



PREGNANCY RISK ASSESSMENT MONITORING SYSTEM
A survey for healthier babies in New Jersey

Racial Perception and Adverse Birth Outcomes (November 2019)

NJ PRAMS is a joint project of the New Jersey Department of Health (NJDOH) and the Centers for Disease Control and Prevention (CDC). Information from PRAMS is used to help plan better health programs for NJ mothers and infants. One out of every 50 mothers are sampled each month, when newborns are 2-6 months old. Survey questions address their feelings and experiences before, during, and after pregnancy. The PRAMS sample design oversamples smokers and minorities. Data are weighted to give representative estimates of proportions in specific categories and of actual persons. Over 20,000 mothers are included between 2002-2017 with an average response rate of 70%.

Maternal Characteristics	Racial Bias – Yes (%)	Racial Bias – No (%)
All	7.2	92.8
Race/Ethnicity		
White, NH	3.3	96.7
Black, NH	10.6	89.4
Hispanic	10.6	89.4
Asian, NH	9.6	90.4
Age Group		
18-29 years	8.4	91.6
30+ years	6.2	93.8
Education		
Less than HS	11.5	88.5
HS Grad	9.9	90.1
Some college+	5.6	94.4
Pre-pregnancy Insurance		
Private	5.2	94.8
Medicaid	9.4	90.6
Uninsured	12.7	87.3
Prenatal Care Insurance		
Private	5.0	95.0
Medicaid	9.1	90.9
Uninsured	15.5	84.5
Marital Status		
Married	6.1	93.9
Unmarried	9.7	90.3
Entry into Prenatal Care		
1 st Trimester	6.6	93.4
Late or no PNC	9.9	90.1

had less than a high school education (11.5%), were uninsured prior to or during pregnancy (12.7% and 15.5%, respectively), were unmarried (9.7%), and who entered into their PNC late or who received no PNC at all (9.9%) (Table 1).

The Effect on Birth Outcomes

NJ PRAMS investigated PTB, low birth weight (LBW), the mother’s postpartum checkup, Well-Baby visits, and postpartum depression (PPD) symptoms as birth outcomes of interest (Table 2). As a result, differences were noted between mothers who reported experiencing racial bias 12 months prior to their pregnancies compared to those who reported they did not. Of all the mothers who reported

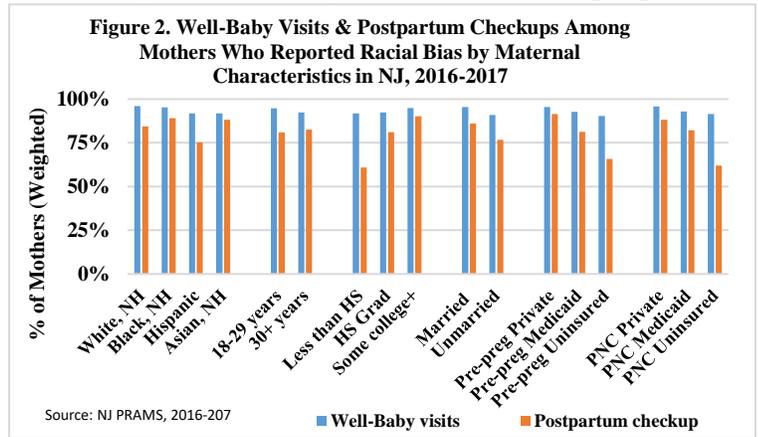
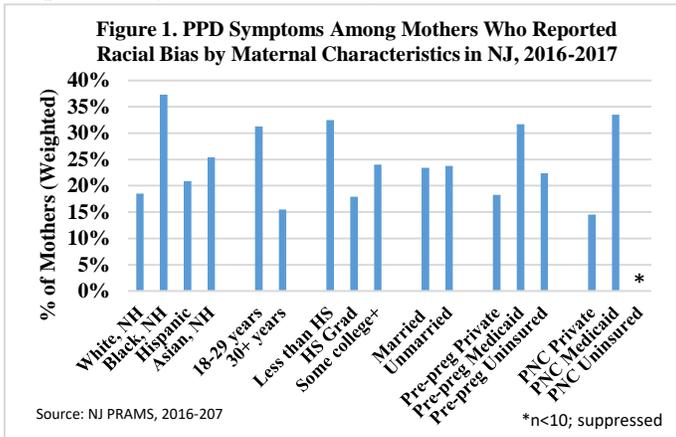
Racial discrimination and racism have been identified as chronic stressors and may also be a risk factor for adverse birth outcomes¹. In New Jersey (NJ), there are profound racial/ethnic disparities in birth outcomes. In 2017, according to NJ birth and death data, Black, non-Hispanic (NH) mothers experienced infant mortality at a rate 3.5 times that of White, NH mothers. Black, NH mothers were also more than 1.5 times as likely to have a preterm birth (PTB) when compared to White, NH mothers (13.1% vs. 8.3%). Between 2013-2015, Black, NH women were also 5 times more likely to experience a pregnancy-related death when compared to White, NH women (45.5 per 100,000 live births vs. 8.6 per 100,000 live births). Research has focused on varied levels of exposure to risk and protective factors in the perinatal period including maternal health behaviors, the adequacy of prenatal care (PNC), social support, intimate partner violence, and stress. Other research has focused on select sociodemographic characteristics such as socioeconomic status (SES), marital status, and education. However, taken together, these factors cannot adequately account for all the noted disparities in birth outcomes¹. Race and racial bias might be a significant contributing factor to this issue.

