Maternal and Infant Mortality and Morbidity in Monroe County, New York: A Review

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The United States (US) is one of the worst countries for maternal health outcomes as maternal deaths have been increasing since 2000, resulting in the highest maternal mortality rate among developed countries (The Commonwealth Fund, 2020). There are racial/ethnic disparities in these outcomes as well, with women of color facing higher rates of maternal mortality and morbidity than white women. The Black Maternal Health Momnibus Act of 2021 is a package of Congressional legislation aimed at addressing the country's poor rankings in maternal health outcomes with a specific focus on the racial disparities that negatively impact women of color. The bill is currently being reviewed in the US Senate. It has the potential to implement maternal mental health services and improve the social determinants that impact maternal health if passed. The specifics of the legislation are outlined in this piece, which identifies how the bill if passed, will impact maternal health resources nationally and locally. This report also examines the types of services offered by local maternal health organizations and how these groups communicate with each other and the community to provide these services in an approachable and effective manner, with special attention given to how they approach the issue of racial disparities in maternal health. This focus is especially important in Rochester, where maternal health is of great concern due to high rates of maternal and infant mortality and pre-term births along racial lines. In order to determine where Rochester stands in its abilities to provide maternal health services to mothers and address the disparities seen in our community, focus areas across the country, including Birmingham, Fresno, Louisville, Arizona, Connecticut, and Utah, were evaluated for the maternal health organizations present in each area and the services and programs they offer. Rochester's sister city Buffalo was also assessed for maternal health resources and statistics on maternal mortality, morbidity,

and infant mortality compared to Rochester to gauge where Rochester stands in its ability to produce positive outcomes for both mother and baby.

Monroe County, New York: Maternal and Infant Health

Monroe County comprises a population of approximately 759,443 people and is the 9th largest county of 63 in New York State (Data Commons, 2020a). There are approximately 385,000 women within the county with a median age of 40.8 years (Data Commons, 2020b). On average there are approximately 7,883 births per year (New York State Department of Health, 2021). Research in the maternal health field has exposed alarming numbers and disparities. New York State has ranked 30 out of 50 states in maternal death rate and has risen from 13.2 per 100,000 live births in 2006 to approximately 19.3 per 100,000 live births in 2019. The latest data for Monroe County show the rates continue to worsen, with a maternal mortality rate increased to 29.7 per 100,000 live births (New York State Prevention Agenda Dashboard County Level: Monroe County, 2022). In Monroe County, the maternal mortality rate is approximately 25% higher than the national average (National Center for Health Statistics, 2022) and 54% higher than in the rest of the state (New York State Prevention Agenda Dashboard County Level: Monroe County, 2022). More specifically, severe maternal morbidity is 50% higher among Black women than White women and Black infant mortality rate is three times higher than White infants (Common Ground Health, 2021a, p 34). There are on average 7.1 infant deaths per 1,000 live births (New York State Prevention Agenda Dashboard County Level: Monroe County, 2022). These disparities call to action various nonprofits to work with community leaders to close this gap and improve maternal health outcomes, especially for Black, Indigenous, People of Color (BIPOC).

Maternal and infant medical care is provided primarily through the University of Rochester Medical Center (URMC), Rochester Regional Health (RRH), Jordan Health a Federally Qualified Health

Center (FQHC), and supplemented by several vital nonprofit groups, including Common Ground Health (CGH) and Healthy Baby Network.

See Appendix A: Black Maternal and Infant Health Crisis Infographic for a summary of Monroe County maternal and infant health statistics.

The City of Rochester, New York

"When it comes to Black maternal and newborn health, Rochester is program rich but results poor." Dr. Twyla Dillion - Executive Director - Healthconnect One

Although the Rochester area ecosystem of care has several programs targeted to address maternal needs the statistics continue to demonstrate a gap in maternal and child health outcomes based on race and socioeconomic position. In the ***Act Rochester 2020 Hard Facts Update***, the disparities between African Americans and White women in Monroe County are disturbing, African Americans are 2.5 times more likely to have low birth weight babies than whites, and black infant mortality rates show black babies are 3 times more likely to die before the age of one than white infants (Doherty, E.J., 2020). The 2018 data for severe maternal morbidity was 2.7% in New York state and black women are 2.3 times at risk to develop these complications. Once again Monroe County's maternal mortality rate of 29.7 deaths per 100,000 births is significantly higher than the national average of 17.4 deaths per 100,000 births (New York State Prevention Agenda Dashboard County Level: Monroe County, 2022). Factoring in racial outcomes, Black women in the 9 county Rochester-Fingers Lakes region are 51% more likely than white women to develop severe maternal morbidity. (Common Ground Health, 2021)

The disparities continue to expand when you compare areas within Monroe County for both overall infant mortality and premature related mortality with rates ranging from 11% in the focus area of Rochester to 4.5% in the Monroe County suburbs (Common Ground Health, 2020a). **Figure 1** shows the

data collected by Common Ground Health and **Figure 2** identifies the "Focus Area" of eight contiguous zip codes in the city of Rochester that has been identified as an area of high need and is 71% minority (Common Ground Health 2020b).

Figure 1: Infant Mortality Rates due to Prematurity vs Other Causes (Common Ground Health, 2020)

Monroe County, New York (2013 - 2015)

The chart below shows that prematurity is a major driver of the overall disparity in infant mortality. The significantly higher infant mortality rate in the Focus Area compared to the rest of Rochester is explained entirely by prematurity and related conditions – there is no significant difference in the mortality rate for other causes. In the suburbs compared to the city, the infant mortality rate due to prematurity is even lower, as is the rate for other causes.*

** The Focus Area is a large section of Rochester with particularly high concentrations of blacks, Latinos, and also poverty.*

