Addressing Racial Disparities in Maternal Health: The Case for an Equity Birth Plan

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Abstract

Birth equity can be defined as “The assurance of the conditions of optimal births for all people with a willingness to address racial and social inequities in a sustained effort.” (*Birth Equity |California Maternal Quality Care Collaborative*, n.d.). Complex explanations exist for adverse maternal outcomes, but unequal health care, socioeconomic and racial inequalities pose risks to women and their babies (“Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care,” 2003). The data is clear: Maternal death rates have increased and are 3 to 4 times higher for black women than white women (Zaharatos et al., 2018). These disparities exist even for black women of higher socioeconomic status where issue of access and resources would presumably be eliminated. Current data are inadequate in addressing issues of access, fragmentation of care, systemic racism, and the differential treatment of women of color. Birth plans were developed in the 1980s and were aimed at addressing patient autonomy in male dominated health care systems; birth plans provided a vehicle for patients to communicate their birthing preferences (Penny Simkin, 2007) (Kaufman, 2007). A recent Google search for “birth plan template” resulted in over 9 million results- most of which were simply provided checklists. Most identified plans fail to explain birthing options and fail to address individualized risks.

Keywords

birth equity; birth plans; maternal morbidity: maternal health disparities

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ABSTRACT

Birth equity can be defined as "The assurance of the conditions of optimal births for all people with a willingness to address racial and social inequities in a sustained effort." (*Birth Equity |California Maternal Quality Care Collaborative*, n.d.). Complex explanations exist for adverse maternal outcomes, but unequal health care, socioeconomic and racial inequalities pose risks to women and their babies ("Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care," 2003). The data is clear: Maternal death rates have increased and are 3 to 4 times higher for black women than white women (Zaharatos et al., 2018). These disparities exist even for black women of higher socioeconomic status where issue of access and resources would presumably be eliminated. Current data are inadequate in addressing issues of access, fragmentation of care, systemic racism, and the differential treatment of women of color. Birth plans were developed in the 1980s and were aimed at addressing patient autonomy in male dominated health care systems; birth plans provided a vehicle for patients to communicate their birthing preferences (Penny Simkin, 2007) (Kaufman, 2007). A recent Google search for "birth plan template" resulted in over 9 million results- most of which were simply provided checklists. Most identified plans fail to explain birthing options and fail to address individualized risks.

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INTRODUCTION

The literature is limited in evaluating the use of birth plans for Black women. Recent studies evaluating racial disparities have documented that Black women experience less attention to pain management and are more likely to report harsh treatment in obstetrical care settings (Grobman et al., 2018) (Edmonds et al., 2021). Birth plans are written documents that allow

pregnant patients to communicate their values, goals and plans for their labor, delivery, and postpartum care. Birth plans may include information pertaining to pain management, mobility in labor, support persons, preferred body positions and newborn care. Birth plans can serve as a means of providing preferences and facilitating conversations about realistic expectations between the patient and the obstetrical team (Taylor, 2020).

Multiple factors contribute to the higher rates of morbidity and mortality for Black mothers; multilevel solutions are needed to improve outcomes. Here, we discuss the intersection of agency, social determinants of health, population and individual risk. We provide a contextual framework for the concept of an Equity Birth Plan, a novel integrative approach to patient care. We additionally define patients who would most benefit from such a plan and provide an example of how the Equity Birth Plan can be used for an at-risk patient.

Lay Press Discussions

There is limited literature validating the use of birth plans in the context of health equity. In 2020, in response to the lack of well-known published guides in reference to Black birth plans, the *NY Times* published an educational guide "Protecting Your Birth: A Guide For Black Mothers" to assist in navigating structural racism and to inform Black mothers of their unique risks. In that guide, the authors describe a four-step plan for Black mothers to acknowledge and identify the impact of racism on labor and postpartum care (Cahill, 2020). Other lay press publications have recently addressed this issue. *Glamour* published an article "A Birth Plan Can Save Black Women's Lives" which mentions the role doulas can play in a patient's birth experience (Lage, 2020).

