BIRTH EQUITY ACCOUNTABILITY THROUGH MEASUREMENT (BEAM)

A Joint Effort Between Reproductive Health Impact: The Collaborative for Equity & Justice and the National Committee for Quality Assurance

ENVIRONMENTAL SCAN OF BIRTH EQUITY AND QUALITY MEASUREMENT

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EXECUTIVE SUMMARY

Despite the potential for quality measures to serve as useful tools, existing measures are inadequate to highlight gaps and advance opportunities in birth equity. Reproductive Health Impact: The Collaborative of Equity & Justice (RH Impact) and the National Committee for Quality Assurance (NCQA) conducted an environmental scan to provide background and context for the development of a framework to support equity-centered measurement for Black birthing people and members of other historically and currently marginalized populations.

The environmental scan was conducted between August 2022 and February 2023, and used a multifaceted approach to identify: **1.) the extent of perinatal health and health care disparities; 2.) evidence-based and proposed strategies for addressing perinatal health disparities; and 3.) the existing birth equity and maternal health measurement landscape.** This scan included a comprehensive literature review (e.g., peer-reviewed articles, white papers, gray literature), interviews with birth equity and maternal health measurement experts, and a review of existing maternal health measures.

Perinatal Health and Health Care Disparities

Five key themes of disparities emerged across studies (Box 1.) Race/ethnicity was the leading predictor of disparities identified across all studies and stages of care. Other salient predictors included sociodemographic characteristics (e.g., socioeconomic status, insurance status, educational attainment, age), physical health indicators (e.g., physical health, pregnancy history), and social risks (e.g., racism or perceived discrimination, neighborhood disadvantage, violence exposure). Birth equity scholars identified additional disparities (e.g., maternity care deserts) and subpopulations of birthing people (e.g., individuals with disabilities) that are often overlooked.

Box 1. Key Perinatal Health and Health Care Disparities

- Pregnancy Intention and Contraception
- Health Care Access and Services
- Mental Health
- Cardiometabolic Health
- Birth Outcomes

Strategies to Improve Birth Equity

The gray literature search yielded a multitude of position papers and calls to action on strategies for promoting birth equity, although many have not been fully evaluated or widely implemented. **Six promising strategies were identified that have been recommended or proposed to promote birth equity (Box 2).** Other strategies, recommended by birth equity scholars, include use of maternal mortality review committees and chart reviews to understand the impact of bias on care delivery; providing checklists or alerts to providers during appointments about topics for discussion, and care teams supporting patients in developing and implementing birthing plans that align with their preferences.

Box 2. Key Birth Equity Strategies

- Implement State-Based Initiatives to Improve Insurance Coverage and Quality
- Enhance Workforce Development and Training
- Center the Voices of Historically and Currently Marginalized Groups
- Collect Patient Race/Ethnicity Data to Identify Health Care Disparities
- Implement Social Needs Screening and Follow-Up
- Offer Modified/ Supportive Care Models

Existing Quality Measures for Birthing People

Nineteen quality measures address pregnancy/perinatal health, and are currently employed in State Medicaid, health plan, hospital and clinician reporting programs. Although these measures align with all key disparities identified in the environmental scan, the full extent of disparities impacting birthing people across these domains are not adequately addressed. Furthermore, few existing quality measures align with strategies that have been proposed or implemented to address birth equity.

Results highlighted gaps in the existing quality measurement landscape regarding maternal health needs and the continuum of perinatal care. These findings, in addition to information collected through key stakeholder interviews, will be used to inform the development of a birth equity-centered measurement framework.

INTRODUCTION

Evidence of persistent, large and increasing mortality gaps between Non-Hispanic Black and all other birthing people in the United States, along with patient surveys and personal stories, highlight the role of racism in contributing to health care inequities.[1,2] These differences are leading stakeholders to engage in efforts to improve care and outcomes for Black birthing people and people from other historically marginalized populations.

Quality measurement is one tool we can use to improve birth equity. Quality measures provide a way to assess how well a healthcare system cares for patients and populations; for example, clinicians can use them to understand the quality of the care they deliver and identify areas where improvement is needed. Additionally, comparing performance on quality measures across clinicians, health systems or health plans, or tying performance to bonus payments or other rewards, can encourage better care.

But despite the potential for quality measures to serve as useful tools, existing measures are inadequate to highlight gaps and advance opportunities in birth equity.[2–4] Furthermore, there is currently no framework describing practices and standards for equity-centered measurement. Existing quality measures often represent only parts of the health care delivery process, fail to address racist practices and/or policies and do not encourage collaboration and joint accountability of organizations involved in caring for birthing people across settings.

This report describes findings from an environmental scan of existing knowledge on birth equity and quality measurement conducted by the National Committee for Quality Assurance (NCQA) and Reproductive Health Impact: The Collaborative for Equity & Justice (RH Impact). This scan will provide background and context for the development of a framework to support equity-centered measurement for Black birthing people and people from other historically marginalized populations.

METHODS

We conducted an environmental scan to understand the extent of disparities in perinatal health, interventions to address disparities and whether existing quality measures address disparities. **Table 1 describes the key questions, the methods used to collect information and how the findings will contribute to development of the measurement framework.** Details on our methods are below.

Table 1. Summary of Environmental Scan Methods..

Key Questions	Methods for Gathering Information	How Findings Will Facilitate Birth Equity Framework Development
To what extent do disparities in perinatal health outcomes exist, and for whom?	Systematized review of peer-reviewed literature	Understand which populations or aspects of care the measurement framework could address
	Interviews with scholars on works in progress	
What are ways to overcome disparities and improve equity in perinatal health outcomes?	Systematized review of peer-reviewed literature	Understand which birth equity strategies could be addressed in the measurement framework
	Targeted search of gray literature	
	Interviews with scholars on works in progress	
What quality measures exist that address care for birthing people from pregnancy through postpartum? How do they align with disparities and strategies?	Targeted search for measures	Understand gaps in existing measures and opportunities for new/better measures
	Interviews with scholars on works in progress	

Systematized Review of Peer-Reviewed Literature

A PubMed search of U.S.-based studies published between 2018 and 2022 captured the most recent literature addressing: **1.) disparities in perinatal health and health care outcomes among pregnant/ birthing individuals; and 2.) strategies to promote birth equity.** The PubMed search string included terms related to pregnancy, health disparities and health equity (Figure 1). Title and abstract screening, full-text review for relevance and data extraction were conducted using Covidence software. A full summary of inclusion and exclusion criteria is displayed in Appendix 1: Table 1.

