

Advancing Anti-Racist Praxis
in
Perinatal
Population Health Research

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March of Dimes
Prematurity Awareness Month Webinar

Presenter's Disclosures

Maternity Care Quality Improvement Expert, Merck for Mothers Safer Childbirth Cities Initiative, Atlanta

- Awardee: Black women-led organization, Black Mamas Matter Alliance
- Location: Atlanta, GA,
- Funder: Merck Pharmaceuticals



Black Mamas Matter Alliance (BMMA)
Sacred Partners and Collaborators
Eve of the 2018
BMMA Black Maternal Health Training Institute

Positionality – Karen A. Scott, MD, MPH, FACOG

- ❑ I am a Southern born and raised Black woman from East Nashville before gentrification.
- ❑ I am grateful for the gift of a formal liberal arts education from 5th grade until completion of medical school.
- ❑ I am a lifelong learner. This is the way.
- ❑ I identify as a **Reproductive Justice Avenger, Wakanda Healer, Yoda Follower, & Kare Bear Hugger.**
- ❑ I am celebrating my 18th year Anniversary as a Community-Based trained and serving OBGYN.
- ❑ I am an Associate Professor in the **Humanities & Social Sciences**, and Obstetrics, Gynecology, & Reproductive Sciences Departments at the University of California, San Francisco.
- ❑ I also play the role of a ***disruptive*** board-certified OBGYN, OB Hospitalist, Sexual, Reproductive, & Perinatal Epidemiologist, & HealthCrit.
- ❑ My main purpose is to advance **Black Feminism, Cultural Rigor, Reproductive Justice, and Research Justice** in participatory Quality Improvement (QI) science, practice, research and interprofessional education & training.

Learning Objectives

1. Describe the race consciousness four-phase framework of Public Health Critical Race Praxis (PHCR)
2. Apply the PHCR praxis to perinatal population health equity research
3. Explain the social and clinical phenomenon of excess preterm birth and early term birth among U.S. born Black women with gestational diabetes using race consciousness

2020 IS THE YEAR OF THE NURSE AND MIDWIFE



Preterm Birth and Nativity among Black women with Gestational Diabetes in California, 2015-2017: a population-based retrospective cohort study

- Disproportionate burden of PTB and GDM prevalence among Black women
- PTB outcomes remain unexplained
- Maternal country of origin
 - Proxy for the impact of structural oppressions and life course experiences



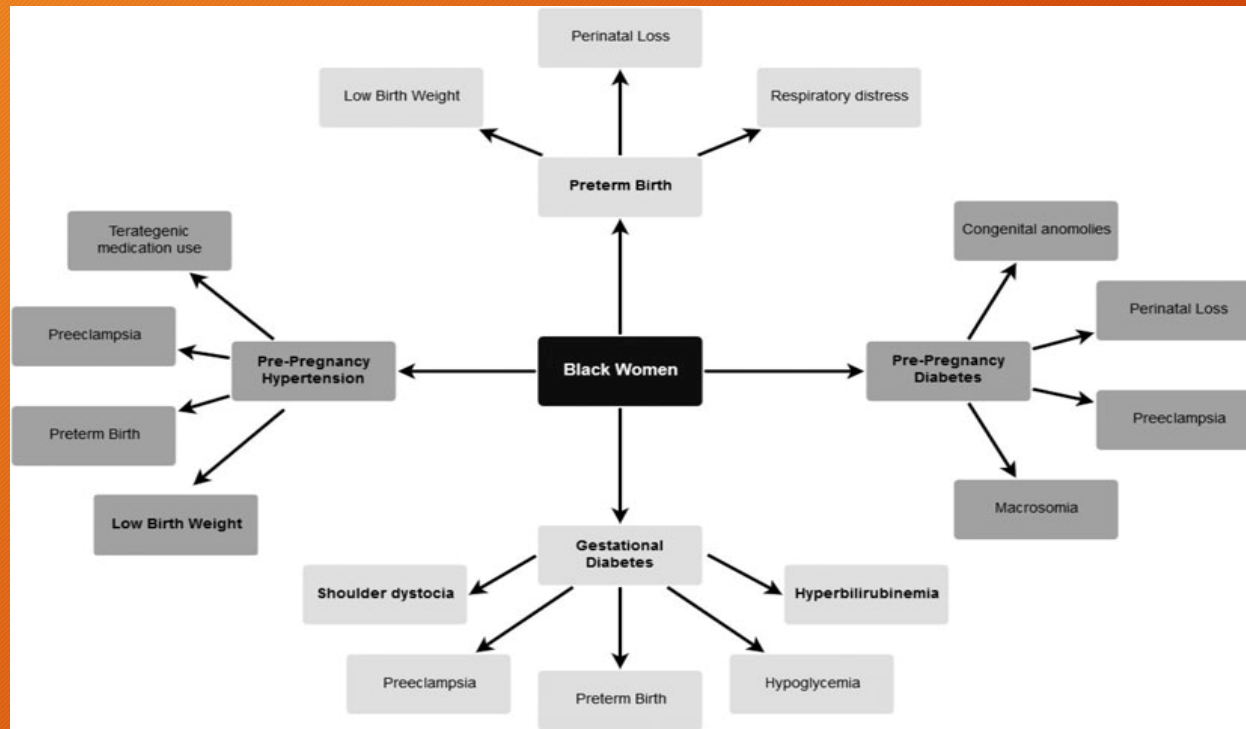
Scott KA, Chambers BD, Baer RJ, Ryckman KK, McLemore MR, Jelliffe-Pawlowski LL. Preterm birth and nativity among Black women with gestational diabetes in California, 2013-2017: a population-based retrospective cohort study. BMC Pregnancy Childbirth. 2020;20:593. Published 2020 Oct 6. doi:10.1186/s12884-020-03290-3