In 2019, *SELF* magazine published a series on black maternal mortality. One writer documented her experience in a birthing class where a birth plan was part of the curriculum (McClain, 2019) Another writer discussed the importance of having notes and advocating for herself during her time in the hospital (LeFlore, 2021). Another writer discussed how her Black woman physician was the first person to ever listen to her and bring up the idea of a birth plan. She stated that "the idea that I was informed about my choices and empowered enough to make them, freed me from the distrust I had of the healthcare system."

Social Determinants of Health in Obstetrical Ooutcomes

The social determinants of health (SDOH) are the integrated and complex economic, political, and social structures that affect the health of individuals. SDOH can be defined as "conditions in the environments in which people are born, live, learn, work, play, worship, and age, that affect a wide range of health, functioning, and quality-of-life outcomes and risks" (*Social Determinants of Health - Healthy People 2030 | Health.Gov*, 2019). Many of these factors are directly associated with inequities in healthcare. Both the Centers for Disease Control and Prevention (CDC) and the American College of Obstetricians and Gynecologists (ACOG) acknowledge the importance of SDOH in health outcomes (*About Social Determinants of Health (SDOH)*, 2021), (Ades et al., 2018). The five key areas highlighted by the CDC include, healthcare access and quality, education access and quality, social and community context, economic stability, and neighborhood and built environment. National Academies of Science, Engineering, and Medicine (NASEM) provides guidance on addressing SDOH including screening, strengthening social supports/health services, and advocacy (Crear-Perry et al., 2021).

In 2018, the maternal mortality rate (deaths per 100,000 live births) for Black women (37.1) was 2.5 to 3.1 times the rates for non-Hispanic white women (Hoyert, 2022). A recent meta-analysis on the SDOH and birth outcomes in adolescent patients, found that poor outcomes were

associated with African American race, rural residence, inadequate education, and low socioeconomic status. The authors emphasize the need for further research to understand the causal pathways to inequalities in this patient population (Amjad et al., 2018). Pregnancy-related mortality ratios (PRMRs) (i.e., pregnancy-related deaths per 100,000 live births) among black women with a completed college education or higher was 1.6 times that of white women with less than a high school diploma (Petersen et al., 2019).

Maternal health inequities can be traced back to structural racism and its influence on quality of life. Untoward health outcomes can be associated with negative patient experiences within the healthcare system (Chinn et al., 2020). SDOH pathways, coupled with pre-existing comorbidities, exert a higher-than-expected burden of maternal-fetal morbidity and mortality in minority communities (Dongarwar et al., 2020). The CDC reports that severe maternal morbidity (SMM) has increased almost 200% from 1993-2014 and affected more than 50,000 women in 2014 (*Severe Maternal Morbidity in the United States | Pregnancy | Reproductive Health |CDC*, 2021). In 2020, 861 women died of maternal causes in the United States up from 754 in 2019 (Hoyert, 2022).

The SDOH (food, housing, transportation, environmental justice, etc.) must be addressed at state and local levels. A large cross-sectional study conducted in New Jersey aimed to investigate the associations between SMM and municipal expenditures. Municipal spending on libraries, transportation, fire and ambulance, health, and housing were negatively associated with SMM. Decisions made on municipal budget allocation were linked to SMM rates, providing an important area for future research (Muchomba et al., 2021). Although these findings are interesting, there is little guidance or work on how to address these issues at an individual level.

The Everyday Discrimination Scale (EDS) may provide some guidance. The EDS is a subjective measure to assess discrimination in everyday social situations. Responses are coded on a 6-point scale ranging from ‘never’ to ‘almost every day’ (Michaels et al., 2019). One study used a modified version of the EDS to examine the association between maternal everyday discrimination and infant birth weight in young women of color. Results revealed that the model was statistically significant and everyday discrimination was associated with greater odds of low birth weight (Earnshaw et al., 2012). Researchers also found that everyday discrimination was associated with increases in pregnancy symptoms, pregnancy distress, and depressive symptoms. This study highlights of the importance of exploring the roles that discrimination, treatment by the health care team and agency may play in determining health outcomes for women of color.

