Creating Public Health Partnerships with Community Health Workers to Improve Maternal Infant Health in Marginalized Populations

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October 15, 2024

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Strengthening families for a Healthy Start

Introductions

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KENT COUNTY
Health
Department

Department of Obstetrics, Gynecology, and Reproductive Biology
MICHIGAN STATE UNIVERSITY

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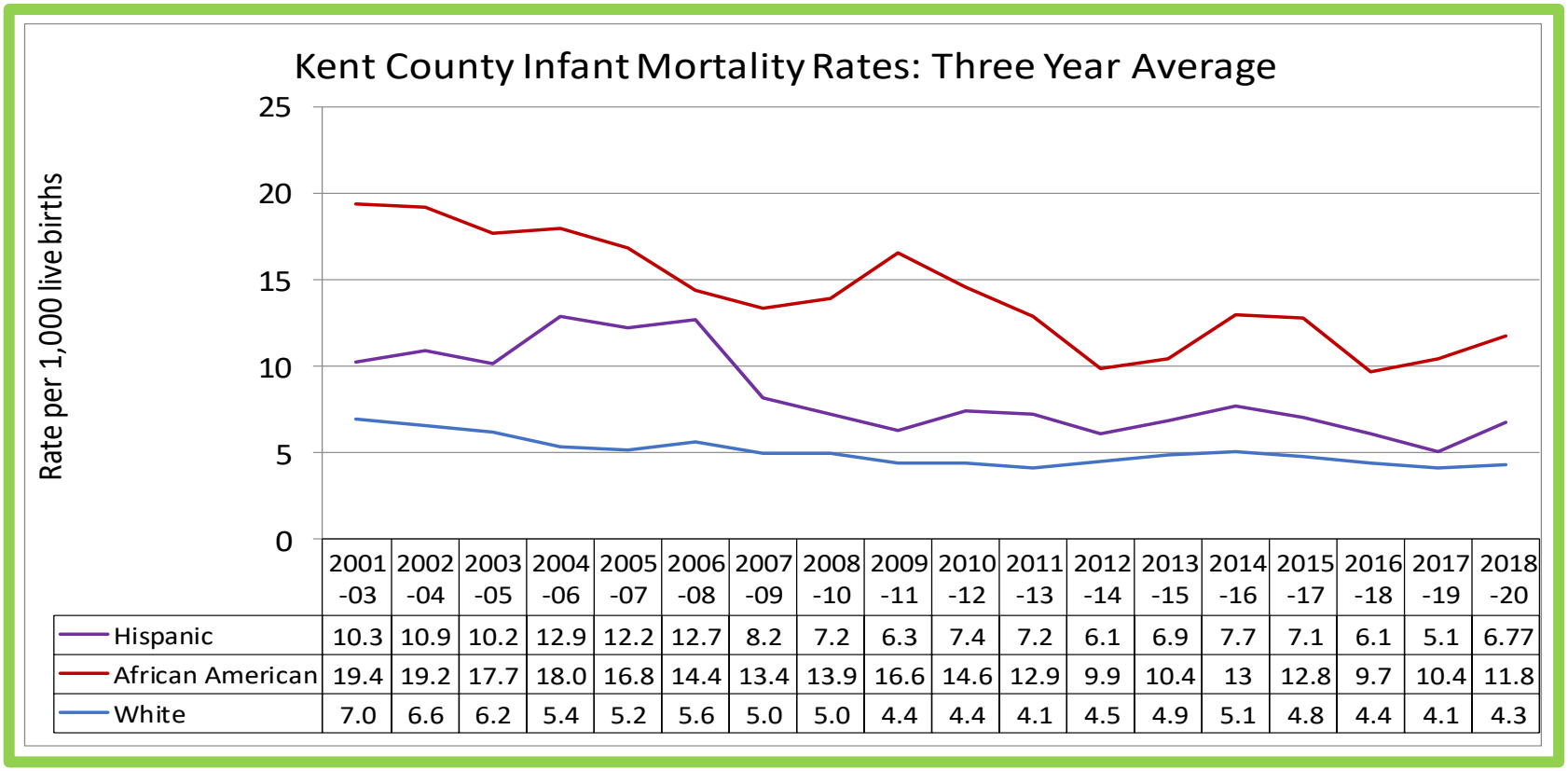
Kent County Infant Mortality: Three Year Average (per 1000 live births)



	2001-03	2002-04	2003-05	2004-06	2005-07	2006-08	2007-09	2008-10	2009-11	2010-12	2011-13	2012-14	2013-15	2014-16	2015-17	2016-18	2017-19	2018-20
Hispanic	10.3	10.9	10.2	12.9	12.2	12.7	8.2	7.2	6.3	7.4	7.2	6.1	6.9	7.7	7.1	6.1	5.1	6.77
African American	19.4	19.2	17.7	18.0	16.8	14.4	13.4	13.9	16.6	14.6	12.9	9.9	10.4	13	12.8	9.7	10.4	11.8
White	7.0	6.6	6.2	5.4	5.2	5.6	5.0	5.0	4.4	4.4	4.1	4.5	4.9	5.1	4.8	4.4	4.1	4.3

Michigan Resident Birth Files, Division for Vital Records & Health Statistics, Michigan Department of Health and Human Services