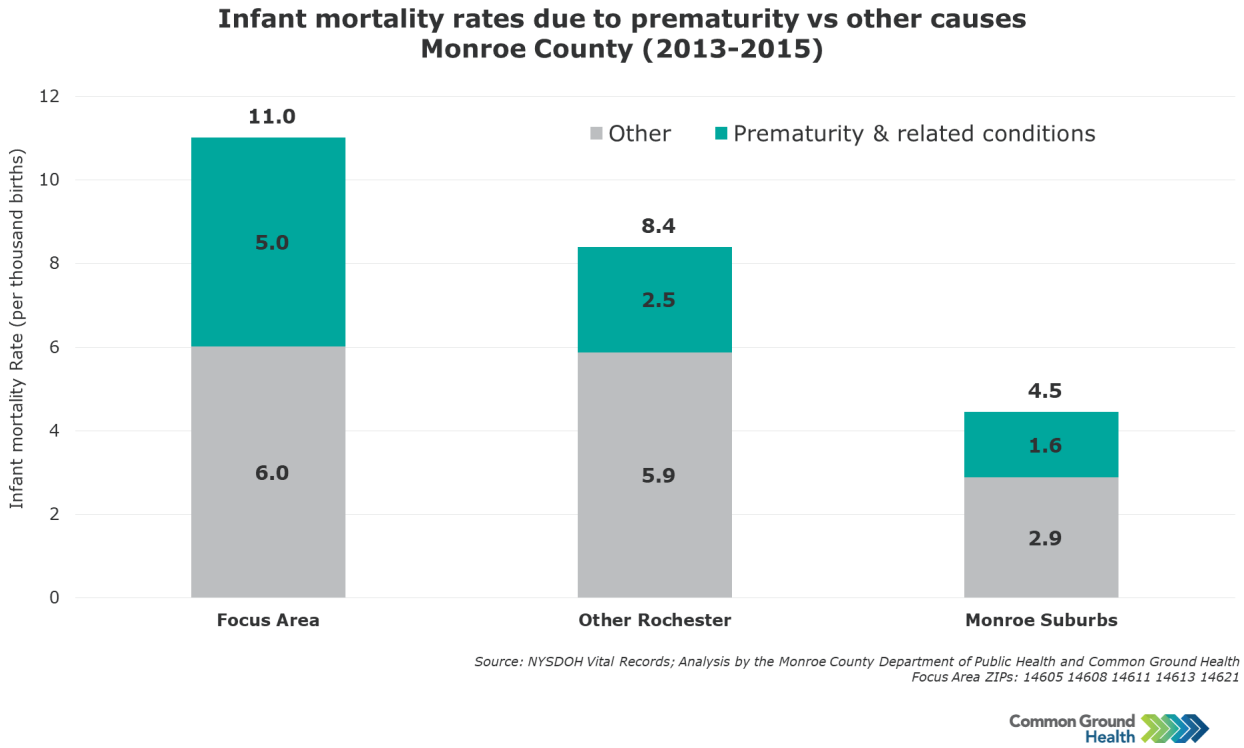
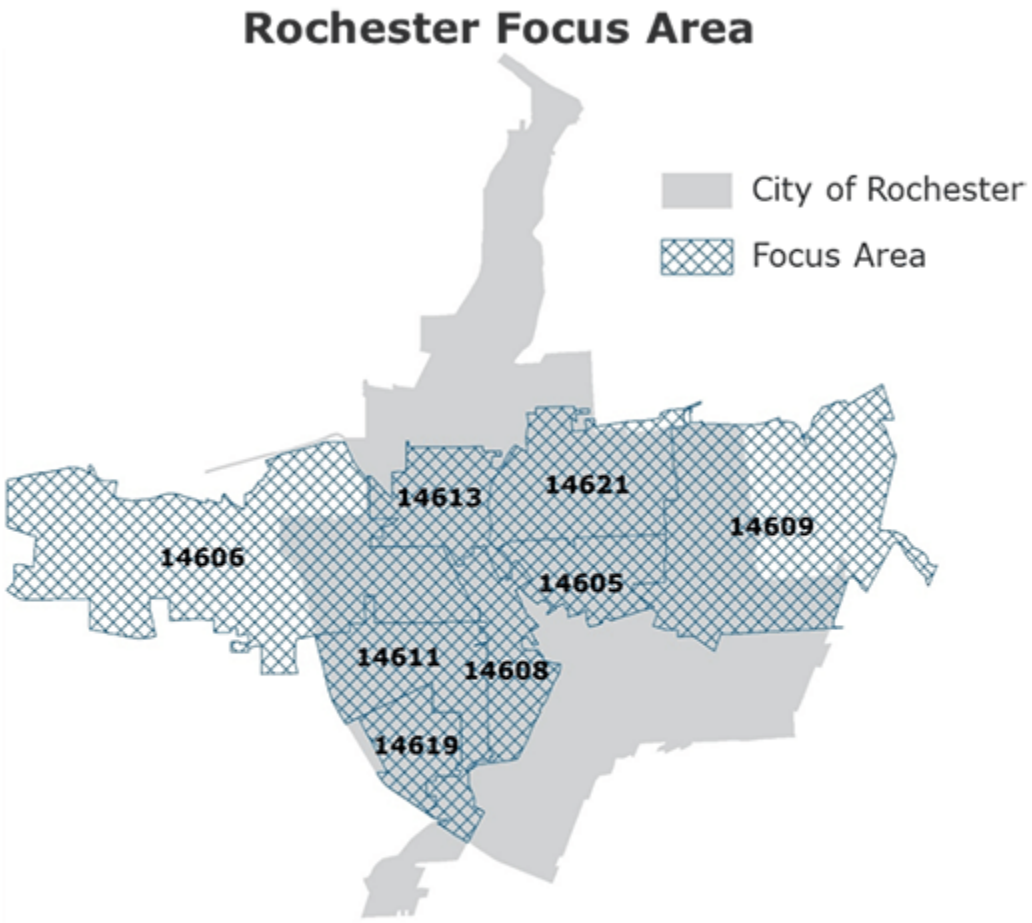


Figure 2: Rochester Focus Area (Common Ground Health, 2020b)

City of Rochester, New York

A Focus Area of eight contiguous ZIP codes across the city of Rochester was identified by the African-American Health Coalition as needing special attention. This area was selected due to the high

concentration of African-Americans in particular and people of color in general. Within the Focus Area, non-Latino whites comprise only 29 percent of the population, compared to 85 percent in the balance of the county.



Common Ground Health

Overview of Maternal Health Services in Monroe County

Summary of Maternal Health Services Available in Monroe County

Medical Center	CenteringPregnancy Program	Midwifery	Adolescent Maternity Program	Other Programs
URMC Strong Beginnings	✓	✓	✓	MotherToBaby Bloom Pregnancy Care Online classes: Childbirth series; Breastfeeding; Understanding your birth/newborn
Rochester Regional Health	✓	✓		Online classes: Childbirth series; Breastfeeding
Anthony L. Jordan Health Center – FQHC	✓	✓		Adolescent family planning; refugee health
Healthy Baby Network (HBN)			✓	Provides comprehensive services for birthing parents both mother **AND** father. Home visitation throughout pregnancy and continue to visit until baby is 2-years old. Black Doula collaborative, oral health, community action network (CAN), PeerPlace network (health IT resource),
Nurse Family Partnership – Monroe County Health Department			✓	Specially trained nurses will visit in your home throughout your pregnancy and continue to visit until your baby is 2-years old. Must enroll prior to 28th week; there is no charge. Must meet income requirements to enroll.
Health Family New York – NYS program administered by Society for the Prevention of Cruelty to Children (SPCC)				Specially trained nurses will visit in your home throughout your pregnancy and continue to visit until your baby starts school or Head Start. There is no charge.

CenteringPregnancy® Model

Across multiple provider organizations the primary program to address maternity outcomes is the CenteringPregnancy ® group prenatal care model (Centering Healthcare Institute, 2022). Developed in the 1990's, the Centering model aims to improve pregnancy outcomes with increased clinical time with the health care provider and group sessions with other pregnant women. The group sessions help to build a sense of community, greater engagement in the pregnancy journey, and builds self confidence in the new parents. The clinical benefits of the model are a lower risk of pre-term birth, increased prenatal appointment attendance, and higher breastfeeding rates. One study found Centering Pregnancy reduced early pre-term delivery (before 32 weeks) to 1.3% compared to 3.1% for traditional care, and

pre-term delivery to 7.9 compared to 12.1 for traditional care (Picklesimer et al., 2012). In addition, the well documented racial disparity in pre-term birth for Black women compared to White and Hispanic women was nearly eliminated in the Centering group (Picklesimer et al., 2012). A total of 8 locations in the Rochester area offer this care model to their patients, through the University of Rochester Medical Center (URMC), Rochester Regional Health (RRH), and Jordan Health.

Rochester Adolescent Maternity Program (RAMP)

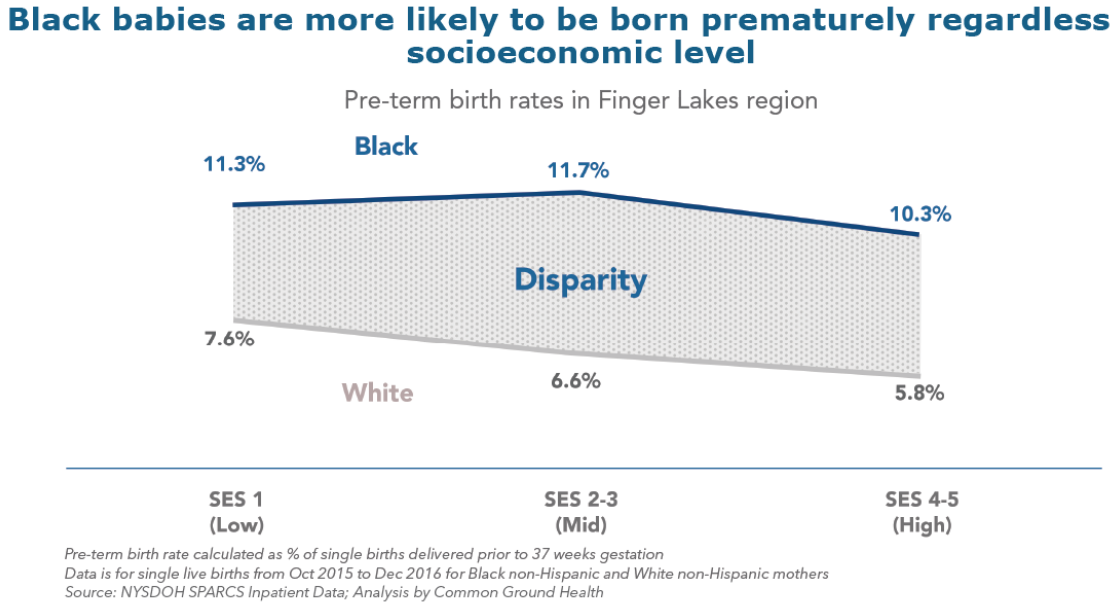
Administered by URMC's Midwifery Group**,** the Rochester Adolescent Maternity Program (RAMP) serves around 20 to 25 pregnant women under the age of 20 (Mastin interview with Gropp, 2022). Previously, the program served between 30-40 adolescents, but the number has dropped due to a decrease in adolescent pregnancy and many private practices providing care to adolescents referring to RAMP at a lower rate. RAMP offers a variety of social services and establishes the patients with community programs aimed at serving adolescents through providing childbirth and parenting education, case management, and connection with other teenage parents. The program is dedicated to assisting young parents from underserved populations and cares for housing needs, food insecurity, and financial issues. A financial case manager is responsible for helping participants navigate insurance and finances. The program's full-time dietician provides nutritional education for birthing people as well. RAMP receives patient referrals from other OB/GYN practices, area school districts, community agencies, and family members. The COVID-19 pandemic affected the number of parents served by RAMP, as school closures resulted in a lack of pregnant adolescents being identified and then referred to the program. Despite the challenges COVID presented, the RAMP office remained open during the entirety of the pandemic, and the program also offered telemedicine visits to support vulnerable patients who were unable to physically come into the clinic.

