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2025 NATIONAL
RESEARCH MEETING
Advancing the science of social care.

We Care About Brooklyn (WeCAB): A social care intervention designed to improve mental well-being

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Weill Cornell Medicine

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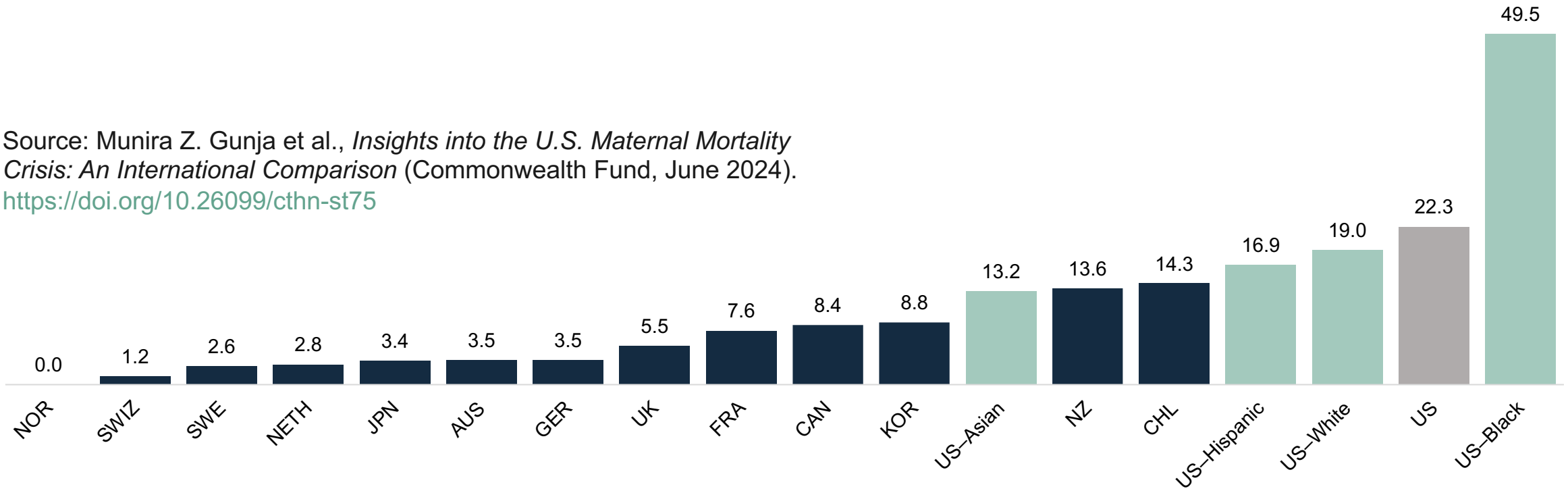
Presentation outline

- Epidemiology of the maternal health crisis in NYC
- Presentation of We Care About Brooklyn (WeCAB) – remote community health worker (CHW) led precision support intervention as solution to this crisis
- Share preliminary results of the pilot evaluation of WeCAB

The United States continues to have the highest maternal death rate, with the rate for Black women by far the highest of any group.

Maternal deaths per 100,000 live births



Source: Munira Z. Gunja et al., *Insights into the U.S. Maternal Mortality Crisis: An International Comparison* (Commonwealth Fund, June 2024). https://doi.org/10.26099/cthn-st75

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Epidemiology of NYC'S Maternal Health Crisis

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Black-white disparity in pregnancy-related death in NYC from 2016 - 2020 is **6 to 1**

Death of a woman during pregnancy or within one year from the end of pregnancy that is due to a pregnancy complication, a chain of events initiated by pregnancy, or the aggravation of an unrelated condition by the physiologic effects of pregnancy.

