

New York State Taskforce on

Maternal Mortality and Disparate Racial Outcomes

**Recommendations
to the Governor
to Reduce
Maternal Mortality
and Racial Disparities**

March 2019

About the New York State Taskforce on Maternal Mortality and Disparate Racial Outcomes

Governor Andrew M. Cuomo created the Taskforce on Maternal Mortality and Disparate Racial Outcomes, which launched in April 2018, as part of a multi-pronged effort to reduce maternal mortality and racial disparities. The taskforce was convened by Melissa DeRosa, Secretary to the Governor and Chair of the New York State Council on Women and Girls; Kathy Hochul, Lieutenant Governor; Letitia James, Attorney General and then-New York City Public Advocate; and membership was comprised of appointees from the NYS Senate and Assembly, as well as obstetricians, midwives, hospital representatives, doulas and other stakeholders and members of the community. The taskforce was co-chaired by Dr. Howard Zucker, Commissioner of the New York State Department of Health (NYSDOH); Sascha James-Conterelli, DNP, CNM, LM, President of the New York Association of Licensed Midwives (NYSALM); Danielle Laraque-Arena, MD, FAAP, former President of SUNY Upstate; and Wendy Wilcox, MD, MPH, Chairman, Department of Obstetrics and Gynecology, New York City Health and Hospitals, Kings County.

The Taskforce on Maternal Mortality and Disparate Racial Outcomes (the Taskforce) met three times between June and December 2018. During these meetings, the Taskforce heard from state and national experts and community stakeholders on the landscape of maternal mortality in the U.S. compared to maternal mortality in New York State, as well as the impact of racism on maternal health outcomes among black women. Members of the Taskforce submitted recommendations to the Governor on ways to reduce racial disparities and preventable maternal mortality and morbidity. Recommendations were informed by Taskforce meetings, feedback from statewide community listening sessions lead by Commissioner Zucker and other breakout sessions, and their own expertise. There were numerous proposals, and upon the recommendation of the Taskforce members, the Taskforce is advancing ten recommendations to decrease maternal mortality and morbidity and reduce racial disparities in New York.

In addition, in his 2019 State of the State address, Governor Cuomo committed to immediately implementing the top recommendations of the Taskforce, including launching a Maternal Mortality Review Board, creating an implicit racial bias training and education program for hospitals, investing in community health worker programs and creating a data warehouse on perinatal outcomes. The Governor also committed \$8M over two years in the 2019-2020 Executive Budget to fund these important initiatives.

About this Report

This report summarizes the activities of the Taskforce, as well as details on the top recommendations advanced by the Taskforce to effect meaningful change across New York State by reducing maternal mortality and improving the lives of families.

The Taskforce would like to thank the women and families that participated in the Listening Sessions around the state and shared their stories and experiences. Their voices were vital to guiding the Taskforce.

Members of the Taskforce include:

Conveners:

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Kathy Hochul, JD, Lieutenant Governor

Letitia James, JD, Attorney General of New York

Co-Chairs:

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Maternal Mortality in NYS

Maternal mortality and morbidity are key indicators of the health of a society. Maternal deaths are devastating events with prolonged effects on partners, children, families and obstetric health care teams. The most severe complications of pregnancy, generally referred to as severe maternal morbidity (SMM), affect more than 65,000 women in the U.S. every year. Obstetrical factors also play a role in maternal mortality and morbidity. The cesarean delivery rate in the U.S. has risen to over 30%.¹ Compared to vaginal deliveries, cesarean deliveries carry overall higher rates of maternal mortality and morbidity.

In recent years, there has been increased attention to the rising rate of maternal mortality around the country, including New York State. In addition, powerful stories in mainstream media have featured the disparities in maternal mortality rates for black women.

Key Findings:

- In 2016, New York State (NYS) was ranked 30th in the nation for its maternal mortality rate, with clear racial disparities.²
- The number of reported maternal mortalities in NYS increased over time from 15.4 deaths per 100,000 live births in 2001-2003 to 19.6 deaths per 100,000 live births in 2014-2016. The United States (U.S.) rate more than doubled during this time.
- In 2012-2014, 66% of prenatal related deaths in NYS involved a cesarean section, which increases the likelihood of complications like any other surgery.
- In a review of maternal deaths in NYS between 2012-2014, the top five causes of pregnancy-related deaths were embolism (24%), hemorrhage (16%), infection (16%), cardiomyopathy (12%) and hypertensive disorders (7%). Sixty-five percent of the pregnancy-related deaths occurred within a week of the end of pregnancy.
- The top five causes of pregnancy-associated, but not related deaths in the 2012-2014 maternal mortality review cohort were substance abuse (30%), motor vehicle accidents (22%), suicide (17%), homicide (15%) and cancer (14%).