Social determinants of health, health disparities, & health inequities across the reproductive life course

Adapted with permission from the Preterm Birth Initiative—California, the San Francisco Department of Public Health, and the Centers for Disease Control and Prevention framework on social determinants of health. Scott KA, Britton L, McLemore MR. The Ethics of Perinatal Care for Black Women: Dismantling the Structural Racism in “Mother Blame” Narratives. *The Journal of Perinatal & Neonatal Nursing*. Apr/June 2019;33(2):108-115.

Factors that influence reproductive outcomes for Black women



Scott KA, Britton L, McLemore MR. The Ethics of Perinatal Care for Black Women: Dismantling the Structural Racism in “Mother Blame” Narratives. The Journal of Perinatal & Neonatal Nursing. Apr/June 2019;33(2):108-115.

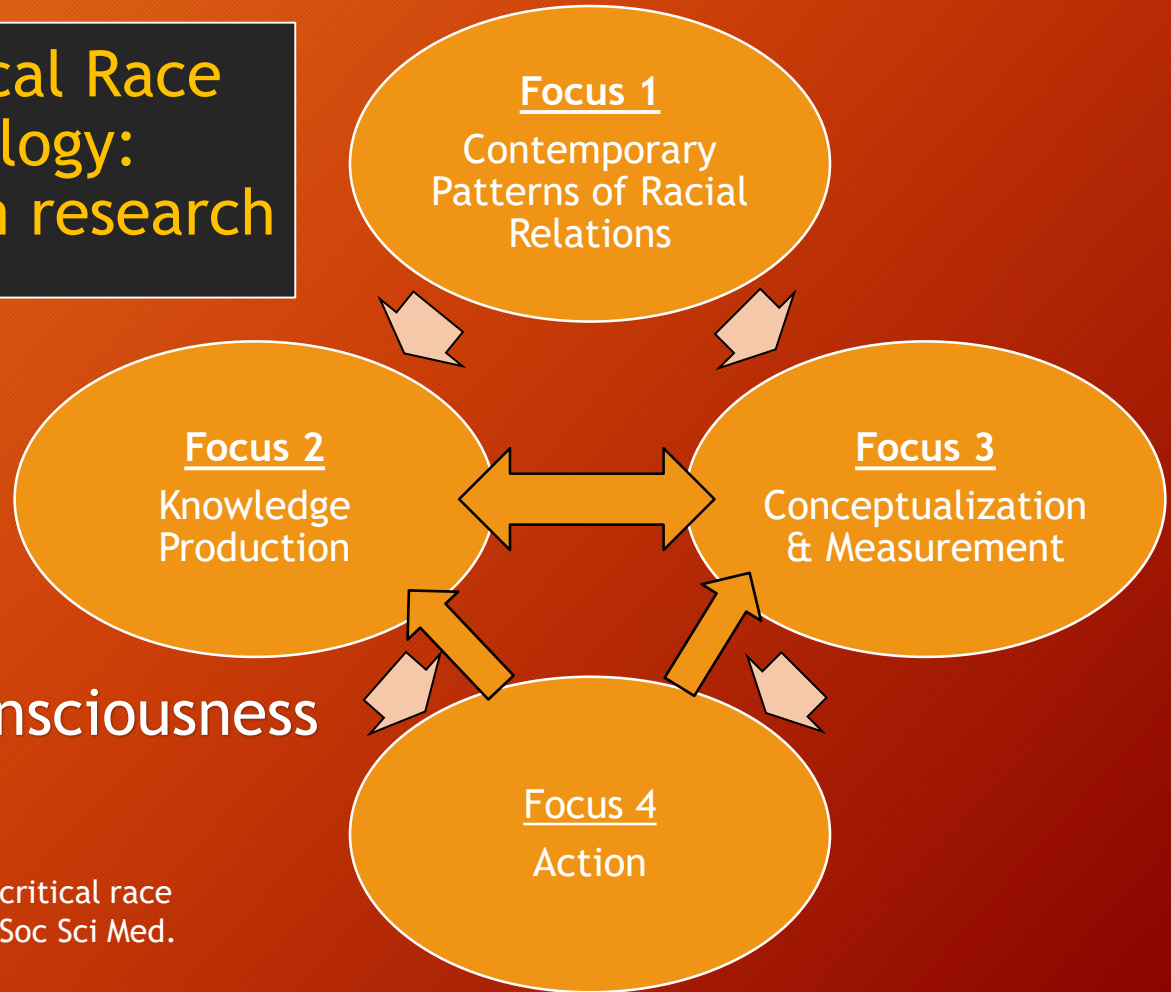
<https://genderpressing.wordpress.com/2015/04/08/adair-and-hays-welfare-reform-work-ethic-and-the-working-class/>