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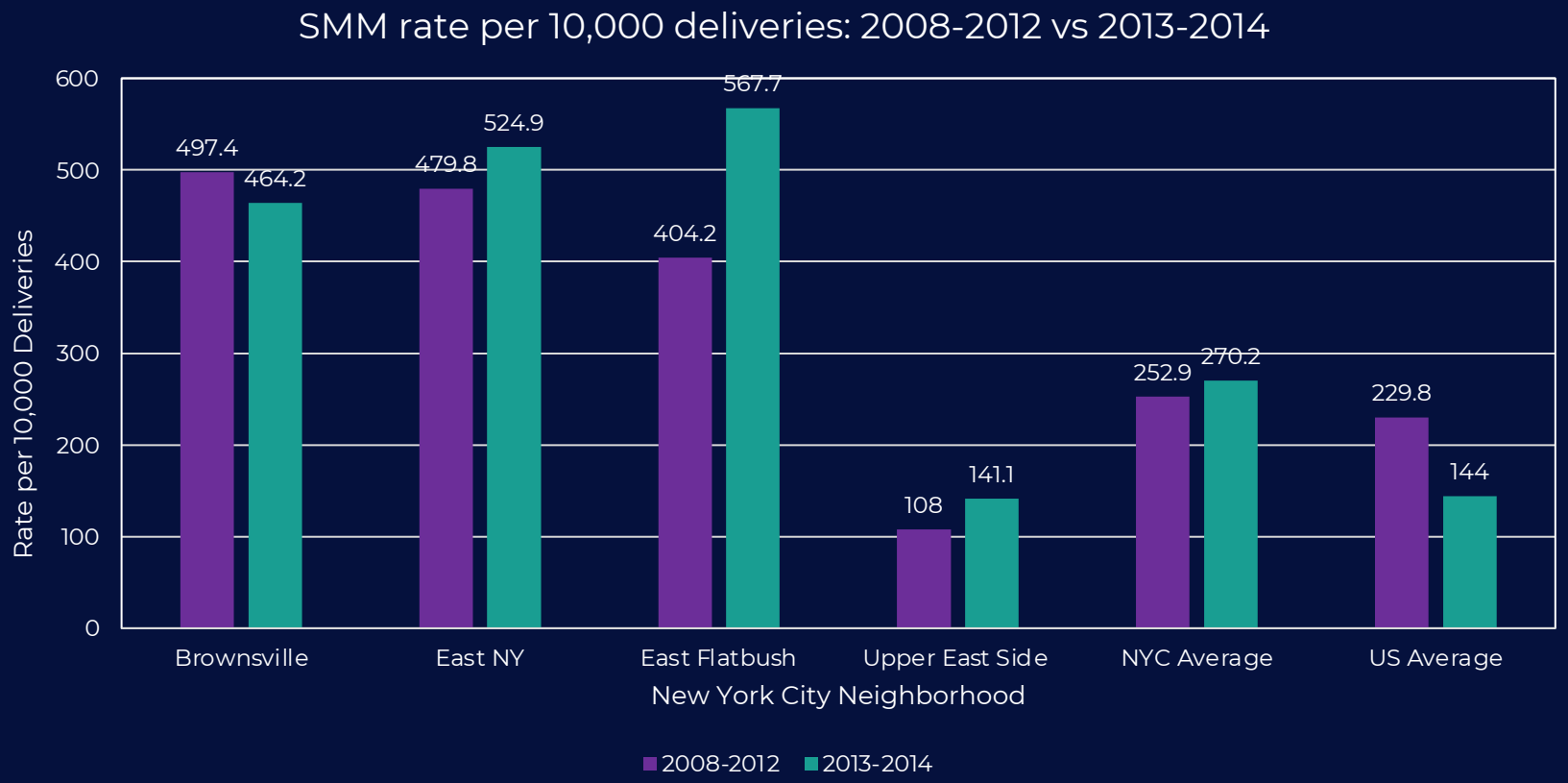
Black-white disparity in severe maternal morbidity (SMM) in NYC follows the same pattern

SSM is 100x more frequent than a maternal death and is considered a "near miss" to maternal death. Life-threatening complications of labor and delivery that result in significant short- or long-term consequences to a woman's health, such as heavy bleeding, blood clots, serious infections or kidney failure.

Central Brooklyn is the Epicenter of NYC's Maternal Health Crisis



- Central Brooklyn has the highest SMM rates in NYC, reaching 568/10,000 deliveries in East Flatbush, a rate that far exceeds the NYC and national averages and represents a 40% increase since 2008-2012 period

New York City Department of Health and Mental Hygiene (2016). Severe Maternal Morbidity in New York City, 2008–2012. New York, NY.

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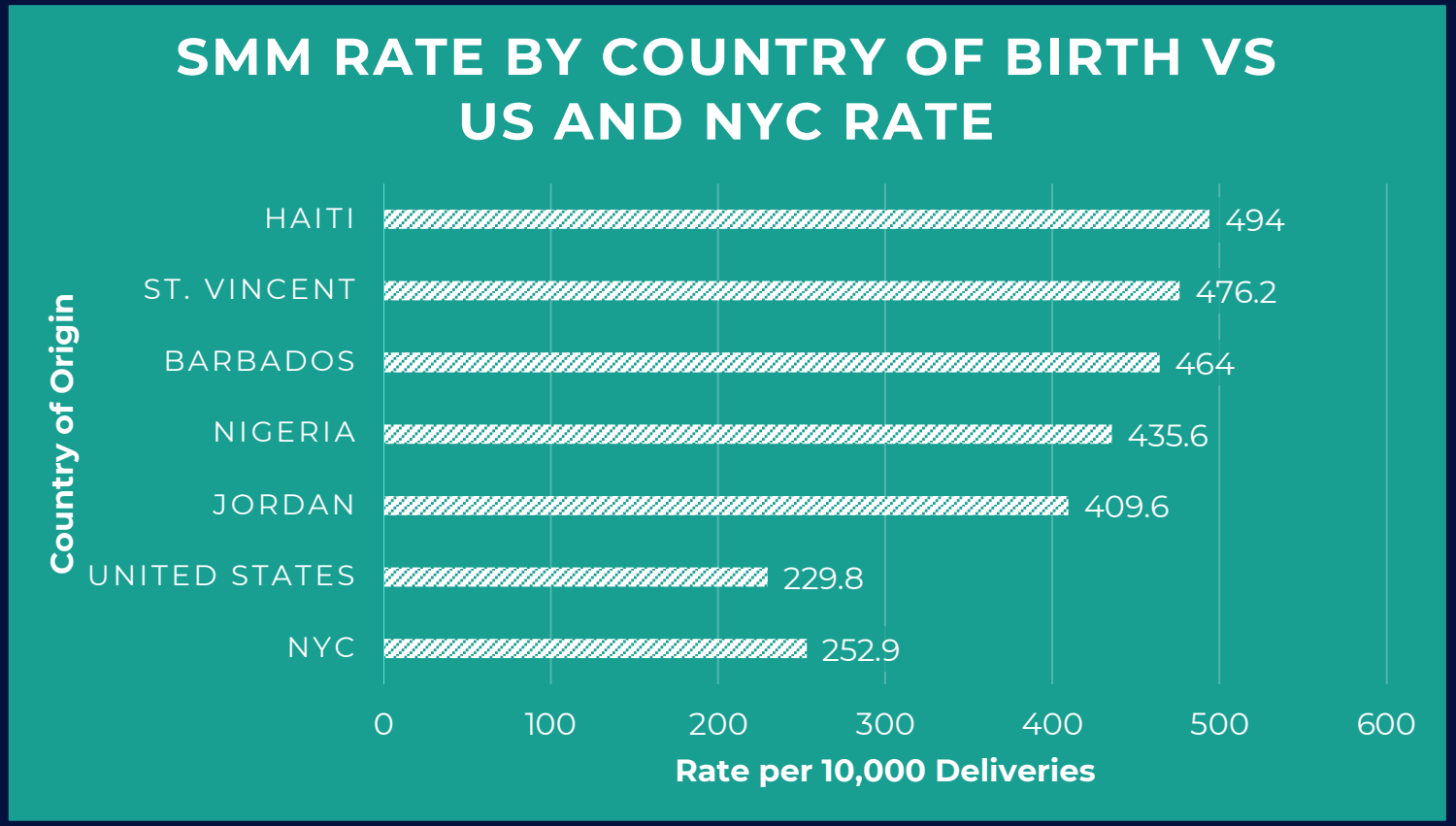
SMM Rate by Country of Birth Rate (2008-12)