The Impact of Racism on Maternal Outcomes

Racial and ethnic disparities in maternal mortality are a significant public health issue in the U.S. In the last fifteen years, in the U.S., the maternal mortality ratio has more than doubled, rising from 9.8 deaths per 100,000 births in 1999 to 21.5 deaths per 100,000 births in 2014.³ Moreover, non-Hispanic black women have had a greater rate of increase in maternal deaths in the U.S. between 2007 and 2014.⁴ In NYS, the maternal mortality rate for black women was 51.6 deaths per 100,000 live births, compared to 15.9 deaths per 100,000 live births for white women in 2014-2016. Black women are approximately three times more likely to die than white women.

Even though there have been improvements in maternal health outcomes, racial disparities persist, independent of other variables. In a report by the NYC DOHMH on severe maternal morbidity (SMM), non-Hispanic black women with at least a college degree had higher SMM rates than women of other races/ethnicities who never graduated high school.⁵ Also, in looking at other factors affecting maternal outcomes, NYC found that non-Hispanic black women with normal pre-pregnancy BMI had higher rates of SMM than women of every other race/ethnicity who were obese.⁵ It is important to recognize the role of racism in maternal physical and mental health. Studies find that stress caused by racial discrimination plays a significant role in maternal mortality.⁶ The impacts of individual and structural racism can compromise health over time leading to poorer outcomes for black women.

Poverty and racism are also inextricably linked and this linkage is particularly visible in the data on hospital quality. As stated by Dr. Joia Crear-Perry, national expert on birth equity, racism fuels power imbalances that subsequently create barriers to access to healthcare, safe housing, and other institutions.⁷ Likewise, clinical care is also linked to poverty and impacts maternal outcomes among black women. Recent research into the variable quality of obstetric care hospitals has shown that the hospital location of deliveries has an impact on maternal outcomes and racial disparities.⁸ In a study published in 2016 by Howell et al., statistical models showed that if black mothers delivered in the same hospitals as white women, there could be a possible reduction of severe maternal morbidity rates by 47.7% for black women.⁹ This research highlights the importance of examining hospital quality care and racial disparities in addition to external factors.

Top Taskforce Recommendations

The New York State Taskforce on Maternal Mortality and Disparate Racial Outcomes proposes the following ten recommendations, to be implemented in the short and long term, if State resources are available, to reduce maternal deaths and improve outcomes of women and families of color in New York.

1. Establish a Statewide Maternal Mortality Review Board in Statute

New York State should establish a Maternal Mortality Review Board (MMRB) in statute. The MMRB would be comprised of a diverse group of experts that will assess the cause of each maternal death in New York State to identify and disseminate strategies to prevent future deaths. The MMRB should maintain strict confidentiality standards and work in partnership with stakeholders by creating an Advisory Council.

2. Design and Implement a Comprehensive Training and Education Program for Hospitals on Implicit Racial Bias

New York should design and implement a comprehensive training program for health care providers and hospitals addressing implicit racial bias, which has been shown to affect the patient-physician relationship as well as treatment decisions and outcomes. Racial disparities in women's health cannot be improved without addressing racial bias, both implicit and explicit. This project will include curriculum development that can be consistently distributed throughout the state as well as incentives for hospitals to adopt the curriculum for all levels of their staff.

3. Establish a Comprehensive Data Warehouse on Perinatal Outcomes to Improve Quality

New York State should establish a robust data infrastructure to provide key data to hospitals so they have timely access to perinatal quality measures stratified by race, ethnicity and insurance status. The program, modeled after the California Maternal Quality Care Collaborative, is central to improving maternal outcomes as well as addressing disparities.

4. Provide Equitable Reimbursement to Midwives

Midwifery care has consistently shown positive outcomes for mothers and infants, particularly for those at greatest risk for poor health outcomes due to racial disparities. Given the transition to value-based payments, New York should ensure that midwives be recognized as the primary care provider for women who choose them for their maternity care.

5. Expand and Enhance Community Health Worker Services in New York State

Participants at the NYSDOH Commissioner's Listening Sessions consistently expressed the vital role that community health workers (CHW) provide including social support, information, advocacy and connection to services. In addition to CHW's current scope of activities, participants identified opportunities to expand these activities to address key barriers that impact maternal outcomes. New York should enhance existing community health worker programs, and ultimately expand to additional communities.