Common Ground Health (CGH)

> ***"Racism is a public health crisis."***
>
> ***Dr. Linda Clark - Chief Medical Officer (CGH, 2021b)***

Common Ground Health (CGH) is a vital local nonprofit that brings to light community health issues through data collection and analysis while creating community engagement and implementing solutions (CGH, 2022). In an interview with Dr. Linda Clark, Chief Medical Officer, CGH, she mentions that the organization uses data to support grant development and submission as well as initiatives in the public health realm. One of their key programs, ***The Color of Health: The Devastating Toll of Racism on Black Lives***, is an extensive study of the health disparities among residents in the Rochester/Finger Lakes region. This report looks at racism as a public health crisis and provides 'calls to action' to improve health outcomes and equity. Focusing on a broad spectrum, CGH analyzes data from infancy to motherhood and how they interact and influence each other. For example, the report mentions that the largest cause of infant mortality is premature birth (CGH, 2021a, p. 34). Furthermore, the report goes on to mention that "premature birth is associated with a variety of longer-term health problems that persist through adulthood, including chronic disease, disability and premature death." In the Finger Lakes region, the premature birth rate is 77% higher for Black mothers (11.3% vs 6.4%), see **Figure 3** (CGH, 2021a, pp. 34-36).

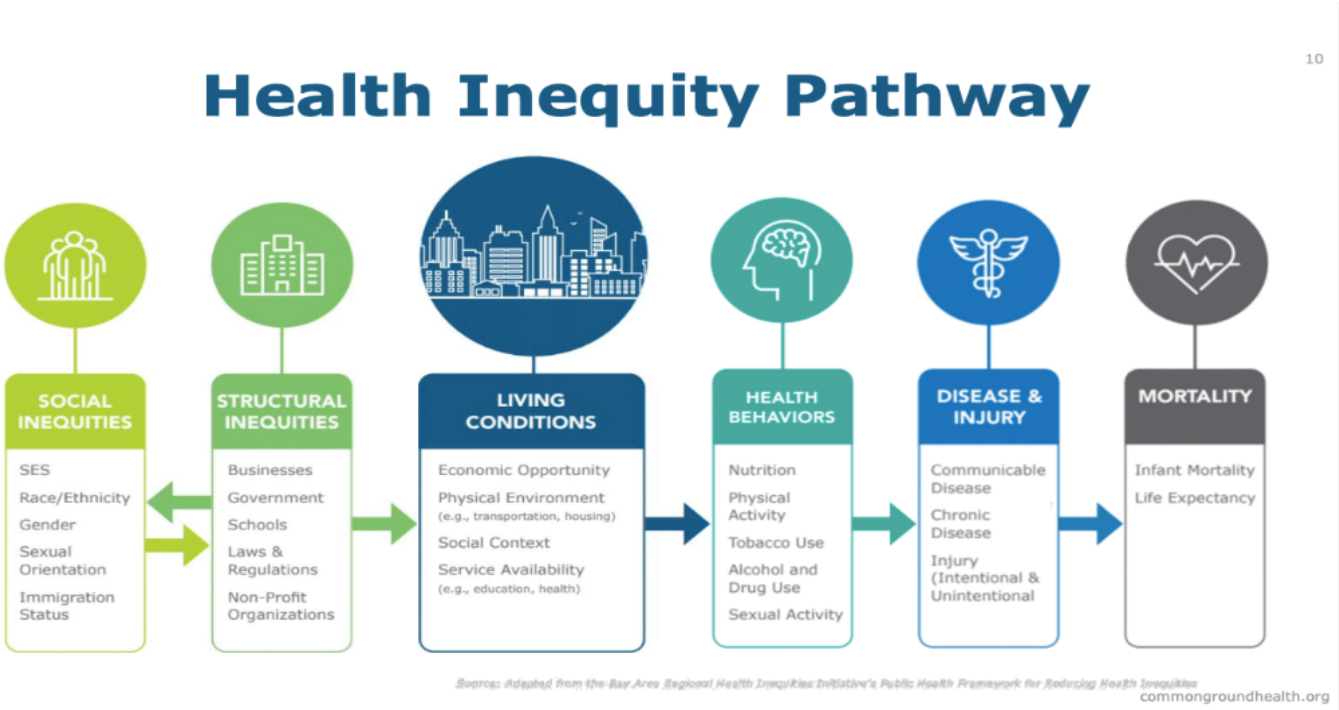
Figure 3: Pre-term birth rates in Finger Lakes region (CGH, 2021a, p. 36)



As a result of this report, CGH is investing in programs to increase the number of Black doctors and health care professionals. Dr. Clark points out the *Black Doula Collaborative* program, initiated by CGH data through partnerships with FLPPS, Healthy Baby Network, HealthConnect One, and the Race Coalition, to identify and train Black doulas in the community. This is one example of CGH's action plans implemented in the real world. Workforce development is a key idea at CGH, whether that be through livable wages and benefits for health care workers or developing pipeline programs to careers.

Advocacy and education are essential for raising awareness about the maternal health crisis in Rochester. Dr. Clark and Wade Norwood, CEO of CGH, often hold webinars and talks at different churches and community centers in the Rochester area. The goal is to engage the community around maternal health, racial disparities, and health outcomes. **Figure 4** outlines the Health Inequity Pathway, Dr. Clark usually reviews (Clark, 2021).

Figure 4: Health Inequity Pathway (Clark, 2021)



As noted in the Pathway, disease/injury and mortality are the last two outcomes of health. Health inequities arise from the bottom of this pathway which are social and structural inequities. This would be social determinants of health (SDOH) and the intersectionality between gender, sexual orientation, race, and immigration status. Structural inequities are social, economic, and political forces that are influenced and are influencing the SDOH. From that are living conditions and health behaviors, each one before affecting the next pathway and vice versa. Dr. Clark called these the “artificial barriers” from attaining complete health equity.

Healthy Baby Network (HBN)

Established in 1996, Health Baby Network (HBN) has provided care to mothers, fathers, babies, and families within medically and socially vulnerable communities by providing services and management care (HBN, 2021). In addition, through outreach programs, HBN can identify pregnant

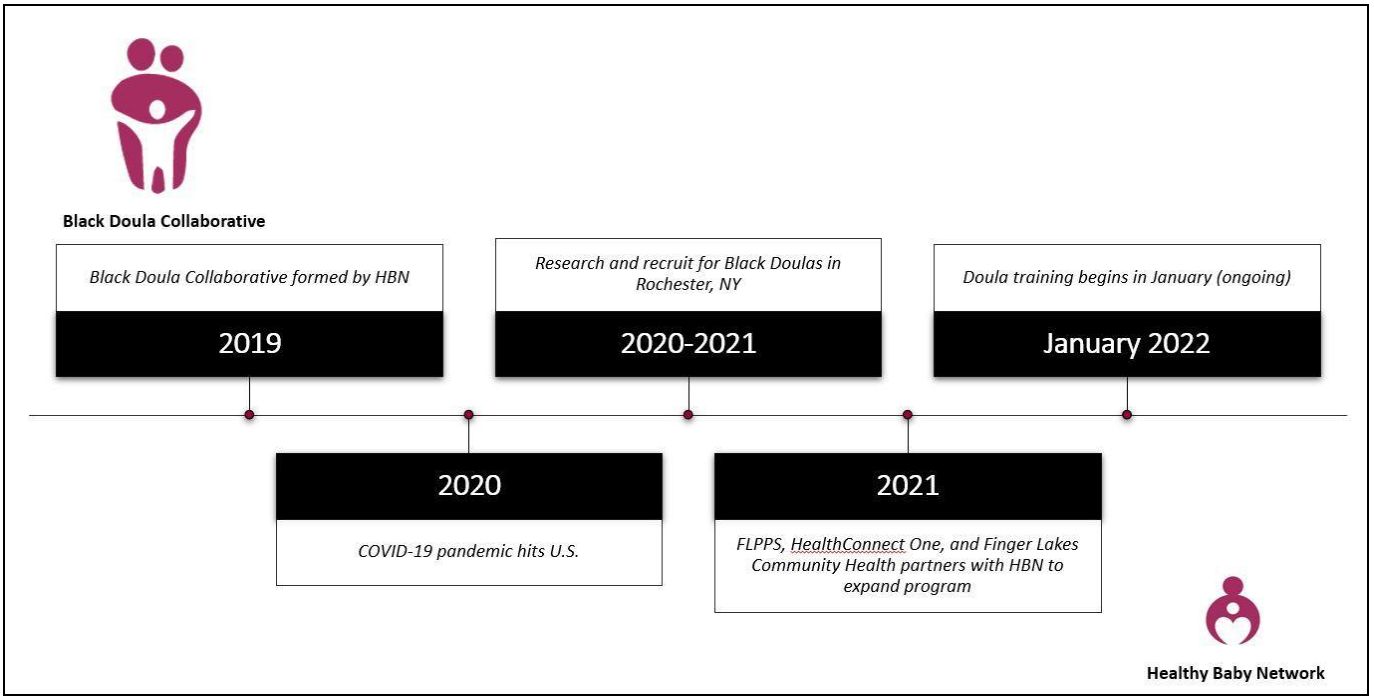
women in need of assistance or education and provide them with referrals to other medical resources. Sherita Bullock is the Executive Director of Healthy Baby Network. Comments from Ms. Bullock on HBN's involvement in the Rochester area and their Motherhood, Fatherhood, and Black Doula Collaborative programs are below.

