ISSUE BRIEF

JANUARY 2020

NCIOM

A REPORT FROM THE NCIOM

PERINATAL SYSTEM OF CARE TASK FORCE

The health and well-being of North Carolina's mothers and infants determines the health of the next generation of North Carolinians. Unfortunately, North Carolina has not kept pace with the improvements in maternal and infant health that have occurred in most of the United States and other developed countries. Over the last 20 years, maternal mortality has been increasing steadily in the United States,[1] despite the fact that more than half of pregnancy-related deaths are preventable.[2] Infant mortality has been slowly improving over the past 20 years in North Carolina; however, infants in North Carolina are still more likely to die than those in 40 other states.[3] While maternal and infant outcomes need to be improved for all, women and infants of color are significantly more likely to have poor pregnancy and birth outcomes. African American infants are more likely to die in utero, be born preterm and low birth weight, and die in their first year of life than white infants, and African American women are 3 to 4 times more likely to die from pregnancy-related causes than their white peers.[4]

In 2016, the Women's Health Branch of the North Carolina Department of Health and Human Services (NCDHHS) released a 12-point Perinatal Health Strategic Plan to address infant mortality, maternal health, maternal morbidity and mortality, and the health status of women and men of child bearing age.[5] The plan was developed based on a framework of closing the black-white disparity gap in birth outcomes that is applicable to all populations.[6,7] The 12-point plan includes 3 overarching goals: improving health care for women and men, strengthening families and communities, and addressing social and economic inequities. Goal 3E called for North Carolina to "Ensure that pregnant women and high-risk infants have access to the risk appropriate level of care through a well-established regional perinatal system."[7] In response, Session Law 2018-93 tasked NCDHHS with studying seven issues surrounding the state's ability to provide women with timely and equitable access to high-quality, risk-appropriate maternal and neonatal care. The NCIOM Perinatal System of Care Task Force was convened, in partnership with NCDHHS, to respond to Session Law 2018-93 and Goal 3E of North Carolina's Perinatal Health Strategic Plan.

Improving outcomes for women and infants requires addressing all the barriers they face to achieving positive health outcomes; however, this task force was convened to address barriers to achieving optimal clinical care for women and infants. Therefore, the focus was on what can be done to improve outcomes by improving access to, and quality of, clinical care. Positive outcomes for women and infants can be increased through access to high-quality preconception (before pregnancy), prenatal (during pregnancy), labor and delivery, postnatal (after pregnancy), and interconception (between pregnancies) care. In considerations on how to improve clinical care, the stark differences in outcomes for women and infants of color led the task force to consider direct action to address the causes of these disparities. Therefore, while the task force developed recommendations to ensure that all women receive quality perinatal care, they spent considerable time exploring strategies that have been shown to improve outcomes for women and infants of color in particular.

INPATIENT CARE LABOR AND DELIVERY

Maternal and neonatal levels of care designations for birthing centers and perinatal regionalization are nationally recognized, evidence-based strategies to improve maternal and perinatal outcomes. They improve outcomes, particularly infant mortality, by establishing coordinated systems among birthing facilities that provide different levels of maternal and neonatal care.[8,9] Such systems rely on the categorization of birthing facilities according to the services they offer to mothers and infants. Level I facilities meet the needs of women whose pregnancies are low-risk (>90% of births), and provide well-newborn nurseries for low-risk infants. As the level increases, so does the ability of the birthing facility to provide higher levels of specialized care and technology to care for mothers and infants with higher needs.[8,9] Perinatal regionalization builds on the levels of care designation by establishing systems that link lower level of care facilities to higher level of care facilities and guidelines for transfers between levels when mothers or infants need more specialized care.[8] Such systems work to coordinate care and ensure that pregnant women and infants are cared for in "risk-appropriate" settings. While North Carolina has a

system for assessing birthing facilities' level of care for infants, the guidelines have not been updated since 1996[a] and do not match national best practice guidelines.