6. Create a State University of New York (SUNY) Scholarship Program for Midwives to Address Needed Diversity

Although midwives serve large numbers of individuals from communities of color, there is a limited number of people of color in the profession (14.5%). New York State should create a SUNY Midwifery scholarship program to attract students of color committed to working with vulnerable communities throughout the State after graduating.

7. Create Competency-Based Curricula for Providers as well as Medical and Nursing Schools

To reduce maternal deaths and address differences in outcomes, a comprehensive set of measurable competencies for undergraduate, graduate and continuing education should be identified in areas of maternal health, social determinants, clinical care, quality improvement and implicit bias, with standards set by practitioner level. Results should inform undergraduate medical education (UME), graduate medical education (GME), continuing medical education (CME), and continuing nursing education (CNE) improvements.

8. Establish an Educational Loan Forgiveness Program for Providers who are Underrepresented in Medicine (URIM) and who Intend to Practice Women's Health Care Services

New York should establish an educational loan forgiveness program for health care providers who are underrepresented in medicine (URIM), licensed under Title 8 of the Education Law, and who commit to working within the maternal health field for a minimum of three years.

9. Convene Statewide Expert Work Group to Optimize Postpartum Care in NYS

The healthcare system is not currently designed to incentivize the delivery of quality, ongoing postpartum care. To ensure women receive ongoing support during the postpartum period, the NYSDOH should convene an expert workgroup, in partnership with ACOG, comprised of providers, payers, state agencies and patients to identify strategies to re-envision postpartum care as an ongoing process, rather than a single encounter, to foster individualized, woman-centered care and improve maternal health outcomes.

10. Promote Universal Birth Preparedness and Postpartum Continuity of Care

There is a need to increase the capacity of outpatient obstetric practices serving high volumes of black women to offer universal birth preparedness classes, including the CenteringPregnancy model, to improve preparation for labor and delivery as well as improve connection to providers and health care. Education and classes should also focus on postpartum care, and recommendations developed by the Expert Workgroup to ensure consistent engagement and follow up.

Governor Cuomo's Comprehensive Initiative to Target Maternal Mortality and Reduce Racial Disparities in Outcomes

In April 2018, Governor Andrew M. Cuomo announced a comprehensive plan to target maternal mortality and reduce racial disparities in maternal health outcomes. The multi-pronged initiative includes efforts to review and address maternal mortality and morbidity with a focus on racial disparities, expanding community outreach and taking new actions to increase access to perinatal care. These efforts include:

Creating the Taskforce on Maternal Mortality and Disparate Racial Outcomes: The Taskforce, consisting of experts in the field and key stakeholders, was formed to provide expert policy advice and develop recommendations on improving maternal outcomes, addressing racial and economic disparities and reducing the frequency of maternal mortality and morbidity in New York State.

Establishing the Maternal Mortality Review Board (MMRB): At the recommendation of the Governor's Council on Women and Girls, the Governor has proposed legislation to direct the NYSDOH to establish a State MMRB comprised of health professionals who serve and/or are representative of the diversity of women and mothers across the state, to work in collaboration with ACOG District II and the City of New York to review all maternal deaths in New York State. The Board would also be tasked with making policy recommendations to the NYSDOH to improve maternal outcomes by reducing maternal mortalities and morbidities, while specifically addressing racial and economic disparities.

Launch the Best Practice Summit with Hospitals and Obstetricians-Gynecologists (OB/GYNs): In November 2018, the Governor sponsored a Symposium on Racial Disparities and Implicit Bias in Obstetrical Care at the New York State Health Foundation in New York City. This half-day symposium was convened to identify concrete strategies to reduce racial disparities and their negative health impacts, with a direct emphasis on the hospital setting. The 50 multidisciplinary healthcare providers and stakeholders from across NYS in attendance identified key themes to address racial disparities including best practices in improving birth outcomes, community awareness of maternal mortality and disparities, current medical school curricula, graduate medical education and continuing education for physicians, with the goal of implementing immediate measures and identifying future action items to improve maternal care and management. Key recommendations include that the NYSDOH deploy a pilot project for hospitals to conduct implicit racial bias training, recommending enhanced communication and cultural competency education for clinical staff in training, and addressing system issues such as supporting efforts to enhance team-based care and optimizing postpartum care. Ultimately, the participants stressed that a combination of strategies is necessary to serve people from all racial and ethnic backgrounds with compassionate, equitable obstetric care.