Figure 1. PubMed Search String

(Pregnancy [majr] OR Prenatal Care [mh] OR Pregnant Women [mh] OR Preconception Care [mh] OR Peripartum Period OR Postpartum Period [mh]) AND ("Health Equity" OR "Social Determinants of Health" OR "Healthcare Disparities" OR "Health Status Disparities" OR "Minority Health" OR "Racism" OR "Racial disparities" OR "Respectful care" OR "Structural Racism" OR "discrimination") AND (("2018/01/01"[Date - Publication] : "2022/08/01"[Date - Publication])) AND (English[Language])

Targeted Search for Gray Literature and Legislation/Policy Information

In addition to the systematized review, a targeted website search was conducted to identify strategies and policies addressing birth equity. Reviewed documents included white papers, issue briefs, briefing reports, policy documents, commentaries and other relevant documents that provide insight into strategies for furthering birth equity and improving health outcomes. Articles that contextualized the landscape of equity or health quality measurement of pregnant/birthing people were also included.

The team used the Google search engine to find high-level information about strategies and policies addressing birth equity. The Google search string included the following terms: "strategies policy birth equity maternal health quality." Identified strategies and policies were compiled and further researched to identify specific intervention activities and details, including legislation, payment incentives involved and quality measurement aspects. Other strategies or policies were added and researched, per recommendations of a multi-stakeholder panel advising the team in developing the measurement framework.

Scan for Existing Quality Measures

A targeted search of websites and measure databases was performed to identify existing quality measures. Databases included:

- Measures used in Centers for Medicare & Medicaid Services (CMS) reporting programs, or developed by other federal agencies such as the Centers for Disease Control and Prevention (CDC) or the Agency for Healthcare Research and Quality (AHRQ).
- Measures endorsed by the National Quality Forum.
- Measures developed by organizations that accredit health plans (e.g., NCQA) or hospitals (e.g., The Joint Commission).
- Measures used in state reporting programs.

Accountability measures specific to the U.S. that addressed pregnancy health, the birthing experience or the postpartum infant/parent dyad of care were identified. A measure was identified as being used for accountability if it was used in a federal or national reporting program for payment, accreditation or public reporting. Measures were excluded if they met any of the following criteria: focused generally on adult populations but not specifically on pregnant or postpartum people; still in the concept phase (had not been developed into standardized, structured specifications); or were used only for quality improvement (may not allow comparison across entities due to lack of standardization) or for surveillance (used only to gather information). **Existing measures were also categorized by characteristics including stage of care, measure type and type of healthcare entity reporting the measure (Table 2).**

Table 2. Categories of Existing Quality Measures

Quality Measure Categories	
Type of Information Provided by Measure[5,6]	Structure: Assesses physical and organizational characteristics where health care occurs
	Access: Assesses patient access to care.
	Process: Assesses care delivered to patients.
	Clinical outcome: Assesses effect of health care on the status of patients and populations.
	Performance-based patient-reported outcome or experience: Assesses patient-reported data aggregated for a health care entity. Data are collected directly from patients using a patient reported outcome measure (PROM) or patient reported experience measure (PREM) tool, which can be an instrument, scale or single-item measure.
Type of Organization That Reports Measure	State Medicaid, Health plan/managed care organization, Hospital/facility, Individual clinician/ group practice
Stage of Care Addressed by Measure	Prenatal, Intrapartum, Postpartum (up to 1 year), All stages

Scholar Interviews on Works in Progress

Semistructured interviews were conducted with eight scholars, researchers and academics who study birth equity and maternal health outcomes. The purpose of these interviews was to identify works in progress but not yet published, and to understand additional birth equity measurement gaps or opportunities. Scholars were identified through snowball sampling of RH Impact's networks in birth equity. In addition to identifying emerging research findings or projects, interviews also focused on additional topics, including 1.) recommendations for measurement and quality improvement priorities; and 2.) perceptions on how to hold health systems accountable to address birth inequities.

RESULTS

Disparities in Perinatal Health and Health Care Outcomes

The systematized review identified 160 articles that examined disparities in perinatal outcomes and perceptions of health and health care among birthing people, from preconception to postpartum. Most studies investigated outcomes in the prenatal, intrapartum and postpartum stages of care. **Five key themes of disparities emerged across studies (Figure 2).**

Figure 2. Key Perinatal Health and Health Care Disparities

Note: Key themes account for the majority of extracted articles, but are not exhaustive of all disparities identified in the systematized review.

Race/ethnicity was the most commonly identified predictor of disparities across all themes and stages of care. Additional leading predictors of disparities included sociodemographic characteristics (socioeconomic status, insurance status, educational attainment, age), physical health indicators (physical health, pregnancy history) and social risks (racism or perceived discrimination, neighborhood disadvantage, violence exposure). Summaries of disparities for each key theme are below.

Pregnancy Intention and Contraception

In the most recent literature, several studies exhibited disparities in pregnancy intention and contraceptive use. Racial/ethnic disparities in unintended pregnancy and unwanted pregnancy were identified, with increased estimates observed among non-Hispanic Black and Hispanic/Latina birthing people.[7–9] Racial/ethnic disparities were also displayed for use of contraceptive methods,[7,8] sterilization procedures[10] and contraceptive counseling.[11] Findings varied across studies, however, as racially minoritized birthing people were found to have lower use of prescription or most effective contraceptive methods,[7,8] but were more likely to receive peripartum hysterectomy procedures[10] and postpartum contraceptive counseling.[11]

Other predictors of contraceptive disparities included age,[9,11] insurance status,[11–13] educational attainment,[12] pregnancy characteristics[11] and neighborhood disadvantage.[14] Experiencing reproductive coercion was also associated with decreased use of contraceptive methods.[15]

Qualitative findings further contextualized differences in both pregnancy intention and contraceptive use by demonstrating the intersectional roles of sociodemographic characteristics (e.g., race, sexual orientation/ gender identity) and social factors (e.g., partner abuse, trauma, discrimination, gender roles) among subgroups of the birthing population.[16,17]

Health Care Access and Services

Although ensuring access to high-quality care before, during and after pregnancy is essential to advancing birth equity, current literature revealed widespread disparities in access to care and health services during the prenatal, intrapartum and postpartum periods. Most notably, many articles identified racial/ethnic disparities across a range of health care outcomes, including prenatal and postpartum care access,[18–21] hospital readmissions,[22–24] health education,[25,26] health screenings and immunizations,[26–30] mental health consultations,[31] outpatient portal use,[32] treatment of pregnancy complications,[33,34] pain management[35–37] and treatment of substance use disorders.[38] Lack of access to prenatal and postpartum care was often exhibited among Black birthing patients, as well as among patients in other racially minoritized groups.[18–21] Experiences of discrimination within and outside the health care setting were also identified as barriers to care,[39,40] and were associated with poor reports of care satisfaction.[41] As such, patient perspectives of health care demonstrated how both negative and positive factors (e.g., discrimination, stereotyping, health literacy, socioeconomic status, social support) may influence access and service delivery across the spectrum of care.[42,43] Socioeconomic factors and insurance status were also prominent drivers of disparities in perinatal care;[18,22,23,30,31,44–46] However, few studies explored geographic disparities in health care access and services,[21,38,47] despite evidence of increasing maternity care deserts across the U.S.[48]