Black women originating from the **Caribbean** have the highest SMM rates in NYC (concentrated in Central Brooklyn)

New York City Department of Health and Mental Hygiene (2016). Severe Maternal Morbidity in New York City, 2008–2012. New York, NY.

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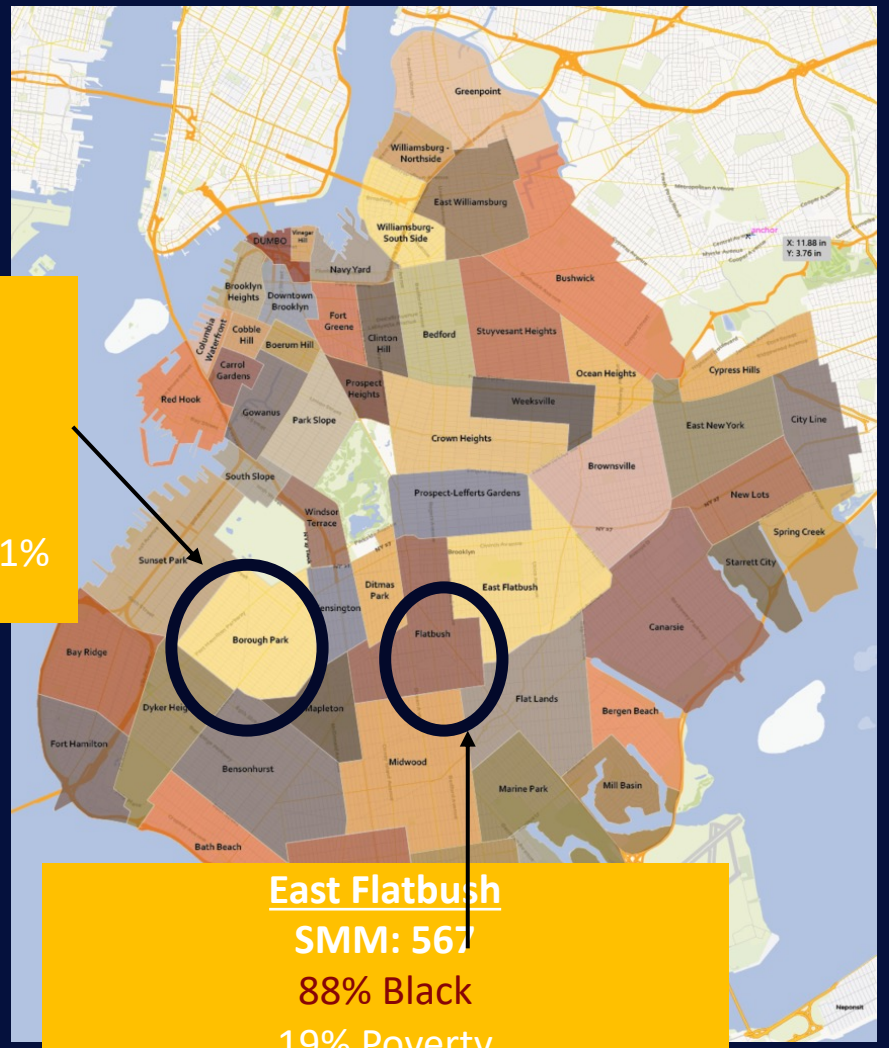
Structural inequities & maternal health

Brooklyn as a case study

Severe Maternal Morbidity(SMM): “near miss” pregnancy complication

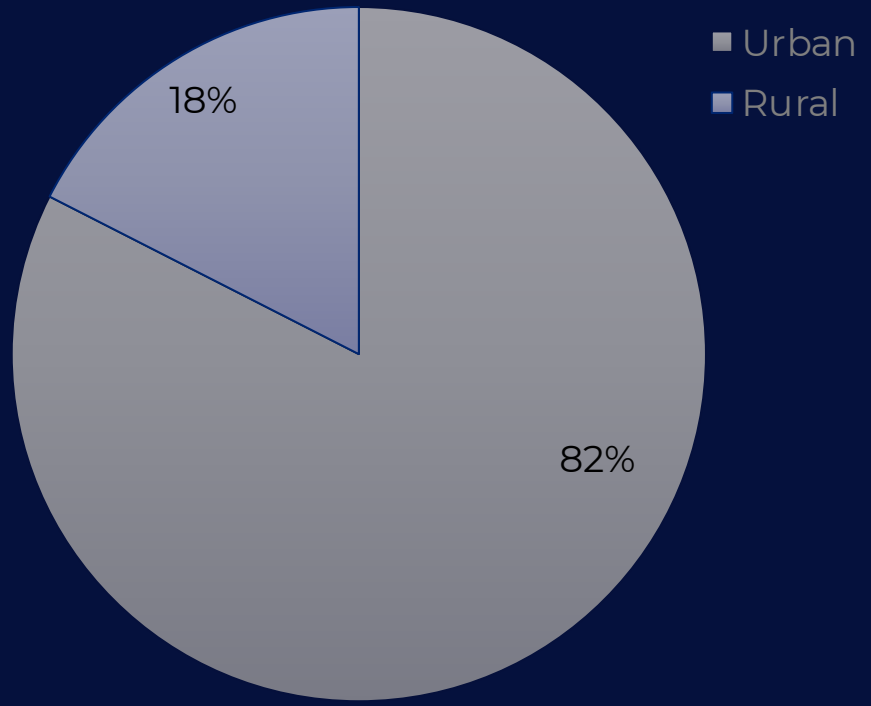
Borough Park
SMM: 92.4
63% White
32% Poverty
6% unemployment
Late or no prenatal care: 2.1%
Preterm birth: 6.0%