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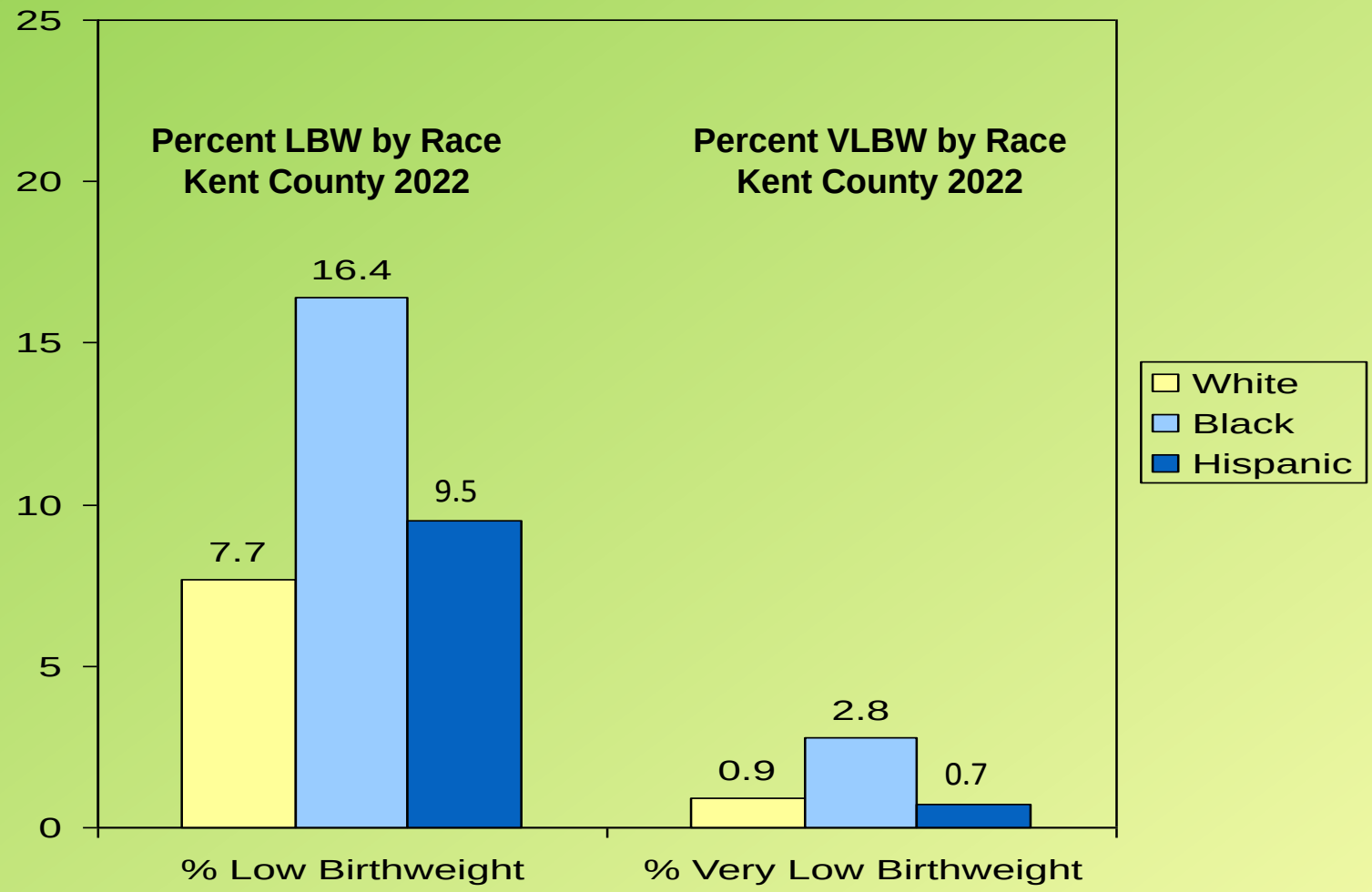

Michigan Resident Birth Files, Division for Vital Records & Health Statistics, Michigan Department of Health and Human Services

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What Contributes to Pre-Term Birth and Low Birth Weight?

- Unstable family relationships / lack of father
- Domestic violence / abuse
- Smoking, alcohol & drug use
- Stress & depression
- Poor housing / homelessness
- Unsafe neighborhoods
- Poor Nutrition (over/under weight)
- Under 18 or over 35 years old
- Closely Spaced/Unintended Pregnancies

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Maternal Mortality & Morbidity

Black women in US 3-4 times mortality of White

Feel less heard; believed to be able to handle more pain

Black women in US have more than twice the severe maternal morbidity rates of White women

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Systemic Factors

- Poverty; income & education
- Lack of health care access
- Environmental injustice (air & water quality)
- Segregated neighborhoods (housing & transportation)
- Race-based inequities in quality of healthcare & culturally insensitive care
- Institutional & systemic racism (inequities in education, justice, housing, banking, etc. systems)
- Government policies & budget priorities

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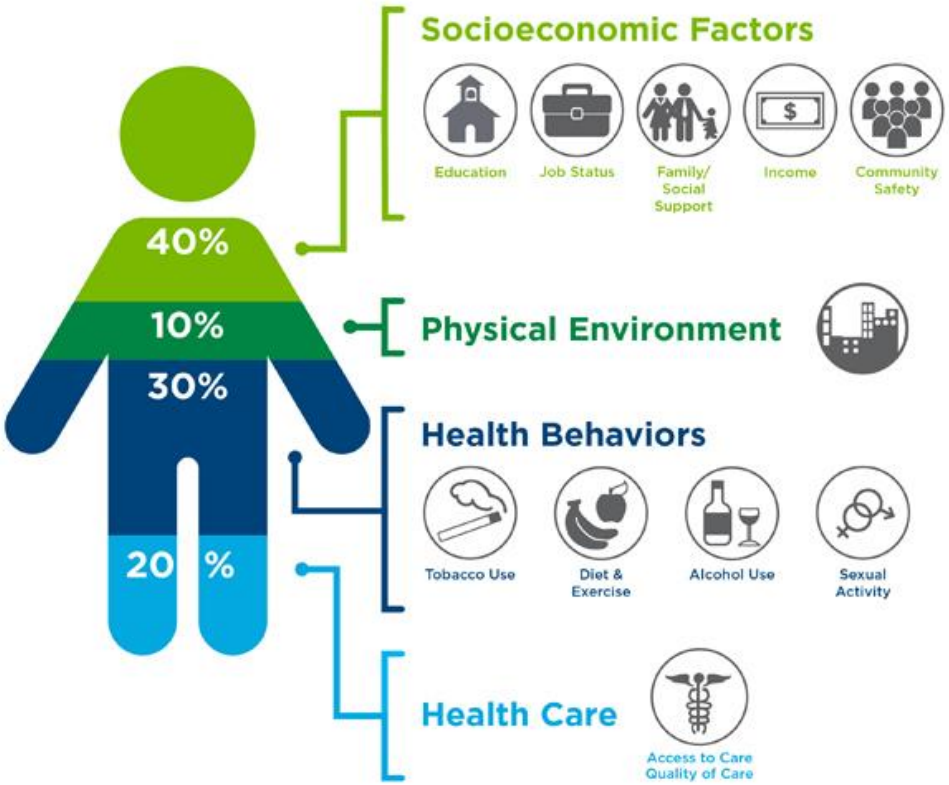
What Goes Into Your Health?



Source: Institute for Clinical Systems Improvement, Going Beyond Clinical Walls: Solving Complex Problems (October 2014)

