	≥10
Anxiety	GAD-7	7/Y	Sensitivity: 73% Specificity: 67%	≥5
	EPDS—anxiety subscale (items 3, 4, 5)	3/Y	Not enough data to estimate; correlates with GAD-7	≥5
	STAI	20/Y	Sensitivity: 81% Specificity: 78%	≥40
Bipolar disorder	MDQ	3 (Q1 with 13 items)/Y	Sensitivity: 44–90% Specificity: 61–92%	≥7 of the 13 items in Q1
	CIDI	2–3 (branching logic)/N	Sensitivity: 69–100% Specificity: 98–99%	Yes to Q3 (Q3 is asked if Q1 or Q2 are affirmed)

Abbreviations: CIDI, Composite International Diagnostic Interview; EPDS, Edinburgh Postnatal Depression Scale; GAD-7, Generalized Anxiety Scale-7; MDQ, Mood Disorder Questionnaire; PMH, perinatal mental health; PHQ-9, Patient Health Questionnaire-9; Q, question; STAI, State-Trait Anxiety Inventory.

Data from Byatt N, Masters GA, Bergman AL, Moore Simas TA. Screening for mental health and substance use disorders in obstetric settings. Curr Psychiatry Rep 2020;22:62 *and* Byatt N, Mittal LP, Brenckle L, Logan DG, Masters GA, Bergman A, et al. Lifeline for moms perinatal mental health toolkit. University of Massachusetts Medical School; 2019. Accessed December 7, 2022. https://www.umassmed.edu/lifeline4moms/products-resources/toolkits-and-apps/2019/11/lifeline4moms-perinatal-mental-health-toolkit/

Source: Screening and Diagnosis of Mental Health Conditions During Pregnancy and Postpartum: ACOG Clinical Practice Guideline No. 4:. Obstetrics & Gynecology 141(6):p 1232-1261, June 2023.