Reducing Maternal Peripartum Racial and Ethnic Disparities in Anesthesia Care: Statement and Recommendations

Committee of Origin: Obstetric Anesthesia

(Approved by the ASA House of Delegates on October 13, 2021)

Introduction:

Racial and ethnic disparities are prevalent within maternal health care. Disparities in maternal health have been identified in the peripartum period, most notably in maternal mortality, severe maternal morbidity, and in the use of neuraxial labor analgesia. Disparities can originate at the patient-level, provider-level, or healthcare system-level.[1] Understanding the root of these disparities is essential for developing and implementing solutions to reduce outcome inequities. In this review, we summarize what is currently known about racial and ethnic disparities in peripartum outcomes in anesthesia care and address potential structural solutions to reduce them.

Throughout this document, we use the United States (US) Census Bureau race categories: White, Black or African American, Hispanic, American Indian or Alaska Native, Asian, and Native Hawaiian or Other/Pacific Islander to discuss maternal health disparities within the United States.[2] Similarly, this document uses the US Census Bureau's ethnicity as Hispanic or non-Hispanic ethnicity.[2] A broader definition of ethnicity denotes groups that share a common identity-based ancestry, language or cultural affiliation. While this document focuses on racial and ethnic disparities, other disparities exist, including disparities by socio-economic status, obesity, opioid use disorder and others. Disparities based on race and ethnicity demand our attention especially given the overwhelming data that prevents denial of the existence, prevalence and impact. Furthermore, in this document, we discuss racial and ethnic categories, but it is important to note that race and ethnicity are social constructs, and neither is being used as a biological determinant as it relates to anesthetic disparities.

Analgesic and Anesthetic disparities:

Neuraxial labor analgesia, such as epidural or combined spinal-epidural analgesia, is the most effective treatment modality for the severe pain associated with childbirth.[3] Both the American College of Obstetricians and Gynecologists (ACOG) and the American Society of Anesthesiologists (ASA) have promoted the use of neuraxial analgesia due to its adaptability, efficacy and minimal effects on the neonate.[4] In the US, 60% of obstetric patients use neuraxial labor analgesia for pain control,[5] yet Black and Hispanic women are less likely to receive neuraxial labor analgesia than non-Hispanic white women.[6-8] This finding has persisted across multiple studies, which have controlled for patient-level factors such as age and clinical resources, including the availability of anesthesiologists in the area.[6] Spanish-speaking Hispanic women for example, are less likely to anticipate (adjusted odds ratio 0.70 [97.5% CI: 0.53-0.92]) and use (adjusted odds ratio 0.88 [97.5% CI: 0.78-0.99]) neuraxial labor analgesia when compared to English-speaking Hispanic women. These disparities persist when adjusting for age, marital status, income, obstetric provider type (obstetrician/midwife), and labor type.[9] There are likely multiple factors that lead to these differences in neuraxial labor analgesia use including familiarity with the procedure, but this may be tainted by misconceptions,[10] particularly concerns about chronic back pain and fears of paralysis. It is important to note that many studies which have used administrative databases to evaluate disparities do not have information on whether patients were counseled and whether

deciding to use a non-neuraxial method was in accordance with their preferences. This does not diminish the importance of providing accurate, language concordant education which has been shown to reduce disparities due to misunderstandings about the procedure.[43]

Disparities have also been shown in the type of anesthesia administered for cesarean delivery, with minority women being more likely to undergo general anesthesia than non-Hispanic white women.[11,12] It is possible that the differential use of epidural analgesia among minority women contributes to the increased use of general anesthesia for cesarean delivery, however this relationship has not been elucidated due to limitations of datasets studied.