The Bridgespan Group

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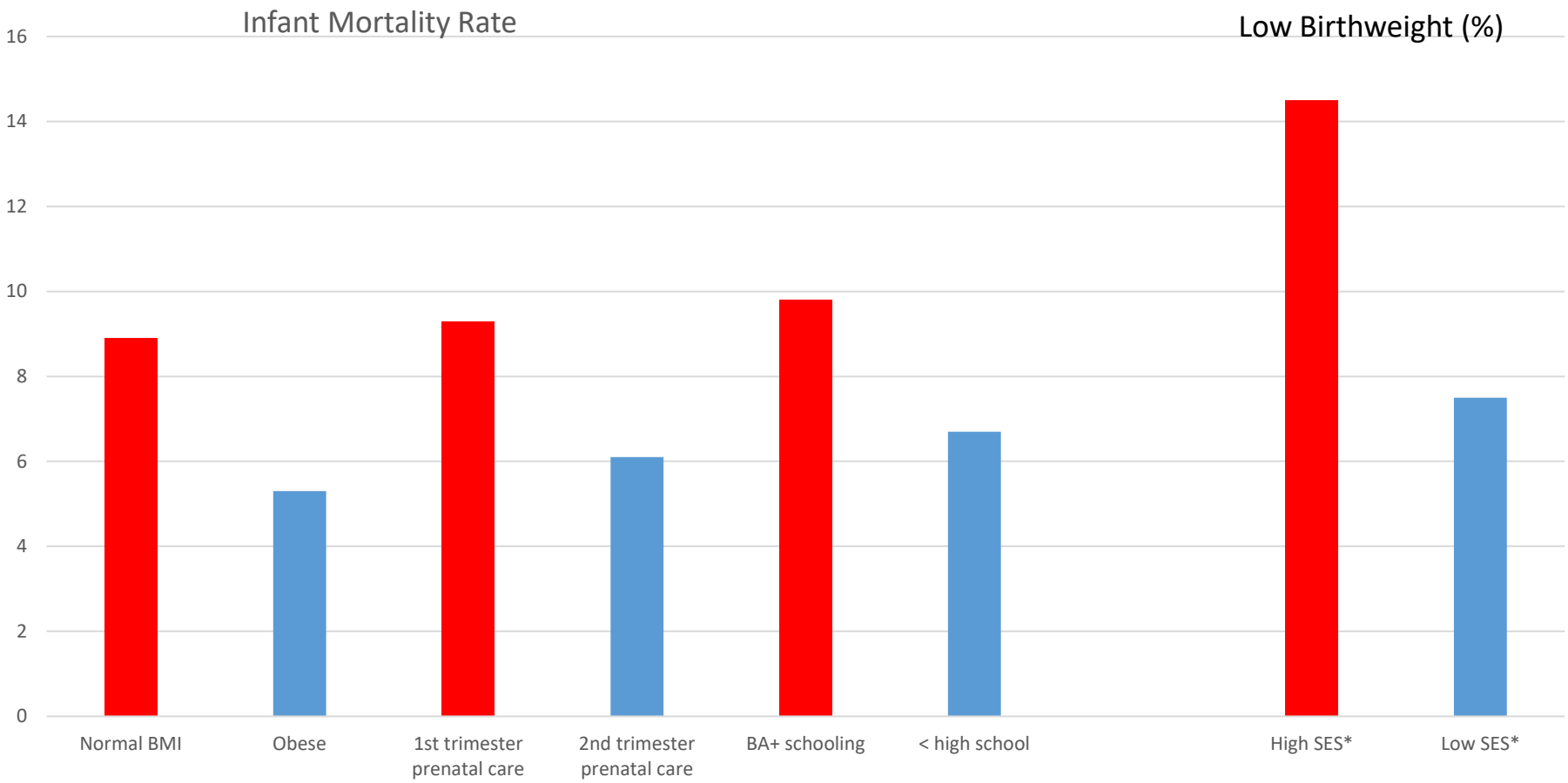
Improved Social Determinants of Health is Insufficient



IMR Per 1,000 live births

NVSS '19-'21 (Ely & Driscoll 2024)
Kothari et al 2016

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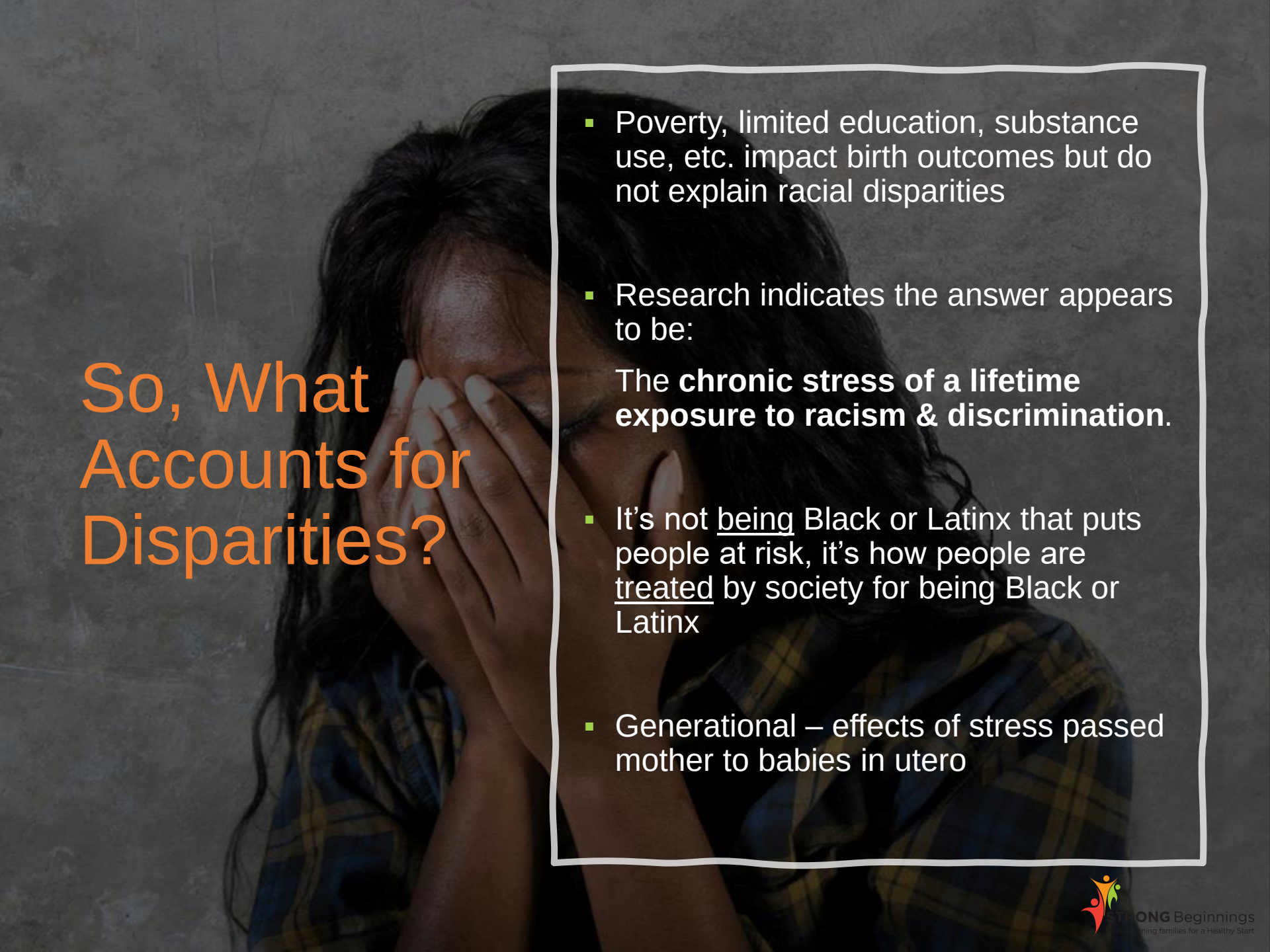

So, What Accounts for Disparities?