PTB & Nativity among
Black women with
GDM in CA 2015-2017:
a population-based
retrospective cohort
study

- To date, there are limited data that describe the association of nativity and PTB by **severity** (*early < 34 weeks, late 34 to 36 weeks*) and **subtype** (*defined as indicated PTB and spontaneous PT labor*), and early term birth, respectively, in a “high-risk” population of Black women with GDM in California.
- To address this gap, we examined the risk of early PTB (< 34 weeks), late PTB (34-36 weeks), and early term birth (37-38 weeks) by nativity among Black women with GDM.

Public Health Critical Race (PHCR) Methodology: Praxis for anti-racism research

Race Consciousness



Ford CL, Airhihenbuwa CO. The public health critical race methodology: praxis for antiracism research. Soc Sci Med. 2010;71:1390-8.

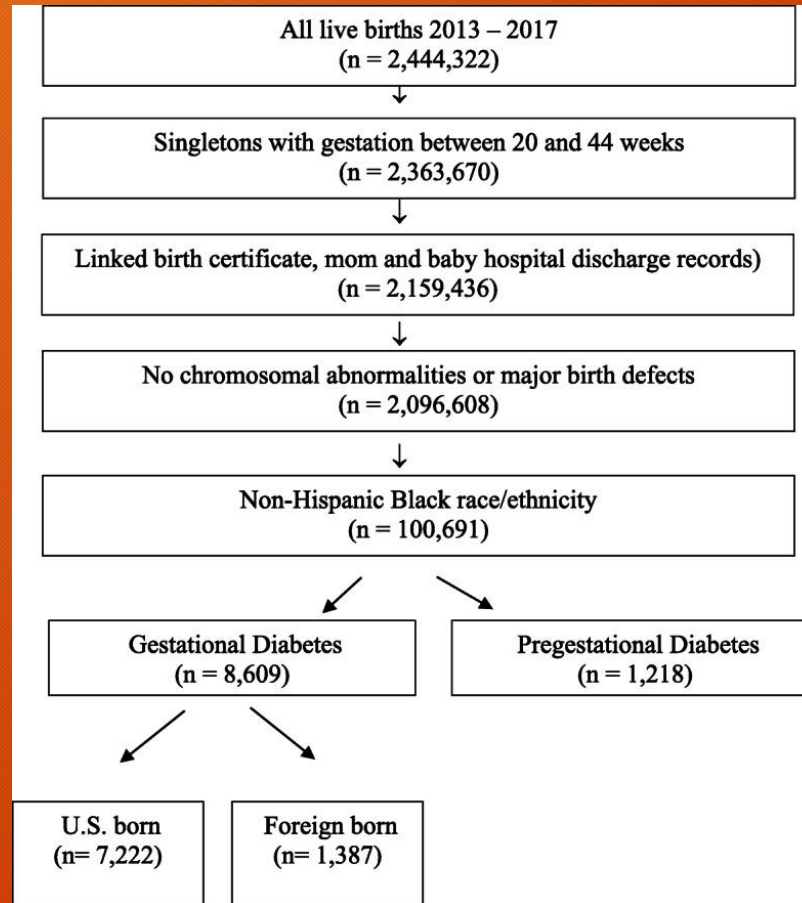
Public Health Critical Race Methodology in PTB, Nativity, & GDM: Race Consciousness Frame