Finally, disparities in maternal pain management have been demonstrated in the literature. For example, in one single institution study, severe post-cesarean delivery pain (i.e., a pain score of 7/10 or greater) was more common among women identifying as Black (28%) and Hispanic (22%), compared to those who identified as White (20%) or Asian (15%).[13] Despite having more severe pain, Black and Hispanic women had fewer pain assessments performed and received significantly less opioid pain medication compared to non-Hispanic white women.[13]

Disparities in Severe Maternal Morbidity

Severe maternal morbidity (SMM) has multiple definitions in the literature. ACOG and the Society for Maternal Fetal Medicine (SMFM) describe severe maternal morbidity (SMM) as an unintended outcome in the birthing process that may have significant short- and long-term maternal health consequences.[14] The Center for Disease Control and Prevention has 21 indicators for SMM.[15] In the US the rate of SMM doubled from 1994 to 2014, with an incidence of 14 in every 1000 deliveries.[16] SMM occurs at disproportionately higher rates among minority women compared to non-Hispanic White women.[17] Hemorrhage is one of the leading causes of SMM and transfusion and hysterectomy occur more frequently in minority women. When compared to non-Hispanic White women, Black women are 53% more likely to receive a blood transfusion.[18] Case fatality rates are higher for minority women who experience SMM than for non-Hispanic white women.[19] This finding persists even after adjusting for confounding factors.[19] [20]

Disparities in Maternal Mortality

There are significant disparities in maternal mortality in the US, with Black women being three- to four-times more likely to die than non-Hispanic white women.[21,22] The causes of pregnancy-related death vary across racial and ethnic groups. In a report from nine states' Maternal Mortality Review Committees (MMRC) published by the Center for Disease Control and Prevention, the five most common causes of death in White women were cardiovascular conditions, hemorrhage, infection, mental health conditions and cardiomyopathy.[23] In contrast, the most common causes of pregnancy-related deaths in Black women were cardiomyopathy, cardiovascular conditions, preeclampsia and eclampsia, hemorrhage, and thromboembolism. [23] The leading cause of maternal death in Hispanic women is hypertensive disease; Hispanic women have a three times greater risk of death compared to other race and ethnic groups.[23]

Potential Solutions for Reducing Peripartum Racial and Ethnic Disparities

In 2018, the Alliance for Innovation on Maternal Health (AIM) as part of a cooperative agreement between the Health Resources and Services Administration's Maternal and Child Health Bureau and ACOG convened a working group of experts to develop a patient safety bundle for reducing

peripartum racial and ethnic disparities.[24] A patient safety bundle is a collection of evidence-informed, best practices to be implemented in all care settings, for every patient, in each episode of care. [24] The bundle's recommendations can be summarized in five themes: 1) Measurement of disparities; 2) Recognition of disparities at personal and systems-levels; 3) Awareness of the magnitude of disparities; 4) Communication barriers; and 5) Differences in the structure of care. Within these five themes, there are several recommendations for reducing disparities. A workgroup of the ASA Committee on Obstetric Anesthesiology reviewed these recommendations and made modifications for anesthesiologist delivered care. The recommendations of the workgroup are as follows:

Table of recommendations:
1. Anesthesiologists should work with their hospital systems to ensure accurate documentation of race and ethnicity and primary spoken language.
    a. The hospital system should train registration staff on how to ask these demographic questions to ensure patients understand why these data are being collected.
    b. Patients who have limited-English proficiency should have access to medically trained interpreters during their hospital stay. Anesthesiologists, and other peripartum care providers, should be aware of how to access interpreter services. Providers who do have second language skills should be proficient in the medical use of that language. If not, medically trained and qualified interpreter services should be utilized. Family or friends of the patient should not be used as interpreters.
2. Electronic medical record data dashboards should be created and include race, ethnicity, and primary spoken language data.
    a. Anesthesiologists should work with other peripartum care providers (e.g., obstetricians, nurses) to define important process and outcome metrics and stratify these data by race/ethnicity and primary spoken language. Some examples of anesthesia-related outcomes include neuraxial analgesia use, general anesthesia and post-dural puncture headache rates.
    b. A disparities dashboard should be created. The process and outcome metrics identified as important should be stratified by race/ethnicity and made available to staff and leadership. These measures should be tracked over time and could be used to drive initiatives to reduce disparities (as per recommendation 3e below).
3. Recommendations specific to anesthesiologists:
    a. Anesthesiologists should receive education on racial and ethnic disparities in obstetrics and their root causes (including the roles of bias, both implicit and explicit, social determinants of health, systemic racism, and structural racism). This is important as differences in the rates of SMM and maternal mortality are higher in some populations due to racism, as opposed to differences in underlying biological risk. This education does not need to be in addition to systems-level education, should the healthcare system have implemented such education. An appendix with some relevant resources has been included below.
    b. Anesthesiologists at all centers should work with other peripartum providers to identify women at risk for experiencing complications (e.g., venous thromboembolism), engage in multidisciplinary peripartum planning, and develop and implement protocols and evidence-based patient safety bundles such as those developed by the AIM Program.