Mental Health

Another critical theme that arose in the environmental scan was the disproportionate impact of poor mental health among birthing people. Coupled with known maternal morbidity and mortality disparities among Black and Indigenous birthing people, 23% of pregnancy-related deaths in the U.S. are due to mental health conditions.[49] The most investigated mental health condition in the review was peripartum depression, with marked disparities for birthing people who were members of racially and socially minoritized groups. For example, several studies demonstrated that Black, Hispanic/Latina and low-income birthing people had the highest rates of depressive symptoms during pregnancy, as well as higher rates of postpartum depression.[50–54] These disparities were associated with unique cultural and contextual stressors such as gendered racial stress,[55] interpersonal violence and abuse,[52,56] with discrimination being the most pronounced contributor.[52,53,57–59] In addition to perinatal depression, similar disparities among racially and socialized minoritized groups were identified in other mental health outcomes in the prenatal and postpartum periods, including anxiety,[50] stress,[55,60] suicidal ideation[61] and emotional well-being.[62]

Cardiometabolic Health

Although it is well documented that cardiometabolic health plays a critical role in maternal and perinatal health outcomes,[49] it is only in recent years that our understanding of who is disproportionately affected by this factor has been a critical area of research for improving maternal health outcomes.[63] In the review, hypertensive disorders of pregnancy[64–66] (preeclampsia, eclampsia, gestational hypertension), as well as gestational diabetes,[67] disproportionately affected racially and ethnically minoritized birthing people. For example, in a study that explored the trends and predictors of eclampsia in the U.S. over a 29-year period (1989–2018), Non-Hispanic Black mothers were 37% more likely to develop eclampsia than Non-Hispanic White mothers with similar backgrounds.[65]

Racial/ethnic disparities were also identified for additional cardiovascular outcomes, including cardiogenic shock[68] and peripartum blood pressure trajectory.[69]

Beyond race and ethnicity, plurality (i.e., the number of all live births and pregnancy losses) and pregnancy history were also associated predictors of disparities in hypertensive disorders of pregnancy and gestational weight gain.[70,71] Associations between social determinants of health and cardiometabolic health in birthing people were also documented,[70,71] although findings were limited in scope. Despite social determinants of health being a robust area of research, limited findings are likely due to the late recognition that these factors may be a salient predictor of disparities in cardiometabolic health outcomes among birthing people.

Birth Outcomes

The theme that emerged from the largest number of articles was disparities in birth outcomes. The most commonly investigated predictor of disparities in this area was racial/ethnic identity, but it is important to reiterate that these identities are likely a proxy for more complex social and structural predictors.[72] For racially minoritized groups, disparities existed for many birth outcomes, including stillbirth,[73–76] small for gestational age,[77] mode of delivery,[78,79] severe maternal morbidity[79–82] and preterm birth.[83–89] Outside race and ethnicity, timeliness and adequacy of prenatal care,[90,91] psychosocial factors (such as self-efficacy and coping)[92] and structural determinants of health (e.g., racial discrimination and violence exposure)[93–95] were also linked to disparities in birth outcomes.

In qualitative studies identified in the review, many narratives generated from birthing people highlighted that negative social, cultural and neighborhood factors (e.g., discrimination, stereotyping/bias, neighborhood disorder) may also disproportionately impact other birth outcomes that are not as widely discussed. These outcomes included childbirth preparedness,[96] labor expectations[42,43] and birth satisfaction.[97] Again, these issues primarily, and disproportionately, affected racially and socially minoritized birthing people.

Other Disparities

The review identified additional disparities, although findings were limited. Sociodemographic disparities, in addition to differences by health status and access to care, were observed for preconception health indicators,[9,98,99] social determinants of health (e.g., food security, metals exposure, health literacy),[100–102] breastfeeding practices,[103] prenatal inflammatory gene expression,[104] pregnancy-associated homicide[105] and maternal mortality.[106] Further research is needed to better understand disparities in these outcomes, especially among racially and socially minoritized groups.

Scholar Interview Highlights: ***Gaps in Perinatal Health and Health Care Disparities***

Birth equity scholars suggested disparities that have been overlooked, and subpopulations impacted by these disparities, which include:

Disparities in Perinatal Health and Health Care

- Access to care (e.g., telehealth, maternity care deserts)
- Patient-reported experiences
- Patient concerns being dismissed or not taken seriously
- Link between social determinants of health (e.g., poverty, segregated neighborhoods) and perinatal outcomes

Subgroups Experiencing Disparities

- Individuals with preexisting conditions upon entry into prenatal care, or medically complex pregnancies
- Individuals with disabilities
- Individuals who speak languages other than English
- Individuals living in rural areas
- Individuals who identify as members of racially (e.g., Black, Indigenous, Hispanic/Latina) and/or socially (e.g., LGBTQ) minoritized groups
- Individuals of racially minoritized groups who were not born in the U.S.
- Individuals who are incarcerated

Strategies to Promote Birth Equity

Overall, the gray literature search and systematized review showed a multitude of position papers and calls to action on strategies for promoting birth equity. However, many strategies identified had not been fully evaluated or widely implemented. **Six key strategies, along with specific interventions, were identified and are summarized below (Figure 3).**

Figure 3. Key Strategies to Promote Birth Equity

Implement State-Based Initiatives to Improve Insurance Coverage Quality
- Postpartum Medicaid expansion
- Perinatal quality collaboratives

Enhance Workforce Development and Training
- Recruit diverse staff
- Offer financial incentives and training programs and expand medical school programs in underserved areas
- Use telehealth
- Educate staff about bias
- Promote a culture of respect
- Use communication tools (e.g., SHARE approach, TeamBirth)

Center the Voices of Historically and Currently Marginalized Groups
- Engage patients in program design and quality improvement and measurement
- Collect patient-reported experience data and address concerns through accountability systems

Collect Patient Race/Ethnicity Data to Identify Health Care Disparities
- Stratify quality measures to identify disparities
- Target quality improvement initiatives to close gaps

Implement Social Needs Screening and Follow-Up
- Understand patient needs
- Refer to needed services

Offer Modified/ Supportive Care Models
- Community birth centers
- Home visiting programs
- Group prenatal care
- Doulas

Strategy 1: Implement State-Based Initiatives to Improve Insurance Coverage and Quality

States have attempted to address birth equity by expanding postpartum Medicaid coverage to ensure that vulnerable patients have access to care for the full duration of their postpartum period, and by convening statewide perinatal quality collaboratives that disseminate improvement initiatives in each state and have the capability to center equity in their approaches.

