



Obstetrical Care Outcomes Assessment Program: A White Paper in Three Parts

Part II: Social Determinants of Health and Equity

Funded by a generous grant from [United Healthcare](#).

Disparities in Obstetrical Health and Care

While maternity care in America is indeed failing our population health needs broadly, minoritized groups experience a disproportionate share of morbidity and mortality. For every non-Hispanic white birthing person who dies, three to four non-Hispanic black birthing people die and almost two and a half American Indian/Alaska native birthing people die, as illustrated below.¹

¹ Nationally and internationally, a maternal death is traditionally defined as one within 42 days of the end of pregnancy from any cause related to or made worse by pregnancy or pregnancy management not including accidents.² Washington State extends this definition to include a death within 12 months. Racial and ethnic disparities in these statistics may be larger than reported. However, much population health-level data relies on sources in which information on race, ethnicity, and other demographics is missing, does not use federally defined categories, or has uncertainty in accuracy due to collection issues.³

For every 1 non-Hispanic white pregnant person who dies...	3 to 4 non-Hispanic black pregnant people die	How are these women dying? ⁴
	2.3 American Indian/Alaska Native pregnant people die	







- More than 33% from cardiovascular complications
- 12% from infection
- 11% hemorrhage

Among all birthing people, cardiovascular complications are the leading cause of maternal deaths, followed by infection, and hemorrhage. Among non-Hispanic black pregnant people, cardiovascular complications (including eclampsia, preeclampsia, postpartum cardiomyopathy) are each five times higher than for white pregnant people.⁵

Action Step: Ask if you can stratify your patients’ processes of care and outcomes by race and ethnicity.

Aside from race, having pre-pregnancy hypertension, diabetes, self-reported poor or fair health, or a BMI ≥30; being over 40; and not having completed high school or received a GED are all associated with increased risk of perinatal mortality.⁶ Pre-pregnancy hypertension, diabetes, and a BMI ≥30 have also been associated with severe maternal morbidity along with excessive gestational weight gain, being over 35, having less than a college education, and being covered by public insurance.⁷ Further, pre-pregnancy complications are increasing among the American birthing population as is the age of a person’s first pregnancy, resulting in more high-risk pregnancies.⁸

¹ Race in health data (as defined by the Federal Office of Management and Budget) is most often broken down into five categories: American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White. ¹ Ethnicity, which overlays on top of race, is most often broken down into two categories, Hispanic and non-Hispanic; Hispanic referring to those who can track ancestry from “Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin regardless of race.”¹ State governments can expand these categories, Asian can be broken into: Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese, or Other Asian, but categories must be able to be collapsed into the five primary groups.



Drivers of Disparities

Poor perinatal outcomes stem from higher rates of predisposing medical conditions, such as obesity and hypertension, that are exacerbated by poor clinical experiences (e.g., prenatal care, labor and delivery management, postpartum follow-up) and the social environment around the birthing person.⁹ Those living in rural areas also have a significantly higher mortality and morbidity rate compared to those giving birth in urban areas due to differences in clinical care and social environment.^{10,11} Those who visually present as people of color often experience worse quality of care in a clinical encounter due to both implicit (unknown to the person) and explicit bias and stereotyping.¹² Day-to-day experiences build on historic injustices, especially around reproductive autonomy.^{13,14} Black newborns experience twice the newborn mortality rate when compared to white newborns.¹⁵ When black newborns are cared for by a physician who is also black, this mortality rate is halved, indicating clinician-specific influence on mortality.¹⁶

In her essay on almost dying from a blood clot after giving birth, athlete and activist Serena Williams says, “*Giving birth to my baby, it turned out, was a test for how loud and how often I would have to call out before I was finally heard... Being heard and appropriately treated was the difference between life or death for me; I know those statistics would be different if the medical establishment listened to every black woman’s experience.*” Read [here](#).

Action Step: Take an [implicit bias test](#).