c. Anesthesiologists who work in centers with pre-operative anesthesia clinics should work with obstetricians to identify women at increased risk for complications (e.g., high comorbidity burden), coordinate pre-delivery testing and multidisciplinary efforts to develop and optimize care plans for anesthetic management of labor and the postpartum period.

d. Anesthesiologists should consider implementing the Society for Obstetric Anesthesia and Perinatology (SOAP) Enhanced Recovery after Cesarean (ERAC) recommendations, as implementation of enhanced recovery protocols in non-obstetric settings have been shown to minimize variation in care and reduce disparities.

e. Anesthesiologists should engage in quality improvement initiatives that target reducing racial and ethnic disparities.

4. Patient education recommendations:

a. Anesthesiologists should work with their hospital system to ensure that patients are given discharge materials that describe warning signs that should prompt medical evaluation. These educational materials should be written at the appropriate level for patients' understanding and ideally be available in each patient's primary spoken language.

b. Given the potential for disparities arising from patient misunderstanding about procedures, anesthesiologists should employ best-practices for shared decision making when discussing procedures in which there is clinical equipoise (e.g., neuraxial labor analgesia). To the extent possible, prenatal education classes should be available in patient's primary spoken language.

5. Anesthesiologists should engage in initiatives to support workforce diversity within their department, as well as within their institutions. These activities should include active mentorship of diverse learners through pipeline initiatives involving medical students, junior residents or junior faculty.

Support for the Recommendations:

Collection of Race/Ethnicity and Primary Spoken Language Data:

It is imperative that systems be created and implemented to accurately document patients' self-identified race/ethnicity, as other methods of identifying race ethnicity such as staff identification or use of surname have been proven to be inaccurate.[25,26] Accurate self-identification of race/ethnicity will allow for the development of disparity dashboards, which have been recommended by the AIM Reduction of Peripartum Racial and Ethnic Disparities patient safety bundle.[27] Such dashboards would allow for monitoring of outcomes stratified by patient race/ethnicity in order to best target interventions.[27]

It is also imperative that anesthesiologists are cognizant of a patient's preferred primary spoken language. Communication barriers may contribute to healthcare disparities. At the national level, there are several measures in place to ensure linguistic support to limited English proficiency (LEP) patients, (e.g., the National Culturally and Linguistically Appropriate Services (CLAS) Standards in Health and Health Care, which state that an interpreter must be available to patients at no cost, and the Title VI Provision Against National Origin Discrimination Affecting LEP Persons).[28,29] Anesthesiologists should be aware of how to access interpreter services at their institutions and refrain from utilizing second language skills to counsel patients if they are not proficient in the use

of that language. Furthermore, anesthesiologists should not rely on patients' friends or family members as a substitute for medically-trained and qualified interpreters.

Recommendations specific to anesthesiologists:

Anesthesiologists should receive education about racial and ethnic disparities, and actions that can be taken to reduce these disparities. Ideally, this education can be delivered to anesthesiologists, obstetricians, and nursing staff, as addressing disparities will take multidisciplinary coordination. This may be an opportunity for the ASA to create an educational product, tailored for anesthesiologists, on the topic of racial and ethnic disparities.

