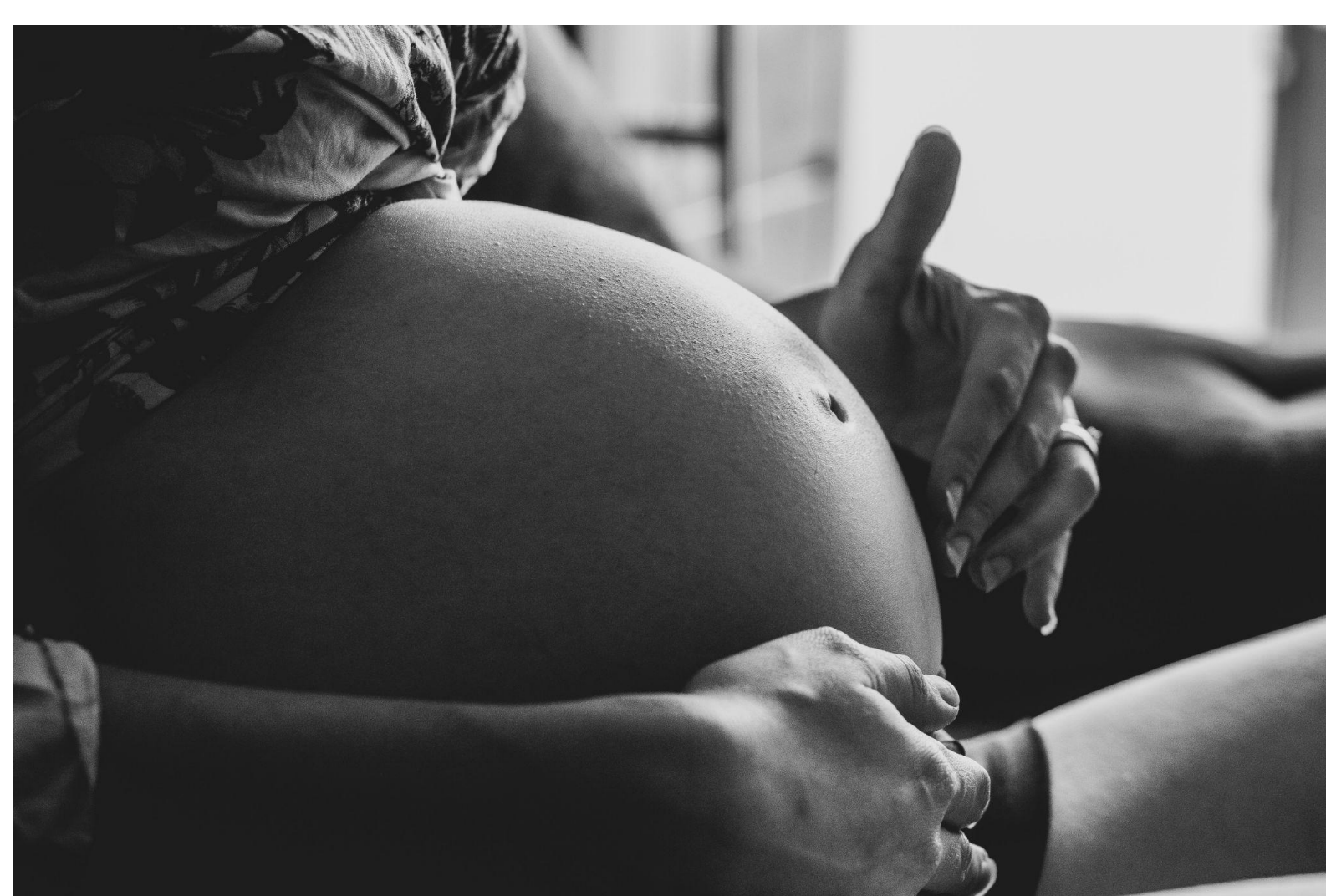


Gabriella Bermeo, Kate Bragg, Jessie Duranko, & Susannah Gaines with Faculty Mentor Dr. Valerie Herbert
University of Maine School of Nursing