HBN outreach workers connect individuals to the resources they need. Prior to the pandemic, outreach workers would go to non-traditional places such as barbershops, hair supply stores, Wal-Mart, etc., and build a connection with those who might need help and refer them to the services needed. Health managers from the Motherhood program hold one-on-one sessions with pregnant women to provide education, offer services, create a birthing plan, and offer post-partum support. Before the pandemic, these were in-person meetings; currently, they are held through Zoom. Ms. Bullock emphasized that listening to pregnant women plays a critical role in HBN as each mother's needs are different from the next. The Zoom meeting posed a challenge for case managers and health workers as they could not be as observant as they would be if they were present with the mother/family. Although COVID-19 hindered HBN outreach and home visitation efforts, they were able to provide COVID-19 tests to the community and use a grant from United Way to purchase groceries, cleaning supplies, and mattresses for the community. Due to the success of this grant, HBN hopes to fulfill a Parent Emergency Support Fund in the future. The Fatherhood program is part of HBN's mission to rephrase maternal health to include paternal health. This program provides resources, support, and care from fathers for fathers and father figures through building skills and community support (211 Life Line, 2022). The Black Doula Collaborative (BDC) (as touched upon with CGH) is another program HBN is involved in. HBN works within Phase 1, where Black women are identified and given free training to become a doula. Ms. Bullock, like Dr. Clark, emphasizes the importance that these doulas are paid a full-time, livable salary and full access to the hospital systems and maternity teams. As of January 2022, training has begun for the BDC. The training is scheduled for 13 weeks with twice-a-week meetings. Ms. Bullock notes the

difficulty in finding Black Doulas in the community at the beginning of the program. Other than lowering maternal/infant morbidity and mortality rates, the BDC hopes to empower mothers, fathers, and families to become lifelong vocal patients and achieve personal autonomy. In the near future, Ms. Bullock and HBN are focusing on mental health resources. For example, HBN will be researching a new mental health screening scale specific for Black men and an Adverse Childhood Experiences (ACEs) scale for Black individuals.

Community advocacy and compassion are two key factors in what Rochester residents can do to improve maternal health. The community can help by being aware of pregnant women who might need help and offering assistance with referrals. In addition, compassion goes a long way. Ms. Bullock mentioned that just being kind or offering your seat to a pregnant woman can help as many pregnant women feel stressed, alone, or worried. Lastly, advocating for quality programs and donating to organizations aimed at maternal health is a significant help.

Ms. Bullock points out that the Momnibus bill raises awareness of the importance of doulas. Doulas must be given recognition and appreciation for the services they provide. For example, doulas often tell doctors what the mom needs if she feels she is not being understood or taken seriously. Having Black doulas is also essential because of shared experiences. Furthermore, Ms. Bullock highlighted that Momnibus also looks to expand care after the post-partum period (increasingly known as the fourth trimester). This support ensures that the mother has ongoing care post-partum and has access to at-home nurses. Furthermore, Ms. Bullock highlights the marginalization of Black women in health. Black women are dying at three to four times the rate of their White counterparts (CDC, 2021). HBN offers services to everyone, including Black women who have been overlooked and ignored forever.



Nurse-Family Partnership

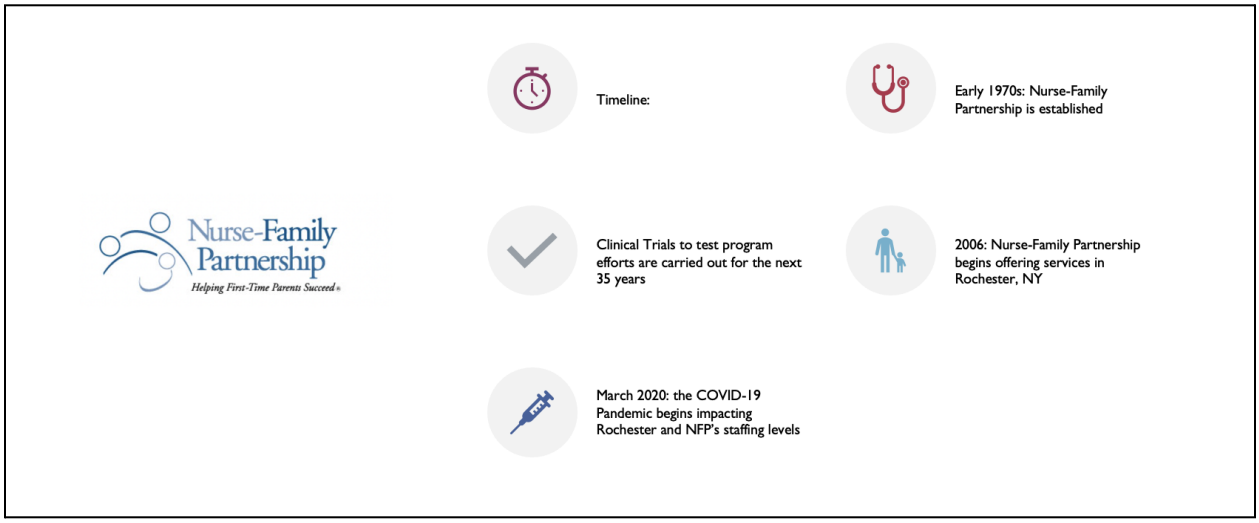
Nurse-Family Partnership was founded by Dr. David Olds and Dr. Harriet Kitzman at the University of Rochester in the early seventies and serves vulnerable populations of women pregnant with their first child up until their child is two years of age through providing home visits by nurses providing prenatal, birthing, and post-partum care. Nurse-Family Partnership is an evidence-based program grounded in the results of randomized control trials and focuses on resource assessment and client-centered principles. Over the span of forty-five years, the program was tested in 3 individual randomized clinical trials, which "were designed to study the effects of the Nurse-Family Partnership model on maternal and child health and child development, by comparing the short- and long-term outcomes of mothers and children enrolled in the Nurse-Family Partnership program to those of a control group of mothers and children not participating in the program (Nurse-Family Partnership, n.d.)".

Three core principles, foundation, attachment, and self-efficacy, are the bedrock of the organization, which support the primary goals of building self-esteem and self-sufficiency (Mastin interview with Lyness, 2022). These client-centered principles focus on the client as the expert, in which the organization strives to focus on their strengths and believes that little change is needed. Nurse-Family Partnership provides whatever services the family expresses interest in, such as home safety and breastfeeding, but allows families to lead the way in terms of determining their needs and comfort levels. Nurses making home visits are trained to use the motivational interviewing technique, a communication style geared towards behavioral change and honoring who people are in which nurses help clients determine a reason for the change and identify motivators to achieve the goal in mind. This removes the need to "fix" anything about the client and allows them to identify their needs while motivating change.

Nurses within the Nurse-Family Partnership program undergo a substantial nine-month training, and their experiences are analyzed for strengths and built upon in areas of less experience (Mastin interview with Lyness, 2022). For instance, a newly hired nurse with previous labor and delivery experience is an asset based on that knowledge and will receive additional post-partum training in order to build skill in that specific area. Nurse-Family Partnership also requires its nurses to undergo a rigorous standardized training process that prepares them for interacting with clients in the home.