Furthermore, anesthesiologists should work with other perinatal providers to identify women at risk, either prior to delivery, or at the time of delivery, and develop a plan for coordination of care including testing, resources needed, and discharge planning. Protocols, such as enhanced recovery protocols and the patient safety bundles should be implemented where possible, as these may help reduce variations in care and reduce disparities.[24,30-33]

Patient education recommendations:

Patient-provider communication is an important component of patient-centered care and a key factor in ensuring that patients are making informed decisions on management options.[34,35] Patient-centered communication improves patient recall, satisfaction and health outcomes.[36-38] The process of Shared Decision Making (SDM) allows for active discussion between patients and their providers. In SDM, providers share relevant risks and benefits of treatments, and their alternatives. Patients also share their beliefs and concerns.[39,40] Patients and providers can then engage in an open discussion about the decision. Often, as part of SDM, tools such as decision aids are utilized. Decision aids can include pamphlets, videos, or other patient education materials.[41] A recently published article reported that implementation of an educational tool reduced disparities in epidural analgesia use among Hispanic women.[42] All educational materials should be targeted at the appropriate level for patients' understanding and ideally be available in the patient's primary language.

Workforce diversity initiatives:

Another area which has been suggested for reducing healthcare disparities is diversity within the workforce.[43,44] Minority providers have been consistently underrepresented in medicine,[45] despite composing 32% of the US population.[45] Patient-provider race and ethnicity concordance has been shown to improve patient-provider communication and patient satisfaction.[46]

All anesthesiologists should engage in pipeline programs to encourage diversity in the medical workforce. Institutions should be cognizant of not disproportionately placing the burden of diversity initiatives on minority faculty (i.e., "minority tax").[47]

Conclusion:

Peripartum racial and ethnic disparities are pervasive. Anesthesiologists can, and should, play an active role in reducing health disparities and disparities in analgesia/anesthesia. There are several actionable items, which can be implemented at the hospital or systems-level to identify disparities and develop targeted interventions.

Appendix: **Selected Resources for Education, Dashboard, Trainings related to Health Equity**

ACGME resources:
https://www.acgme.org/What-We-Do/Diversity-Equity-and-Inclusion/Department-of-Diversity-Equity-and-Inclusion-Updates/

American Hospital Association:
https://www.aha.org/ahahret-guides/2015-01-29-equity-care-toolkit-eliminating-health-care-disparities
https://www.aha.org/toolkitsmethodology/2020-12-14-health-equity-snapshot-toolkit-action – has December 2020 versions of *Health Equity, Diversity & Inclusion Measures and Hospital Dashboard*, *Societal Factors that Influence Health Framework*, and *Health Equity Snapshot: A Toolkit for Action.*

American Medical Association resources:
https://www.ama-assn.org/delivering-care/health-equity
https://edhub.ama-assn.org/collections/5679/health-disparities

California Maternal Quality Care Collaborative:
CMQCC Birth Equity Initiative

Centers for Disease Control and Prevention:
https://www.cdc.gov/healthequity/

Diversity Science Dignity in Childbirth and Pregnancy: modules on implicit bias and respectful care
https://www.diversityscience.org/training-and-education/equal-perinatal-care/
Hospitals in Pursuit of Excellence,
Framework for Stratifying Race, Ethnicity and Language Data

Illinois Perinatal Quality Collaborative.
Staff Training Scripts & Concerns

National Academies of Sciences, Engineering and Medicine documents:
https://www.nap.edu/download/24624.
Communities in Action: Pathways to Health Equity, 2017.
https://www.nap.edu/download/25682.
Leading Health Indicators 2030: Advancing Health, Equity, and Well-Being, 2020.
https://www.nap.edu/download/25585.
Promising Practices for Addressing the Underrepresentation of Women in Science, Engineering, and Medicine: Opening Doors, 2020

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