Introduction

A drastic difference between Black maternal mortality rates (MMR) compared to White MMR exists. Studies have shown the **Black MMR to be 3.55 times that of the White MMR**, with **3 in 5 Black maternal deaths being preventable**. A correlation exists between poor use of prenatal care services and adverse maternal outcomes. Black pregnant women are at risk for no use, or late use (starting in the second or third trimester) of prenatal care. Research has shown that Black women experience higher rates of diabetes, hypertension, and cardiovascular disease. During pregnancy, these conditions increase complications in preterm births, preeclampsia and eclampsia, hypertensive disorders, and postpartum hemorrhage. The purpose of this project is to understand the cause of this disparity between Black and White MMRs and determine if access to quality prenatal care and screenings can close the gap.



PICO Question

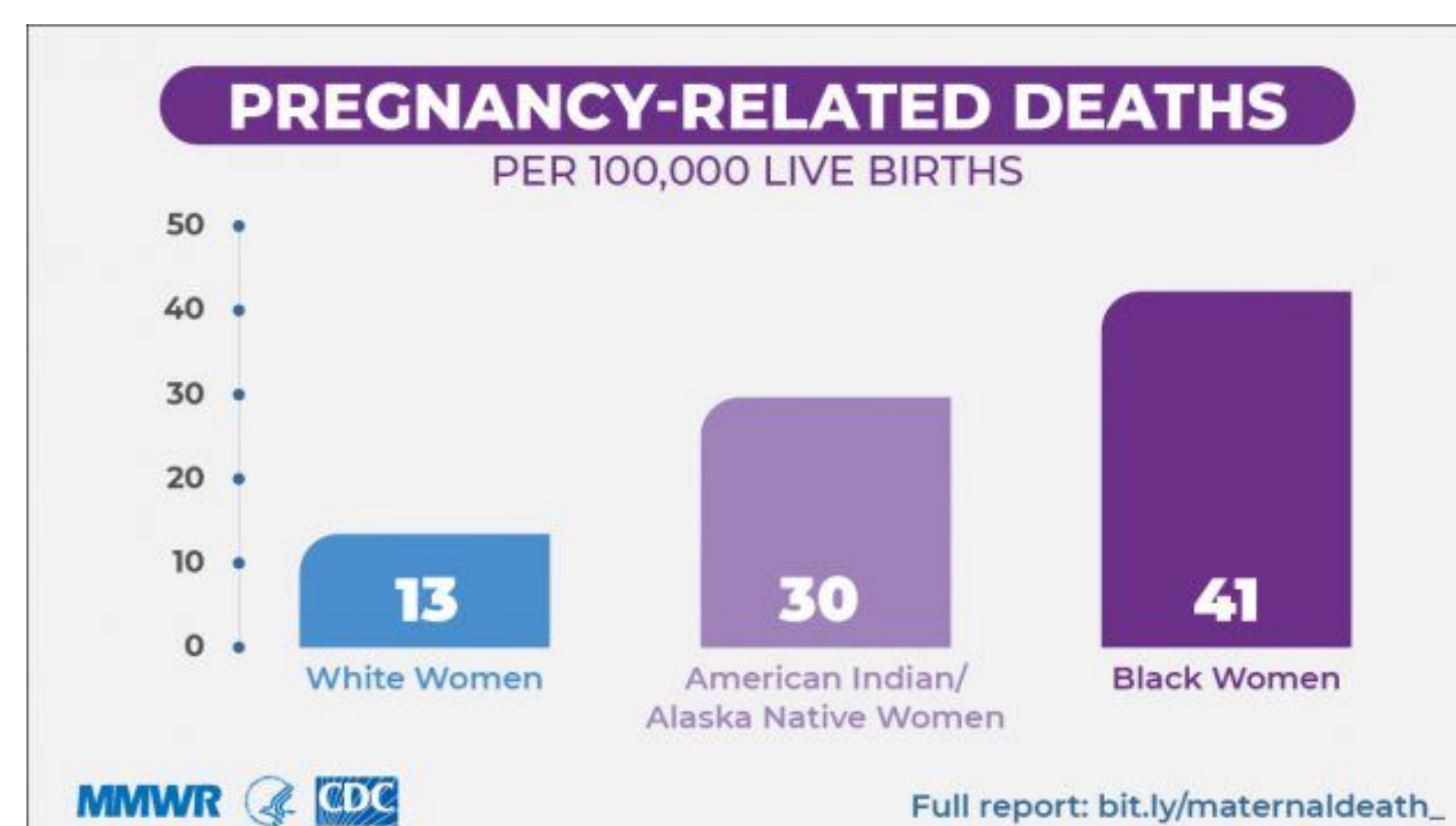
For pregnant Black women (P), how does access to quality prenatal care and screenings for common pregnancy complications (I), such as pregnancy induced hypertension, compared to pregnant Black women of childbearing age that do not receive prenatal care and screenings (C), affect the maternal mortality rate (O)?