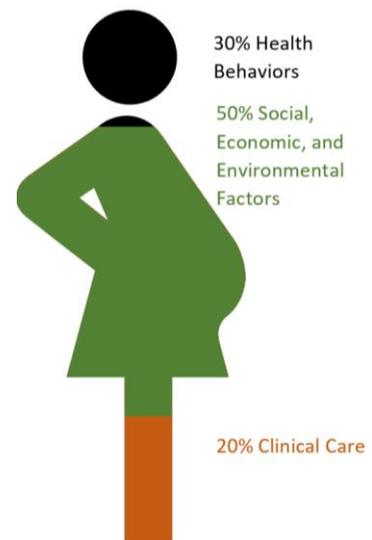
The social determinants of health are “*the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life.*”¹⁷

While clinical care does increase overall health and length of life through preventing, diagnosing, managing, and treating conditions and diseases, the social determinants contribute to a much larger proportion of a person’s overall modifiable quality and length of life than clinical care, 50% compared to about 20%.^{18,19} Homelessness or housing insecurity during pregnancy is associated with twice the odds of pregnancy complications such as hemorrhage or preterm labor even when adjusted for co-occurring alcohol, opioid, and non-opioid drug use.²⁰

Individual screening for social risk helps target social services, inform care planning, discharge planning, and address a person’s complex needs, as well as inform the needs of a community overall. The American Academy of Family Physicians, the National Association of Community Health Centers, and the American Academy of Pediatrics all recommend screening in a clinical setting to identify and intervene in an individual’s social risk.^{21,22}

Despite this emphasis on screening, a 2017 national survey reported that only 25% of hospitals screened for five common social determinants of health.²¹

In addition to a higher likelihood of poor clinical encounters, a cumulative lifetime of stressful experiences and racially charged microaggressions has been implicated in higher non-Hispanic black maternal and infant mortality. Called weathering, the cumulative stress or allostatic load from continuous systematic and individualized racism is thought to accelerate a person’s physiological aging, increasing risk of morbidity and mortality, especially during the physiologically stressful experience of pregnancy.^{23,24} Additionally, non-Hispanic black people are more likely to live in neighborhoods of concentrated poverty, a factor that alone increases the risk of preterm delivery for all racial groups.^{25,26}



Action Step: Ask if your delivery site is collecting information about patient housing and food security, transportation access, and experience of domestic violence, and can offer same-day resources.



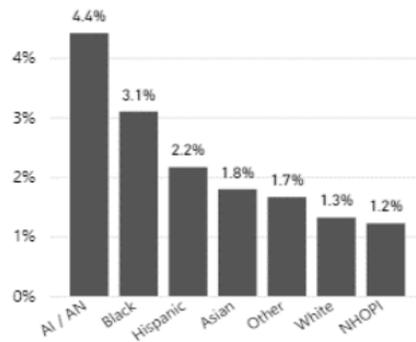
OB COAP Opportunities

OB COAP allows delivery sites and clinicians to look at birthing people as individuals, identify who is most at risk for complications, and conduct interventions for individuals and for marginalized populations that are more likely to experience poor outcomes. While community-level data are only 48% accurate in predicting an individual’s social need,²⁷ the OB COAP database captures whether a person has been screened for housing and food insecurity, lack of transportation, preferred language, and experience of domestic violence. These person-specific, clinical data can assist delivery sites in building pathways for intervening and connecting birthing people to resources, benchmark a community standard of care, and hold organizations and communities accountable. Clinical data can stratify outcomes by race, ethnicity, and insurance provider. Interventions can target improvement towards poorer performing health professionals, medical groups, or delivery sites.

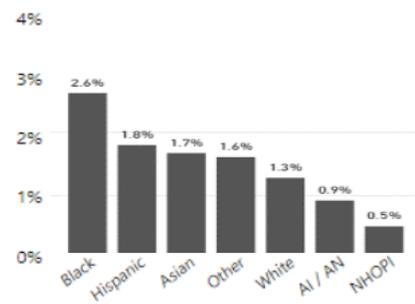
Examination of maternal and newborn metrics by race and ethnicity demonstrates disparity across groups in almost every instance. However, further stratification by layering on payer information illustrates even more dramatic inequities. The ability to identify the specific populations most at risk allows for development of targeted strategies for change.