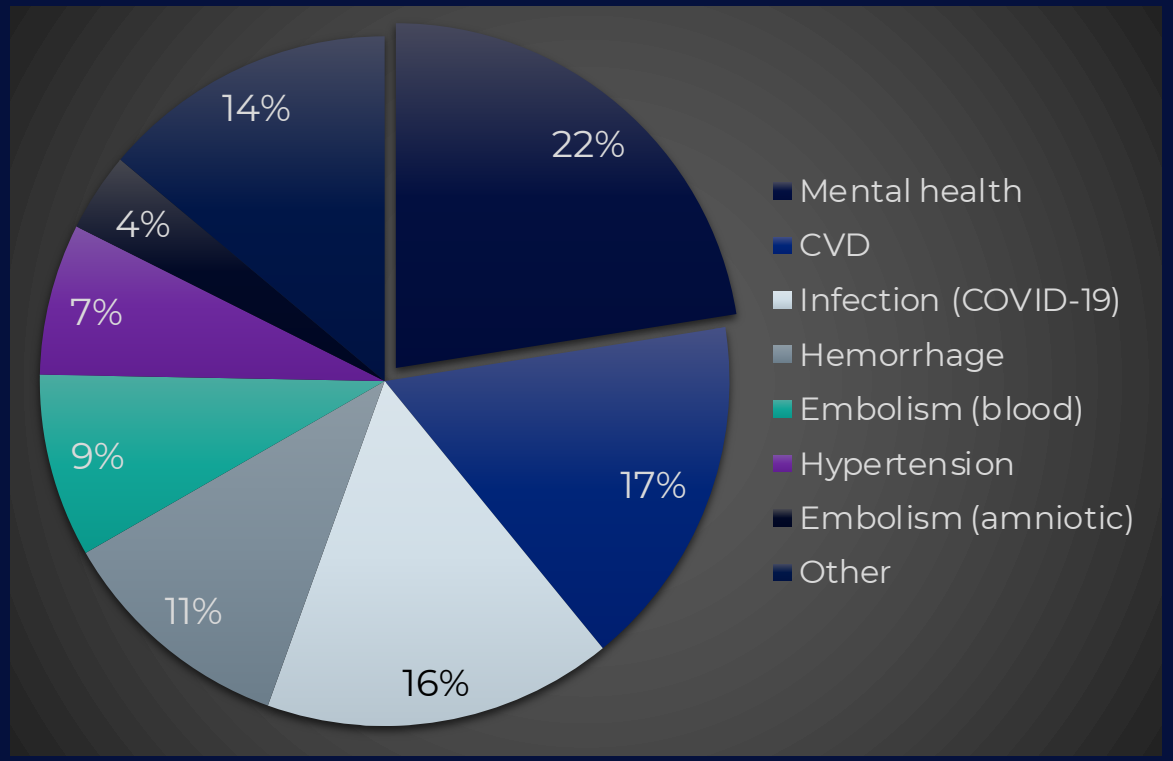
East Flatbush
SMM: 567
88% Black
19% Poverty
9% unemployment
Late or no prenatal care: 15.6%
Preterm birth: 12.6%

Characteristics of pregnancy-related deaths: MMRC data across 38 US states, 2020 (N=525)

Urbanicity of place of last residence



Major causes of maternal death



Trost SL, Busacker A, Leonard M, et al. Pregnancy-Related Deaths: Data from Maternal Mortality Review Committees in 38 U.S. States, 2020. Centers for Disease Control and Prevention, U.S. Department of Health and Human Services; 2024

WeCAB: potential low-cost solution to the maternal health crisis in NYC

WeCAB Pilot Study Goals

1. Tailor the Unite Us© SDOH screening tool for Central Brooklyn and build clinical services, CBO and user fit based on findings from focus groups and a document review of CBO records.
2. Conduct a pilot RCT of WeCAB in our Central Brooklyn maternal population to measure acceptability and preliminary efficacy of the system.
3. Identify barriers and facilitators to the adoption and integration of our new intervention prototype into routine maternal care through key informant interviews and a Diffusion of Innovation Theory survey[1] to all clinic, client and CBO stakeholders.