Methods

A search was conducted for research articles within CINAHL, PubMed, and Google Scholar using the terms and phrases “maternal mortality”, “racial disparities”, “Black pregnant women”, and “prenatal care”. Search criteria included research articles published between 2017 and 2022 and that included the keywords. Eleven articles were chosen that fell within the search criteria.

Keywords: Maternal Mortality, Black Pregnant Women, Racial Disparities, Prenatal Care

Figure #1



<https://www.cdc.gov/mmwr/volumes/68/wr/mm6835a3.htm#>

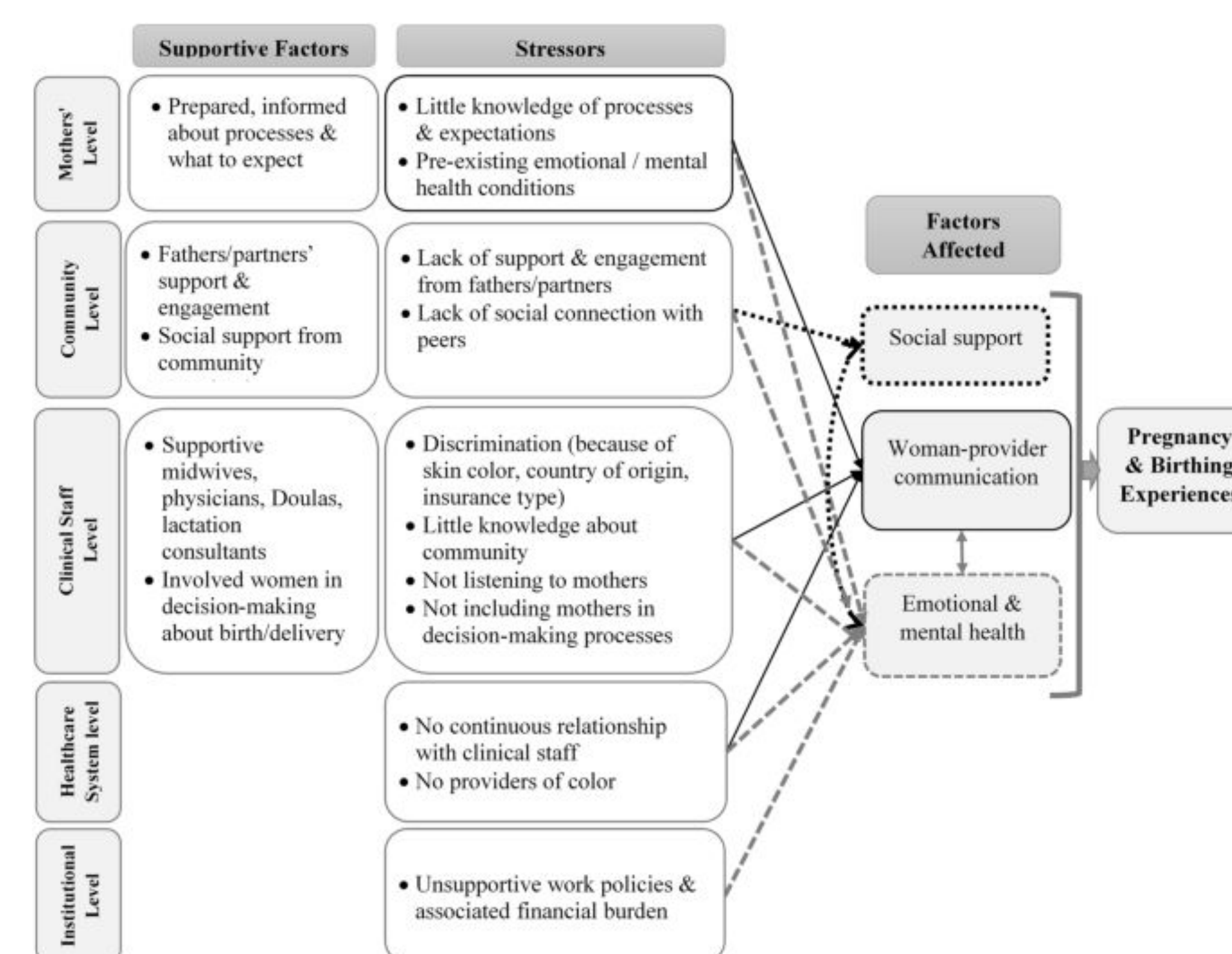
Interventions

- Improve access to prenatal care
- Screenings for complications - hypertension & diabetes
- Adequate staff education on cultural competency and implicit bias
- Improve quality of care: standardized assessments for mothers and infants
- Improve woman-provider communication
- Community-based prenatal education
- Community-based collaboratives to unite providers with community leaders
- Improve access to critical services
- Enhance support for families

Results

- Leading causes of MM are obstetric embolism, eclampsia, preeclampsia, postpartum cardiomyopathy, obstetric hemorrhage, and complications from obstetric surgery (MacDorman et al., 2020)
- Racial disparities between Black and White maternal deaths has multifactorial causation including (Alio et al., 2022): Prevalence of pre-existing conditions, access to care, implicit bias among providers, and structural racism.
- Need for physicians and nurses of color
 - It was found that Black women felt more comfortable with, related to, and understood when their providers were also Black (Alio et al., 2022)
- Black women experience poor communication and feel uncomfortable with providers due to a lack of understanding of what to expect, discrimination, and a lack of provider understanding of their living conditions and culture Alio et al., 2022)