Patient Autonomy and Social Support

A foundation of positive birth experience is patient autonomy. Supportive environments facilitate open conversations which allow patients to voice their desires and set realistic care expectations. One study evaluated the implementation of a community-based health promotion intervention to improve birth outcomes for pregnant, low-income African American women. The intervention used a “big sibling-little sibling” pairing and monthly meetings. Researchers found that the spaces provided in the program were different from those of everyday life, providing safe spaces of belonging and understanding and spaces that fostered meaningful interactions (Mkandawire-Valhmu et al., 2018). A qualitative study conducted in Europe exploring the impact of organized peer support on mothers’ perceptions and experiences during pregnancy, demonstrated that peer support can be a valued intervention, especially for minority women and other disadvantaged groups (McLeish & Redshaw, 2017). The authors of a qualitative study on patient centered decision making, noted four main themes: a) decision-making strategies for

alternative childbirth care (i.e., midwives, birthing centers, and doulas); b) access to formal community resources to support their desired approaches to perinatal care; c) advice from women with similar perspectives on birthing and parenting; and d) confidence in decision making. Results suggested that patient-centered decision-making could improve Black women's birth experience (Deichen Hansen et al., 2021).

Doula support has been considered a promising intervention to mitigate health disparities. A study conducted in Minneapolis, MN used a questionnaire based on five themes in the Good Birth framework including, agency, personal security, connectedness, respect, and knowledge. Results revealed that doula support could play a role in helping women overcome barriers to achieving a healthy pregnancy and childbirth (Kozhimannil et al., 2016). The CDC's *Hear Her* Campaign is a nationwide effort to prevent pregnancy-related deaths by sharing life-saving messages about urgent warning signs. The program empowers patients to speak up. The goal is to raise awareness of potentially life-threatening warning signs during and after pregnancy and improve communication between patients and their healthcare providers (*About the Campaign | CDC*, 2022). Campaigns such as *Hear Her* promote improvement in health equity at the individual level. The campaign, although not yet studied for outcomes, recognizes the need for women to be heard, and includes a specific script for women to use at the health system interface.

The Alliance for Innovation in Maternal Health (AIM) has recognized the role of community engagement. The AIM Community Care Initiative (AIM CCI) project recognizes that engaging the community can help address systemic inequalities in outcomes. By engaging the community in pregnancy and postpartum care, the community can interface with health care organizations to meet the specific needs of birthing persons (Deichen Hansen et al., 2021b). Providing community support within the context of birth plans can serve to satisfy mutual goals.

Birth Plan Considerations

Traditional birth plans provide choices, but typically do not consider delivery-related risks nor do they involve two-way communication between the patient and provider. Traditional birth plans do not acknowledge or address racial disparities in delivery-related risks. Birth plans may have a role in addressing racism and discrimination in the healthcare system. Birth plans may provide patient empowerment and access to birth-related risk assessment and education ("Care in Normal Birth: A Practical Guide," 1997). In 1996, the World Health Organization's (WHO) Technical Working Group published a report called *Care in Normal Birth: A Practical Guide* to establish recommendations for common practices and their place in normal birth. A patient plan for safety, and choice of support person are recommended (Afshar et al., 2016). One study (n=14,630 deliveries) found that women who attended childbirth education and/ or had a birth plan were typically older, had lower BMI, were more likely to be nulliparous, and were more likely to identify as Caucasian or Asian-American. Results also showed that vaginal delivery rates were higher in women who had a birth plan (74.3% vs 64.9%, $p < 0.001$) (Hidalgo-Lopezosa et al., 2021). In this study, 16.9% of women identified as Black. A smaller prospective cohort study conducted in Spain had similar results: cesarean sections were less common in primiparous women with birth plans (18% vs. 29%, $p = 0.027$ (Whittington et al., 2020).

For patients who have preferences such as home birth, or water birth or other specific preferences, well developed birth plans would allow discussion with providers who can review evidence-based recommendations from organizations such as (ACOG) and/or the American Academy of Pediatrics (Papile et al., 2014), (Buser et al., 2017), (Grant et al., 2010). Medical

evidence should inform each step of birth plan creation, correlating autonomy with clear evidence, which can inform the birthing process.