Expanding Postpartum Medicaid Coverage

A significant proportion of births in the U.S. (43%) are financed through Medicaid, as federal law requires all states to provide Medicaid coverage to pregnant individuals without existing insurance through 60 days postpartum.[107] While some may continue to qualify for Medicaid after 60 days postpartum, others lose their health insurance after 60 days—yet approximately half of pregnancy-related deaths occur within 1 year after delivery.[108] Furthermore, loss of pregnancy-related Medicaid coverage disproportionately impacts birthing people of Black, Hispanic and Native racial and ethnic groups.[109,110]

Expanding Medicaid through the postpartum period is one strategy states are using to ensure consistent access to health care.[2] In 2021, the American Rescue Plan Act gave states the option to extend Medicaid postpartum coverage up to 12 months. As of April 2023, 33 states, including the District of Columbia, expanded Medicaid coverage to 1 year postpartum, and seven additional states are planning to expand.[111] Further research is needed to determine the impact of postpartum Medicaid expansion on morbidity and mortality during the postpartum period.

Perinatal Quality Collaboratives

Perinatal Quality Collaboratives (PQCs) are state or multistate networks of teams working to improve perinatal health care and outcomes.[112] The CDC oversees a National Network of Perinatal Quality Collaboratives, which provides technical support and disseminates best practices for state PQCs. All but two states have established a PQC.[112] State PQCs provide infrastructure for implementing improvement initiatives on a large scale, and may be used to address birth equity. For example, the Massachusetts PQC reduced racial and ethnic disparities in breastfeeding rates,[113] and the California Maternal Quality Care Collaborative has initiatives specific to birth equity, which include implementing patient-reported experience metrics, developing educational resources and assembling best practices for shifting hospital culture toward respectful and equitable care.[114]

Strategy 2: Enhance Workforce Development and Training

Efforts to expand and diversify the healthcare workforce are being implemented to increase access to high-quality care, in addition to strategies and tools that facilitate communication and collaboration among healthcare personnel and patients.

Diversify Health Care Workforce

Evidence links lack of diversity among health care workers with disparities in perinatal outcomes. Some studies found a higher likelihood of patient visit attendance and higher satisfaction with care when patients and providers are the same race/ethnicity.[115–117] However, people who identify as Black, Native or Hispanic are consistently underrepresented in a variety of healthcare professions.[118] To address this issue, federal and state government initiatives support programs aimed at recruiting students from a variety of racial and ethnic backgrounds into healthcare professions. A key initiative is the federal Health Resources and Services Administration's (HRSA) Area Health Education Centers (AHEC) program, which supports states and other agencies in expanding the healthcare workforce while maximizing diversity and facilitating distribution to rural and underserved communities.[119]

Expand Care in Underserved Areas

Disparities also persist in access to prenatal and postpartum care. Rural hospital closures have contributed to maternity care deserts—counties with no trained hospital staff, specialists or certified nurse midwives to deliver babies.[120] Lack of access to maternity care in rural areas, which disproportionately affects Native communities, is associated with higher maternal mortality, decreased access to prenatal care and increases in postpartum complications.[120] To address maternity care deserts, financial incentives, training programs and expansion of medical school programs in rural areas have shown to be effective at bolstering the rural health workforce.[121]

Telehealth can also be used to address access to care in underserved areas. One study found that incorporating telehealth as part of prenatal care resulted in similar or potentially better clinical outcomes and patient satisfaction.[122] But Medicaid reimbursement rules for telehealth services vary widely by state, and often fluctuate.[123] Expansion of prenatal and postpartum telehealth services will require payers willing to reimburse clinicians for these services, and more evidence that telehealth improves perinatal outcomes for people in underserved areas.[124]

Intentional, Evidence-Based Implicit Bias Education and Training for Clinicians

A key factor in health care disparities is implicit or unconscious bias that affects clinicians' perceptions and decisions in caring for patients from different racial and ethnic groups.[125] Addressing implicit bias among clinicians and building systems for collaboration and accountability in healthcare settings is a potential strategy for advancing equity.

There are validated methods for addressing implicit bias: educating staff about bias and using quality improvement principles to promote a culture of respect; intergroup contact and interethnic friendship; perspective taking through storytelling; mindfulness with active commitment to uncovering unconscious bias; and practicing individuation with each patient.[125] An 18-step checklist that includes "teach-back" (the provider asks the patient to recount their understanding of a disease or treatment), using and training with a medical interpreter if needed, assessing health literacy levels, and encouraging questions and thoughtful responses to patient complaints are also tools and methods that may address implicit bias and improve clinician interactions with patients.[126]

Other Communication Tools and Training

Improving communication and teamwork among clinicians and patients is another strategy used to address disparities in perinatal care. AHRQ promotes the SHARE approach, a five-step process for shared decision-making between patients and providers: 1.) ensure that patients participate in care decisions; 2.) compare various treatment options; 3.) understand the patient's values; 4.) reach a decision and 5.) evaluate the patient's decision.[127]

TeamBirth is another tool developed to operationalize collaboration in obstetric care settings,[128] incorporating team huddles with the birthing person, nurses, physicians and all other care team members. The roles of each team member, the patient's preferences, progress and care plan and shared expectations are all outlined on a whiteboard in the labor room.[129] TeamBirth is currently being implemented in programs such as the Michigan Obstetrics Initiative[130] and Tulsa Birth Equity.[131]

Strategy 3: Center the Voices of Affected Marginalized Groups

Engaging patients from marginalized groups in policy and program design and quality improvement initiatives, collecting information on patient experiences and addressing concerns through accountability systems are key strategies to advancing equity.

Engage Patients in Policy, Program Design and Quality Improvement

Many stakeholders recommend centering birthing people from historically marginalized groups in policy and program decision-making, accountability mechanisms and quality improvement efforts. The Black Mamas Matter Alliance released a set of policy priorities for engaging and prioritizing Black women in maternal health policy and program development and implementation.[132] The Maternal Health Collaborative to Advance Racial Equity, a private-public partnership between the March of Dimes and the U.S. Department of Health and Human Services, uses Community Accountability Panels of community leaders, representatives from community-based organizations, doulas, midwives and patients to advise hospitals on implementing patient-centered, respectful care practices.[133]

In Oregon, Community Investment Collaboratives, composed of community members impacted by injustice and marginalization, guide the state in directing health equity investments and allocation of Medicaid funding to community-based organizations in order to build capacity and foster partnerships with health providers.[134]

Assess Patient-Reported Experiences of Care

Gathering patient input about care experiences through survey tools or measures (e.g., patient-reported experience measures [PREM]), and having systems in place to address discrimination or emotional harm, is important for promoting accountability on the clinician level. Documenting harmful events, investigating the root cause, utilizing patient relations representatives and coaching staff involved in disrespectful experiences are necessary follow-ups to gathering patient-reported experiences.[135] We identified at least 11 examples of validated PREMs assessing patient-reported birthing experiences (Appendix 2: Table 2), although none are currently used in major quality reporting programs.