- Community-based public health programs aimed at prenatal education and support have been shown to reduce maternal mortality (Bernet et al., 2020)

Figure #2



Conclusions

- **Earlier initiation of prenatal care and increased prenatal visits is associated with improved maternal health outcomes**
- Management of chronic conditions such as diabetes, hypertension, and cardiovascular disease reduces preventable maternal deaths
- **Screening and management for eclampsia and preeclampsia among Black pregnant women reduces rates of preventable deaths**
- Increase provider diligence in monitoring for and treating cardiovascular conditions to improve maternal outcomes
- Increasing provider awareness of postpartum cardiomyopathy in other health disciplines (emergency & primary care) improves early diagnosis and treatment
- More research is needed to understand the lived experiences of pregnant Black women.
 - Psychosocial experiences & Socioeconomic experiences
- **Clinicians must improve health literacy to improve communication with patients - vital component for improving Black maternal health outcomes**
- Evidence supports community-based prenatal education and referral for services

References

Alio, A., Dillon, T., Hartman, S., Johnson, T., Turner, S., Bullock, S., Dozier, A. (2022). A community collaborative for the exploration of local factors affecting Black mothers' experiences with perinatal care. *Maternal and Child Health Journal*, 26(4), 751-760. <https://doi.org/10.1007/s10995-022-03422-5>

Adegoke, T. M., Pinder, L. F., Ndiwane, N., Parker, S. E., Vragovic, O., & Yarrington, C. D. (2021). Inequities in adverse maternal and perinatal outcomes: The effect of maternal race and nativity. *Maternal and Child Health Journal*, 26(1), 823-833. <https://doi.org/10.1007/s10995-021-03225-0>

Bernet, P., Gumus, G., Vishwasrao, S. (2020). Maternal mortality and public health programs: Evidence from Florida. *The Milbank Quarterly*, 98(1), 150-171. <https://doi.org/10.1111/1468-0009.12442>