Health professional-level variation in practice and outcomes can easily be buried within aggregate reporting methodologies. OB COAP’s data includes specific health professional identification as well as role (i.e., prenatal care, admission, labor management, delivery). Identifying the role an outlier has played in the birth trajectory is critical to focused and appropriate implementation of interventions.

**Severe Maternal Morbidity
Payor = MEDICAID**



**Severe Maternal Morbidity
Payor = COMMERCIAL**



OB COAP also allows collection of information on emerging or untested interventions such as the increased use of telemedicine in prenatal care and the impact of having a doula present during labor and delivery. Understanding impact, both intended and unintended, of these practices on both the childbearing person and the newborn is essential to determining efficacy and to ensure that the most vulnerable populations benefit and do not experience additional harm.

Action Step: Ensure your planned birthing location or maternity care practice group is a **member of OB COAP** and using reports stratified by race, ethnicity, and payor to identify internal trends benchmarked against OB COAP-wide trends and are part of the multidisciplinary learning collaborative and read **part III: Creating Sustainable, Person-Centered Improvement Processes.**

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- ¹ Creanga AA, Syverson C, Seed K, Callaghan WM. Pregnancy-Related Mortality in the United States, 2011–2013. *Obstet & Gynecol.* 2017;130:366-373.
- ² World Health Organization. International statistical classification of diseases and related health problems, 10th revision. 2008 ed. 2009.
- ³ Saunders H, Chidambaram. Medicaid Administrative Data: Challenges with Race, Ethnicity, and Other Demographic Variables. Kaiser Family Foundation. April 28, 2022. Accessed: June 2022. Available: www.kff.org/medicaid/issue-brief/medicaid-administrative-data-challenges-with-race-ethnicity-and-other-demographic-variables/
- ⁴ Centers for Disease Control and Prevention. Pregnancy Mortality Surveillance System. Accessed: March 2019. Available: www.cdc.gov/reproductivehealth/maternalinfanthealth/pregnancy-mortality-surveillance-system.htm
- ⁵ MacDorman MF, Thoma M, Declercq E, Howell EA. Racial and Ethnic Disparities in Maternal Mortality in the United States Using Enhanced Vital Records, 2016–2017. *Am J Public Health.* 2021 Sep;111(9):1673-1681.
- ⁶ Nelson DB, Moniz MH, Davis MM. Population-level factors associated with maternal mortality in the United States, 1997-2012. *BMC Public Health.* 2018 Aug 13;18(1):1007.
- ⁷ Freese KE, Bodnar LM, Brooks MM, McTIGUE K, Himes KP. Population-attributable fraction of risk factors for severe maternal morbidity. *Am J Obstet Gynecol MFM.* 2020 Feb;2(1):100066.
- ⁸ Blue Cross Blue Shield. Trends in Pregnancy and Childbirth Complications in the US. June 17, 2020. Accessed: June 2022. Available: www.bcbs.com/the-health-of-america/reports/trends-in-pregnancy-and-childbirth-complications-in-the-us
- ⁹ Institute of Medicine (US) Committee on Understanding and Eliminating Racial and Ethnic Disparities in Healthcare, Smedley BD, Stith AY, Nelson AR, eds. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Healthcare.* Washington (DC): National Academies Press (US); 2003.
- ¹⁰ Zozhimannil KB, Interrante JD, Henning-Smith C, Admon LK. Those living in rural areas also have a significantly higher mortality rate compared to those giving birth in urban areas. *Health Affairs.* 2019. Vol 38 No 12.