Currently, the program is serving 109 clients, close to the organizational capacity of 114 clients. Evidence shows that the max caseload is 25 to 30 clients per nurse (Mastin interview with Lyness, 2022). COVID has impacted staffing, as NFP is down from ten nurses to five nurses, and two are less than full-time (Mastin interview with Lyness, 2022). The pandemic has had other adverse effects on the organization, as COVID has impacted an already disadvantaged population. Due to the pandemic, families have faced even more challenges with housing insecurity, access and ability to pursue education, and childcare resources, all of which were already problems for the families NFP serves. Issues

exacerbated by the pandemic have led to a rise in the need for mental health services, an additional challenge for an organization operating at half of its previous staffing level. Local OB/GYN offices provide a large amount of client referrals, especially those running a low-income clinic. Anyone can refer a candidate for the program, and oftentimes family members will refer a relative they think will benefit from the services provided. NFP also partners with United Way and other home visitation programs and may receive referrals from these programs or refer existing clients to them if NFP thinks one of these organizations may be a better fit.



A Tale of 2 Cities: Rochester, NY (Monroe County) and Buffalo, NY (Erie County)

Buffalo, New York - Benchmarking

One of the biggest organizations in Buffalo, New York for child and maternal health is the *Buffalo Prenatal Perinatal Network (BPPN).* They offer programs such as health insurance assistance, support for the Fatherhood Initiative, Cribs for Kids, and Go Buffalo Mom. Between 2019-2020, this organization received 79.79% of its funding through governmental grants (BPPN, 2020). According to their 2017-2018 report, 80% of their clients are people of color.

The *Go Buffalo Mom* program developed through United Way aims to bridge the gap and access due to transportation challenges and the program provides transportation to moms in need. In 2018, 25% of moms that used the program were homeless. In addition to that, 30% of moms in Buffalo do not receive prenatal care in their first trimester, and research shows this can increase the risk of pre-term birth. In Buffalo, 10.3% of babies are born pre-term (United Way, 2017). Babies born pre-term increase the amount of money spent on care. The BPPN organization mentions that they saved $712,800 in local NICU costs due to their preventative programs.

Buffalo also has a birthing center. On the Birthing Center of Buffalo's website, they ask, "Are you a healthy person with a low-risk pregnancy?" This implies that women who may have the potential for a high-risk pregnancy will not be able to use the birthing center services. For black women at a higher risk of particular chronic diseases and illnesses such as diabetes and hypertension, will they qualify for services? More data is needed on the demographics of the population that the birthing center is serving in order to understand if black women who are pregnant are at a disadvantage because they may not qualify for the services. As of now, there is no definitive answer to this question (CDC, 2021).

Another challenge with birthing centers, in general, is that their focus is not on prenatal birth; it is about the delivery itself and the end of pregnancy. The Centers for Medicare and Medicaid funded a program called Strong Start, which provides prenatal care and other areas of child and maternal health throughout pregnancy. Specific to birthing centers, this program helped expand prenatal care programs in birthing centers. For example, when women in the Strong Start program were matched with those who received general care outside of the program, statistics demonstrated that 17.5% of women in Strong Start had C-sections compared to 29% in the matched group. Also, this particular study concluded that expenditures for those enrolled in the program were 16% lower from delivery to the child's first birthday than those in the matched group (CMS, 2022).

Then there is the Fika Midwifery which is the first birthing center run by midwives in Buffalo; they applied for a New York State license in 2020. They received accreditation from the American Association of Birth Centers, and they accept Medicaid reimbursement, which could help those with low-income access the birthing center. Still, they only service low-risk pregnancies like the Birthing Center of Buffalo (Fika Midwifery, n.d.). Since the program is new, more statistics are needed to provide evidence that the program is effective. But, overall, the goals of the program imply that it will be beneficial.

Maternal and Child Health Outcomes in Rochester and Buffalo

	Rochester - Monroe County	**Buffalo - Erie County**
Infant Mortality per 1000	7.1	5.1
Maternal Mortality per 100,000	29.7	13.6
Pre-term births %	10.4%	10.1%
Births Per Year	7883(Total) 1665(Black)	9,843(Total) 1,858(Black)

(NYSDOH, 2021)

Program Capacity in Rochester and Buffalo

	Rochester	**Buffalo**
City-wide Program:	Healthy Baby Network	Buffalo Prenatal-Perinatal Network
Families served by program (2018)	481	489
Total # of births per year-Total (AVG 2016-2018)	7,883	9,843
Total # of births per year-Black Women (AVG 2016-2018)	1,665	1,858

(NYSDOH, 2021)

Overall, data collection has been consistent when recording infant and maternal mortality. This data is generally collected at a local level. The challenge is finding local data on miscarriages, people diagnosed with post-partum depression, and the number of women who worked with a doula during their pregnancy and possibly even after their pregnancy. These statistics could provide more insight into maternal health and even more so if broken down by race/ethnicity.

The **Alliance for Innovation on Maternal Health** is a national program that allows hospital administrators to record and track their hospital data and compare it to other hospitals. This program is what can help bridge the gap and provide current data on what might be missing now. One of the disadvantages is that the data is not for public knowledge. Even still, this tracking could provide hospitals

with new insights on what needs to be changed. For example, if a woman comes into the ED and is diagnosed with post-partum depression, this can now be tracked if the hospital is working with AIM. After tracking the numbers, policymakers and hospital administrators can take it one step further and determine if prescribing medicine or recommending support groups is the best avenue to take. At the same time, is the issue with the current statistics on maternal and child health because Rochester does not have the capacity to serve the needs of the population? Could recommending a support group still work effectively as capacity reaches its limits? As mentioned previously, both Buffalo and Rochester have programs available throughout their respective cities, but as the data implies, they may not have enough capacity to serve all those who could need services. Regardless, there needs to be an improvement in tracking local statistics that will provide insight for programs that can ultimately influence maternal health.

Other Maternal Health Programs Across the US: Case Review

Birmingham, Alabama

Birmingham Healthy Start is a federally funded maternal health initiative that provides services to both mothers and fathers with the goal of improving health outcomes for African American women at all stages of pregnancy as well as post-partum care (Birmingham Healthy Start Plus, n.d.). Several services are offered including comprehensive home visits, parenting classes, breastfeeding classes, mental health counseling, and fatherhood support (Birmingham Healthy Start Plus, n.d.).

The Center for Reproductive Health at the University of Alabama Birmingham is another organization focused not only on maternal health, but racial disparities as well. Currently, the center is conducting research on the safety of hypertension medication in pregnant women, with the

understanding that black women are more likely to have hypertension, a risk factor for preeclampsia, which in turn is related to poor maternal outcomes such as premature birth and stroke (Greer, 2014).

Fresno, California

The *Black Wellness and Prosperity Center* is leading an initiative to train up to 30 doulas to support black women during labor and delivery (Hardy, 2021). The program is aimed at providing pregnant black women with an advocate throughout their maternal development in order to fight against the discrimination this demographic group faces in the health care system, with hopes that it will result in a lower maternal mortality rate and better health outcomes for black women and their infants (Hardy, 2021)

In addition to the doula initiative, the Fresno area has another maternal health program underway through the partnership with Fresno County and the University of California San Francisco (UCSF) Preterm Birth Initiative. Fresno County is working with UCSF's Pre-term Birth Initiative to reduce the rate of premature birth rates among BIPOC mothers, with a special focus on creating workgroups that empower expectant mothers and connect them to resources and services to support them during pregnancy (Fresno Preterm Birth Initiative, n.d.). One of these groups, named "The care and support during pregnancy workgroup…brought about new dialogue to increase enrollment in the national Women, Infant and Children program, known to help improve birth outcomes" (Fresno PTBI, n.d.). A second group, known as "coordination of care," is aimed at connecting pregnant women with a variety of "social services and behavioral and physical health care" available to support them during gestation and beyond, with mothers themselves running the group (Fresno PTBI, n.d.). This collaborative partnership takes a civic approach to reducing pre-term births and involves women and community members in the educational process behind maternal health, empowering them to advocate for themselves during pregnancy and understanding the risks behind pre-term births and how to counteract them.