MacDorman, M. F., Thoma, M., Declercq, E., Howell, E. A. (2021). Racial and ethnic disparities in maternal mortality in the United States using enhanced vital records, 2016-2017. *American Journal of Public Health Associations*, 111(9), 1673-1681. <https://doi.org/10.2105/AJPH.2021.306375>

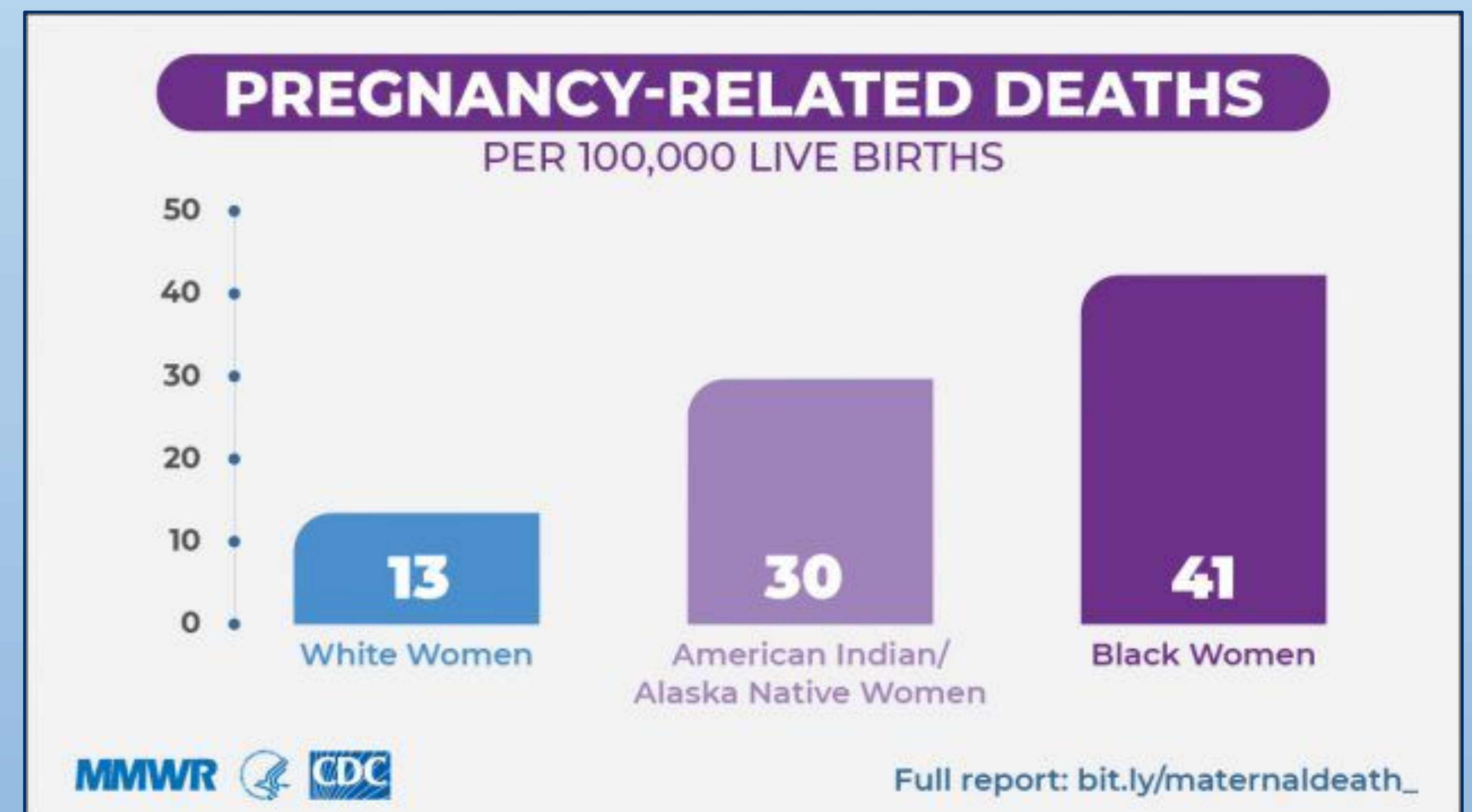
Introduction & PICO Question

Background:

