



Diversity, Equity & Inclusion in Action

Decreasing Maternal Health Disparities

Tasha Bergeron, MSPH, RN
Director of Population Health



Presentation Objectives

- Overview of Louisiana's mortality rates
- Summarize predictive model that drives high-risk maternity member referrals
- Strategies used to reduce maternal health disparities



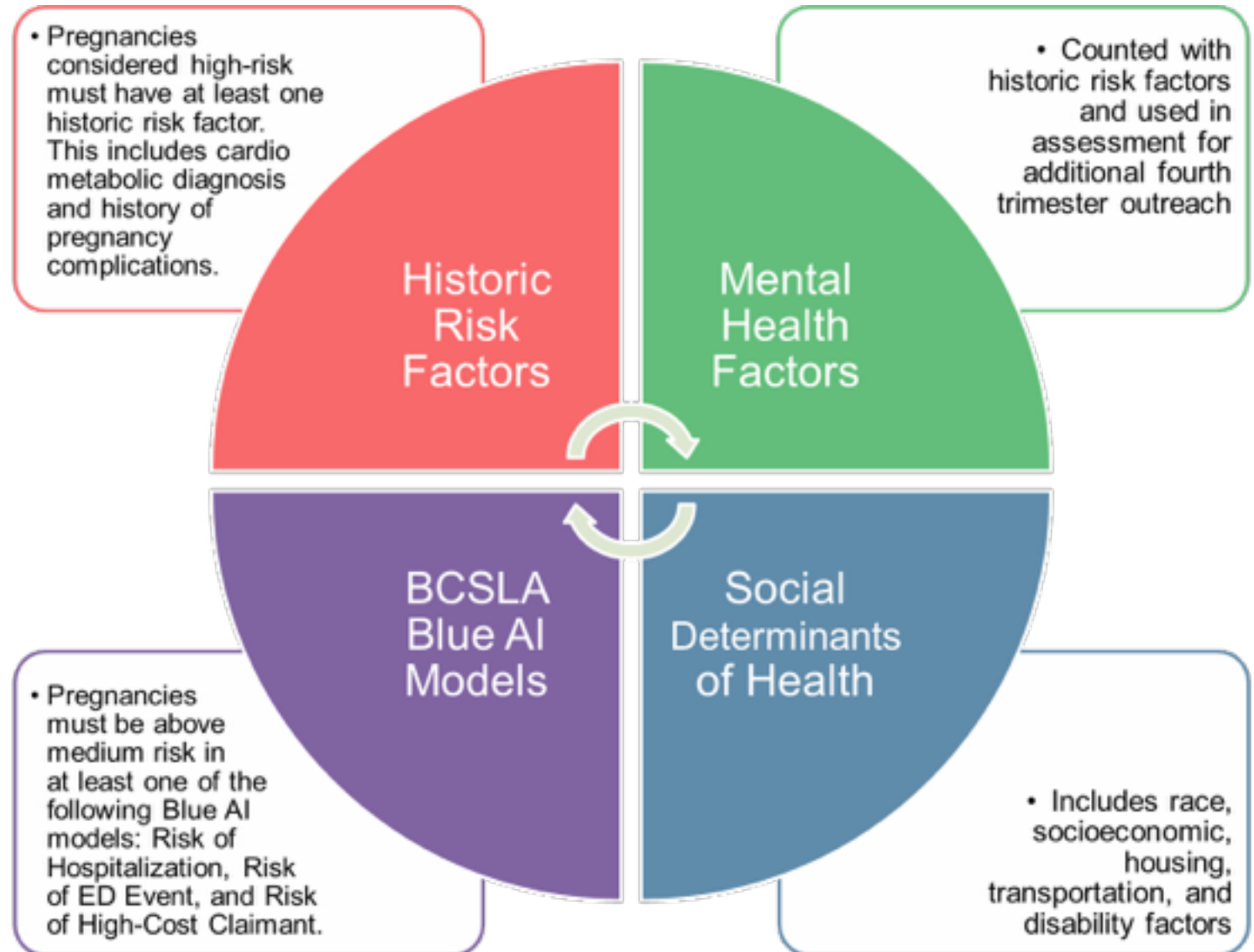
Data to Drive Decisions



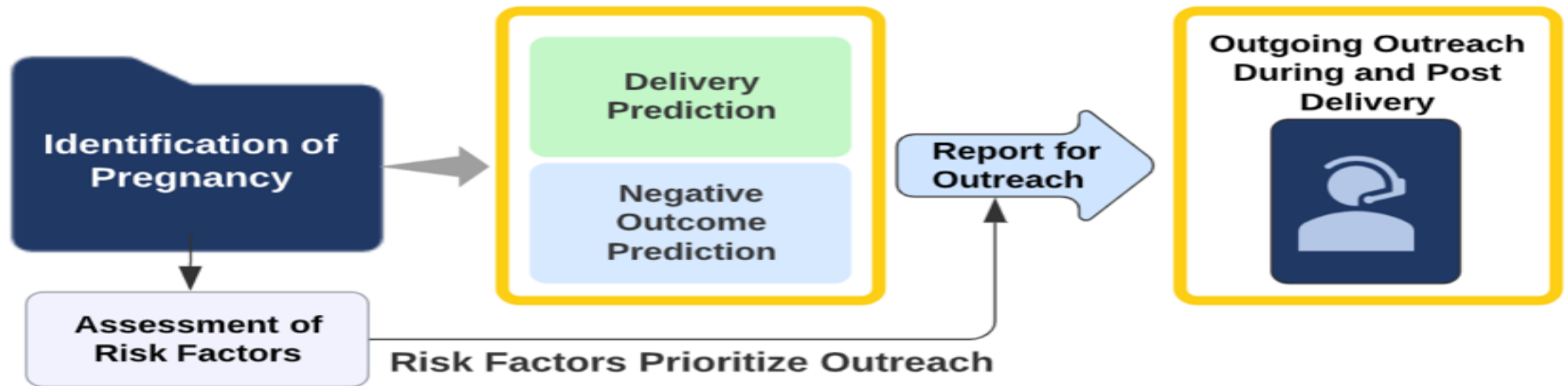
- The United States has the highest maternal mortality rate of any developed country, **17.4 per 100,000 pregnancies**
- Louisiana's maternal mortality rate is **58.1 deaths per 100,000 pregnancies**
- The rate is about **4x higher for African American mothers**

Risk Factors Driving Prioritization

- Pregnancies with more historic risk factors and more social vulnerabilities are prioritized
- The top prioritized pregnancies begin outreach in the month they are identified
 - Referred high-risk pregnancies had 5.07 risk factors for 2023
- BCBSLA's Impactability Score indicates which members are more likely to respond to interventions and is used as a tie breaker for prioritization



The Collaborative Process



- **Early identification** of a high-risk pregnancy allows for BCBLSA's Care Management nurses to **quickly initiate outreach**, increasing the intervention's effectiveness

Population Health Interventions

- Assess for social determinants of health
- Assistance with obtaining breast pump and other needed supplies
- Nutritional coaching
- Coordination of care with mental health providers
- Disease Management for members with chronic conditions