Strategy 4: Collect Patient Race/Ethnicity Data to Identify Health Care Disparities

Collecting valid and reliable data on patient race/ethnicity can help identify the prevalence and severity of disparities in health care. Several states have implemented practices to improve collection of these data. California, for example, requires plans to gather self-reported race/ethnicity data for at least 80% of patients in order to access certain incentive payments; requires plans to earn NCQA Multicultural Health Care Distinction; and established health equity measures stratified by race/ethnicity. Additional steps include using centralized state health information exchanges to gather records and establishing cross-agency workgroups to set standards, propose regulations and promote best practices for maximizing member self-identification.[136]

Strategy 5: Implement Social Needs Screenings and Follow-Up

Social determinants of health are defined as conditions in which people are born and live; social needs are defined as acute social and economic challenges faced by individuals, such as health literacy, interpersonal violence, housing instability, food insecurity or access to transportation and healthy foods.[137] Health systems that implement screening and follow-up can provide accountability with patients to understand their broader needs and refer them to appropriate services. Identifying social needs and connecting patients to care coordinators who help them access community services can advance birth equity by equipping marginalized populations with the tools needed to improve health outcomes.

Scholar Interview Highlights: ***Gaps in Birth Equity Strategies***

Birth equity scholars gave their perspectives on strategies for promoting birth equity and accountability in health care system:

- Implement payment reforms to support the expansion of modified care models.
- Establish maternal mortality review committees.
- Conduct medical chart reviews to see how bias may have been incorporated into care delivery.
- Train clinicians and birth workers to practice effective, respectful communication with patients.
- Provide checklists or alerts to providers during appointments about topics to discuss.
- Coordinate care team concordance with patients to develop birthing plans that align with their values or preferences.

Strategy 6: Offer Modified /Supportive Care Models

Several alternative care delivery models have demonstrated improvement in quality and outcomes for birthing individuals: community birth centers, home visiting programs, group prenatal care and integrating doulas into care systems. Overall, these supportive care models promote patient education, comfortable spaces and person-centered and/or culturally competent approaches.

Community Birth Centers

Community birth centers have been found to reduce racial disparities in outcomes and improve patient care. A study examining American Association of Birth Center sites, part of the Strong Start for Mothers and Newborns Initiative, found that community birth centers exceeded national quality benchmarks and improved patient experience on a national level.[138] A comparative study to measure the impact of a Black-owned community birth center in Minneapolis found that this culturally centered approach to perinatal care decreased experiences of discrimination and reduced variance in autonomy and respect for patients.[139]

Home Visiting Programs

An Arizona statewide maternity care home intervention program with a home visitation component was found to be associated with improvement in low birthweight and preterm birth. This program featured community health workers who screened and enrolled patients, equipped patients with perinatal and postpartum education (e.g., perinatal nutrition, labor and delivery, breastfeeding, substance use cessation, intimate partner violence, immunizations) and provided patients with referrals and/or advocacy services. The study found statistically significant effects among Indigenous, Latina and teenaged patients, and patients with preexisting health risks.[140]

Group Prenatal Care

Group prenatal care is another model of care that aims to equip patients with more educational resources and social support. Qualitative studies have found that certain groups (including pregnant persons with obesity,[141] Black women in San Francisco[142] and in Florida[143] and pregnant/postpartum persons from rural areas[144] need better access to patient educational resources, advice from people with similar perspectives and social support. Group prenatal care has been found to improve breastfeeding rates and decrease postpartum depression rates,[145] although data on the effectiveness of group prenatal care to address racial disparities in outcomes is still needed.

Doula Care

Doula care is a comprehensive, patient-centered support resource with the potential to improve birth outcomes. Doulas provide emotional support, information and resources, guidance for developing birth plans, empowerment and general comfort during pregnancy, birth and postpartum.[146] Doula care is a key strategy for advancing birth equity, and has demonstrated improvements in health outcomes and in cost savings, by reducing cesarean sections.[147] It can equip patients who are vulnerable to racism and discrimination in healthcare settings with a trusted source of support.

One evaluation of a doula program found that successful programs include a sustainable payment model, access to culturally relevant services in the communities served and strategic partnerships with hospitals and other key stakeholders.[148] A case study of other such programs found that building sustainable access to doula care includes legitimizing the doula profession, and consistent pay and benefits such as sick leave and health insurance.[149]

Existing Quality Measures

Nineteen quality measures were identified that address prenatal, intrapartum or postpartum care and are currently used for accountability (in a federal or national reporting program for payment, accreditation or public reporting). Table 3 describes the focus of each measure, categorized by measure type, type of organization that reports the measure and the reporting program. Table 1, in Appendix 2, shows the measures categorized by stage of care.

State Medicaid Programs

Seven measures are currently reported at the state Medicaid program level through the CMS Medicaid Core Sets of Measures program. Three measures assess access to a prenatal visit, a postpartum visit and postpartum contraception; two measures assess receipt of prenatal immunizations and depression screening during the postpartum period; and two measures assess rates of low birthweight births and low-risk cesarean deliveries.

Health Plans

Five HEDIS® measures are currently reported by commercial and Medicaid health plans: access to a prenatal and postpartum visit, receipt of prenatal immunizations and depression screening during the prenatal and postpartum period. Notably, these measures are stratified by race and ethnicity, beginning in measurement year 2022.

Hospitals

Eleven measures are currently reported by hospitals across several reporting programs, including the CMS Inpatient Quality Reporting Program, The Joint Commission Accreditation Program and Leapfrog Hospital Ratings. Two are structure measures that assess hospital participation in a perinatal quality collaborative; implementation of patient safety bundles for use during labor/delivery; and availability of doulas, certified nurse midwives and other services. There are also measures of adverse birth outcomes (low birthweight births, unexpected newborn complications, rates of episiotomy procedures, early elective deliveries, low-risk cesarean deliveries, severe obstetric morbidity) and a recommended outcome (exclusive breastmilk feeding during hospital stay).

Scholar Interview Highlights:
Priorities for Quality Measurement

Birth equity scholars gave their perspectives on measures that could promote birth equity, as well as suggestions for specific measure topics and how to use quality measures for accountability.

Suggested Measure Topics

- Patient-reported experiences
- Adherence to preferred birth plan
- Instances of mistreatment
- Social needs screening and follow-up
- Additional postpartum touchpoints

Suggested Application of Measures for Accountability

- Involve patients in measure development and scoring systems
- Tie executive salaries to equitable outcomes
- Accountability for Medicaid program and insurance coverage design
- Accountability measures tied to nursing staff
- Stricter penalties for physicians after a maternal death

Clinicians or Clinician Groups

Five measures are currently reported by clinicians or clinician groups. The HRSA Uniform Data System program evaluates care provided by Federally Qualified Health Centers, and includes two measures assessing access to a prenatal visit and low birth weight. The CMS Quality Payment Program includes three measures, including the early elective delivery measure, and two process measures: receipt of an ultrasound for abdominal pain during pregnancy and receipt of recommended services at a postpartum visit.