- Black maternal mortality rate (MMR) 3.55 times higher than White
- Black pregnant women are at risk for not using prenatal care
- Black women have higher rates of chronic health conditions that increase complications in pregnancy

PICO:

- (P) - pregnant Black women
- (I) - access to quality prenatal care & screenings for common pregnancy complications
- (C) - pregnant Black women who do not receive access to prenatal care & screenings
- (O) - affect on Black maternal mortality rate



<https://www.cdc.gov/mmwr/volumes/68/wr/mm6835a3.htm#>

Methods

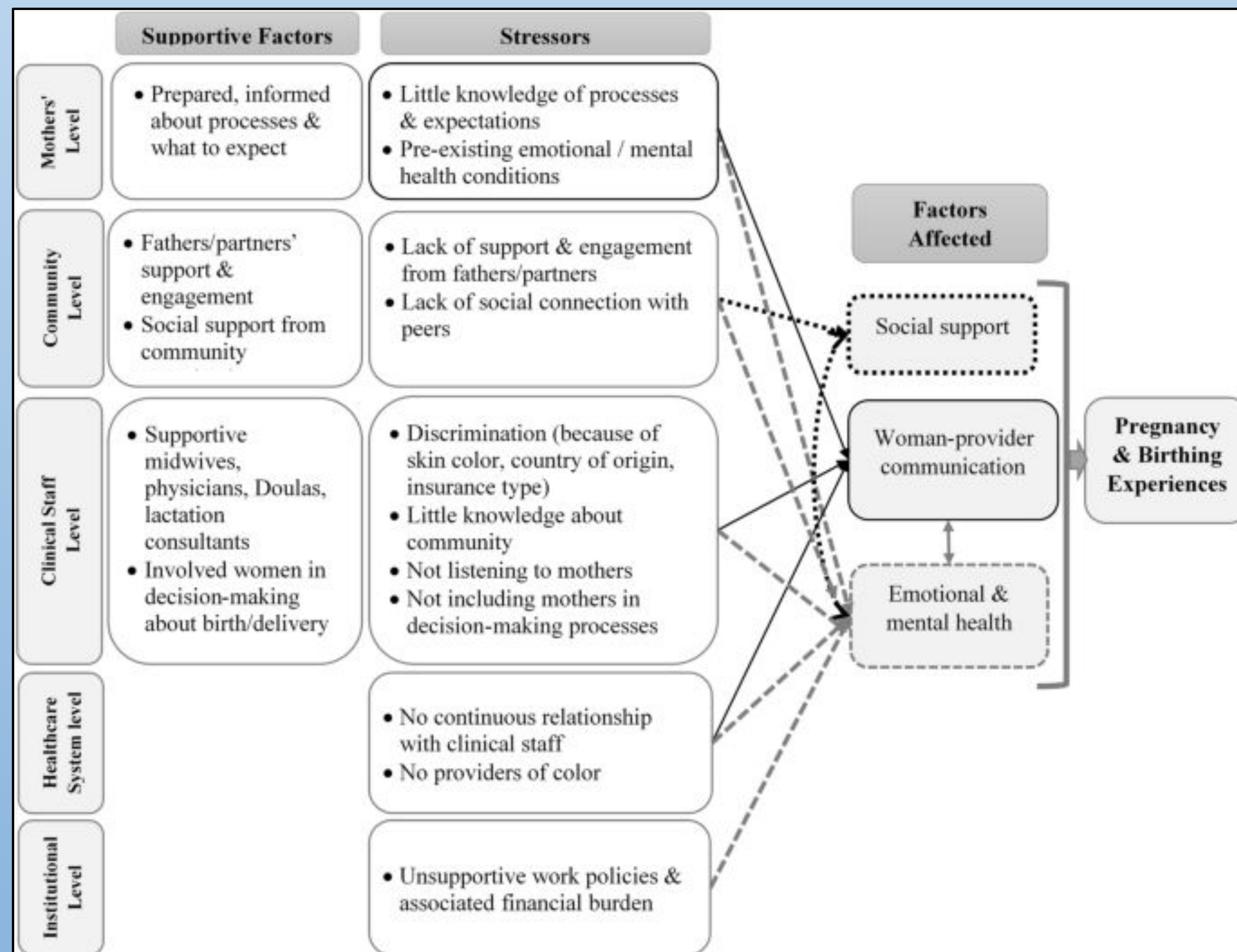
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Key words: maternal mortality, Black pregnant women, racial disparities, prenatal care