Racial Bias Experienced 12 Months Before Birth

Between 2016-2017, NJ PRAMS shows 7.2% of mothers reported experiencing racial bias 12 months prior to giving birth (Table 1). Racial bias during this time was more prevalent among mothers who were either Black, NH or Hispanic (10.6%), aged 18-29 years (8.4%),

	All	Racial Bias – Yes	Racial Bias – No
Birth Outcomes	%	%	%
Preterm birth (PTB)	8.3	11.8	8.6
Low birth weight (LBW)	7.2	9.8	7.0
Postpartum checkup	88.9	82.1	89.5
Well-Baby Visit	98.3	93.5	97.6
PPD Symptoms	11.9	23.6	10.8

experiencing racial bias, nearly 12% had a PTB, 9.8% delivered a baby of a LBW, only 82.1% went to their postpartum



checkup, 93.5% took their infants to their Well-Baby visits, and 23.6% experienced PPD symptoms (Table 2). Among mothers who reported experiencing racial bias 12 months prior to birth, PPD symptoms (Figure 1) were more prevalent among mothers who were Black, NH (37.3%), between 18-29 years of age (31.3%), had less than a high school education (32.5%), and who utilized Medicaid both prior to and during their pregnancies (31.7% and 33.5%, respectively). Well-Baby visits (Figure 2) were less prevalent among mothers who were Asian, NH and Hispanic (91.9% and 91.8%), 30+ years old (92.3%), had less than a high school education (91.8%), were unmarried (90.9%), and who were uninsured both prior to and during their pregnancies (90.3% and 91.4%, respectively). Postpartum checkups (Figure 2) were less prevalent among mothers who were Hispanic (75.2%), between 18-29 years of age (80.9%), had less than a high school education (60.9%), were unmarried (76.8%), and who were uninsured both prior to and during their pregnancy (65.8% and 61.9%, respectively). Note: Due to small numbers and statistical instability, PTB and LBW were not further analyzed by maternal characteristics.

Assessing Risk for Adverse Birth Outcomes

Overall, between 2016-2017 NJ PRAMS data shows that mothers who reported experiencing racial bias 12 months prior to pregnancy were 40% more likely to have a PTB (OR=1.4; 95% CI: 0.8, 2.6), 50% more likely to give birth to a baby of a LBW (OR=1.5, 95% CI: 0.8, 2.8), 40% less likely to attend their postpartum checkups (OR=0.6, 95% CI: 0.4, 1.0), 70% less likely to bring their infants to their Well-Baby visits (OR=0.3, 95% CI: 0.1, 0.7), and 2.5 times more likely to experience PPD symptoms (OR=2.5; 95% CI: 1.6, 3.9) (Table 3), after adjusting for race/ethnicity, educational attainment, PNC insurance payor type, and marital status. PTB and LBW showed no statistical significance in this

Table 3. The Overall Risk of Adverse Birth Outcomes Among All Mothers Who Reported Experiencing Racial Bias 12 Months Prior to Pregnancy in New Jersey, NJ PRAMS, 2016-2017

Birth Outcomes	Adjusted OR 95% CI
PTB	1.4 (0.8, 2.6)
LBW	1.5 (0.8, 2.8)
Postpartum checkup	0.6 (0.4, 1.0)*
Well-Baby visits	0.3 (0.1, 0.7)*
PPD symptoms	2.5 (1.6, 3.9)*

*Statistically significant

overall case.