WeCAB builds on a history of community engagement

Year 2019

Brooklyn Coalition Improving Maternal & Child Health

Year 2020

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WeCAB intervention prototype design

Transcreation guiding framework

Mixed method formative research

- Document review of health-related social need (HRSN) screening tools (N=8 tools)
- Qualitative interviews (focus groups/key informant interviews) with community partners/social service providers (N=8)
- Review of CHW-led maternal health interventions

Remote CHW-led Maternal Health Precision Support

CHWs provide a human safety net; second line of support (after clinician team)

10 module online course (approx. 5 hours)
- CDC urgent warning signs
- Trust-building
- Systemic racism
- Epidemiology of NYC maternal health crisis
- Major medical risk factors

Technical skills in digital care coordination (Unite Us)
Proficiency in CHW client check-in trust building schedule
20 hours of shadowing

Theory informing WeCAB: Gelberg-Anderson Health Service Utilization Theory

	Predisposing Characteristics	Enabling Resources	Perceived Need For Healthcare	Primary Outcome	Secondary Outcomes
Vulnerable Domains	Social/Demographic - Biological sex - Age - Educational level - Occupation - Ethnic group - Immigration experience Unplanned pregnancy Mental Illness Substance Abuse	Personal/Family Resources - Insurance status - Social support - Partner status Community Resources - Social services resources - Information services Financial insecurity Food insecurity Unstable housing Childcare Transportation	Perceived Health - how an individual evaluates his/her own status	Post partum care	Stress Depressive symptoms

Themes from qualitative interview

Trust and rapport building

"They [staff] have to be intelligent, they have to be empathic, and they have to look and see when people's eyes fill with tears and when they get angry."

Fragmentation/lack of close loop system

"One of the challenges would be when I see the patient face to face and they tell me, they need this service and then I refer them and when the organization contacts them, they say no, they don't want it. And then they come back and they say, no, no one ever contacted them and it's just like…"

WeCAB Social Need Screener in Unite Us: Comparison of commonly used tools

	CMS Tool	PRAPARE	Montefiore Tool	Arthur Ashe Tool	AAFP Tool	WeCAB Maternal Health Screener
Food	2	1	1	1	2	2
Housing insecurity/quality	2	2	2	3	2	2
Financial Strain	1	X	X	X	1	1
Utilities	1	2	1	1	1	1
Transportation	1	1	1	1	1	1
Interpersonal Violence	4	2	2	1	4	4
Mental Health (stress)(depression)	(1)(1)	(1)(0)	X	(1)(1)	X	(1)(1)
Physical activity	2	X	X	1	X	2
Social support	2	1	X	1	X	2
Education	1	1	X	X	1	1
Employment	1	1	X	1	1	1
Disabilities	2	X	X	X	X	2
Substance Use	4	X	X	X	X	4
Childcare access/affordability	X	1	1	1	1	1
Clothing	X	1	X	1	X	1
Immigration/ migrant status/legal help	X	2	1	X	X	2
Healthcare/medicine: access and affordability	X	2	1	2	X	1
Incarceration	X	1	X	X	X	1
Income	X	1	X	X	X	X
Neighborhood Safety	X	1	X	X	X	X
Veteran status	X	1	X	X	X	X
Pregnancy/Birthing/Postpartum Support	X	X	X	X	X	2
Health Literacy	X	X	X	X	X	1
Diapers/Infant Supplies	X	X	X	X	X	5

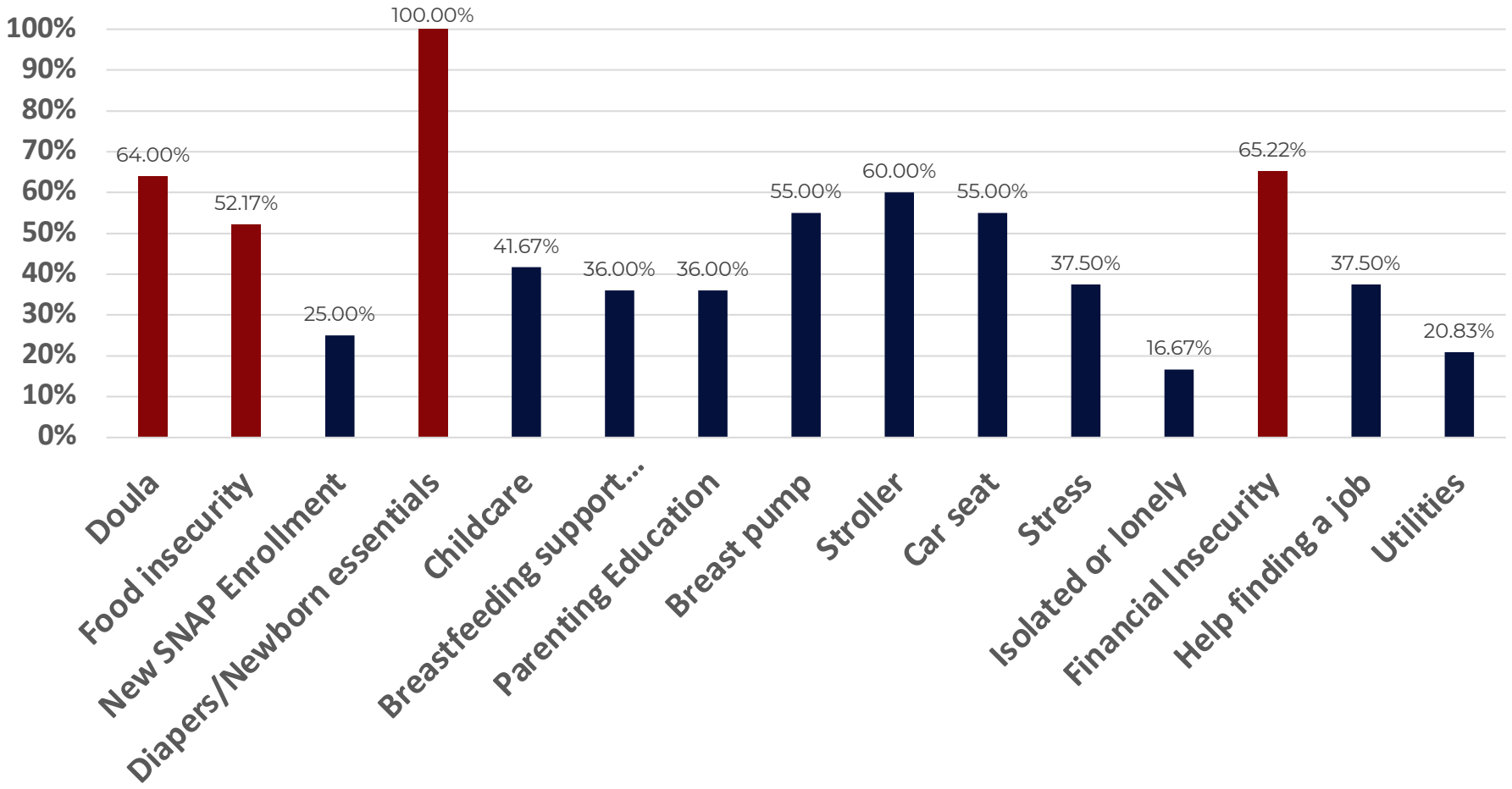
WeCAB pilot randomized control trial design