Provider opinions on birth plans vary, as some studies report that birth plans set unrealistic expectations for what can be an unpredictable process (Afshar et al., 2019). One study surveyed obstetrical providers (obstetricians, family physicians, and midwives) and found that many providers (66%) did not recommend birth plans; only 25% felt they led to favorable patient experiences (Anderson et al., 2017). Despite these varying opinions, a birth plan may be a useful tool for patient populations unfamiliar with this concept. In a study conducted in Hawaii, researchers created a standardized birth plan; 84% of patients stated that they would use a birth plan in a subsequent pregnancy. The study found statistically significant increases in scores for satisfaction, communication, and trust after delivery (Kramer et al., 2019). Given the increased media attention to birth plans and recommendations for their use, physicians may be prudent to engage patients in open discussion about delivery-related options.

EQUITY BIRTH PLAN DESIGN

Within a health equity framework, a birth plan may help mitigate maternal morbidity and mortality (Salihu et al., 2015). We present a new paradigm for an Equity Birth Plan, placing women of color at the center of the plan. In this new model, race-related, specific patient-related, and system risks are reviewed. The provider and health system partner with the women to create a birth plan that specifically addresses how safe and equitable birth will be achieved.

Medical mistrust plays a clear role in the way Black women interact with the healthcare system. The syphilis study at Tuskegee and the unauthorized use of Henrietta Lacks' cell, are well known historical events. More recent studies show evidence of physician mistrust in the African American community; Black and Hispanic patients report higher levels of physician distrust when compared to white patients ("Care in Normal Birth: A Practical Guide," 1997b).

In the Equity Birth Plan, the socio-ecological model (SEM) is the main framework (Armstrong et al., 2007). The model assumes that there is a unique relationship between the individual and their environment- where both entities can influence one another. SEM considers the integrated network that exists between the areas of public policy, community, institutional factors, interpersonal/intrapersonal factors that act in concert to influence an individual's behavior. Figure 1 depicts key themes in the Equity Birth Plan which intersects with the SEM. Details are described here:

- Patient- address fears, concerns, prior experiences, assess core values
- Provider- assess risks during pregnancy and post-partum (example: anemia, prematurity risk, hypertension/cardiovascular risk, risk of medically indicated preterm birth)
- Health system- assess resources (medication before going home, durable medical equipment, discharge education/planning, post-birth warning sign, transportation, home visits, language interpretation, culturally appropriate care)
- Family - assess resources, transportation, childcare, money, food and meal prep, emotional support/stress reduction, rest, agency of partner or support person
- Community- assess resources for education and support