Connecticut

In 2021, the Connecticut legislature passed SB1, "An Act Equalizing Comprehensive Access to Mental, Behavioral and Physical Health Care in Response to the Pandemic," taking huge positive steps toward improving maternal health within the state (National Institute for Reproductive Health, 2021). A key feature of SB1 is the "establishment of a definition for doulas in state statute" (National Institute for Reproductive Health, June 2021). In addition to this new legislation, the Connecticut Health Foundation granted $76,811 to Doulas4CT, which focused on ending racial disparities in maternal health through doula support (CT Health, January 2022). Increased funding and advocacy for the integration of doulas into the healthcare system is an excellent approach to tackling inequities in maternal health.

Louisville, Kentucky

In Louisville, *Black Birth Justice* opened in 2021. This nonprofit organization is focused on reducing maternal and infant mortality rates within the Black community and they provide a doula training program that enables trainees to support Black birthing people in their post-partum period (Kelly, 2021). Black Birth Justice's focus on providing doula support to Black mothers follows a trend in involving doulas in maternal health care to reduce inequities in maternal outcomes, also seen in the cities listed above.

In addition, the nonprofit organization *Healthy Babies Louisville* is also working toward more equitable outcomes for Black mothers and babies. Created by the Louisville Department of Health, Healthy Babies Louisville partners with community organizations to create strategies aimed at improving maternal wellness. The organization recognized a recent increase in the maternal mortality rate related to substance abuse, prompting a partnership with March of Dimes that established the goal of working with providers at a local hospital to create a plan to address this issue (Louisville Department of Health,

n.d.). The involvement of health departments with local advocacy organizations is a strong strategy that could be modeled in any city, including Rochester.

Arizona

According to the March of Dimes organization, Blacks in Arizona had on average 13.1% of births that were pre-term versus 8.8% for their white counterparts (2022). This is high considering that the total black population in Arizona is 5.2%. The majority is white, or Hispanic (The United States Census, 2022). One of the programs offered in Arizona is called the *High Risk Perinatal Program* which is a statewide program that provides support at no charge to a baby who spent at least five days in level II or III care. They will then receive visits from a community health nurse at home that will check in and provide the needed care for the infant, as well as making sure the infant has the resources needed (SWHD, 2022).

Utah

In Utah, 58.4% of black infants received care during the 1st trimester compared to 79.2% of whites who received care within the first trimester. The infant mortality rate for blacks in Utah is 7.0% and 4.5 for whites. They have also determined that 11.5% are low birth weight infants for blacks and 6.8% for whites. 21.9% of blacks have been diagnosed with Postpartum Depression, whereas 14.3% of whites have been diagnosed with post-partum depression. The Utah Department of Health uses a Healthy Equity Framework to determine how the statistics can be improved in the future. For example, the Pregnancy Risk Assessment Monitoring System (PRAMS) collects data that targets where interventions should be placed, such as the Baby Your Baby Program. This program covers the costs of pregnancy-related outpatient services for low-income pregnant women. The idea is that since the cost can be a barrier to accessing prenatal services, this state program would provide financial relief. This is

combined with the MotherToBaby program that offers information on medications and health conditions. This is a free program that clients can call or text a health professional with questions (Utah Department of Health, 2021).

Legislation

Maternal and infant health is complex and largely impacted by social determinants of health, including structural and societal systems. This means at Federal and State levels, it is necessary for governments to support interventions and new systems to preserve maternal and infant health. This section reviews key legislation related to maternal health that has been introduced at these levels.

Federal: The Black Maternal Health Momnibus Act of 2021

As mentioned previously, mothers in America are dying at the highest rate in the developed world, and rates are rising (Black Maternal Health Caucus, 2021). The majority of these deaths are preventable. To address the maternal health crisis in America, Congressional leaders introduced a suite of 12 bills designed to protect mothers and babies across the country known as the Black Maternal Health Momnibus Act of 2021 or "Momnibus" (Black Maternal Health Momnibus Act of 2021, H.R.959, 117th Congress, 2021).

Momnibus is comprehensive legislation that goes beyond addressing maternal death to advance maternal health equity, achieve maternal health justice for Black women, Hispanic women, and Native Americans, and ensure infant health in communities (March of Dimes, 2021). The Act's benefits include: investing in organizations that are working to improve all aspects of maternal and child health, improving living conditions to promote better health outcomes for newborns, investing in midwives, doulas, and birthing professionals, enhancing maternal healthcare for veteran and incarcerated mothers and

investing in digital tools and data collection to improve outcomes in underserved areas or maternal deserts (Black Maternal Health Caucus, 2021; Parrilla, 2021).

The Momnibus bills were included in the Build Back Better (BBB) Act, the social infrastructure package led by President Joe Biden (Black Maternal Health Caucus, 2021). The BBB Act went through revisions, which the House of Representatives passed in November 2021 (Build Back Better Act, H.R.5376, 117th Congress, 2021). The Act is currently with the Senate for review; each of the 12 Momnibus bills within the Act was referred to different subcommittees for review (The Century Foundation, 2022). The Senate approved the Momnibus bill investing in women veterans and VA maternity care, and it was signed into law in late November 2021. The remaining 11 bills are currently under review (The Century Foundation, 2022). If the Senate cannot compromise, the BBB Act may be blocked and not ratified into law. Furthermore, the longer the legislation stays in review, the less likely it will be approved in light of the upcoming 2022 midterm elections (Faegre Drinker Biddle & Reath LLP, 2022). It is also possible that there could be little time ahead of the election to take action on approved legislation or resolve any concerns later in 2022, during a lame-duck legislative session. If the BBB Act is approved, it will be the largest social infrastructure bill to pass through Congress. It would provide support to several Federal organizations to plan and implement the 11 remaining Momnibus bills in conjunction with the States. If Congress does not approve the BBB Act, it is unclear what will happen to the remaining 11 Momnibus bills. The Momnibus stakeholders may resubmit the bills under a separate package; at this time, alternate strategies by the Black Maternal Health Caucus have not been publicized.

See Appendix B: Overview Black Maternal Momnibus Act Infographic for a summary of each bill.

New York State S.1414A/A.259: An act to amend the public health law, in relation to accreditation, approval, and operation of midwifery birth centers (2021)

Until late last year, midwives in New York State could not operate birthing centers independently and were required to operate under a physician (Satow, 2018). On December 31, 2021, the bill known as 'New York's Midwifery Birth Center Bill' was signed into state law by Governor Kathy Hochul (Harris, 2022). The new law removes some of these restrictions, including physician oversight, and reduces some bureaucracy in obtaining operating certificates while giving midwives a central role in deciding how these centers will be regulated (Columbia University School of Nursing, 2022). According to Columbia University (2022), "the new law abbreviates the certificate of need (CON) process, and sets a 180-day time-frame for writing new regulations." The new rules are being drafted by NYS Health Commissioner Dr. Mary Bassett, The New York Midwives, and The NYS Birth Center Association. It is too soon to observe the new law's effect on the number of birthing center applications, though the community is cautiously optimistic that this will encourage more centers and options for those needing prenatal and birthing care (Harris, 2022; Columbia University School of Nursing, 2022).

New York State: Doula Pilot Program

The New York State Department of Health (NYSDOH) launched a pilot Medicaid program executed in 2 phases to cover doula services for Medicaid fee-for-service and Medicaid Managed Care enrollees (NYSDOH, 2022). According to the DOH website, Phase 1 launched in Erie County on March 1, 2019. Phase 2 will launch in Kings County (Brooklyn) when provider capacity is reached. The program will reimburse Doulas for up to 4 prenatal visits, support during labor and delivery, and up to 4 post-partum visits. The Doula pilot is a part of an effort to target maternal mortality and reduce racial disparities. As mentioned earlier, research suggests that Doulas positively affect health outcomes. The DOH will evaluate the pilot for reach, effectiveness, and Doula and member satisfaction (NYSDOH, 2022). Maternal outcomes will include breastfeeding rates and adherence to post-partum visits. Two surveys will be given to both Doulas and the members they serve. Doulas will receive the first survey after their

first three claims have been reimbursed and the second survey at the end of the pilot. Members will receive the first survey four to six weeks after childbirth and the second survey three months after childbirth.