- Aged 18-49 years residing in a Central Brooklyn zip code
  - Self-reporting as Black
  - Speak English or Haitian Creole
  - Plan to deliver at University Hospital at Downstate
  - Between 13 weeks of gestation until the time of delivery
- N=63 pregnant women recruited at Downstate Health
- Sampling stratified by US nativity (immigrant vs. US born)
- Data collected on immigrant experience, Cohen's perceived stress scale, depressive symptoms (Edinburgh), prenatal/post-partum care
- ANCOVA (F-test), Chi-square, t-test, logistic regression

Study participant characteristics: WeCAB 2024

	Intervention (n=40)	Control (n=23)	P-value
Age in years, mean (sd)	30.85 (7.08)	30.05 (8.43)	0.70
Gestational age when recruited into the study, mean (sd)	30.36 (5.87)	33.14 (5.05)	0.30
College Education, n (%)	8 (21.1%)	4 (19%)	1.00
Country of Origin, n (%)			0.912
United States	22 (56.4%)	14 (60.9%)	
Haiti	6 (15.4%)	4 (17.4%)	
Jamaica	3 (7.7%)	0 (0%)	
Guyana	3 (7.7%)	1 (4.3%)	
St. Lucia	0 (0%)	1 (4.3%)	
Trinidad & Tobago	1 (2.6%)	1 (4.3%)	
Dominican Republic	1 (2.6%)	0 (0%)	
Barbados	1 (2.6%)	0 (0%)	
Other	1 (2.6%)	1 (4.3%)	
Primary Language, n (%)			0.71
English	31 (81.6%)	17 (81%)	
Creole	4 (10.5%)	2 (9.6%)	
Spanish	1 (2.6%)	1 (4.8%)	
French/Creole/Spanish	2 (5.3%)	1 (4.8%)	
Insurance, n (%)			0.67
Medicaid	29 (74.4%)	17 (77.3%)	
Medicare	1 (2.6%)	2 (9.1%)	
Private	4 (10.3%)	1 (4.5%)	
Other	5 (12.8%)	2 (9.1%)	

Results of WeCAB maternal health screener (N=36)



- **Total Clients Served** - 36
- **Average cases per client** - 4.57
- **Total Referrals sent** - 167
- **Total referrals accepted** - 98 (58.7%)
- **Total cases closed as resolved** - 47
  - **Top outcome of closed resolved** - client received services
- **Total cases closed as unresolved** - 34 (unable to contact client)
- **Total cases that remain open** - 18

- **Top 5 services requested**
  1. Diapers/ Infant supplies (28.4%)
  2. Birthing/postpartum support (16%)
  3. Food assistance (16%)
  4. Family support home visiting (3.6%)
  5. Child care (3.6%)