Results

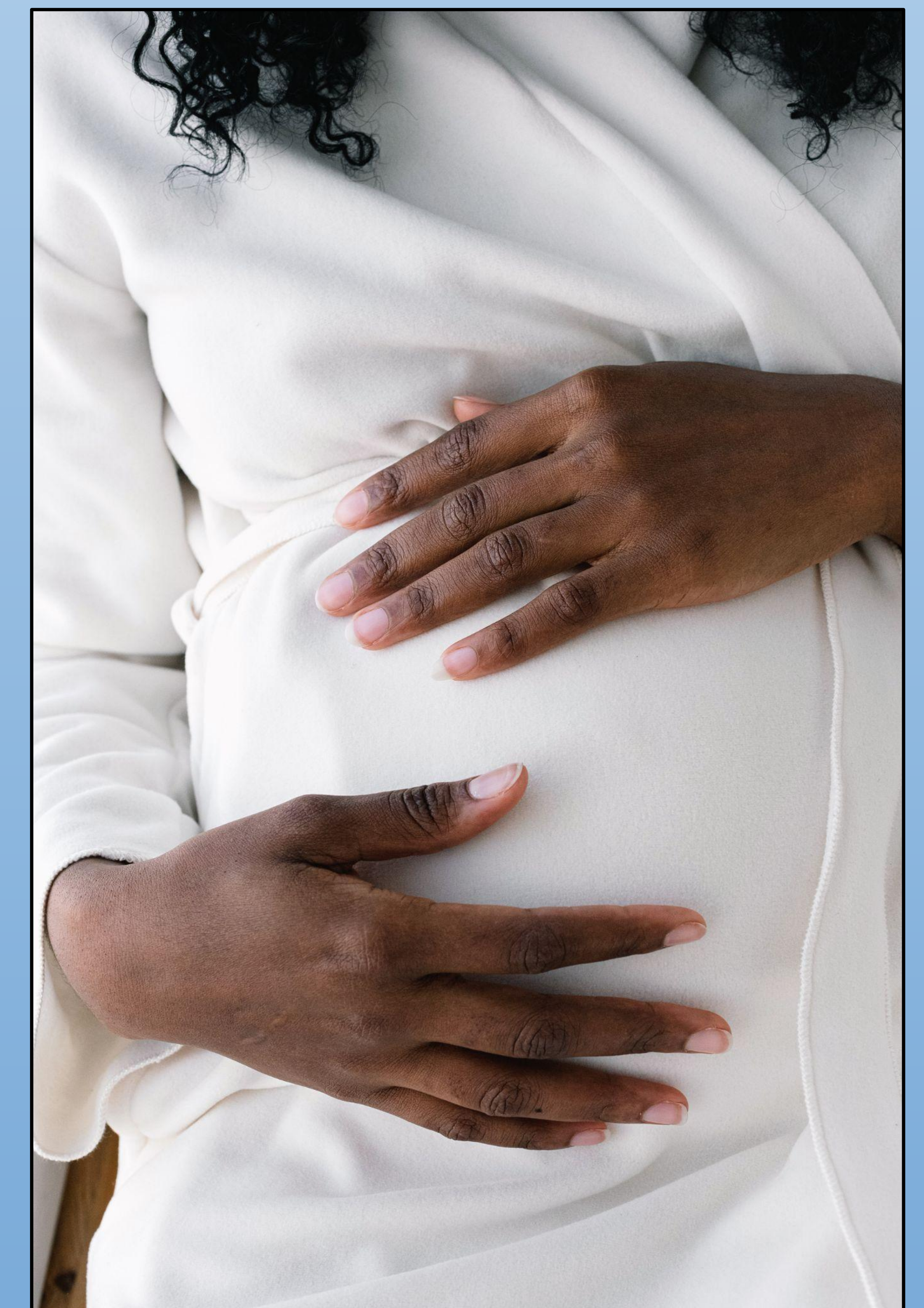


(Alio et al., 2022)