Figure 1. Intersection of socio-ecological model with the equity birth plan

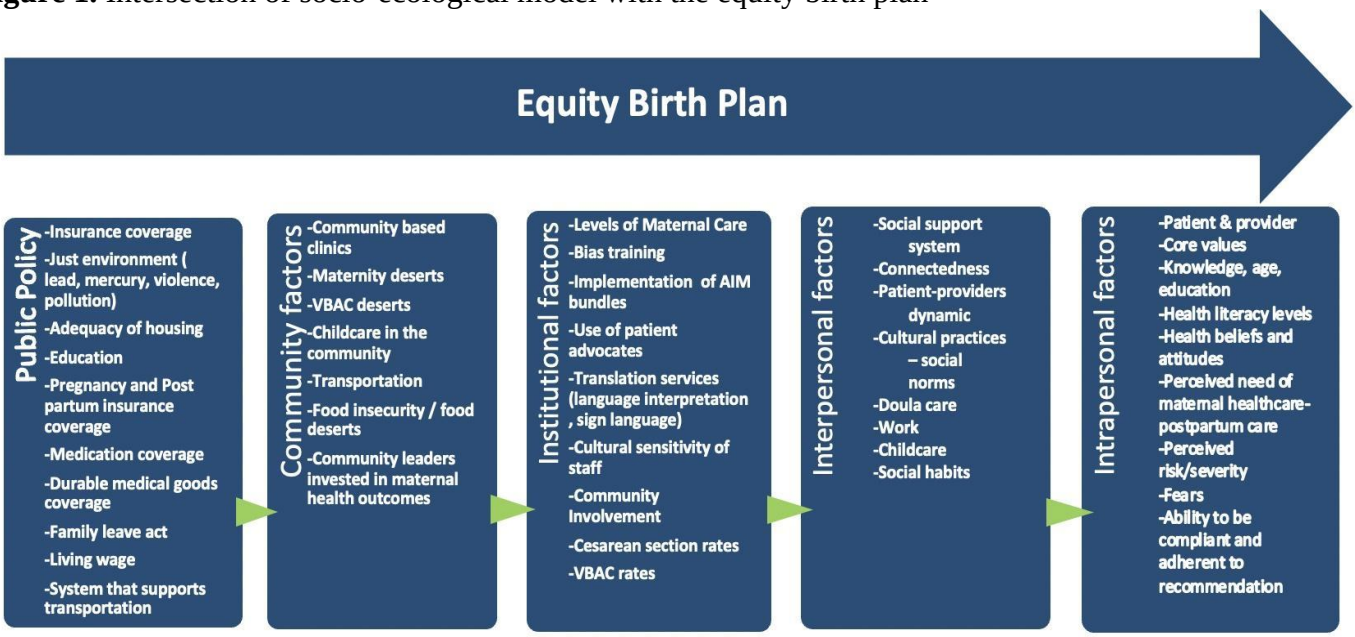
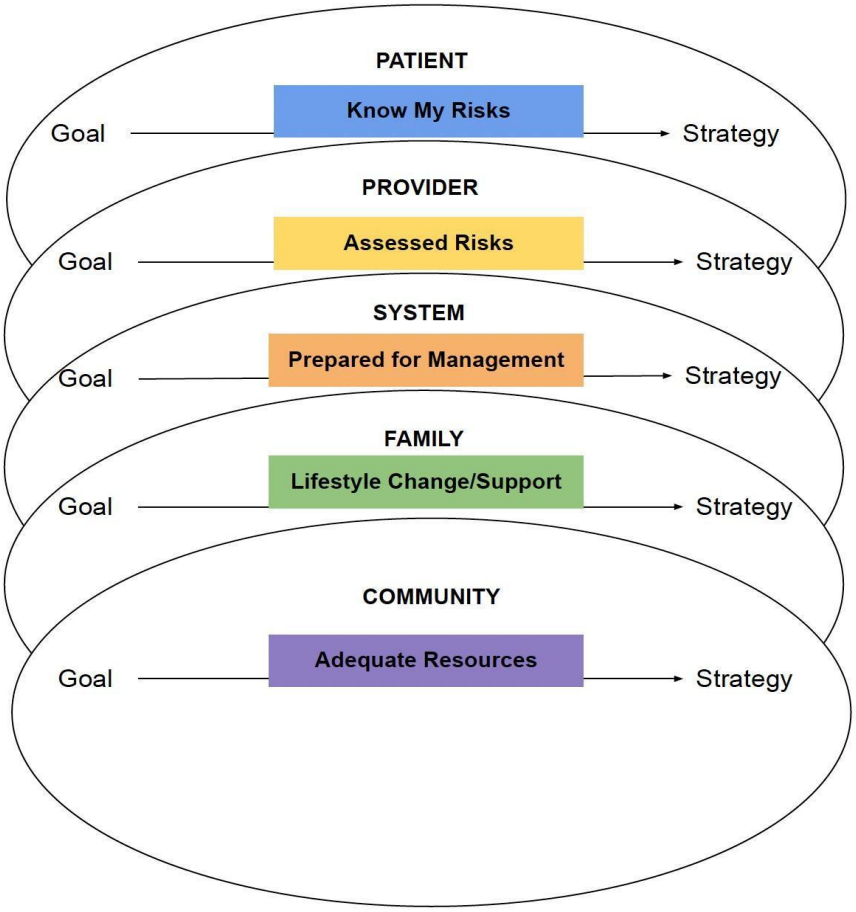


Figure 2 depicts the individual patient plan, addressing problems at a multisystem level.