1. Structural racism exists and operates in everyday life
2. Structural context of being and becoming a Black woman in the U.S. matters for the researcher and the researched.

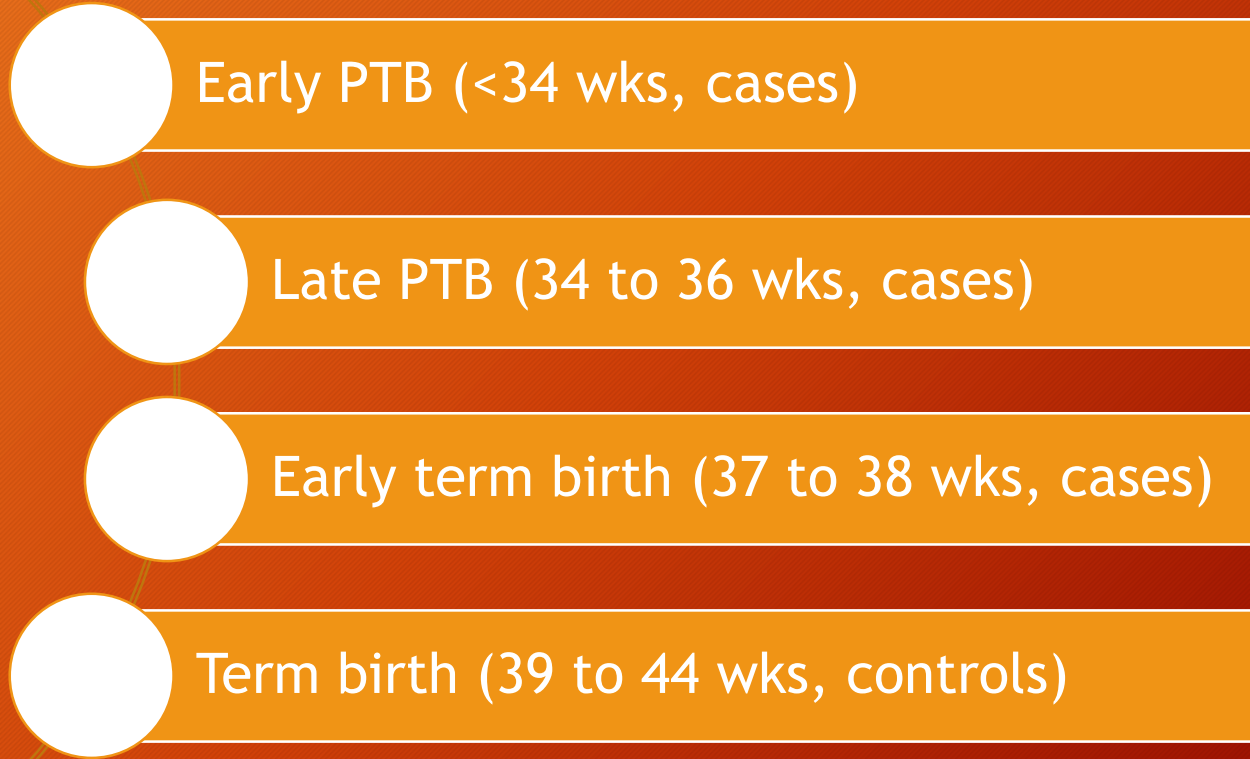
Public Health Critical Race Methodology in PTB, Nativity, & GDM: Application of an Anti-racist Praxis

1. **Focus 1:** Racialization of clinical and social phenomenon of PTB within temporal and spatial context and threats to PRH equity
2. **Focus 2:** Interrogation of existing knowledge that reinforces race as a biological construct whereby the Blackness and Black births are pathologized
3. **Focus 3:** Exclusion of white women as the default woman/mother aka the control group
4. **Focus 4:** Adoption of patient reported outcome or experience measure (PROM/PREM) of PTB among Black women with GDM