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References

- Adegoke, T. M., Pinder, L. F., Ndiwane, N., Parker, S. E., Vragovic, O., & Yarrington, C. D. (2021). Inequities in adverse maternal and perinatal outcomes: The effect of maternal race and nativity. *Maternal and Child Health Journal*, 26(1), 823-833. <https://doi.org/10.1007/s10995-021-03225-0>
- Alio, A., Dillion, T., Hartman, S., Johnson, T., Turner, S., Bullock, S., Dozier, A. (2022). A community collaborative for the exploration of local factors affecting Black mothers' experiences with perinatal care. *Maternal and Child Health Journal*, 26(4), 751-760. <https://doi.org/10.1007/s10995-022-03422-5>
- Bernet, P., Gumus, G., Vishwasrao, S. (2020). Maternal mortality and public health programs: Evidence from Florida. *The Milbank Quarterly*, 98(1), 150-171. <https://doi.org/10.1111/1468-0009.12442>
- Das, S., Sahu, M., Mohapatra, S., Padmavati, V. M., Panigrahi, P. K. (2018). Pregnancy induced hypertension and fetomaternal outcome in a tertiary care hospital in eastern India: A prospective study. *Journal of Clinical & Diagnostic Research*, 12(11), 17-21. <https://doi.org/10.7860/JCDR/2018/37432.12288>
- Dyer, L., Chambers, B. D., Crear-Perry, J., Theall, K. P., Wallace, M. (2022). The index of concentration at the extremes (ICE) and pregnancy-associated mortality in Louisiana, 2016-2017. *Maternal and Child Health Journal*, 26(4), 814-822. <https://doi.org/10.1007/s10995-021-03189-1>
- Gadson, A., Akpovi, E., Mehta, P. K. (2017). Exploring the social determinants of racial/ethnic disparities in prenatal care utilization and maternal outcome. *Seminars in Perinatology*, 11(5), 308-317. <https://doi.org/10.1053/j.semperi.2017.04.008>
- Grobman, W. A., Parker, C. B., Willinger, M., Wing, D. A., Silver, R. M., Wapner, R. J., Simhan, H. N., Parry, S., Mercer, B. M., Haas, D. M., Peaceman, A. M., Hunter, S., Wadhwa, P., Elovitz, M. A., Foroud, T., Saade, G., Reddy, U. M., & Eunice Kennedy (2018). Racial Disparities in Adverse Pregnancy Outcomes and Psychosocial Stress. *Obstetrics and gynecology. National Library of Medicine* 131(2), 328-335. <https://doi-org.wv-o-ursus-proxy02.ursus.maine.edu/10.1097/AOG.0000000000002441>
- Guglielminotti, J., Wong, C. A., Friedman, A. M., Li, G. (2021). Racial and ethnic disparities in death associated with severe maternal morbidity in the United States. *Obstetrics & Gynecology*, 137(5), 791-800. <https://doi.org/10.1097/AOG.0000000000004362>
- Henry, C. J., Higgins, M., Carlson, N., Song, M. K. (2021). Racial disparities in stillbirth risk factors among non-Hispanic Black women and non-Hispanic White women in the United States. *American Journal of Maternal Child Nursing*, 46(6), 352-359. <https://doi.org/10.1097/NMC.0000000000000772>
- Hussani, K. S., Gardesey, M. D., Yocher, G., Paul, D. A. (2020). Evaluating the health outcomes of the healthy women healthy babies program in Delaware. *Maternal and Child Health Journal*, 24(10), 1259-1266. <https://doi.org/10.1007/s10995-020-02972-w>
- MacDorman, M. F., Thoma, M., Declerq, E., Howell, E. A. (2021). Racial and ethnic disparities in maternal mortality in the United States using enhanced vital records, 2016-2017. *American Journal of Public Health Associations*, 111(9), 1673-1681. <https://doi.org/10.2105/AJPH.2021.306375>