- ¹¹ National Advisory Committee on Rural Health and Human Services. *Maternal and Obstetric Care Challenges in Rural America: Policy Brief and Recommendations to the Secretary.* May 2020. Accessed: June 2022. Available: www.hrsa.gov/sites/default/files/hrsa/advisory-committees/rural/2020-maternal-obstetric-care-challenges.pdf
- ¹² Institute of Medicine (US) Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care.* Smedley BD, Stith AY, Nelson AR, editors. Washington (DC): National Academies Press (US); 2003. PMID: 25032386.
- ¹³ Blue Bird Jernigan V, Peercy M, Branam D. Beyond health equity: achieving wellness within American Indian and Alaska Native communities. *Am J Public Health.* 2015;105 Suppl 3(Suppl 3):S376–S379.
- ¹⁴ Prather C, Fuller TR, Jeffries WL 4th, et al. Racism, African American women, and their sexual and reproductive health: A review of historical and contemporary evidence and implications for health equity. *Health Equity.* 2018;2(1):249–259. Published 2018 Sep 24.
- ¹⁵ MacDorman MF, Mathews TJ. Understanding racial and ethnic disparities in U.S. infant mortality rates. NCHS data brief, no 74. Hyattsville, MD: National Center for Health Statistics. 2011.
- ¹⁶ Greenwood BN, Hardeman RR, Huang L, Sojourner A. Physician-patient racial concordance and disparities in birthing mortality for newborns. *Proc Natl Acad Sci U S A.* 2020 Sep 1;117(35):21194-21200.
- ¹⁷ World Health Organization. Social determinants of health. 2022. Accessed: March 2022. Available: www.who.int/health-topics/social-determinants-of-health
- ¹⁸ County Health Rankings & Roadmaps Measures and Data Sources. Robert Wood Johnson Foundation. 2021. Accessed: May 2021. Available: www.countyhealthrankings.org/explore-health-rankings/measures-data-sources
- ¹⁹ Berwick DM. The Moral Determinants of Health. 2020. *JAMA.* 324(3), 225.
- ²⁰ Clark RE, Weinreb L, Flahive JM, Seifert RW. Homelessness Contributes To Pregnancy Complications. *Health Aff (Millwood).* 2019 Jan;38(1):139-146.
- ²¹ Frazee TK, Brewster AL, Lewis VA, Beidler LB, Murray GF, Colla CH. Prevalence of screening for food insecurity, housing instability, utility needs, transportation needs, and interpersonal violence by US physician practices and hospitals. *JAMA Network Open.* 2(9). 2019 e1911514.
- ²² Committee on Integrating Social Needs Care into the Delivery of Health Care to Improve the Nation’s Health, Board on Health Care Services, Health and Medicine Division, and National Academies of Sciences, Engineering, and Medicine. *Integrating Social Care into the Delivery of Health Care: Moving Upstream to Improve the Nation’s Health* (p. 25467). 2019. National Academies Press.
- ²³ Guidi J, Lucente M, Sonino N, Fava GA. Allostatic load and its impact on health: A systematic review. *Psychother Psychosom.* 2021;90(1):11-27.
- ²⁴ Riggan KA, Gilbert A, Allyse MA. Acknowledging and addressing allostatic load in pregnancy care. *J Racial Ethn Health Disparities.* 2021 Feb;8(1):69-79.
- ²⁵ Holzman C, Eyster J, Kleyn M, Messer LC, Kaufman JS, Laraia BA, O’Campo P, Burke JG, Culhane J, Elo IT. Maternal weathering and risk of preterm delivery. *Am J Public Health.* 2009 Oct;99(10):1864-71.
- ²⁶ Austin A. African Americans are still concentrated in neighborhoods with high poverty and still lack full access to decent housing. Economic Policy Institute. July 22, 2013. Accessed: June 2022. Available: www.epi.org/publication/african-americans-concentrated-neighborhoods/
- ²⁷ Cottrell EK, Hendricks M, Dambrun K, Cowburn S, Pantell M, Gold R, Gottlieb LM. Comparison of community-level and patient-level social risk data in a network of community health centers. *JAMA Network Open.* 2020. 3(10), e2016852.