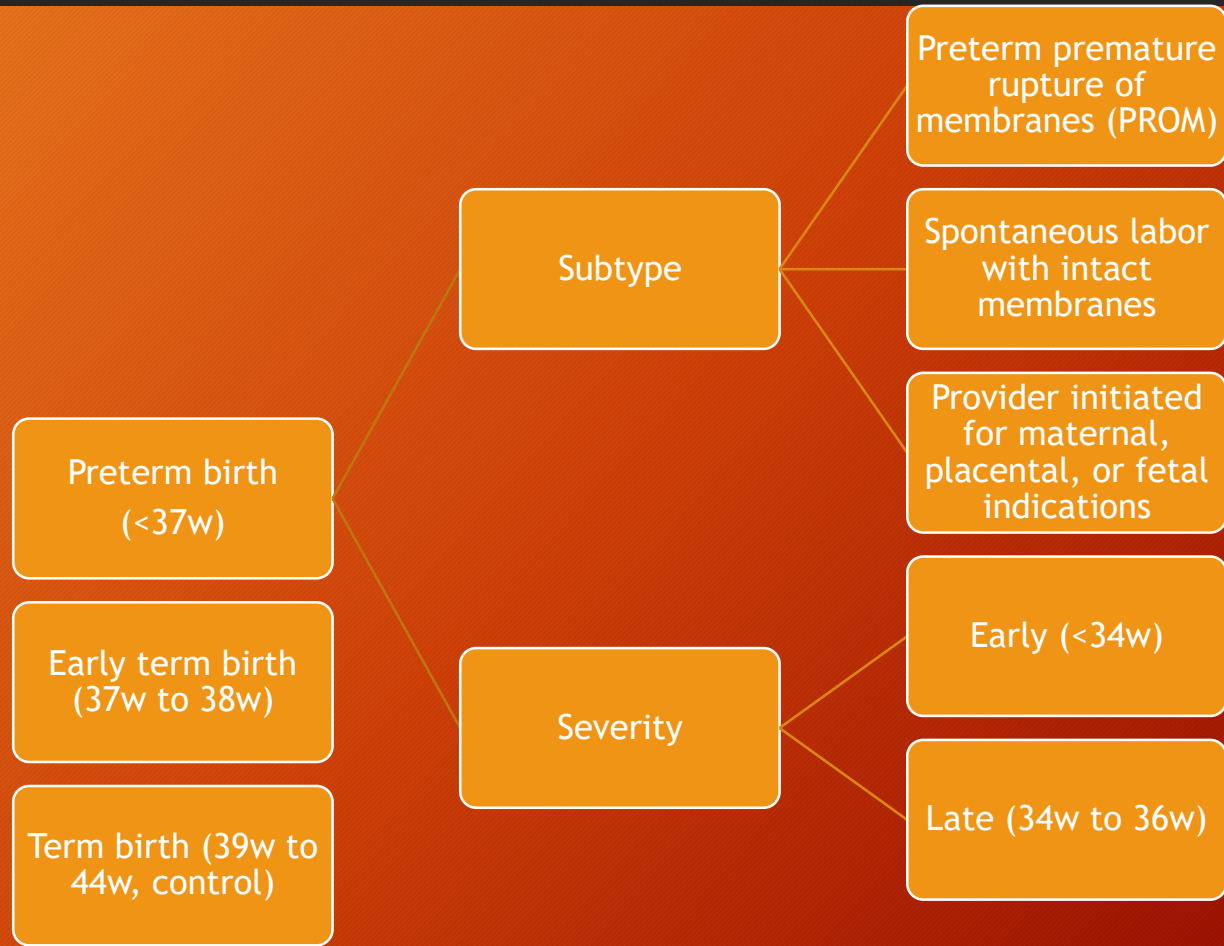
Methods: Sample Selection Process



Methods: Outcome variables



Methods: Outcome variables - PTB Subtype & Severity



Methods: Variable Selection

- Exposure variable - Nativity
- Controlled variables
 - Maternal age
 - Prior PTB
 - Parity: Nulliparous, Multiparous/missing parity
 - Education: < 12y, 12y, > 12y
 - Participation in WIC
 - Preeclampsia
 - Smoking
 - Payer status for birth: Employer health/individual plans, Medi-Cal, Self-Pay, Other
 - BMI: <18.5, 18.5 to <25, 30 to <35, 35 to <40, ≥ 40
 - Adequacy of prenatal care: adequate/adequate plus, intermediate, inadequate, missing
 - Birth type: vaginal birth, cesarean birth