RECOMMENDATION 2.1:
Adopt National Maternal and Infant Risk-Appropriate Level of Care Standards

One of the beneficial aspects of the national levels of care system is the availability of a tool that allows a facility to objectively assess its capabilities and determine its true level of care. Through a partnership led by the Centers for Disease Control and Prevention (CDC), the Levels of Care Assessment Tool, or LOCATe, was developed to standardize assessments done by participating facilities on their neonatal and maternal levels of care.[10]

RECOMMENDATION 2.2:
Assess Levels of Care Utilizing the CDC LOCATe Tool

Under current North Carolina regulations, birthing facilities self-assess their neonatal level of care capabilities. To realize the full scope of advantages derived from implementing a regionalized perinatal system of care, the state should ensure birthing facilities are correctly identifying their level of care through external verifications.

RECOMMENDATION 2.3:
Require External Verification of Birthing Facilities' Maternal and Neonatal Level of Care Designations

Under the uniform national guidelines for neonatal and maternal levels of care, Level IV facilities not only provide care, but also act as regional leaders by facilitating collaboration among facilities, quality improvement activities, and education.[8] For many years, North Carolina had a regional support system facilitated by a neonatal and perinatal outreach coordinator in each region; however, funding for these positions ended in 2009.[11]

RECOMMENDATION 2.4:
Re-establish North Carolina's Perinatal and Neonatal Outreach Coordinator Program

PRECONCEPTION, PRENATAL, AND POSTPARTUM CARE

Access to and receipt of quality preconception and prenatal care is a critical step to improving maternal and birth outcomes. Adequate preconception and prenatal care are leading strategies to reduce infant mortality and pregnancy-related deaths.[12,13] Additionally, access to high-quality, consistent prenatal care is required in order to provide early and ongoing risk assessments, which make up the cornerstone of developing a risk-appropriate perinatal system of care. While the regional model of care is intended to help ensure that women have access to a well-integrated, risk-appropriate perinatal system of care, there remain structural, financial, and cultural barriers to care that must be eliminated in order to improve outcomes for women and infants.[14] Access to care is particularly challenging for low income women and women that are undocumented immigrants.

RECOMMENDATION 3.1:
Expand Access to Health Care Services

Although most prenatal care is provided through individual office visits between pregnant women and their providers, there are other models of care that have been shown to positively impact maternal and infant outcomes for women, particularly women of color. In many cases, these models supplement the clinical prenatal care experience and facilitate community support and patient learning in environments women may find more supportive. Similarly, childbirth education models increase positive outcomes by simplifying the birthing process and decreasing rates of cesarean sections and prolonged labor periods.[14]

RECOMMENDATION 3.2:
Extend Coverage for Group Prenatal Care and Doula Support

RECOMMENDATION 3.3:
Increase the Utilization and Completion Percentages of Childbirth Education Classes

While data shows that the number of prenatal care providers across the state has been increasing in recent years, access to maternity care varies across the state, with some areas having few or no prenatal care providers.[15] Women with low-risk pregnancies (>90% of pregnancies), meaning there are no complications or maternal or fetal factors that increase the risk of complications, can seek prenatal and labor and delivery care from many types of health care practitioners beyond gynecologists and obstetricians.[8] Ensuring women have access to prenatal care is critical to improving the health and well-being of mothers and infants. One strategy used by many states to increase the number of providers of low-risk maternal care is allowing full practice authority for certified nurse-midwives, which allows them to provide care as independent providers.

RECOMMENDATION 3.4:
Full practice Authority for Certified Nurse-Midwives

While many women have mental health- and substance use-related needs during pregnancy, these needs may not be identified and adequately treated.[16–18] In North Carolina, most pregnant and postpartum women are screened for depression and substance use; however, services for those who screen positive vary widely.[19,20]

RECOMMENDATION 3.5:
Standardize Screening and Treatment for Perinatal Mental Health and Substance Use

RECOMMENDATION 3.6:
Expand Perinatal Access to Mental Health Services

[a] *§10A NCAC 13B .6203 (1996).*

Efforts to improve health care typically focus on improving access to care and quality of care. Quality improvement (QI) activities involve analyzing current systems and processes for areas where changes could lead to improved outcomes and can happen at the state, regional, payor, health care system, practice, and individual provider level. Although QI has become a standard part of health care over the past 30 years, QI efforts have not been widely used to address the disparities seen across health care measures.[3] The increase in maternal mortality in the United States, the slow rate of improvement in infant mortality, and the large disparities in outcomes for women and infants of color all point to the need for quality improvement efforts focused on perinatal care.