Piloting the Expansion of Medicaid Coverage for Doulas: The NYSDOH is piloting the expansion of Medicaid coverage for doulas. Doulas are non-medical birth coaches who assist and support a pregnant person before, during or after childbirth, if needed. Certified doulas have been shown to increase positive health outcomes, including reducing birth complications for the mother and the baby.

In Spring, 2019, the NYSDOH will launch a pilot expansion of NYS' Medicaid program to cover doula services beginning in targeted areas of upstate and NYC. In early November 2018, the NYSDOH Office of Health Insurance Programs (OHIP) hosted a webinar to share

information with the stakeholder community, including doulas, providers and managed care organizations, on the final details of the pilot program and began accepting Medicaid enrollment applications for doulas on December 1. Additional training, education and outreach to assist doulas with enrolling in the Medicaid program and educate Medicaid members on the new benefit will continue through the anticipated launch date. The NYSDOH has also created brochures and other informational materials that can be used to share with eligible Medicaid members. Through a locally focused social media campaign, OHIP will promote the availability of doula services to Medicaid members in the pilot communities.

Support CenteringPregnancy Demonstration Projects: New York is expanding its support for a program included in the Governor’s 2018 State of the State First 1,000 Days on Medicaid initiative, known as CenteringPregnancy. The program is a group prenatal care model designed to enhance pregnancy outcomes through a combination of prenatal education and social support and has been associated with reduced incidence of preterm birth and low birth weight, lower incidence of gestational diabetes and postnatal depression, higher breastfeeding rates and better inter-pregnancy spacing. CenteringPregnancy has also been shown to narrow the disparity in preterm birth rates between black women and white women.

As part of its mission to provide the best maternal healthcare to members of the NYS Medicaid program, the NYSDOH is planning to conduct a Medicaid managed care focused clinical study to evaluate the impact of the CenteringPregnancy model of prenatal care on improving birth outcomes. This two-year project is planned to take place in a select number of obstetric clinics located in specific areas, to improve birth related outcomes in those areas. Participating clinics will receive support to assist them in delivering the CenteringPregnancy care model effectively at their sites. The CenteringPregnancy focused clinical study is tentatively planned to start around March 1, 2019.

Require Continuing Medical Education and Curriculum Development: The Governor called on the State Board for Medicine to require appropriate practitioners to participate in continuing medical education on maternal mortalities and morbidities and disparate racial outcomes. Additionally, the NYSDOH will work with medical schools, including the State University of New York’s four medical schools, to incorporate information and materials on maternal mortality and morbidity and disparate racial outcomes into their medical school curriculum, graduate medical education and training for practicing physicians.

In response, the State University of New York, (SUNY) Office of Academic Health and Hospital Affairs formed a workgroup of SUNY maternal fetal medicine experts to generate recommendations for undergraduate, graduate and continuing medical education curricula on maternal mortality/morbidity and disparate racial outcomes. A review of education across SUNY’s four medical schools revealed that across the four medical schools, educational content addressed areas associated with maternal mortality, morbidity, and disparate outcomes, and educational methods addressed multiple levels of clinical competence. However, standards for educational content do not exist, and thus content varies by medical school and target audience. Based upon findings of the SUNY workgroup, as well as consultation with representatives of Stony Brook University’s and Downstate Medical Center’s Schools of Nursing, ACOG and the Association of Women’s Health, Obstetric and Neonatal Nurses, the following are recommended:

- Identify a comprehensive set of key knowledge, skills, and attitudes (i.e., competencies) for medicine and nursing in maternal health, social determinants, clinical care, quality improvement and implicit bias.
- Set expectations for competency achievement by level – undergraduate, graduate and continuing education

- Create tools and conduct curricula reviews of medical and nursing programs to ensure competencies are sufficiently addressed and achieved
- Enhance authentic learning opportunities with multidisciplinary teams, such as simulation, to improve skills and communication with pre-/post- assessment to determine outcomes

Expand the New York State Perinatal Quality Collaborative: The NYSDOH expanded its collaboration with hospitals across New York State to review best practices to address hemorrhage and implement new clinical guidelines to reduce maternal mortality. Currently, over 80 hospitals are engaged voluntarily in this effort. This expanded focus includes obstetric hemorrhage, a leading cause of maternal morbidity and mortality statewide, through the NYS Obstetric Hemorrhage Project. Eighty-six birthing hospitals are participating with the NYSDOH on the project, which is co-led by ACOG District II, HANYS and GNYHA. The project seeks to translate evidence-based guidelines to clinical practice to reduce maternal mortality and morbidity. The NYS Obstetric Hemorrhage Project specifically focuses on improving: readiness to respond to an obstetric hemorrhage by implementing standardized policies and procedures and developing rapid response teams; recognition of obstetric hemorrhage by performing ongoing objective quantification of actual blood loss and triggers of maternal deterioration during and after all births; response to hemorrhage by performing regular on-site, multidisciplinary hemorrhage drills; and reporting of obstetric hemorrhage through the use of standardized definitions resulting in consistent coding. Project participants have reported improvement in the percent of patients receiving a hemorrhage risk assessment on admission and in the percent of patients receiving a hemorrhage risk assessment in the postpartum period.