Methods: Statistical analysis using SAS 9.4

Univariate analysis

Bivariate analysis

- cORs and 95%CI for nativity & gestational groups, adjusted individually by controlled variables

Multivariate regression modeling

- aORs and 95% CIs for PTB, by severity & subtype, and early term birth, adjusted for controlled variables

Assess for effect modification and confounding

Backward stepwise regression for final model building

- using $p < 0.10$ to enter the model and $p < 0.05$ to remain in the model
- inclusion of controlled variables, significant interaction terms, and confounders

Table 1. Distribution of maternal and obstetric sample characteristic by nativity, 2013 - 2014, N=8609

	U.S.-born n=7222 n(%)	Foreign-born n=1387 n(%)	Total n=8609 n(%)	p value (χ^2)
Maternal age (y)				<0.0001
<24	1014 (14.0)	30 (2.2)	1044 (12.1)	
24-39	5751 (79.6)	1187 (85.6)	6938 (80.6)	
≥ 40	457 (6.3)	170 (12.3)	627 (7.3)	
Prior PTB				0.0033
Yes	222 (3.1)	23 (1.7)	245 (2.9)	
No	6991 (96.9)	1373 (98.4)	8364 (97.2)	
Education				<0.0001
<12	704 (9.8)	88 (6.3)	792 (9.2)	
12	2211 (30.6)	297 (21.4)	2508 (29.1)	
>12	4099 (46.8)	926 (66.8)	5025 (58.4)	
Missing	208 (2.9)	76 (5.5)	284 (3.3)	
Preeclampsia				0.0014
Yes	971 (13.5)	143 (10.3)	1114 (12.9)	
No	6251 (86.9)	1244 (89.7)	7497 (87.1)	
Smoking				<0.0001
Yes	725 (10.0)	8 (0.6)	733 (8.5)	
No	6497 (90.0)	1379 (99.4)	7876 (91.5)	

Table 1. Distribution of maternal and obstetric sample characteristic by nativity, 2013 - 2014, N=8609 (cont'd)

	U.S.-born n=7222 n(%)	Foreign-born n=1387 n(%)	Total n=8609 n(%)	p value (χ^2)
Payer status for birth				<0.0001
Employer health/individual plan	2715 (37.6)	601 (43.3)	3316 (38.5)	
Medi-Cal/Public Insurance	4074 (55.7)	687 (49.5)	4711 (54.7)	
Self- Pay	49 (0.7)	31 (2.2)	80 (0.9%)	
Other	434 (6.0)	68 (4.9)	502 (5.8%)	
Body mass index [BMI (kg/m ²)				<0.0001
< 18.5	93 (1.3)	28 (2.1)	122 (1.4)	
18.5 to <25	1235 (17.1)	434 (31.3)	1669 (19.4)	
25 to <30	1561 (21.6)	437 (31.5)	1998 (23.2)	
30 to <35	1539 (21.3)	262 (18.9)	1801 (20.9)	
35 to <40	1168 (16.2)	85 (6.1)	1253 (14.6)	
≥40	1245 (17.2)	57 (4.1)	1302 (15.1)	
Missing	381 (5.3)	83 (6.0)	464 (5.4)	
Adequacy of prenatal care utilization				0.00032
Adequate/adequate plus	5367 (74.3)	965 (69.6)	6332 (73.6)	
Intermediate	854 (11.8)	193 (13.9)	1047 (12.2)	
Inadequate	797 (11.0)	186 (13.4)	983 (11.4)	
Missing	204 (2.8)	43 (3.1)	247 (2.9)	

Table 2A. Comparison of maternal, social, and obstetric characteristics by gestational groups for Black mothers with GDM, N=8609