- Poverty, limited education, substance use, etc. impact birth outcomes but do not explain racial disparities
- Research indicates the answer appears to be:

  The **chronic stress of a lifetime exposure to racism & discrimination**.
- It's not <u>being</u> Black or Latinx that puts people at risk, it's how people are <u>treated</u> by society for being Black or Latinx
- Generational – effects of stress passed mother to babies in utero

Stress: Physiologic Changes

- Release of stress hormones
- High blood pressure
- Insulin resistance (diabetes)
- Decreases blood flow to placenta
- Suppresses the immune system, increasing susceptibility to infections (PD, UTI, STI)
- All of these can cause PTB / LBW

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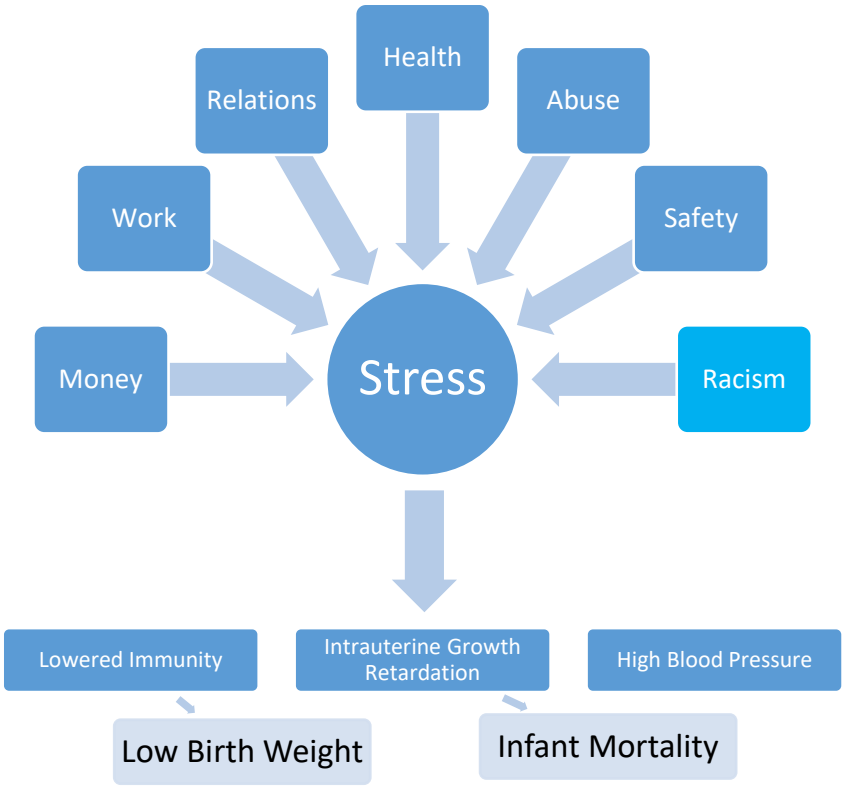
Stress, Preterm Birth & Racism



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A Solution

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Strong Beginnings was created in 2001 by a group of 12 volunteers on the Healthy Kent Infant Health Action Team with a couple small grants to…

…improve Maternal Child Health for African Americans and eliminate racial disparities in birth outcomes such as infant mortality and pre-term birth

Funded in 2004 as a federal Healthy Start project

Healthy Start was created by the federal govt. under George H. Bush to reduce infant mortality (babies that die before 1 year old)

2013-2022 WKKF grant to serve Latinx population

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Our Mission

Strong Beginnings is a community-wide effort to improve maternal, paternal and child health among Black and Latiné families, promote father engagement, and eliminate racial disparities in birth outcomes

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A Partnership of….

- Arbor Circle
- Changing River, LLC
- Cherry Health
- Corewell Health-West MIHP
- Healthy Kent – Infant Health Action Team (IHAT)
- Kent County Health Department
- Michigan State University
- Trinity Health Saint Mary's
- UoM Health West – Community Clinic
- Fiduciary: Corewell Health

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Goals & Objectives

- Reduce African American and Latiné infant mortality & preterm and low birth weight
- Increase the number of women with adequate prenatal care & access to mental health
- Improve parenting and communication skills including fatherhood responsibility & engagement
- Increase the number of pregnancies spaced at least 18 months apart
- Increase the number of birthing persons & children with a medical home
- Educate community and health care providers about individual, structural, and internalized racism on birth outcomes and health disparities

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Program Components: Community Services

- Community education & support (i.e., breast feeding groups, listening sessions)
- Provider education (i.e.: maternal mortality & morbidity education)
- Extensive anti-racism / racial equity / implicit bias trainings
- Social determinants of health/systemic issues at local, state & national level

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Program Components: Family Services

- Certified Community Health Workers
- Fatherhood initiative - parallel services for male partners
- Counseling for mental health
- Baby Scholars Child Development & Parenting Program

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Program Participants

- Black & Latiné:
  - Live in Kent County
  - Pregnant
  - Mother of a child under <4 months
  - Medicaid / MIHP eligible
- Children under 18 months of age
- Male & female partners of program participants
- Required to enroll 600 women & 100 men / year (300 pregnant women / year for HRSA)

What is a Community Health Worker?

- Community Health Workers often have similar lived experiences with those served (race, ethnicity and language)
- Serve as peer mentors with lived expertise / some are former program participants
- Rigorous training, (e.g., certification course, ongoing monthly trainings; required for recertification)

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Community Health Workers Teach & Connect

- CHW Intervention Guide by risk domain and stage that complements MIHP interventions
- Build long-term relationships
- Home visits for social support, education (i.e. Hear Her) and referrals (GED, housing, education, food pantries, health insurance, transportation, etc.)
- Develop goals with clients
- Breastfeeding Peer Counselors / Certified Lactation Counselors

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Community Health Workers Partner

- Conduct outreach at community events to identify eligible women
- Inform community agencies of program services & how to refer potential clients
- Care coordinate with the Maternal Infant Health Program nurses & social workers, as part of a team of client supports
- Case conference with Fatherhood Services & Mental Health Providers

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Community Health Workers Bridge Gaps

- Link between providers and clients
- Promote communication between clients and providers
- Encouraging clients to ask questions
- Attending medical appointments; warm hand offs to services
- Provide coaching and modeling
- Up to date on resources and events
- In tune with barriers & obstacles
- Serve as a voice