- Medication reconciliation/adherence
- Ongoing maternity management through 4th trimester
- Provider referrals
 - Doula coverage starting January 1, 2024

Poster Presentation, May 2023



The leading professional society for health economics and outcomes research globally

EARLY DETECTION OF HIGH-RISK PREGNANCY: BLUE CROSS AND BLUE SHIELD OF LOUISIANA'S STRATEGY FOR EARLIER IDENTIFICATION AND DATA USE TO PRIORITIZE OUTREACH

Matthew Figgens, BS, Cara Anderson, MPA, Justin Wang, MPH, Julie Simpson, RN, Tanya Evans, RN, Tanya Bergson, MPH, RN, Ernest Lewis, MPH, Yan Zhang, PhD, Debra Barfield, MD, Jeremy Figgens, MD, Benjamin Y. Victoria, BS, Stephanie Mills, MD, Steven C. Negan, PhD | Blue Cross and Blue Shield of Louisiana, Baton Rouge, LA, USA

BACKGROUND

Louisiana has some of the highest U.S. rates of maternal mortality, and the risks can be higher for certain groups, such as people of color and those living in poverty. According to the U.S. Centers for Disease Control and Prevention (CDC), the maternal mortality rate in Louisiana was 29.4 deaths per 100,000 live births for 2014-2017. This is higher than the national average of 17.4 deaths per 100,000 live births for the same period.

Interventions targeting pregnancies that are likely to result in low birth weight, short stay NICU, or severe maternal morbidities can improve outcomes for mothers, and hopefully ease this disparity for Louisianians. Early identification of a high-risk pregnancy allows for Blue Cross and Blue Shield of Louisiana's (BCBSLA) Care Management nurses to quickly initiate outreach, increasing the intervention's effectiveness.

