

From The National Perinatal Information Center: Chronic Disease and Maternal Health: Impact of Maternal Health upon NICU Admissions

Elizabeth Rochin, PhD, RN, NE-BC

The National Perinatal Information Center (NPIC) is driven by data, collaboration and research to strengthen, connect and empower our shared purpose of improving patient care.

For over 30 years, NPIC has worked with hospitals, public and private entities, patient safety organizations, insurers and researchers to collect and interpret the data that drives better outcomes for mothers and newborns.



National Perinatal Information Center

Maternal health has been a focus of countless discussions in the past several years, particularly as the rate of maternal morbidity and mortality in the United States has continued to rise. Multiple factors have been shown to contribute to maternal morbidity and mortality, including inadequate access to care, poor assessment of chronic illness risk by obstetric and women's health providers, and lack of financial resources for women seeking care (Centers for Disease Control, 2017). However, chronic illness has also been shown to play a significant role in maternal morbidity. Among patient factors, the increasing prevalence of chronic diseases, such as hypertension, diabetes and obesity among pregnant women (and among women of childbearing age), contributed significantly to the increase in the maternal mortality rate (Agrawal, 2015).

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The National Perinatal Information Center (NPIC) routinely captures information surrounding chronic illness, including patients with coded comorbidities such as diabetes, hypertension and obesity. For the time period of 2018 – 2019, NPIC reviewed 658,465 MDC-14 Obstetric discharge records, and 572,277 linked Mother/Baby discharge records to assess impact of these conditions on an obstetric population. What is important to note is that the rate of diabetes, hypertension and obesity in this national database tends to have no improvement over the time period of 2018-2019, and in fact shows slow to moderate increases over time:

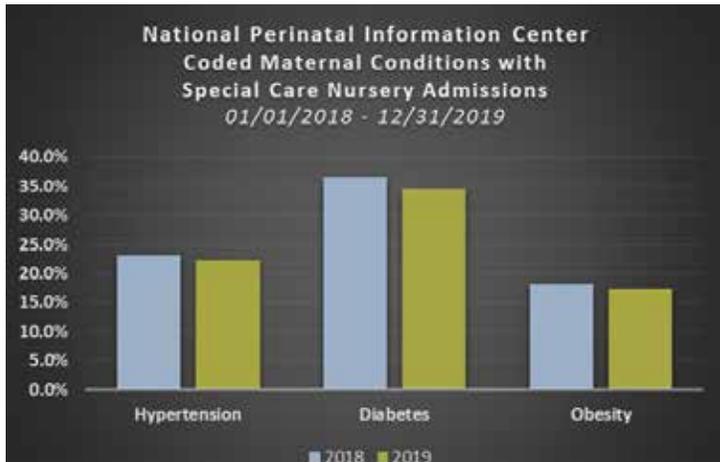
Important to note are these conditions within the conversation of COVID-19. Pre-existing comorbidities within the obstetric population have been described in the literature during the COVID-19 pandemic (Breslin et al, 2020; Chow et al 2020; Blitz et al, 2020). The most common pre-existing comorbidities described in the COVID-19 literature are obesity, diabetes, hypertension, and pulmonary involvement, such as asthma. There continues to be emphasis and interest in how existing comorbidities may impact the severity and outcomes of COVID-19 within the obstetric population. NPIC will be following this information closely in 2020 and into 2021 for trends that may yield additional value to perinatal care, particularly for its role in fetal and neonatal outcomes.

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With the emphasis on pre-existing comorbidities and chronic illness, it is important to address how these coded diagnoses impact NICU admissions. During this time period of 2018 - 2019, there have been small improvements in coded maternal conditions with a subsequent NICU admission:

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Chronic maternal illness will continue to require a multidisciplinary team approach that includes obstetrical expertise, as well as maternal-fetal medicine, key subspecialists who can advise on chronic illness superimposed on pregnancy and neonatologists familiar with the impact of maternal chronic illness on the fetus and newborn.

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Mothers who find themselves with newborns admitted to the NICU may have barriers to participating in the care of their newborn: reliable transportation, availability of nutritious food, secure housing, environmental stressors. Add to those the presence of maternal chronic illness, and the care paradigm shifts to caring for both sick newborn and sick mother. These mothers and newborns may face many obstacles in their care that compound already present barriers to care. These obstacles may include disjointed health care systems with policies that vary between sites and locations, disjointed communication between providers in multiple systems, a lack of coordination in patient management, and the absence

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of policies and procedures that facilitate coordination of care, or lack of care coordination necessary for community care handoff (Agency for Healthcare Research and Quality, 2018).

Populations that are at greatest risk to lack of primary and preconception care are those who continue to suffer from implicit, unconscious and systemic bias, including:

- 1) Black and Brown women;
- 2) Transgender women;
- 3) Morbidly obese women;
- 4) Undocumented women;
- 5) Women with history of trauma;
- 6) Women lacking insurance or ability to pay for care;
- 7) Women with history of Opioid Use Disorder;
- 8) Incarcerated women

COVID-19 has brought to light already existing barriers to care, and simply magnified them. Access to primary care has never been more readily available, and at the same time, never more difficult to acquire for at-risk populations.

From a perinatal standpoint, it is imperative that primary care and preconception care receive the attention and funding they deserve to assure optimal outcomes for mothers and newborns. The costs of care related to undervalued and underfunded primary care in rural, urban and community environments will continue to result in maternal chronic illness that can potentially be avoided by effective and coordinated management between providers and their community counterparts.

The National Perinatal Information Center will continue to engage in the conversation of population health and its impact on perinatology, neonatology and the well-being of the smallest of patients within our healthcare community.

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The author has no conflicts of interests to disclose.

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Corresponding Author:



Elizabeth Rochin, PhD, RN, NE-BC
President
National Perinatal Information Center
225 Chapman St. Suite 200
Providence, RI 02905
401-274-0650
inquiry@npic.org