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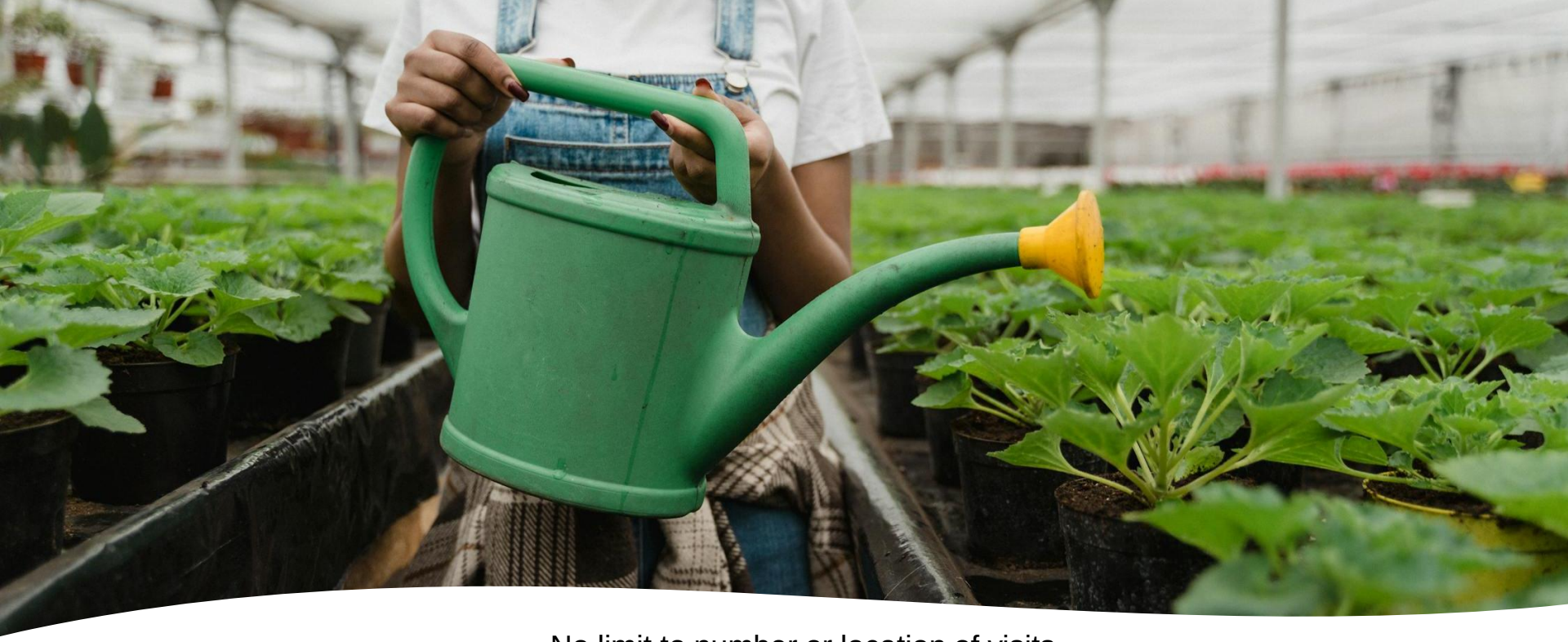

Value Added to Maternal Infant Health Program

- No limit to number or location of visits
- Mother enrolled up to 18 months PP regardless if infant is in the home (stillbirth, adopted, foster care)
- Provide real time support and client assistance
- Relationships w/ housing resources, pantries, etc.
- Targeted educational materials

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Client Comments

"I don't know what I would do without my Community Health Worker! She's always there for me, She convinced me I should breast-feed my baby, and I'm glad she did!"

"Strong Beginnings helped me deal with my depression, find housing and get into a work training program."

"When I was pregnant, I didn't know where to turn. Then I heard about Strong Beginnings – they helped me stop using drugs and overcome other issues I was dealing with."

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Client Stories

"When Strong Beginnings came to my home I was severely depressed. The CHW and nurse worked very hard and helped me get Section 8 housing and the help I needed. My self esteem sky rocketed and I am doing better every day! They really care about me."

"Through the support and encouragement of this program, I was able to finish my GED, get a better job, and move into my own apartment."

"My last three babies were all born premature and sickly; thanks to this program this baby was born full-term and is very healthy!"

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Partnership

- Rigorous evaluation
- Through a Data Use Agreement with the Michigan Department of Health and Human Services and use of honest broker, link program data with:
  - Vital records
  - Medicaid claims
  - Maternal Infant Health Program Data

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RIGOROUS EVALUATION OF STRONG BEGINNINGS

According to HomeVEE guidelines

Home Visiting Evidence of Effectiveness

Findings In this propensity score matching cohort study (N = 125,252), participation in a home visiting program **significantly associated with:**

- reduced risk of preterm birth (13.3% vs 15.5%),
- very preterm birth (1.8% vs 3.0%),
- very low birth weight (1.0% vs. 1.8%),
- improved adequate prenatal care (74.5% vs 71.4%),
- and 3 weeks' postpartum care (43.4% vs 22.4%),
- with larger birth outcome risk reductions among Black participants.

Meghea CI, Raffo JE, Yu X, Meng R, Luo Z, Vander Meulen P, Lloyd CS and Roman LA, 2023. Community Health Worker Home Visiting, Birth Outcomes, Maternal Care, and Disparities Among Birthing Individuals with Medicaid Insurance. *JAMA Pediatrics*. Published online July 24, 2023.

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Program Effectiveness Among Black Participants: SB vs. Usual Care

Care Utilization

- **Prenatal care**: Increased by **4%**
- **Timely postpartum care in 3 weeks**: **doubled** from 25% to 50%
- **Timely postpartum care in 60 days**: Increased by **40%** (from 63% to 87%)

Birth Outcomes

- **Preterm**: reduced by **22%**
- **Very preterm**: reduced by **60%**
- **Very low birthweight**: reduced **60%**

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Program Effectiveness: SB vs. MIHP

SB has added value over traditional MIHP for Black birthing people

- **Preterm**: reduced by **19%**
- **Very preterm**: reduced by **55%**

- **Prenatal care**: increased by **6%**
- **Timely postpartum care in 3 weeks**: **doubled** from 24% to 50%
- **Timely postpartum care in 60 days**: increased by **30%** from 67% to 87%

Preliminary, please do not cite, tweet, etc

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Program Effectiveness: Severe Maternal Morbidity (SMM)

- **SB participants exhibited lower prevalence of SMM**: **233** (cases per 10,000 deliveries) compared to 305 in usual care

- Preliminary results from propensity score matching (years 2016-2021) showed that:
  - SB reduced SMM by **136 per 10,000** compared to **usual care**, relative reduction of **39%**
  - For Black birthing people, SB reduced SMM by **165 per 10,000** compared to usual care, relative reduction of **40%**