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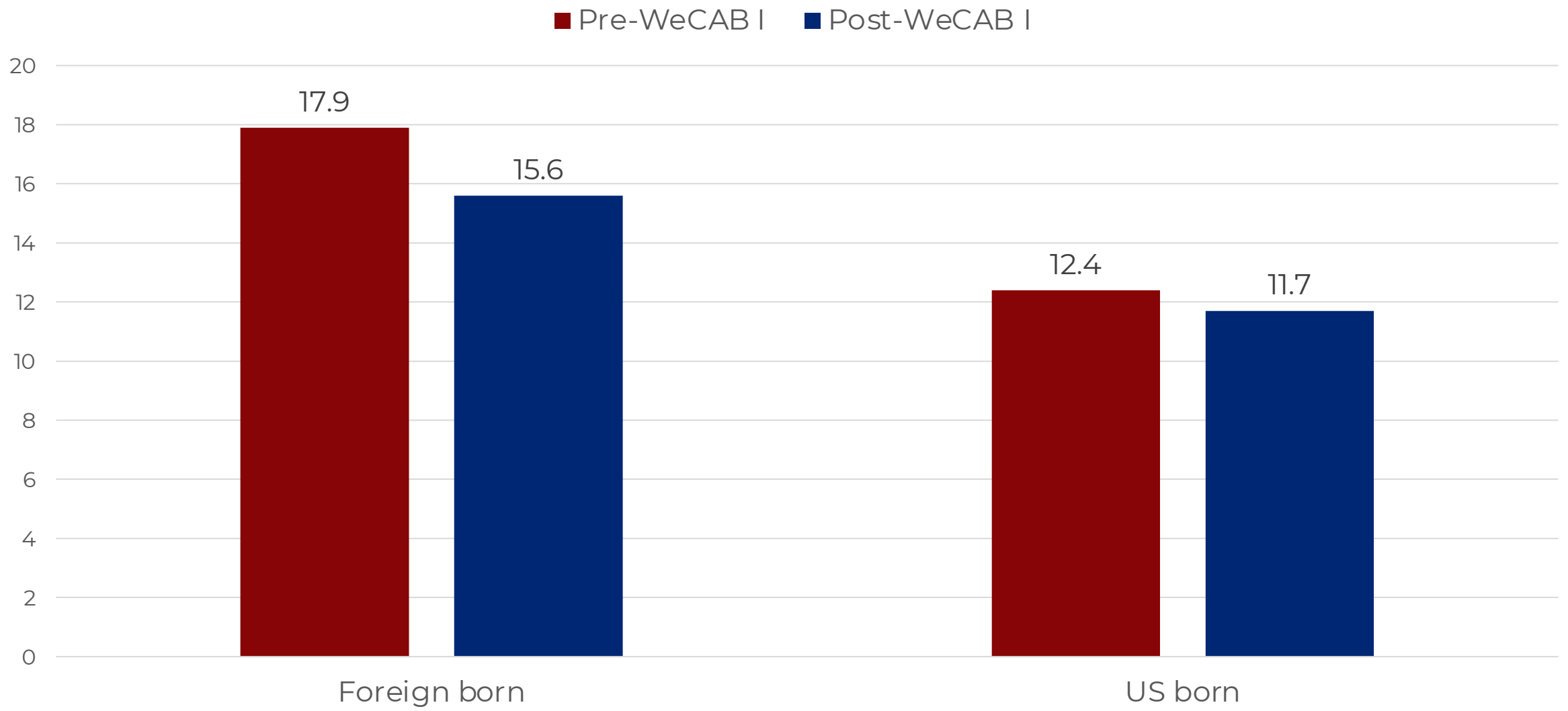
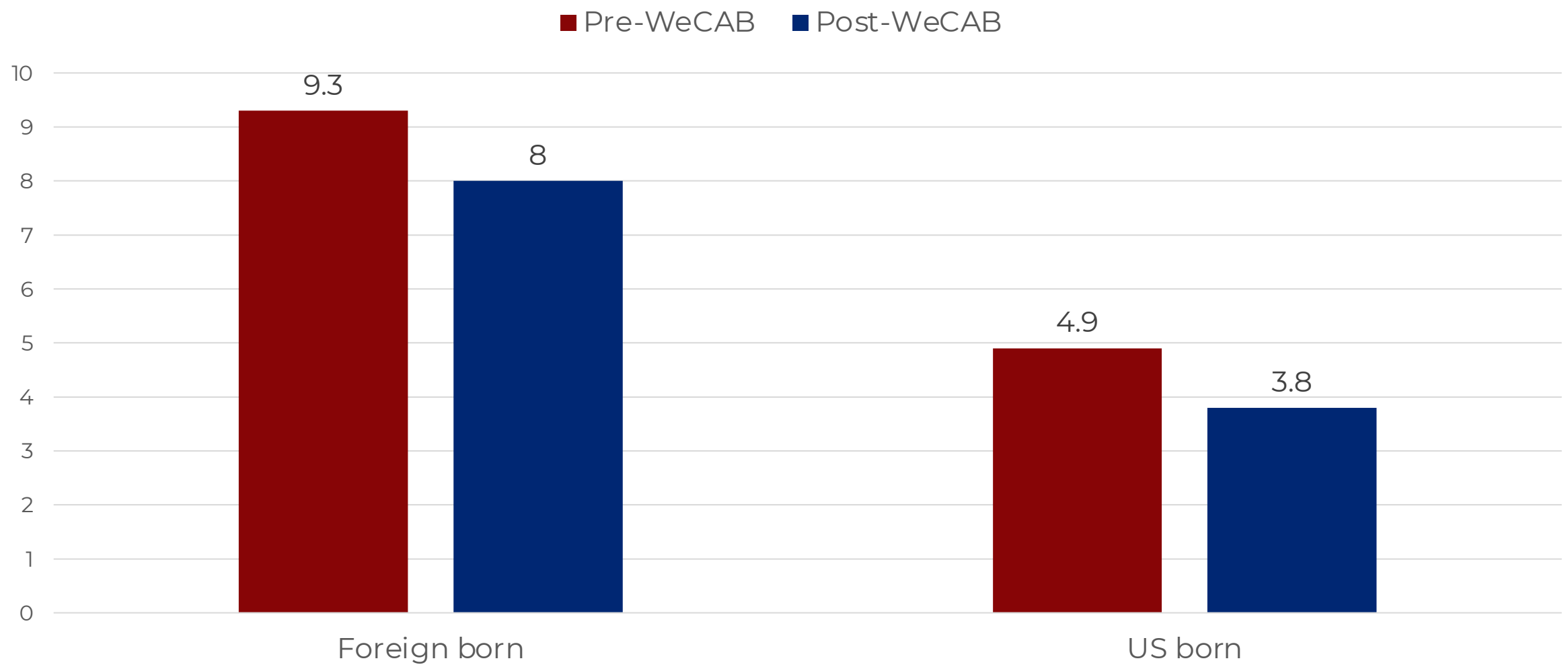
Perceived Stress Score stratified by nativity



Depressive symptoms stratified by nativity



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Impact of WeCAB on depressive symptoms, adjusted for interaction between birthplace*intervention (N=38)

	Depressive symptoms continuous	(95% CI)	Likely depressive illness (95% CI)	P-value
WeCAB vs. control	β: -2.2	-5.4, 1.1	**OR: 0.04 (0.00, 0.97)**	**0.05**
Foreign born vs. US born	β: -2.5	-6.5, 1.4	0.07 (0.00, 2.40)	0.14