RECOMMENDATION 4.1:
Collect and Report Data on Maternal and Infant Outcomes by Race and Ethnicity

RECOMMENDATION 4.2:
Engage Insurers in Quality Improvement Efforts that Address Racial and Ethnic Disparities in Care

RECOMMENDATION 4.3:
Engage Birthing Facilities in Quality Improvement Efforts to Address Racial and Ethnic Disparities in Care

National guidelines recommend establishing relationships among birthing facilities to facilitate a risk-appropriate regional perinatal system of care; however, such a system does not account for the fact that most maternal care is provided in outpatient clinics.[15] Just as women and infants will benefit as connections between birthing facilities providing different levels of care are improved and supported, they would also benefit from better connections between prenatal care providers, particularly among those providing low-risk prenatal care and those providing high-risk prenatal care or specialty care for pregnant women.

RECOMMENDATION 4.4:
Support Outpatient Risk-Appropriate Perinatal System of Care

Because of the potential for improved health outcomes and patient satisfaction, patient and family engagement has emerged as a critical strategy for improving the performance of our health care system. Creating opportunities throughout health care organizations for patients and family members to influence decisions, such as through patient and family advisory councils, can help ensure health care organizations are meeting the needs of the communities they serve.

RECOMMENDATION 4.5:
Create Patient and Family Advisory Councils

RECOMMENDATION 4.6:
Align Perinatal Care Regional Maps with Medicaid Transformation Maps

POSTPARTUM CARE

Improving maternal and infant outcomes does not end with delivery. While healthy birth outcomes are a critical step, they are not the end of the journey for women, infants, and families. Children who are born preterm, low birth weight, or with other health challenges often have lengthy neonatal intensive care unit (NICU) stays. Families with infants in the NICU often experience heightened stress and anxiety both during and after their infant's stay in the NICU.[21] Parent navigators can help parents understand how the NICU works, what to expect, and how to advocate for their infants, both in the hospital and after they go home. Parents who have worked with NICU parent navigators report lower levels of stress, depression, and anxiety; increased confidence and well-being; and feel more empowered to interact with and care for their infants.[22]

RECOMMENDATION 5.1:
Develop Parent Navigator Programs in Birthing Facilities

The weeks and months following birth are a critical period for families, setting the stage for long-term health and well-being. More than half of pregnancy-related maternal deaths occur after delivery, the majority of which are preventable.[23,24] However, many women go without health care after the 60-day postpartum period due to cost.[15]

See Recommendation 3.1: Expand Access to Health Care Services

IMPACT OF SOCIAL DETERMINANTS OF HEALTH ON PERINATAL HEALTH

The health and well-being of women and infants begins in their families and communities, and is largely determined by the social and economic contexts in which they grow up, live, work, and age; the health behaviors that those contexts make easier or harder to perform[2]; and their physical environments. Community health workers can serve as vital members of a health care team to address health-related social needs.

RECOMMENDATION 6.1:
Use Community Health Workers to Support Pregnant Women in Their Communities

Workplace environments and activities have a tremendous impact on pregnant women and their infants. The availability of pregnancy and breastfeeding accommodations, paid family and sick leave, affordable child care, and other benefits that support working mothers can improve health outcomes for women and babies.

RECOMMENDATION 6.2:
Implement Family-Friendly Workplace Policies

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ACKNOWLEDGMENTS: The work of the task force would not have been possible without the hard work of the dedicated people who volunteered their time to serve on the task force and steering committee and the invaluable feedback and input of the community members who participated in meetings and provided expert content for the report.

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North Carolina Institute of Medicine completed this work in partnership with the Division of Public Health and the North Carolina Department of Health and Human Services.

A copy of the full Perinatal System of Care report will be available on the North Carolina Institute of Medicine website: www.nciom.org

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