Preliminary, please do not cite, tweet, etc

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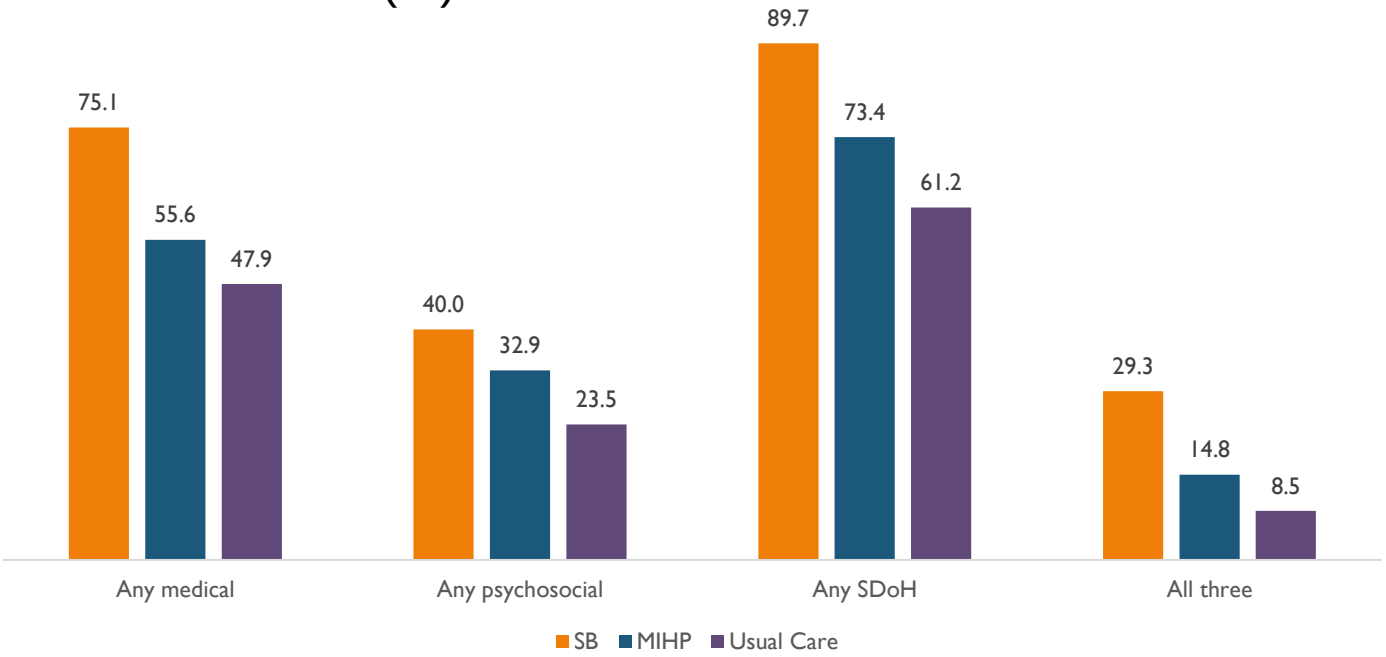
Reach and Engagement: Multiple Needs

SB reaches and engages birthing persons of color who have multiple complex medical and social needs (%)



Notes:

- **Medical**: any in prior preterm, hypertensive disorders, diabetes disorders, or high-risk pregnancy
- **Psychosocial**: alcohol, substance use, and mental-related disorders
- **SDoH**: any in no high school education or deprived neighborhoods

Data Source: MDHHS 2016-2019

Preliminary, please do not cite, tweet, etc

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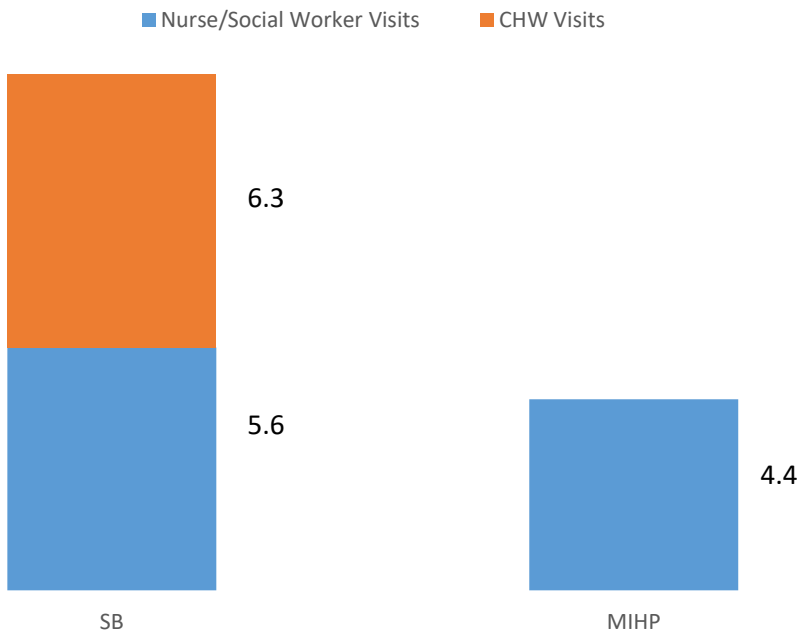
REACH AND ENGAGEMENT: DOSAGE

By partnering CHW with licensed professionals (nurses and social workers) – a combined model – SB is able to deliver a greater intensity of services



- SB received an average of **11.9** total home visits vs. 4.4 among MIHP participants, consistent across levels of neighborhood segregation.
- CHWs did not reduce but increased visits from nurses/social workers: **over half (51%)** of SB had 5/+ nurse/social worker visits vs. 35% of MIHP
- **94%** in SB engage in services after an assessment visit vs. **78%** in MIHP

Preliminary, please do not cite, tweet, etc

Notes:
Neighborhood segregation was measured with Index of Concentration at the Extremes and was divided into quintiles, representing from the most deprived (Q1) to the least deprived neighborhoods (Q5).
Home visits included both assessment and intervention visits.
Data Source: MDHHS 2016-2019

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Preliminary Estimated ROI

When compared to usual care, among SB clients of all races/ethnicities: For each $1 invested by Medicaid, $1.25 is saved due to avoided maternal and child health expenses associated with prevented preterm births.

When compared to usual care, among Black clients, who experience larger SB benefits – for each $1 invested by Medicaid, $2.17 are saved due to avoided maternal and child health expenses associated with prevented preterm births.

Preliminary, please do not cite, tweet, etc

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FUNDING / SUSTAINABILITY

- Grant Dependent
- Federal
- State
- Philanthropic

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2023 Outcomes (HRSA Benchmarks)

Health insurance 98% (90%)

Medical home 94% (80%)

Safe sleep behaviors 91% (80%)

Read 3 x / week 51% (50%)

Father involvement (pregnancy) 80% (90%)

RLP 92% (90%); RRP 7% (<30%)

Post-Partum exam 92% (80%) and WWV 97% (80%), WCV 88% (90%)

Breastfeeding initiation 85% (82%); breastfeeding at 6 months 73% (61%)

IPV screening 98% (100%) & depression screening 95% (100%)

No nicotine use 3rd trimester 96% (90%)