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Table 3. Perinatal Quality Measures Used for Accountability

Measure Type*	Measure Focus	Type of Organization Reporting Measure / Measurement Program			
		State Medicaid	Health Plan	Hospital	Clinician
Structure	Hospital participates in perinatal collaborative and implements patient safety bundles			CMS IQR Program	
	Hospital offers certified nurse midwives, doulas, breastfeeding consultants, vaginal birth after cesarean section, postpartum tubal ligation during admission			Leapfrog Ratings	
Access	**Early prenatal visit****	CMS Medicaid Core Set	HEDIS		HRSA, UDS
	Postpartum visit**	CMS Medicaid Core Set	HEDIS		
	Contraceptive care access during postpartum period	CMS Medicaid Core Set			
Process	Prenatal immunizations provided	CMS Medicaid Core Set	HEDIS		
	Prenatal depression screening and follow-up	CMS Medicaid Core Set	HEDIS		
	Postpartum depression screening and follow-up	CMS Medicaid Core Set	HEDIS		
	Ultrasound determination of pregnancy location after experiencing abdominal pain				CMS, QPP
	Recommended postpartum services provided				CMS, QPP
	Screening newborns for jaundice before discharge			Leapfrog Ratings	
	Administering DVT prevention protocols in women undergoing cesarean section			Leapfrog Ratings	
Clinical Outcome	**Low birthweight births****	CMS Medicaid Core Set		Leapfrog Ratings	HRSA, UDS
	Low-risk cesarean deliveries	CMS Medicaid Core Set		CMS IQR Program TJC Accred. Leapfrog Ratings	
	Early elective deliveries			CMS IQR Program TJC Accred. Leapfrog Ratings	CMS, QPP
	Exclusive breast milk feeding in hospital			CMS IQR Program TJC Accred.	
	Episiotomy rate			Leapfrog Ratings	
	Unexpected newborn complications			TJC Accred.	
	Severe obstetric morbidity			CMS IQR Program	

*No patient-reported experience or patient-reported outcome measures being used for accountability / **Measures stratified by race/ethnicity
CMS Medicaid Core Set of Measures: https://www.medicaid.gov/medicaid/quality-of-care/performance-measurement/adult-and-child-health-care-quality-measures/index.html
HEDIS: https://www.ncqa.org/hedis/measures/
CMS IQR Program = CMS Inpatient Quality Reporting Program: https://qualitynet.cms.gov/inpatient/iqr/measures
Leapfrog Ratings: https://ratings.leapfroggroup.org/measure/hospital/2023/maternity-care
TJC Accred. = The Joint Commission Hospital Accreditation Program: https://www.jointcommission.org/-/media/tjc/documents/measurement/oryx/2023-oryx-reporting_requirements.pdf
HRSA UDS = HRSA Uniform Data System Reporting Program for Federally Qualified Health Centers: https://data.hrsa.gov/tools/data-reporting/program-data
CMS QPP = CMS Quality Payment Program: https://qpp.cms.gov/mips/quality-requirements

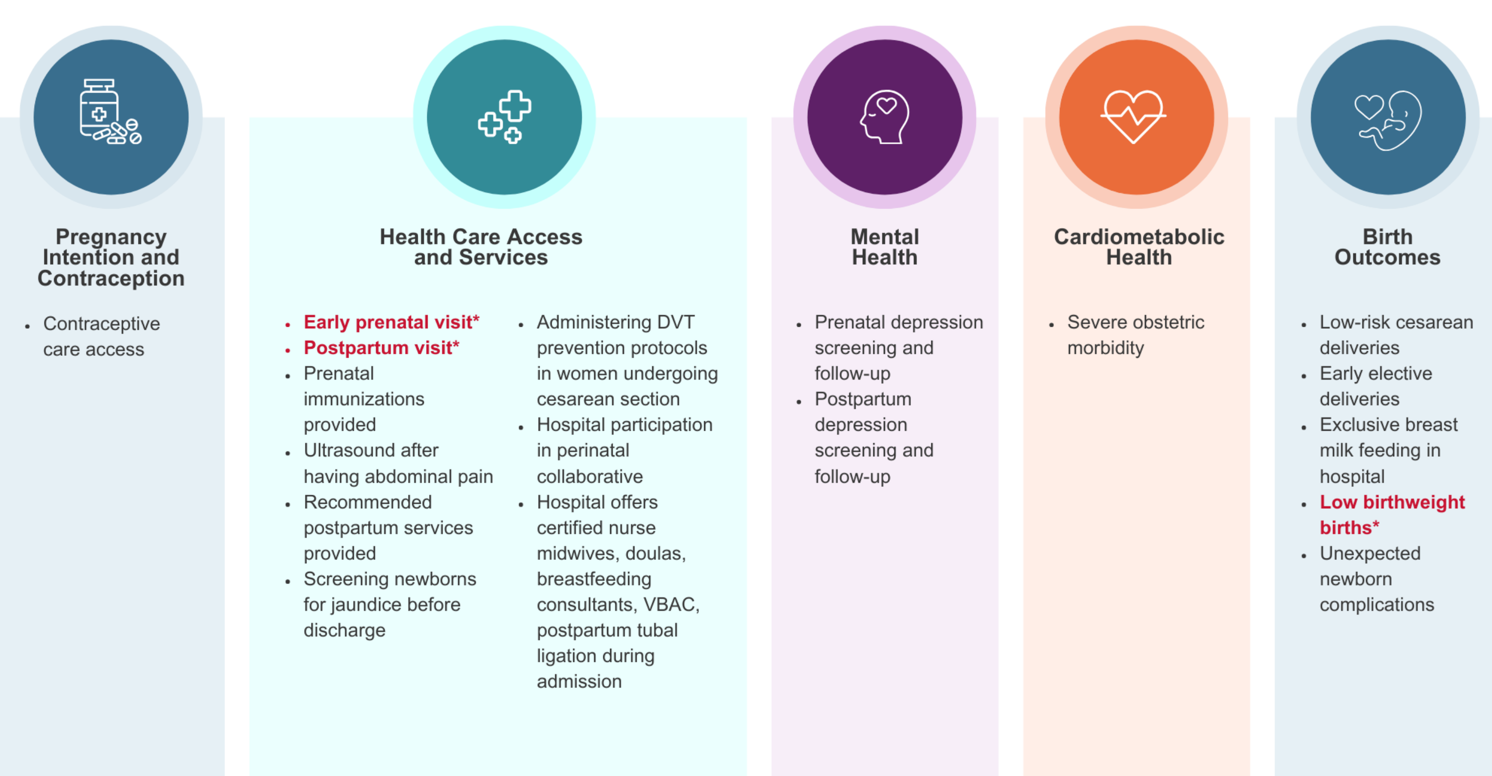
CONCLUSIONS

Between August 2022 and February 2023, NCQA and RH Impact conducted an environmental scan of birth equity measurement in the United States. This scan used a multifaceted approach to identify disparities in perinatal health and health care outcomes, evidence-based and proposed strategies for addressing maternal health disparities and existing birth equity and maternal health accountability measures.