New York State: Maternal Mental Health Package (S.B.7752, SB 7753, SB 7865)

Maternal mental health conditions are the most common complication in pregnancy and childbirth, affecting 1 in 5 women (Pereira et al., 2012). According to the Centers for Disease Control and Prevention's Mortality and Morbidity Weekly Report (MMWR), risks are significantly higher for birthing people of color; Black women are twice as likely to experience these conditions and half as likely to seek assistance (Bauman et al., 2020). While researching this report, we were unable to locate information related explicitly to Monroe County on prenatal and post-partum rates of depression or other mental illnesses that may have occurred during the pregnancy period of the birthing person. However, in January, New York Senator Samra Brouk introduced 3 bills (SB 7752, SB 7753, SB 7865), which would address some of these tracking needs and maternal mental health needs (Brouk, S. G., 2022). Further description:

- ***Senate Bill 7752 (SB 7752)***: Directs the Office of Mental Health to create a Maternal Mental Health Workgroup to **study and provide culturally competent and accessible recommendations related to the diagnosis and treatment of maternal mental health** and perinatal and postpartum mood and anxiety disorders. This has passed the state Senate and is with the Assembly for review (SB S7752, 2022).
- ***Senate Bill 7753 (SB 7753)***: Requires the New York State Office of Mental Health (OMH) and the Department of Health to **conduct a study on the inadequacies of existing postpartum depression screening tools, identifying racial disparities within existing protocols,** in an effort

to address the under-diagnosis and treatment of women in vulnerable, at-risk populations. This has passed the state Senate and is with the Assembly for review (SB S7753, 2022).

- ***Senate Bill 7865 (SB 7865)***: **Requires maternal health care providers providing pre-and postnatal care or pediatric care to invite the mother to fill out a questionnaire to detect maternal depression and other mood disorders**. This bill also recommends that maternal health care providers **make their best efforts to contact the person who gave birth within 21 days from the date of delivery and utilize industry practices to detect maternal depression**. This bill is currently under review in the state Senate (SB 7865, 2022).

Recommendations

The beginning of this report reviewed the rates of maternal morbidity and mortality in the BIPOC population of Monroe County, which are incredibly high, especially when compared to Buffalo, the State, and the Country. From our research we have identified the following gaps potentially contributing to Monroe County's high rates, which include lack of accessibility, need for mental health and community support, and better representation among healthcare professionals. Upon further reflection of Dr. Dillion's feedback of Rochester being "Program rich, but results poor" we have provided the following recommendations for future research and consideration to address these needs:

1. *Improve maternal and infant State surveillance*. Utilize a Health Equity Framework for the New York State Prevention Agenda. The Agenda is a robust database, and applying a similar approach as Utah has done with PRAMS, may allow the State and County to target support and efforts more efficiently.
2. *Evaluate and create a process for better documenting maternal mental health.* Finding information on pre-and postnatal depression in New York State, let alone in Monroe County, was

challenging. A consistent process for assessing maternal mental health at all pregnancy stages is needed.

3. *Conduct a long-term study of at-risk moms in the County.* We recommend a longitudinal study following groups of moms provided with different pre-and postnatal support interventions for 2 to 3 years after delivery to understand better what may be causing 'results poor' outcomes in the County.
4. *Utilize a civic approach.* Take a civic approach of collaboration between the Department of Health, Community Organizations, and the Maternal BIPOC population to create programs and ensure services reach the people in need. Both the programs in Fresno and Louisville would serve as good case studies for setting this up in Monroe County.
5. *Create a better referral system.* We are aware vulnerable populations may not visit primary care providers consistently and have that care network. To ensure that these expectant mothers are aware of Rochester's programs, we advocate working with Primary Care, Urgent Care, and Ob/Gyn offices to ensure the information on existing programs reaches the population
6. *Create or augment existing programs to empower both mothers and fathers.* For example, supporting parental training, having mothers and fathers serve as mentors to other expectant parents, and providing places for the birthing population to connect. Unfortunately, opportunities for in-person interaction were limited during the COVID-19 pandemic. Still, as we heard in our interviews, an in-person connection is essential to building community, which would build trust and social capital.
7. *Increase representation within the healthcare profession*. We realize that representation is a complex challenge with many layers. Within Monroe County, several colleges provide healthcare-related training, such as Monroe County Community College, St. John Fisher College, University of Rochester, Rochester Institute of Technology, and SUNY Brockport. When this

report was drafted, we had not found any programs between Monroe County, the Rochester School system, and the Colleges. Therefore, we would advocate for collaboration amongst the groups to develop a 'network of future healthcare providers and leaders.' Lastly, we are aware that Doula training is currently underway; we would advocate for supporting these individuals throughout their careers, especially if they are interested in more clinical positions.

Conclusion

There are significant gaps in maternal and infant care, and we would venture we are in a crisis in the US that is acutely felt in Monroe County, New York, as evident by current maternal and infant mortality rates. A holistic approach is essential to improve maternal health, which considers point-of-care, the social determinants of health that affect care, and the systems that birthing people live within to access that care. Furthermore, the full scope of the challenges needs to be understood. This scope would include the assessment, tracking, and follow-up of data related to pre-and postnatal maternal mental health compared to sister cities such as Buffalo and states such as Connecticut. Furthermore, while the Covid-19 pandemic significantly reduced in-person outreach efforts, it was clear from our interviews that local community and health organizations are eager to assist birthing people and their infants as we come out of the pandemic. It was acknowledged that community support is critical, as rates of domestic violence have increased since the pandemic (Boserup et al., 2020). In addition, many of the leaders we spoke to expressed concern that they may not be reaching the entire community as best they can. Therefore, collaboration and coordination between these services are needed to connect and assist the maximum number of birthing people and their partners or families. This effort should be coupled with building trust and social capital throughout the region, which can be aided with assistance from individuals closest to the community, such as Doulas and expectant Mothers and Fathers, and considers the population's needs. For example, pregnant individuals may not be able to

attend birthing classes during the day due to job requirements throughout the week; evening sessions may be more accessible. Furthermore, transportation may be an obstacle to getting to and continuing with pre-and postnatal care. Moreover, the literature has discussed that greater representation of Black, Indigenous, and people of color within health provider positions may further assist in providing better health outcomes (Greenwood et al., 2020; Zaragovia, V., 2021). It is unlikely the Momnibus Act will pass through Congress with Build Back Better. However, the legislation that Senator Brouk introduced in New York State, combined with the pilot Doula initiative, and making the set-up of midwife birthing centers more achievable are positive steps toward local government support of improving maternal and infant health in this region. Additional, localized efforts in the community will better reach and provide improved mortality and morbidity.

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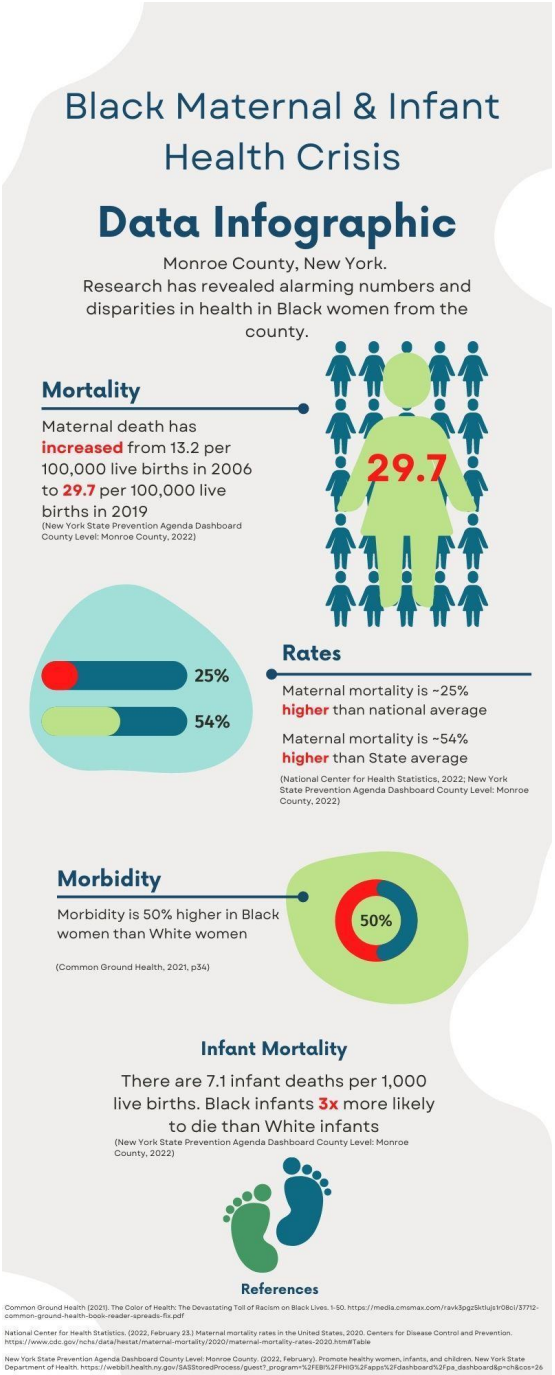
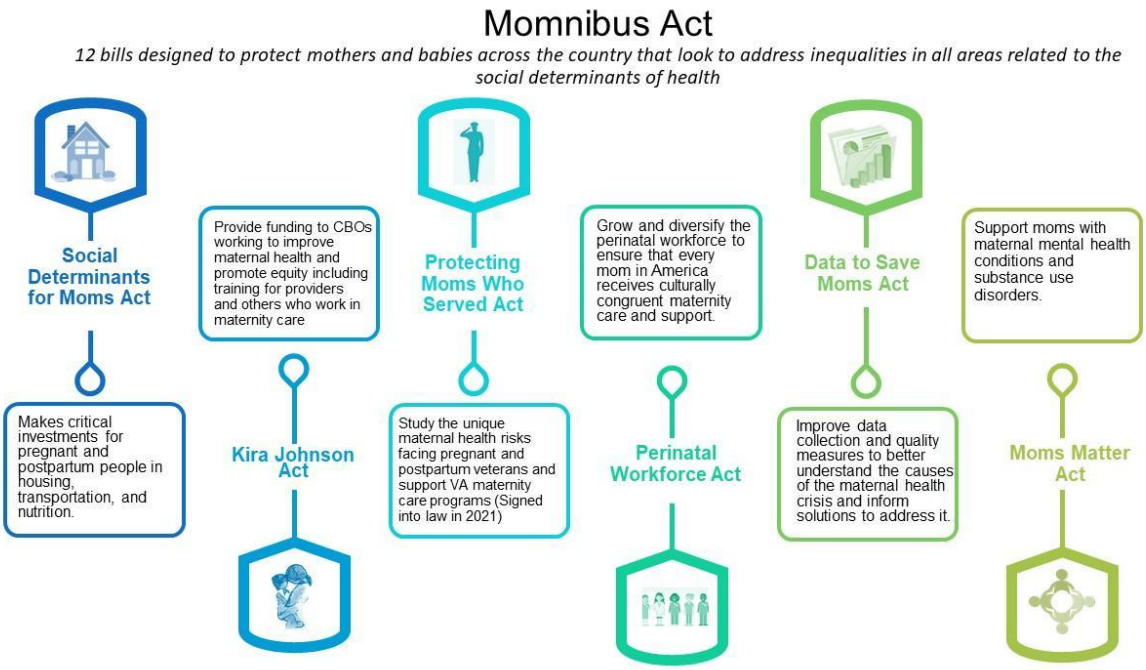
Appendix