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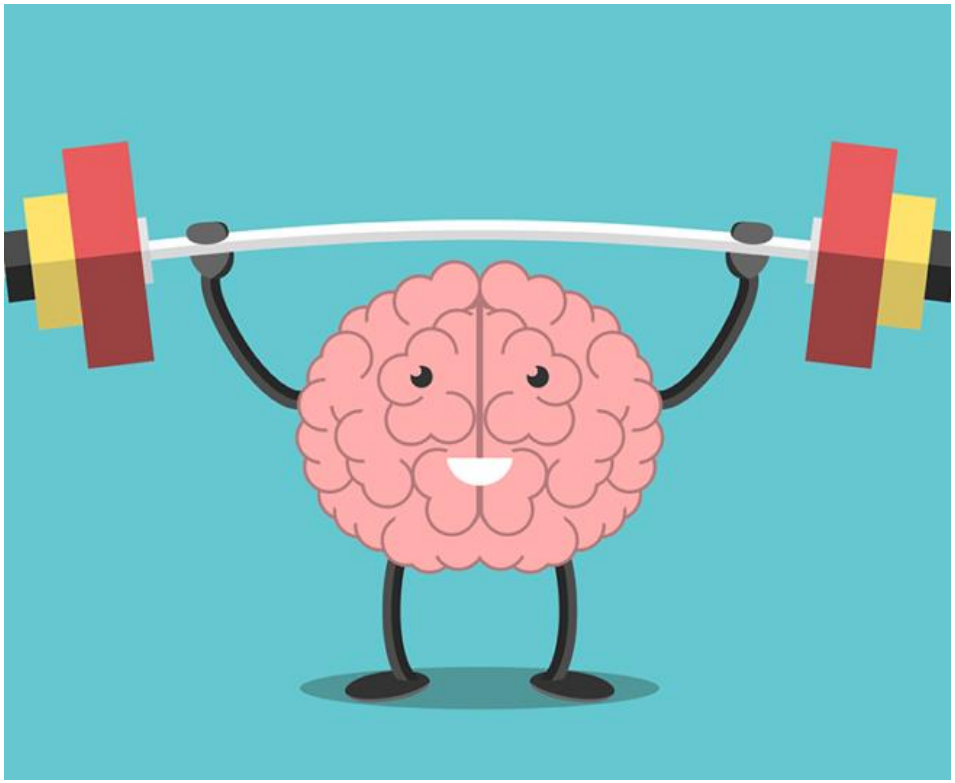
Improved Mental Health



Of 192 SB clients referred to Arbor Circle for mental health 60% Black and 30% Hispanic.

This group had high rates of abuse (45%), and of stress, depression, or trauma (91%).

66% of the group had moderate or severe depression.

In addition, 50% of the group reported 4 or more Adverse Childhood Events (ACEs)

The share of clients with severe depression decreased from 48% to 26% following counseling by Arbor Circle therapists

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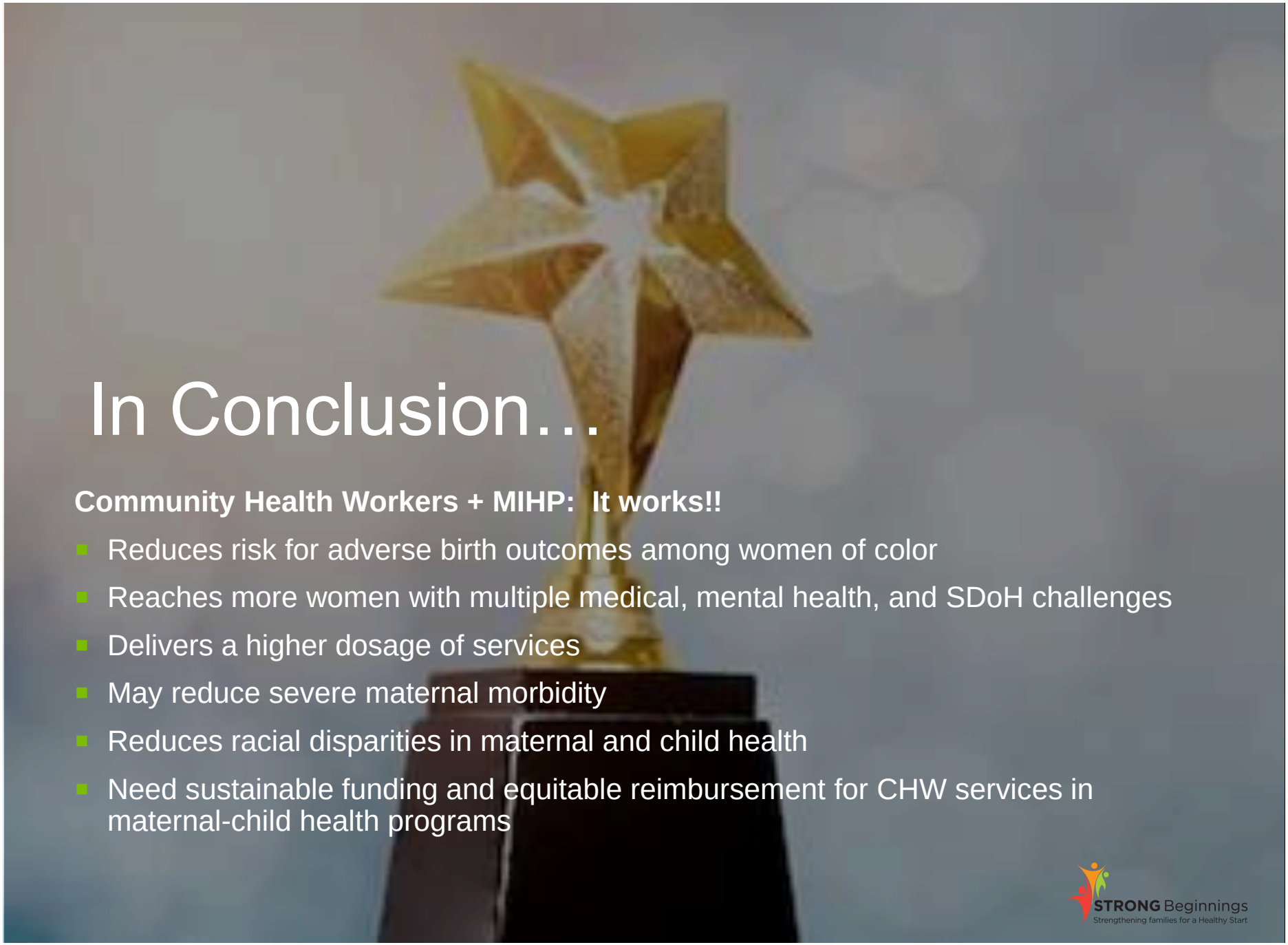

In Conclusion…

Community Health Workers + MIHP: It works!!

- Reduces risk for adverse birth outcomes among women of color
- Reaches more women with multiple medical, mental health, and SDoH challenges
- Delivers a higher dosage of services
- May reduce severe maternal morbidity
- Reduces racial disparities in maternal and child health
- Need sustainable funding and equitable reimbursement for CHW services in maternal-child health programs