	< 34w n=328 n(%) cOR (95%CI p value	34w to 36w n=820 n(%) cOR (95%CI p value	37w - 38w n=2570 n(%) cOR (95%CI p value	≥39w n=4891 n(%) cOR (95%CI p value
Nativity U.S.-born Foreign-born	292 (89.0) 36 (11.0) 0.5 (0.4, 0.8) 0.0006	732 (89.3) 88 (10.7) 0.6 (0.4, 0.7) < 0.0001	2236 (87.0) 334 (13.0) 0.7 (0.7, 0.8) < 0.0001	3962 (81.0) (ref) 929 (19.0)
Maternal age (y) <24 24 to 39 ≥40	28 (8.5) 0.7 (0.5, 1.0) 0.0442 300 (91.5) a	96 (11.7) 0.9 (0.8, 1.2) 0.6070 721 (87.9) a	312 (12.1) 1.0 (0.9, 1.1) 0.7720 2255 (87.7) a	608 (12.4) 4279 (87.5) (ref)
Prior PTB Yes No	34 (10.4) 7.3 (4.8, 11.2) < 0.0001 294 (89.6)	63 (7.7) 5.3 (3.7, 7.4) < 0.0001 757 (92.3)	72 (2.8) 1.8 (1.3, 2.5) 0.0003 2498 (97.2)	76 (1.6) 4815 (98.5) (ref)

Table 2A. Comparison of maternal, social, and obstetric characteristics by gestational groups for Black mothers with GDM, N=8609 (cont'd)

	<34w n=328 n(%) cOR (95%CI p value	34w to 36w n=820 n(%) cOR (95%CI p value	37w - 38w n=2570 n(%) cOR (95%CI p value	≥39w n=4891 n(%) cOR (95%CI p value
Preeclampsia				
Yes	122 (37.2) 6.7 (5.3, 8.3) <0.0001	267 (32.6) 4.3 (3.8, 5.0) <0.0001	421 (16.4) 1.8 (1.6, 2.0) <0.0001	304 (6.2)
No	206 (62.8)	553 (67.4)	2149 (83.6)	4587 (93.8) (ref)
Smoking during pregnancy				
Yes	41 (12.5) 1.7 (1.2, 2.3) 0.0026	90 (11.0) 1.4 (1.1, 1.7) 0.0029	228 (8.9) 1.1 (1.0, 1.3) 0.1352	374 (7.7)
No	287 (87.5)	730 (89.0)	2342 (91.1)	4517 (92.3) (ref)
Body mass index [BMI (kg/m²)]				
30 to <35	58 (17.7) 1.0 (0.7, 1.4) 0.9881	178 (21.7) 1.2 (1.0, 1.5) 0.1323	542 (21.1) 1.2 (1.0, 1.3) 0.0228	
35 to <40	61 (18.6) 1.6 (1.1, 2.3) 0.0103	133 (16.3) 1.4 (1.1, 1.7) 0.0114	408 (15.9) 1.3 (1.1, 1.4) 0.0002	
≥40	53 (16.2) 1.4 (0.9, 2.0) 0.1114	139 (17.0) 1.4 (1.1, 1.7) 0.0101	431 (16.8) 1.3 (1.1, 1.5) 0.0001	

Table 2B. Comparison of maternal, social, and obstetric characteristics by gestational groups for Black mothers with GDM, N=8609

	Early PTB	Late PTB	Early Term Birth
Decreased odds	foreign-born status maternal age intermediate PNC utilization	foreign-born status intermediate PNC utilization	foreign-born status, intermediate PNC utilization
Increased odds	prior PTB, preeclampsia, smoking, pre-pregnancy class II obesity (BMI 35 to <40)	prior PTB, preeclampsia, self-pay, education < 12 years, smoking, class II and III obesity (BMI \geq 40), Medi-Cal	prior PTB, preeclampsia, class I (BMI 30 to <35), II, III
No significant associations	education, WIC participation payer status at birth	maternal age WIC participation.	maternal age, education, WIC participation, smoking, payer status
Confounders	smoking, preeclampsia, pre- pregnancy BMI	maternal age	none

Table 3. Results of nativity*maternal characteristics and maternal characteristic*maternal characteristic interaction terms included during regression modeling, p <0.1

Interaction terms by gestational group	p-value
Early preterm	
Nativity*Participation in WIC	0.0293
Preeclampsia*smoking	0.0008
Smoking*obesity	0.0004
Late preterm	
Nativity*Participation in WIC	0.0037
Preeclampsia*smoking	0.0318
Smoking*obesity	0.0081
Early term	
Nativity*Payer status at birth	0.0510
Smoking*obesity	0.0282

Table 4. Prevalence of Total PTB, spontaneous PTB, and indicated PTB by maternal country of origin among Black women with GDM in California, 2013 - 2017, N = 8609