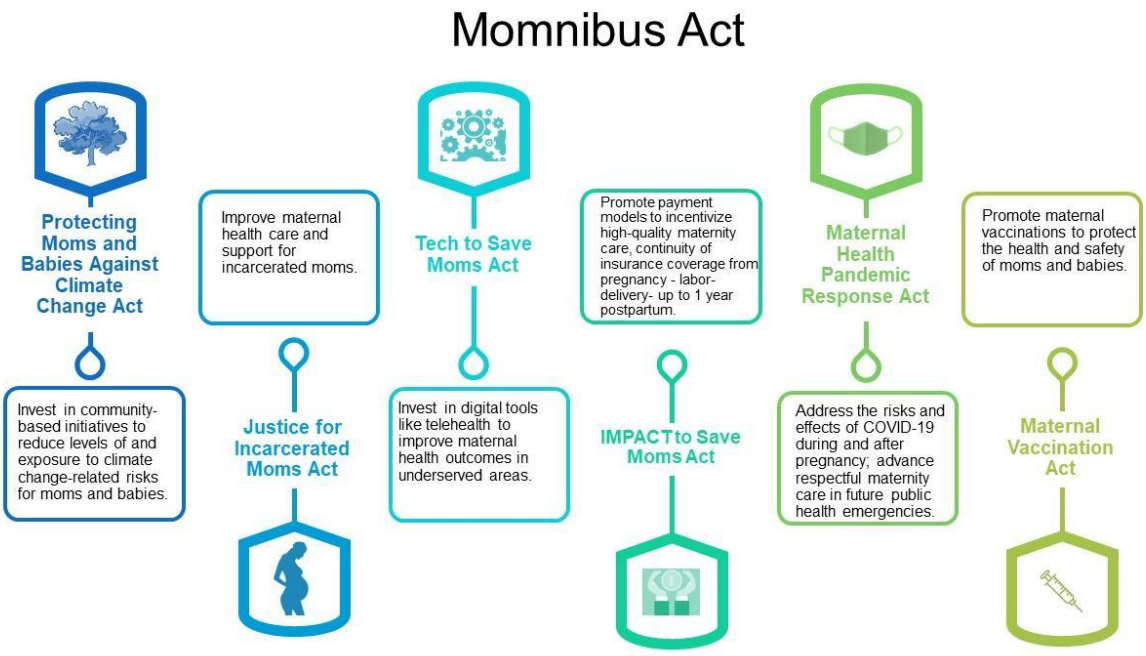
A. INFOGRAPHIC: BLACK MATERNAL & INFANT HEALTH CRISIS

Full size image available at:
https://www.canva.com/design/DAE7rAi96SE/zFv_Y06P9h1BaisZxVMNGg/edit?utm_content=DAE7rAi96SE&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton



B: OVERVIEW BLACK MATERNAL MOMNIBUS ACT





C. PRESS RELEASE

Addressing the Maternal Health Crisis: Mortality on the Rise

Even before the COVID-19 pandemic, the US remained among the most dangerous developed nations for childbirth, with more than 700 women in the US dying from pregnancy-related causes (March of Dimes, 2021). New York State ranks 30th out of the 50 states in maternal mortality rate (Common Ground Health, 2021). In Monroe County, our maternal mortality rate is an alarming 29.7 deaths per 100,000 live births (NYS Prevention Dashboard, 2022). In the *Act Rochester 2020 Hard Facts Update*, the disparities between Black women and White women are considerable as Black women are 2.5 times more likely to have low birth weight babies than White women. Moreover, Black women are 50% higher to endure maternal morbidity complications compared to White women and Black infant mortality rate is 3x higher than White infants. These distressing rates and disparities call to action long-term, sustainable solutions within the community to benefit everyone in Monroe County. *However*, there must be **a holistic approach** to address the maternal health crisis. Maternal mental health conditions are the most common complication in pregnancy and childbirth affecting 1 in 5 women (Pereira et al, 2012). According to the Centers for Disease Control and Prevention's Mortality and Morbidity Weekly Report (MMWR), risks are significantly higher for birthing people of color; Black women are twice as likely to experience these conditions and half as likely to seek assistance (Bauman et al., 2020). **In Monroe County, we lack data on maternal mental health**, specifically on post-partum depression and other mental illnesses. Similar to the Black Maternal Health Momnibus Act (which is now in Build Back Better Act), our community must invest in programs and treatment to support maternal mental health conditions. In January, New York Senator Samra Brouk introduced 3 bills (SB 7752, SB 7753, SB 7865), to address these maternal mental health needs (Brouk, S. G., 2022).

- ***Senate Bill 7752 (SB 7752)***: Directs the Office of Mental Health to create a Maternal Mental Health Workgroup to **study and provide culturally competent and accessible recommendations related to the diagnosis and treatment of maternal mental health** and perinatal and post-partum mood and anxiety disorders. This has passed the state Senate and is with the Assembly for review (SB S7752, 2022).

- ***Senate Bill 7753 (SB 7753)***: Requires the New York State Office of Mental Health (OMH) and the Department of Health to **conduct a study on the inadequacies of existing post-partum depression screening tools, identifying racial disparities within existing protocols,** in an effort to address the under-diagnosis and treatment of women in vulnerable, at-risk populations. This has passed the state Senate and is with the Assembly for review (SB S7753, 2022).

- ***Senate Bill 7865 (SB 7865)***: **Requires maternal health care providers providing pre- and postnatal care or pediatric care to invite the mother to fill out a questionnaire to detect maternal depression and other mood disorders**. This bill also recommends that maternal health care providers **make best efforts to contact the person who gave birth within 21 days from the date of delivery and utilize industry practices to detect maternal depression**. This bill is currently under review in the state Senate (SB 7865, 2022).

One promising initiative is the Black Doula Collaborative. Healthy Baby Network and HealthConnectOne with collaboration from Common Ground Health, Finger Lakes Performing Provider System and Finger Lakes Community Health, launched a Black doula-based program to improve the health and well-being of birthing people, their infants and families in Rochester. As racism and discrimination is an unfortunate but real factor influencing Black health, Black doulas can eliminate discrimination and loss of autonomy Black people often voice during their birthing experience (Mather, 2021). As of March 2022, the Doula training is still underway.

Moving forward, collaboration efforts between public health professionals, hospitals, CBO's, and the community can ensure improved maternal health results as well as eliminating any racial disparities.