Findings revealed persistent racial/ethnic, sociodemographic, physical health and social risk disparities in perinatal outcomes among women and birthing people in the U.S., with six types of promising strategies that have been recommended or proposed to promote birth equity. The scan identified 19 accountability measures that address pregnancy/perinatal health and are currently employed in State Medicaid, health plan, hospital and clinician reporting programs. Results also highlighted gaps in the quality measurement landscape with regard to maternal health needs and the continuum of perinatal care.

Although existing quality measures fall within the scope of all key themes of disparities identified in the environmental scan (Pregnancy Intention & Contraception, Health Care Access & Services, Mental Health, Cardiometabolic Health, Birth Outcomes), the full extent of disparities impacting women and birthing people across these domains is not adequately addressed (Figure 4). For example, most quality measures target health care access and service delivery from prenatal through postpartum, but there are few screening and/or risk assessment measures across the continuum of care. National quality reporting programs also do not include measures assessing whether patients received appropriate levels of care during and after pregnancy, or patient-reported experience or outcome measures specific to birthing people.

Figure 4. Alignment of Disparities in Perinatal Health Outcomes and Existing Quality Measures



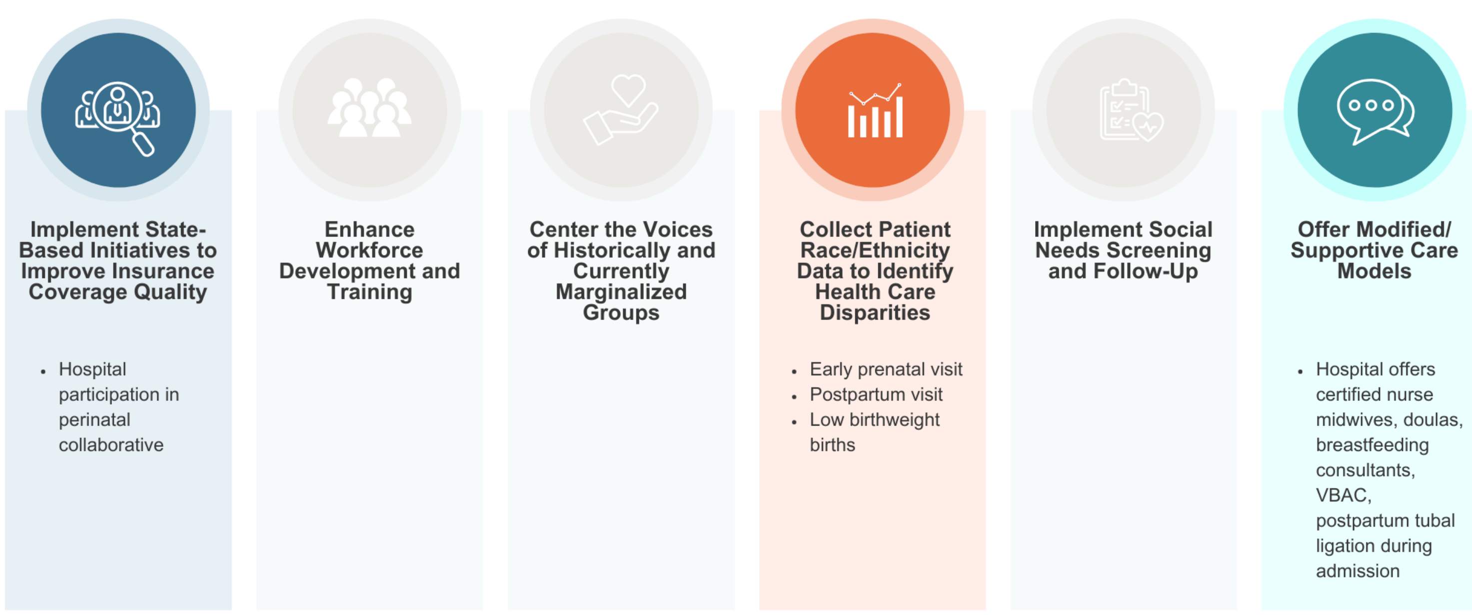
**Measures stratified by race / ethnicity*

Additional measurement content gaps were observed for physical and mental health indicators during and after pregnancy. There are currently no screening and follow-up measures for mental health conditions beyond perinatal depression (anxiety, perceived/chronic stress), despite the presence of disparities for these conditions among racially and socially minoritized birthing people.[50,55,60]

Similarly, although there is a focus on severe obstetric morbidity resulting from labor/delivery, existing cardiometabolic health measures do not target screening and monitoring of hypertensive disorders of pregnancy, such as gestational diabetes, which also disproportionately impact racially and ethnically minoritized groups.[64–66] And despite measures that assess birth outcomes for women and birthing people, and their newborns, no measures track the number of preterm and stillbirths.

Few existing quality measures align with strategies that have been proposed or implemented to address birth equity (Figure 5). Several structural measures assess hospitals' use of supportive care models (e.g., midwives and doulas), and their participation in perinatal collaboratives. Some programs and measures (e.g., HEDIS) require stratification of perinatal quality measures by race and ethnicity. However, no quality measures hold the health care system accountable for addressing perinatal workforce development and training, social needs screening and follow-up for pregnant or postpartum individuals or patient-reported experiences or outcomes.

Figure 5. Alignment of Birth Equity Strategies and Existing Quality Measures



Results from this environmental scan should be interpreted with consideration of several limitations. Findings do not encompass the full extent of disparities and their associated predictors for maternal and perinatal outcomes. And because the literature review was limited to a time frame of 2018–2022, there are likely to be gaps in our exploration of certain disparities occurring before, during and after pregnancy. That time frame was selected, however, to reflect the emerging and rapidly changing evidence base on this topic over the past few years. Moreover, a limited number of studies explore disparities that exist for other birthing populations (e.g., people belonging to sexual and gender minorities or who are Native/Indigenous). These topics yielded the fewest number of studies, and we were consequently unable to explore these predictors and subpopulations in depth. And, while our research team recognizes that race and ethnicity often serve as a proxy for structural factors such as systemic racism,[72] most current maternal and perinatal health literature treats this factor as an "intrinsic" predictor, which means the true scale of the impact of structural racism and discrimination as predictors for maternal health disparities may be underestimated.[150] Finally, the gray literature search identified a multitude of birth equity strategies that we sorted into six primary categories. Specific interventions were highlighted throughout this paper, but this was not intended to be an exhaustive list of all efforts—more may be included in other recent papers that focus on birth equity interventions.[151,152] And, as noted, many strategies are in the process of being evaluated more fully.

To supplement findings from the environmental scan, RH Impact and NCQA conducted key stakeholder interviews with patients, families, healthcare service providers, community-based organizations and policy experts on what matters most to them, and how each level of the health system can best address birth equity. The environmental scan and interview findings will inform development of a framework to support equity-centered measurement for Black birthing people and for members of other historically and currently marginalized populations.