Figure 2. Equity Birth Plan concept map



Risk assessment should be conducted on an individual basis beginning with the first prenatal visit and should be reevaluated at each point of contact with a healthcare provider. Understanding that the prenatal care provider may be different from the labor provider, the birth plan should also be reviewed when the patient is admitted for labor, and again in the postpartum period (Afshar et al., 2016). The Equity Birth Plan addresses patient autonomy, patient empowerment, social determinants of health, and racism, but also includes aspects of traditional birth plans such as relaxation measures (music, lighting, etc.), labor preferences, feeding methods, and post-partum care.

The Equity Birth Plan can address the issue of pain management, which is an important concept within each of these domains. Black patients are systemically undertreated for their pain compared to their white counterparts. Beliefs about the differences in pain tolerance have existed in this country for centuries. Implicit bias in pain management towards Black patients has been documented in medical education. One study found that white medical students and residents held false beliefs that biological differences between Black and white patients lead to differences in pain perception (Hoffman et al., 2016). Racial disparities in postpartum pain have been documented in the literature. Black and Hispanic women are more likely to report severe pain and

less likely to have documented pain assessments or received postpartum narcotic medications when compared to non-Hispanic white women (Johnson et al., 2019).
Black women have been shown to have significantly higher cesarean section rates than other racial groups (Valdes, 2020). In the proposed Equity Birth Plan, pain management during and after birth is emphasized. Pain management discussions should include adjunctive pain medications and can address whether facilities have an Enhanced Recovery After Cesarean (ERAC) protocol (Bollag & Nelson, 2020).

Recent advances in birth equity such as the removal of race as a variable in the Vaginal Birth After Cesarean (VBAC) Calculator can now be included in a birth plan geared toward Black women (Grobman et al., 2021). The Equity Birth Plan can address early in the prenatal course the birthing persons desire for a trial of labor after cesarean and whether that is offered by the clinician and the planned birthing facility so the patient can make appropriate arrangements early in the prenatal course. Later in the pregnancy, the patient can be given appropriate instruction and counseling about when to go to hospital for trial of labor. Use of the Equity Birth Plan is advised when women have pregnancy complications, demonstrate risks for severe maternal morbidity or untoward pregnancy outcomes.

To demonstrate how the Equity Birth Plan can be utilized, we provide a hypothetical patient for discussion. The patient is a 29-year-old African American woman (she/her/hers). This is her 4th pregnancy. She has one living child. She presented for prenatal care at 13 weeks gestation. Her history is remarkable for a previous cesarean section at 34 weeks gestation for abnormal fetal heart rate. That pregnancy was complicated by preeclampsia with severe features. She was hospitalized for two weeks before delivery and for five days after giving birth. Her baby had a 7 day stay in the neonatal intensive care unit. The patient was normotensive at her six-week postpartum visit and at a gynecology visit one year later. She has a Body Mass Index (BMI) of 38 and no other pertinent medical history.

As the foundation for the Equity Birth Plan is patient agency, developing the plan starts with understanding prior pregnancy experiences, addressing fears, concerns, and personal goals. Understanding experiences is a different approach to traditional medical history assessment where facts are obtained, but experience is overlooked. She describes the preeclampsia episode as “very scary”. She describes being alone and poorly informed. She wishes to avoid recurrence of such a stressful event. Her personal goals include reducing the risk of preeclampsia, having a full-term baby, avoiding a cesarean section, a prolonged hospitalization that would take her away from her family, and having a supportive medical team that keeps her informed. With focus on her personal goals and risks, a sample of her Equity Birth Plan is provided below in Figure 3.