Using claims history to create pregnancy episodes, BCBSLA developed a methodology to identify pregnancies sooner, and associate risk factors known prior to pregnancy identification with negative outcomes during delivery. Care Management nurses use this early identification and risk assessment to target outreach, beginning in January 2023.

IDENTIFICATION AND RISK SCORING

Figure 1. Actual Identification Compared to Historic Episodes

Based on 2022 pregnancy episodes, 75% of pregnancies were identified more than 25 weeks before the actual delivery (estimated 36 gestational weeks).

During the 2023 reporting, 74% of pregnancies are identified and reported before 21 weeks of gestation, or less, into their pregnancy (20 weeks until estimated delivery).

- Only pregnancies with a diagnosis that identified gestational weeks were used.
- Previous programs were only able to identify 43% of pregnancies by 30 weeks of gestation and were dependent on high-risk diagnosis received later in pregnancy.

Figure 3. Rate of Negative Outcomes by Race and Social Vulnerabilities

Race (episodes)	Low SES	High SES	Low SES + High SES	High SES + Low SES	High SES + High SES	Low SES + Low SES
Black	6.8%	1.0%	3.8%	4.1%	3.8%	4.8%
White	3.8%	1.0%	1.4%	1.1%	1.0%	1.0%
Hispanic	6.1%	1.0%	1.4%	1.0%	1.0%	1.0%
Other	3.8%	1.0%	1.0%	1.0%	1.0%	1.0%

Black or African American members with household and disability vulnerabilities have a 1.62 times higher rate of negative outcome, compared to all pregnancies.

Negative outcomes are severe maternal morbidity, low birth weight, or neonatal inpatient stay of less than 48 hours.

DESIGN

METHODS

Early Pregnancy Identification

- Pregnancy episodes were created using pregnancy claim history to improve detection accuracy that often can be clouded by global billing, consecutive pregnancy tests, and inaccurate diagnosis.
- Flags were appropriately assigned for pregnancies that did, or did not, result in a delivery, and pregnancies that had a negative outcome during the delivery.
- Claims were ordered by date, so that the timing of the first claim, for a given pregnancy, was determined.

Risk Assessment

- Only risk factors known before the first claim of each episode were used to investigate the risk factor's association with negative outcomes.
- The exclusionary reasons for the CDC's Severe Maternal Morbidity (SMM) and the Agency for Healthcare Research and Quality's Primary Cesarean Section heavily influenced and inspired the risk factors.
- BCBSLA's Blue AI models enhance the prioritization.
 - These include Risk of Hospitalization, Risk of Emergency Department (ED) Event, Risk of High-Cost Claimant, and Impactability Score.
 - In the final stages, race and social determinants of health were compared to negative outcomes and applied as further enhancements to risk scoring.
- BCBSLA clinical resources then analyzed all risk factors to ensure their relevance to pregnancy outreaches.

Figure 2. Risk Factors Driving Prioritization

Pregnancies with four or more risk factors have a negative outcome rate 1.68 times higher than those with no historic risk factors.

PROGRAM IN ACTION

2023 Referrals

- BCBSLA Care Management nurses accepted 30 referrals.
- Referred members are estimated to be at 14.5 weeks of gestation.
- The highest risk members and those with social vulnerabilities are prioritized for outreach.
- 22% of referred population had four or more risk factors, while only 17% of identified population have greater risk factors (3% of those referred more than one second trimester, compared to 4% for all members).

CONCLUSION

Maternal health is a paramount concern that is being addressed urgently. BCBSLA is committed to prioritizing maternal health initiatives to ensure the well-being of Louisiana mothers and their babies. Through faster and more accurate identification of pregnancies and better understanding of appropriate risk factors, the pursuit of better maternal health is being achieved.



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ISSUES

Protecting Black mothers by addressing disparities

The United States has one of the highest maternal death rates of any developed nation, and poor maternal health outcomes disproportionately affect women of color. For Black women, structural inequities and systematic racism threaten access to necessary care before, during and after childbirth. Racial and ethnic biases across the health care system have left Black women facing these stark and worsening outcomes regardless of socioeconomic status.



BCBS companies are committed to partnering with policymakers and other stakeholders to address the underlying bias and structural racism that lead to the glaring maternal health disparities threatening women of color.

Health
Matthe

Cara Anderson, MSA

Justin Weng, MSA

Emanuel Lucas, MPH

Yuan Zhang, PhD

Benjamin Vicidomina, BS

Clinical Management

Tonya Evans, RN

Julia Sampson, RN

Diedre Barfield, MD





Tasha Bergeron, MSPH, RN
Director of Population Health



Tasha.Bergeron@bcbsla.com