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APPENDICES

APPENDIX 1

Table 1. Systematized Review Inclusion and Exclusion Criteria

	Inclusion Criteria	Exclusion Criteria
Study Types	Experimental, Quasi-experimental, Non-experimental, and Qualitative Studies	Commentary, Opinion Piece, Literature Review, Systematic Review, Research Letters
Settings	U.S.-based studies	Non-U.S.-based studies
Study Focus	Addressing equity or disparities related to birthing people preconception through 1 year postpartum	Addressing birthing people, but not related to disparities or equity issues
Outcomes	Health/health care outcomes, perceptions of health/health care among birthing patients	Outcomes do not address health/health care or perceptions of health/health care among birthing patients
Study Quality	Any study quality	Studies for which quality cannot be assessed
Report Characteristics	English language	Non-English language
	Published, peer-reviewed studies	Unpublished data or gray literature
	Published January 1, 2018 to August 1, 2022	Published prior to January 1, 2018, or after August 1, 2022

Table 2. Systematized Literature Search and Review Process Steps

Step	Number of Articles
Search String	1,312 results
Step 1: Title and abstract screening for relevance	1,091 results
Step 2: Full text screening for relevance	257 results
Step 3: Priority articles identified	194 results[a]

[a]A total of 160 articles addressed disparities in health and health care outcomes; 34 articles addressed strategies to address disparities.

APPENDIX 2

Table 1. Existing Perinatal Quality Measures Used for Accountability, by Stage of Care Addressed

Measure Type	Measure Focus	Stage of Care Addressed by Measure		
Structure	Hospital participates in perinatal collaborative and implements patient safety bundles		Intrapartum	
	Hospital offers certified nurse midwives, doulas, breastfeeding consultants, vaginal birth after cesarean section, postpartum tubal ligation during admission		Intrapartum	
Access	Early prenatal visit	Prenatal		
	Postpartum visit			Postpartum
	Contraceptive care access during postpartum period			Postpartum
Process	Prenatal immunizations provided	Prenatal		
	Prenatal depression screening & follow-up	Prenatal		
	Postpartum depression screening & follow-up			Postpartum
	Ultrasound determination of pregnancy location after experiencing abdominal pain	Prenatal		
	Recommended postpartum services provided			Postpartum
	Screening newborns for jaundice before discharge		Intrapartum	
	Administering deep vein thrombosis prevention protocols in women undergoing cesarean section		Intrapartum	
Clinical Outcome	Low birthweight births		Intrapartum	
	Low-risk cesarean deliveries		Intrapartum	
	Early elective deliveries		Intrapartum	
	Exclusive breast milk feeding in hospital		Intrapartum	
	Episiotomy rate		Intrapartum	
	Unexpected newborn complications		Intrapartum	
	Severe obstetric morbidity		Intrapartum	

Table 2 Existing Patient-Report Experience Measures Validated in the U.S., by Stage of Care Addressed*

PREM Instrument	Population / Focus	Scales / Items	Stage of Care Addressed		
Patient Centered Prenatal Scale[153]	Administered ≥1 year postpartum to assess experiences of people of color during prenatal stage of care	34-item and 26-item versions that cover 3 conceptual domains: dignity and respect; communication and autonomy; and responsive and supportive care	Prenatal		
The Mistreatment Index[154]	Administered during postpartum period to assess lived experiences of care during pregnancy and childbirth, including seven types of mistreatment by health providers or health systems	7 items assessing mistreatment: sharing information without consent; violation of physical privacy; withheld treatment; shouting or scolding; threats; ignored or refused request for help; physical abuse	Prenatal	Intrapartum	
Childbirth Options, Information, and Person-Centered Explanation (CHOICEs) Index[155]	Administered to postpartum women to assess shared decision-making during maternity care	15 items assessing shared decision making using rating scales	Prenatal	Intrapartum	
Patient-Reported Experience Measure of Obstetric Racism (PREM-OB Scale™)[156]	Administered postpartum to Black/African American women and birthing people to assess hospital-based intrapartum care experiences	52 items across three domains: Racism: 12 items; Kinship: 9 items; Humanity: 31 items		Intrapartum	
Childbirth Experiences Survey[157]	Administered to postpartum women to assess satisfaction with hospital childbirth services	23 items across domains of staff communication, compassion, empathy and respect		Intrapartum	
Childbirth Experiences Survey[157]	Administered to postpartum women to assess satisfaction with hospital childbirth services	23 items across domains of staff communication, compassion, empathy and respect		Intrapartum	
Person-Centered Maternity Scale[158]	Administered ≥1 year postpartum to assess experiences of Black women and birthing people during labor and childbirth	35-item scale with subscales for dignity and respect, communication and autonomy, and responsive and supportive care		Intrapartum	
Mothers on Respect Index[159]	Administered to women who have given birth to assess individual experiences of respectful or disrespectful care with a single maternity care provider	14 items assessing autonomy and respect: comfortable asking questions, declining care, ability to choose care options, personal and cultural preferences respected	Prenatal	Intrapartum	Postpartum
Mothers Autonomy in Decision Making (MADM) Scale[160]	Administered to women during or after birth to assess the experience of decision making during maternity care	31 items on experience of decision making: women's ability to lead decision making, whether they are given enough time to consider their options, and whether their choices are respected	Prenatal	Intrapartum	Postpartum

Listening to Mothers in California Survey[161]	Administered to postpartum women to assess maternity care and postpartum experiences, views and outcomes	Items assessing the following domains: Choice of maternity care provider and hospital; prenatal care; prenatal mental health; intrapartum care; mode of birth; experiences and views of giving birth; postpartum; breastfeeding; employment; women's attitudes, beliefs and preferences	Prenatal	Intrapartum	Postpartum
iRTH App[162]	Black and brown birthing patients, including fathers and birthing partners, review their experiences with maternity and pediatric physicians and hospitals	Ratings on whether race or ethnicity impacted care; whether doctors and nurses answered questions or respected preferences; recommendation; overall rating	Prenatal	Intrapartum	Postpartum
Patient-Centered Contraceptive Counseling Tool[162] [163]	Administered to women in any health care setting providing contraceptive counseling to assess person-centeredness of the counseling	Ratings of provider on each of the following on a scale of 1 (poor) to 5 (excellent): respecting me as a person; letting me say what mattered to me about my birth control method; taking my preferences about birth control seriously; giving me enough information to make the best decision about my birth control method			Postpartum

***None of these instruments are currently used for accountability in in a federal or national reporting program for payment, accreditation or public reporting. Other tools, such as the Respectful Maternity Care Tool, are currently under development.**

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In collaboration with communities, Reproductive Health Impact (RH Impact) challenges systemic inequities to achieve reproductive equity and justice. RH Impact applies research and evaluation to policy advocacy, capacity-building and power-shifting strategies while centering the lived experiences, scholarship and activism of Black communities.
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BIRTH EQUITY ACCOUNTABILITY THROUGH MEASUREMENT (BEAM)

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