Figure 3. Equity Birth Plan patient example

HYPERTENSION RISK

PATIENT	**Know My Risk Factors and How to Reduce Risk**
Goal	Reduce risk of recurrence of preeclampsia and preterm delivery. Successful vaginal birth after cesarean section (VBAC). Safe pregnancy delivery and postpartum recovery and a healthy baby. Have a support person present. Trust my care team.
Strategy	Know the signs and symptoms of preeclampsia and preterm labor Know the recommended weight gain for my BMI is 11-20 pounds for this pregnancy Successful use of the CDC pregnancy weight gain tracker Healthy diet with adequate portion control, low added salt, avoidance of fast food and prepared foods and rich in fruits vegetables and fiber Schedule daily walks Measure BP with home BP cuff as directed and come to hospital for severe hypertension > 160/110 Learn about the "HEAR HER" campaign and learn to speak up for myself in the health care environment Ask about medications to decrease my risk of hypertension and preterm delivery Ask if I need special testing other than routine prenatal lab tests
PROVIDER	**Assessed Risks**
Goal	Safe pregnancy, delivery and postpartum recovery and a healthy baby. Reduced risk of severe hypertension and preterm delivery. Avoidance of excessive weight gain Successful trial of labor
Strategy	Confirm dating with first trimester ultrasound Give baby aspirin to reduce risk of hypertension Provide or prescribe home BP cuff Educate about and encourage recommended weight gain Order baseline chemistry 20, coagulation profile, 24-hour urine Discuss delivery hospitals and identify appropriate delivery facilities for VBAC and other risks Discuss barriers to care including employment, transportation, inadequate food sources, income limitations, family support, housing and problem solve using social services
SYSTEM	**Risk Reduction**
Goal	When being asked about my medical history I will remind the provider about my history (if hypertension is relevant). If I have a BP log it will be in my hospital bag or with me when I go to a doctor.
Strategy	Does the hospital where I plan to deliver have different strategies to check my blood pressure? Are they checking it correctly? Do they call for help when my blood pressure is dangerously high?
FAMILY	**Social Support at Home**
Goal	Family member or support person knows the importance of my BP, reminds me to keep track of my BP, and will encourage me to seek medical attention if my BP is elevated. I will evaluate home visiting services. Assure that my other child is safe if/ when I have to be hospitalized
Strategy	Pick someone to remind me to take my blood. pressure. Pick someone to know the warning signs of hypertension. Identify support persons for emergencies. Familiarity with warning signs of preeclampsia to help patient see care
COMMUNITY	**Adequate Places for Food Sources, Transportation, Pharmacy Access, Work Accommodations**
Goal	Find community resources to support me. Seek doula, community health worker care/ information. Look for a primary provider who understands postpartum pregnancy risks.
Strategy	If I need medication(s), can I get it? Identify a pharmacy that is close to my home. Assess transportation and make sure I have an emergency plan. Find resources for healthy eating.

CONCLUSION

Since their development in the 1980s, birth plans have been used to increase patient agency and autonomy and change birthing practices. The current maternal health crisis presents a new need for similar attention to agency and autonomy that can be expressed through the Equity Birth Plan. Birth plans have been widely used in non-Hispanic white populations, and/or in groups of high socioeconomic status. Birth plans have not been promoted in women with complicated pregnancies, among women of color or those of lower socioeconomic status. Recognizing racial disparities in maternal morbidity and mortality and patient specific and system risks, birth plans can align with a birth justice framework and can promote patient autonomy, address health systems issues and engage communities in support. Varying opinions of traditional birth plans among healthcare providers, non-standardization of birth plan templates, and the lack of risk assessment make the study of birth plan effectiveness difficult.

We designed the Equity Birth Plan using the socio-ecological model as the framework. This birth plan incorporates the different aspects of society, lived experience and patient specific risks that can impact a patient's birth outcome. We acknowledge and reiterate the importance of public policy and research in the implementation of a tool such as this. Initiatives and funding are crucial to address issues such as transportation, health care insurance, food access, and social support. For example, New Jersey's, "Nurture New Jersey" is a novel strategic plan to increase equitable care to patients before pregnancy, during labor, and during the postpartum period. The plan addresses maternal health at a multisystem level (*Home*, 2021).

Traditional birth plans focus on low-risk pregnancies and have not been explored in populations at risk for poor maternal-fetal outcomes. Failure to explore the use of birth plans in this population misses the opportunity to support agency among women who could most benefit from multisystem support. The Equity Birth Plan is a tool which allows for the intersection of the individual, health problems and risks, health systems capacity and community support. The plan addresses the role of the social determinants of health, providing a tangible and standardized system to identify individual risk factors and promotes autonomy over the birthing experience. For Black women, who live at the intersectionality of a complex health care system, this approach is a novel one. Further research is warranted to address the value of the use of birth plans in Black women and the use of the Equity Birth Plan to address healthcare disparities.

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