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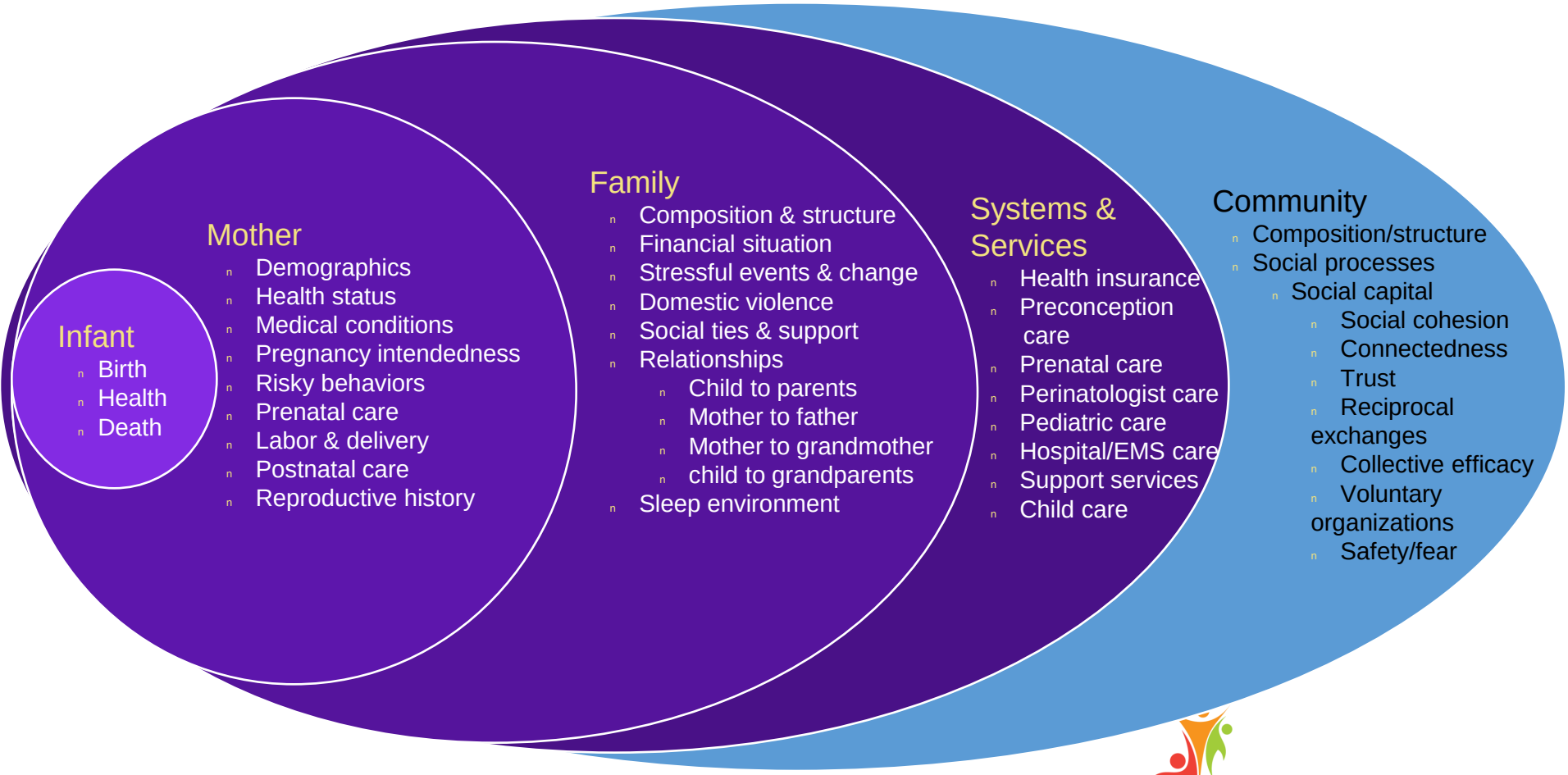
It takes a village!



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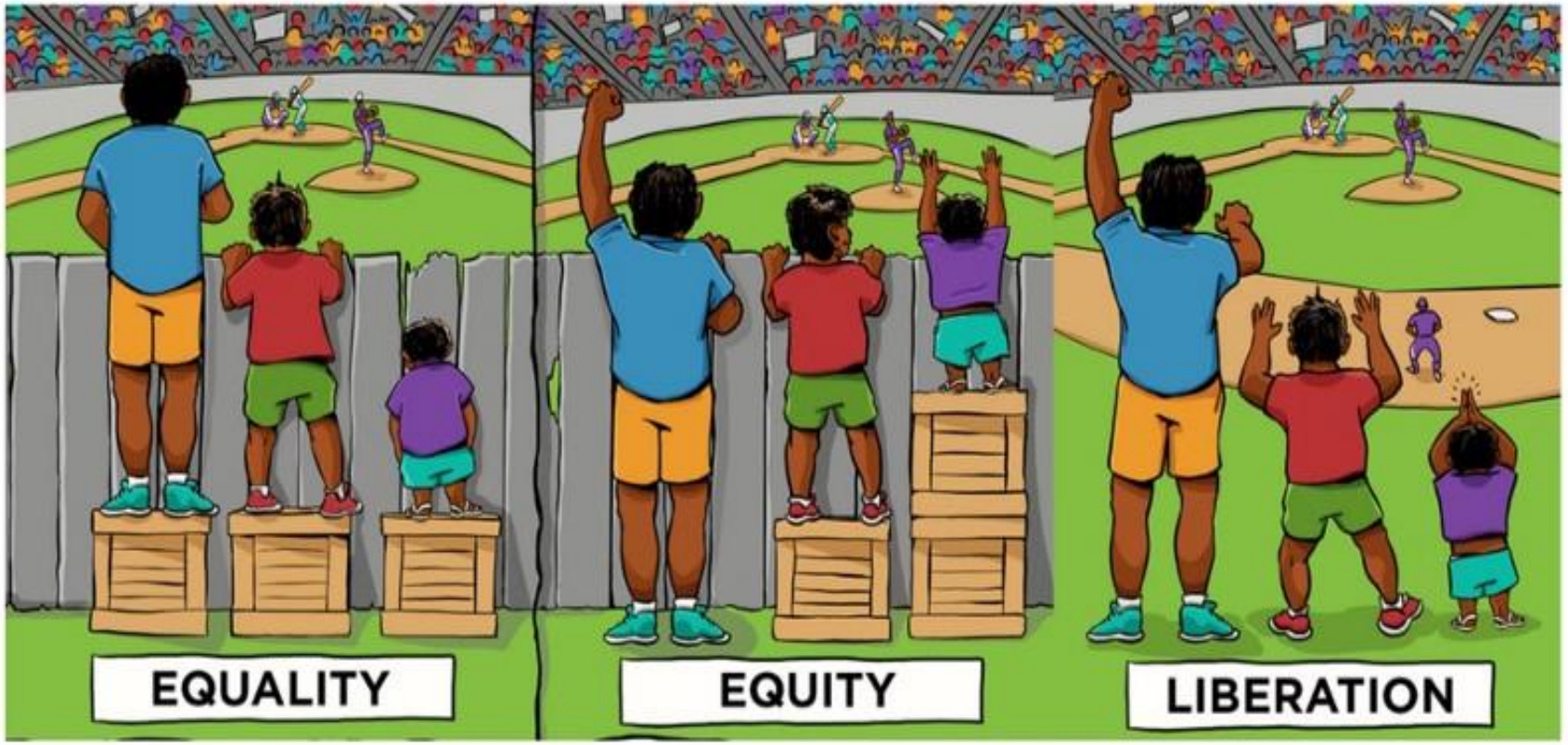
Our Ultimate Dream. . .



All Systemic Barriers Removed

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THANK YOU!

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