Launch Commissioner Listening Sessions: Commissioner Zucker partnered with community activists to visit high-risk areas across the state in 2018 to listen to local stakeholders, including pregnant women and new parents, describe the barriers that make it difficult to obtain routine prenatal care, as well as strategies to better increase awareness of the signs and symptoms of pre-eclampsia and other causes of maternal mortality and morbidity. Information from these sessions will be used to enhance and support efforts to improve birth outcomes specifically related to women of color.

During the summer of 2018, Commissioner Zucker sponsored seven community listening sessions across NYS in partnership with the NYSDOH-funded Maternal and Infant Community Health Collaboratives, listening sessions were conducted in Albany, Bronx, Brooklyn, Buffalo, Harlem, Queens and Syracuse. Community participants included recently and currently pregnant women and families, the majority of whom were African-American.

Common barriers expressed across all seven listening sessions included:

- Access to health care (limited facility choice, quality of provider and facility care).
- Poor communication with health care providers (especially feeling providers were not listening to them, that they were not given enough time with providers, and that few providers reflected their lived experience).
- Lack of information and education from providers.
- Racism and its impact on the quality of care received.
- Disrespect from health care providers, including support and administrative staff.
- Lack of social supports.

And common suggestions for addressing the racial disparities in maternal mortality included:

- More black and Hispanic health care professionals, reflective of the community.
- Increase health care professionals' awareness of racial disparities in health outcomes.
- Train health care professionals on the impact of implicit bias on health care outcomes.
- Increase provider support during the postpartum period.
- Increase availability of social support for example, birthing classes, group prenatal care pregnancy, doulas, midwives, community health workers and parenting classes.
- Increase availability of community services and resources, for example, community health worker services and home visiting services.

Across all seven listening sessions, participants asked for better understanding of the reasons why black women have poorer pregnancy health outcomes, and acknowledgement of the impact of race and racism on those outcomes. Participants asked for action to address the racial disparities in maternal mortality, and particularly focused on how health care systems and practices may perpetuate continued racial inequities. Participants asked for the elimination of barriers that prevent women from getting quality health care services and asked for increased supports needed to help with a healthy pregnancy.

Participants affirmed that all NYS mothers and babies should have the same opportunities to achieve optimal health and positive birth outcomes, regardless of race, ethnicity, community of residence, insurance coverage or hospital of delivery.

References

1. National Vital Statistics Reports: https://www.cdc.gov/nchs/data/nvsr/nvsr67/nvsr67_01.pdf
2. Explore Maternal Mortality in New York | 2018 Health of Women and Children Report. 2018; Available from: http://www.americashealthrankings.org/explore/2016-health-of-women-and-children-report/measure/maternal_mortality/state/NY
3. Creanga AA, Berg CJ, Syverson C, Seed K, Bruce C, Callaghan WM. Race, ethnicity and nativity differentials in pregnancy-related mortality in the United States: 1993–2006. *Obstet Gynecol.* 2012;120(2),261-268.
4. CDC website: www.cdc.gov/nchs/nvss/deaths.htm
5. New York City 2008-2012 Severe Maternal Morbidity: <https://www1.nyc.gov/assets/doh/downloads/pdf/data/maternal-morbidity-report-08-12.pdf>
6. Gee GC, Ford CL. Structural racism and health inequities. *Du Bois Rev.* 2011 Apr; 8(1): 115–132.
7. Crear-Perry, J. (2016) “The black maternal mortality rate in the U.S. is an international crisis”, *The Root*, 30 September. <https://www.theroot.com/the-black-maternal-mortality-rate-in-the-us-is-an-inter-1790857011>
8. Howell EA, Egorova N, Balbierz A, et al. Black white differences in severe maternal morbidity and site of care. *Am J ObstetGynecol* 2016;214: 122. e121–122. e127.
9. Howell EA, Egorova NN, Balbierz A, et al. Site of delivery contribution to black-white severe maternal morbidity disparity. *Am J ObstetGynecol*2016;215:143–152.