Country of origin	Number of mothers	Total PTB n (row%)	p value
All	8609	1148 (13.3)	$p < 0.0001$
U.S.	7222	1024 (14.2)	
Ethiopia	346	24 (6.9)	
Nigeria	246	25 (10.2)	
Somalia	120	10 (8.3)	
Eritrea	91	a	
Ghana	68	8 (11.8)	
Other	516	53 (10.3)	

Table 5. Prevalence of PTB by subtypes, PPRM, spontaneous labor with intact membranes, provider initiated, and unknown subtype, by maternal country of origin, among Black women with GDM in California, 2013 - 2017, N = 8609

Country of origin	PPROM n (row %)	Spontaneous labor with intact membranes n (row %)	Provider initiated n (row %)	Unknown subtype n (row %)
U.S.	235 (23.0)	430 (42.0)	333 (32.5)	26 (2.5)
Ethiopia	a	7 (29.2)	13 (54.2)	a
Nigeria	a	10 (40.0)	12 (48.0)	a
Somalia	a	a	a	a
Eritrea	a	a	a	a
Ghana	a	a	a	a
Other	10 (18.9)	22 (41.5)	18 (34.0)	a

Table 6. Fully adjusted associations for PTB, by severity, and early term birth on immigrant status, N = 8609

	Early preterm	Late preterm	Early term
	aOR (95% CI) ^a	aOR (95% CI) ^b	aOR (95% CI) ^c
Nativity	0.56 (0.38, 0.82)	0.57 (0.45, 0.73)	0.67 (0.58, 0.77)

^aIncluded in the final model: maternal age < 24, preeclampsia, smoking, obesity, prior preterm birth, interaction of preeclampsia*smoking, interaction of smoking*obesity

^bIncluded in the final model: education < 12 years, preeclampsia, prior preterm birth, smoking, obesity, smoking*obesity

^cIncluded in the final model: preeclampsia, obesity, prior preterm birth

Table 6. Fully adjusted associations for PTB, by severity, and early term birth on nativity, N = 8609

	Early PTB aOR (95% CI)	Late PTB aOR (95% CI)	Early Term Birth aOR (95% CI)
Nativity	0.56 (0.38, 0.82)	0.57 (0.45, 0.73)	0.67 (0.58, 0.77)
Final model	Maternal age <24 Preeclampsia Smoking Obesity Prior PTB Interactions: Preeclampsia * Smoking Obesity * Smoking	Education < 12 years Preeclampsia Prior PTB Smoking Obesity Interactions: Obesity * Smoking	Preeclampsia Obesity Prior PTB

Discussion Point

- Reimagine PTB among U.S. born Black women with GDM
 - Not as a transmittable genetic defect but as a complex byproduct of structural racism, structural inequities, and structural incompetence
 - Stress
 - Inflammation
 - Vascular dysfunction
 - Consider use of PROM/PREM of PTB
 - Structural, social, and clinical determinants

Clinical Implications for Black women with GDM

- Pharmacological interventions
 - Treatment of aspirin among Black women with GDM for the purposes of primary prevention of preeclampsia, particularly early-onset preeclampsia,
 - Prevention of indicated or spontaneous PTB or early term birth, by delaying the gestational age at birth with preeclampsia
- Reimagine provider-initiated induction and care for preeclampsia
 - Timing
 - Methods of induction
 - Situational awareness for risk of hemorrhage and pharmacological, mechanical, and surgical interventions

Strengths & Limitations

- Strengths

- Large population-based sample with a single racial group exclusive to Black women with GDM
- Sufficient statistical power
- Delineation between PTB subtypes
- Stratification of PTB subtypes by country of origin
- Evaluation of interactions
- Utilization of an anti-racist praxis

- Limitations

- No information for indication for provider-initiated early term birth
- Inability to assess patient, provider, and systems level factors

Conclusion

- Foreign-born status remained protective of PTB, irrespective of severity and subtype
- Preeclampsia, PTB, and GDM share pathophysiologic mechanisms suggesting a need to better understand differences in perinatal stress, chronic disease, and vascular dysfunction based on nativity in future epidemiologic studies and health services research.
- Next steps in research:
 - Examine differences in social capital/kinship and glycemic control based on nativity
 - Examine community-informed, Midwifery-led, racially concordant group prenatal and postpartum care with wraparound Doula support in collaboration with like-minded OBs and other specialists.

Thank You!
Questions & Reflections.
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