Adjusts for baseline scores, number of days in the study and interaction term birthplace*intervention

Impact of WeCAB on stress, adjusted for interaction between birthplace*intervention (N=38)

	Stress continuous	(95% CI)	Moderate/high stress (95% CI)	P-value
WeCAB vs. control	β: -3.6	-7.7, 0.51	OR: 0.16 (0.01, 1.71)	0.13
Foreign born vs. US born	β: -2.4	-7.4, 2.7	OR: 0.81 (0.07, 9.76)	0.9

Adjusts for baseline scores, number of days in study, and interaction term experimental group*birthplace

PSS-10 scores and depressive symptoms by nativity status: WeCAB 2025

	US Born	Foreign Born	US study: 27 sites (2019)	US Meta-analysis N=7,570 (2020)
PSS-10 con't (SD)/baseline, N=63	13.5 (6.3)	16.8 (7.0)	11.3 (NA)	NA
Likely depressive illness (EPDS)/baseline, N=63	22.1%	25%	NA	22%

Discussion

- Preliminary data suggest WeCAB is associated with lower risk of depressive symptoms and stress
- Our Central Brooklyn population appears more vulnerable relative to other US maternal populations
- Immigrant mothers have a heightened risk of adverse health outcomes, which challenges healthy immigrant paradox
    - urban living may a contribution
    - Immigrant moms of Caribbean origin are understudied; may have different trajectory

Discussion

- Downstate like many other institutions in Central Brooklyn, has suffered from long-standing structural inequities that have contributed to fragmented care. WeCAB was developed with the knowledge and experience of the challenges faced by such safety-net institutions.
- Limitations:
  - Pilot RCT/small sample size; seeking funding for larger study
  - Post-intervention data collection still ongoing
  - EPDS is dynamic and scales not validated

Thank you!

Questions?

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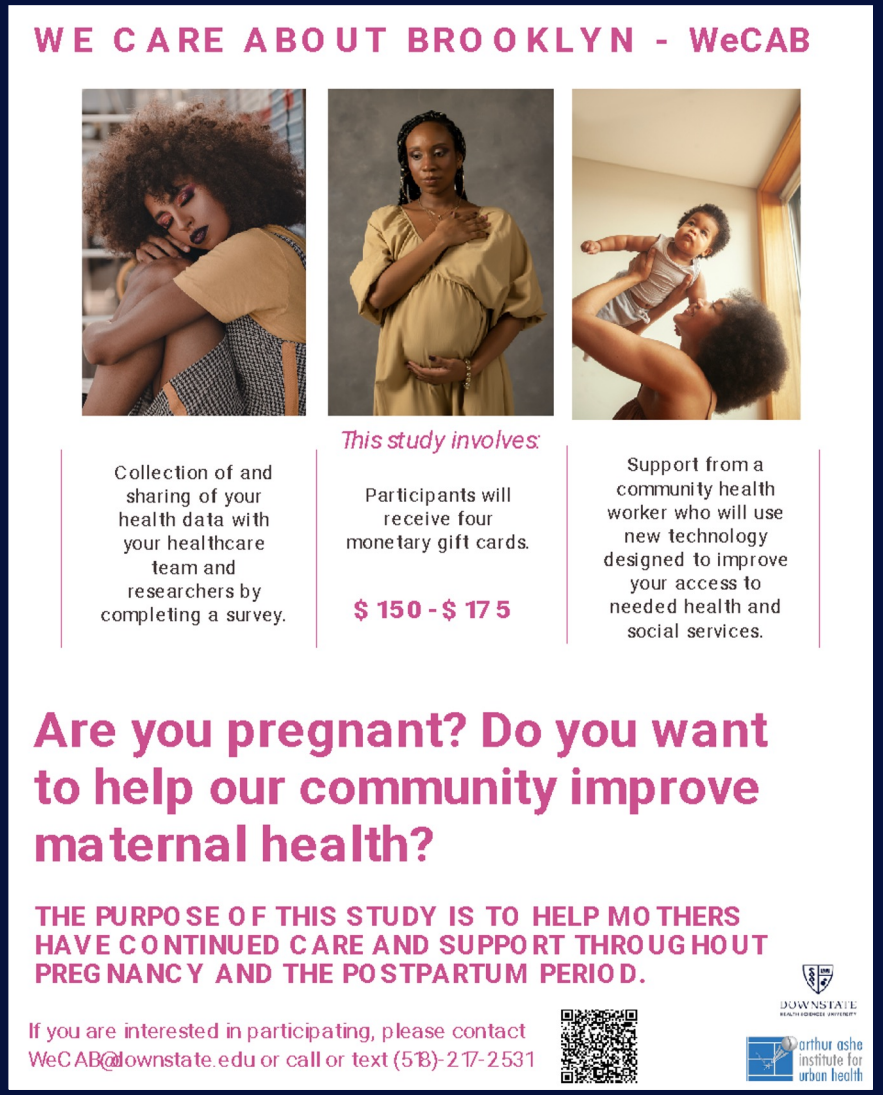

CHW Monitoring Frequency via Text and Phone Call based on SDOH Risk Category

	SDOH Risk level	13 - 28 weeks	28 – 36 weeks	36 weeks - delivery	Delivery - 3 months postpartum
Frequency of CHW check in	Low risk	Every 4 weeks	Every 2 weeks	Weekly	Day 3, day 7, week 3, week 6 and then monthly
	High Risk	Every 1-2 weeks	Every 1-2 weeks	Weekly	Day 3, day 7, week 3, week 6 and then monthly
	Critical Risk	Address Critical Risk factors - move to High Risk after resolution			