Table 4. The Risk of Adverse Birth Outcomes Among All Mothers Compared to White, NH Mothers in New Jersey, NJ PRAMS 2016-2017

	Black NH vs. White NH	Hispanic vs. White NH	Asian NH vs. White NH
Birth Outcomes	Adjusted OR 95% CI	Adjusted OR 95% CI	Adjusted OR 95% CI
PTB	2.4 (1.4, 3.9)*	1.7 (1.1, 2.7)*	1.6 (1.0, 2.7)*
LBW	1.8 (1.1, 3.2)*	1.1 (0.6, 1.9)	2.1 (1.3, 3.5)*
Postpartum checkup	0.6 (0.1, 1.0)	0.6 (0.4, 1.0)*	0.5 (0.3, 0.8)*
Well-Baby visits	0.3 (0.1, 1.0)*	0.7 (0.2, 2.9)	0.7 (0.2, 3.0)
PPD symptoms	2.5 (1.5, 4.1)*	1.2 (0.7, 2.0)	4.7 (3.1, 7.0)*

*Statistically significant

Further analysis was conducted using White, NH mothers as a reference group (Table 4). When doing this, all mothers across the different racial/ethnic groups showed an increase in the risk of PTB, LBW, and PPD symptoms. All mothers also showed a decrease in the likelihood of attending postpartum checkups for themselves as well as Well-Baby visits for their infants. Most striking, Black, NH mothers had a greater increase in risk for PTB (OR=2.4; 95% CI: 1.4, 3.9), were 70% less likely to bring their babies for a well visit (OR=0.3, 95% CI: 0.1, 1.0), and were 2.5 times more likely to experience PPD symptoms (OR=2.5; 95% CI: 1.5, 4.1)

when compared to White, NH mothers. Asian, NH mothers had a greater increase in the risk for giving birth to a LBW baby (OR=2.1; 95% CI: 1.3, 3.5), were 50% less likely to attend a postpartum checkup for themselves (OR=0.5; 95% CI: 0.3, 0.8), and were nearly 5 times more likely to experience PPD symptoms (OR=4.7; 95% CI: 3.1, 7.0) when compared to White, NH mothers.

Agenda for Action

These findings lend urgency to the objective of ensuring equitable maternity care among all races and ethnicities in NJ. There is a need for cultural humility in healthcare which reflects the lifelong learning process required to work in diverse communities. As NJ continues to become more culturally diverse, health care professionals are well-positioned to educate themselves, their colleagues, and their students. Increased self-awareness among providers and an enhanced examination of the personal experiences of minority women, using the life course perspective, will also provide insight into factors that contribute to racial disparities in birth outcomes. Since mothers who report experiencing racial bias are more at risk for PPD, especially Black, NH mothers, screening for PPD should be encouraged in different settings such as the pediatrician's office, and providers must have access to community resources to make trusted referrals for support. Research has shown that breastfeeding may reduce the risk of PPD and improves health outcomes, therefore, discussions with mothers about breastfeeding and providing expert support and referrals should also be encouraged. The development of community partnerships with healthcare providers is important in order to make appropriate referrals to organizations that can address the families' needs.

NJ Interventions to Stem Racial Bias:

- **Nurture NJ** – The Nurture NJ campaign and strategic planning process is underway, and the NJ Maternal Care Quality Collaborative will be convened in 2020. Through these efforts and other initiatives within and outside government, mitigating the experiences and perceptions of bias should be prioritized.
- **Bias Training** – Implicit bias training for healthcare providers is a means to raise consciousness of bias, promote strategies to mitigate bias, and begin to dismantle institutionalized racism. A mandate on recurrent bias training as a condition for maintaining licensure in NJ would be a means to ensure broad and consistent uptake.
- **Shared Decision-Making (SDM)** – Requires the informed involvement of women in decisions around childbirth, with a special relevance to C-sections. As mandated by *P.L.2019, c.133*, NJDOH will design and evaluate an SDM tool for hospitals that provide inpatient maternity services and birthing centers.
- **Perinatal Risk Assessment (PRA)** – Expanding use and interoperability of this universal risk assessment tool can facilitate timely connections for women to needed community-based services and risk-appropriate care. Under *P.L.2019, c.88*, NJ's Medicaid program will require PRA completion for reimbursement.
- **Healthy Women, Healthy Families (HWHF)** – An NJDOH initiative to improve maternal and infant outcomes with a focus on reducing black infant mortality. HWHF's works to reduce racial, ethnic and economic disparities through a collaborative, community-driven approach using Community Health Workers and Central Intake Hubs.
- **Home Visitation Programs** – Program goals are to reduce disparities in maternal and child health outcomes, prevent child abuse and neglect, increase economic self-sufficiency, and promote early childhood development and school readiness (conducted in collaboration with the NJ Department of Children and Families).

Resources

NJ Department of Health

Division of Family Health Services, Maternal Child Health Services - <https://www.nj.gov/health/fhs/maternalchild/>

NJ Maternal Data Center - <https://nj.gov/health/maternal/>

Sources

¹ Allhusen, Jeanne L et al. "Racial Discrimination and Adverse Birth Outcomes: An Integrative Review." *Journal of midwifery & women's health* vol. 61,6 (2016): 707-720. doi:10.1111/jmwh.12490

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