THE STATE OF DOULA CARE IN NYC 2022

NYC Health

CONTENTS

Cover photo courtesy Vickiana Peña, By My Side Birth Support Program

PURPOSE

This report is being published pursuant to Local Law 187 of New York City (Appendix A). The report outlines progress towards the plan of the New York City (NYC) Department of Health and Mental Hygiene (Health Department) for improving access to doula services and provides an overview of the landscape of doula care in NYC, including challenges facing the doula workforce. Because expansion of doula services will require a system-wide approach, this report also makes recommendations for key stakeholders.

The Health Department recognizes its responsibility to work with fellow New Yorkers to eliminate inequities in maternal and infant health outcomes. For this reason, achieving birth equity – the elimination of racial, ethnic and economic differences in maternal and infant outcomes by advancing the human right of all pregnant and childbearing people to safe, respectful and high-quality reproductive and maternal health care – is an agency priority.

In partnership with the New York City Council, the City is committed to expanding access to doula care in NYC, especially for those who need it most. The Health Department is equally committed to lifting the voices of members of communities most affected by inequities in birth outcomes and the voices of advocates who lead efforts to increase the number of people giving birth with doula support.

Report Team:
Gabriela Ammann
Amida Castagne
Regina Conceiçaõ
Isabel DoCampo
Sharon Marshall-Taylor
Sheila Sully
Mary-Powel Thomas
Alison Whitney

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WHY DOULAS?

Despite having better overall life expectancy and lower infant death rates than the United States (U.S.) as a whole, New York City mirrors the U.S. in its racial inequities in infant death, maternal death and life-threatening complications related to childbirth (severe maternal morbidity).[1-3] Racial inequities are also documented in other birth outcomes that affect the lives of mothers[a] and their babies, including breastfeeding initiation and duration, Cesarean birth, preterm birth (before 37 weeks of pregnancy) and low birthweight (less than 5 pounds, 8 ounces).[1] These differences are inequitable, which means that they are unfair, unacceptable, and avoidable.

One promising strategy for improving birth outcomes is the support of a doula. Doulas are individuals trained to provide non-medical physical, emotional, and informational support to childbearing people and their families. Doula care has been associated with lower rates of Cesarean birth, preterm birth, low birthweight, and postpartum depression, as well as increased rates of breastfeeding and greater patient satisfaction with maternity care.[4-9] Such outcomes translate into financial savings, due to lower rates of surgical birth and expensive neonatal intensive care.[11-13]

Nationwide, increased recognition of these health benefits has led to a surge of interest in creating doula programs, including at the municipal and state levels.[10] In 2022, the City expanded free doula services via the Citywide Doula Initiative. The initiative targets individuals in 33 underserved neighborhoods, focusing on reducing maternal and infant health inequities and providing critical resources to new families.

The Citywide Doula Initiative builds on the Health Department's By My Side Birth Support Program (BMS) model of services. Launched in 2010 and funded by the Healthy Start Brooklyn grant, BMS has provided free, comprehensive doula support to more than 1,300 families in central and eastern Brooklyn. To increase the capacity of community-based doulas, BMS began an apprenticeship program in 2018 to provide mentoring, professional development, and certification support to newly trained doulas. In 2017 the program published a paper in the *Maternal and Child Health Journal* entitled "Doula Services Within a Healthy Start Program: Increasing Access for an Underserved Population," showing that participation in the program was associated with a significantly reduced risk of preterm birth and low birthweight. These findings were confirmed in a subsequent study in 2021, which is pending publication.

[a] For the purposes of this report, the term "mother", "pregnant woman", and "woman" are considered to apply to any person who is pregnant or has delivered a child. When citing published research, we use the terms in the research.

While doula support should be an integral part of the compendium of care that a person receives when giving birth, it is important to note that doulas alone cannot solve the inequities in birth outcomes that result from centuries of structural inequality, obstetric violence and medical racism.[14,15] Improving these outcomes will require a range of strategies that prioritize women's overall health and address the root causes of racial inequities in birth outcomes – structural inequalities and the chronic stress of racism and patriarchy on the lives of women, particularly women of African and Hispanic descent.

Policy Recommendations

Key recommendations to stakeholders for improving access to doulas in New York City include:

- Policymakers should expand and codify investments in evidence-based doula support programs that serve pregnant people who experience disproportionately low access to doula care and that work towards addressing drivers of poor maternal and infant health outcomes, to ensure the widest-possible reach and sustainability of these initiatives. In addition, policymakers should support efforts to train residents of marginalized communities to be doulas and efforts to ensure doulas earn a fair wage for providing community-based services. Policy actions should align with and build upon programming already under way and should incorporate the feedback of doulas and service providers. Policymakers should avoid actions that complicate access to doula support, such as mandated certification and licensing.
- Institutions such as hospitals, birthing centers and maternity care providers should require mandatory training for staff on racial, gender, and implicit bias, as well as how to provide respectful care for all patients, as outlined in the NYC Standards for Respectful Care at Birth. Trainings should be designed in consultation with the communities that these institutions serve. In addition, institutions should review policies, procedures, and other structural factors that, often unintentionally, reinforce racial and gender bias and differential treatment, to assure that the human rights of all people receiving care are respected and enforced.
- Institutions such as hospitals, birthing centers, and maternity care providers should increase staff awareness of the evidence-based benefits of doula care (see Appendix F, "Literature review on the benefits of doula care"). The benefits of doula care should be promoted to expectant parents as well, through written information and events like "Meet the Doula" night.
- Institutions such as hospitals, birthing centers and maternity care providers should adopt a doula-friendly hospital policy, as outlined in the Principles of Doula Support in the Hospital (see Appendix B) from the New York Coalition for Doula Access, and ensure alignment with other aspects of evidence-based care during pregnancy, childbirth and postpartum (e.g. integrated midwifery care, baby-friendly practices, group prenatal care, and perinatal home visiting).
- Insurers, including Medicaid and managed care organizations, should cover doula services and offer reimbursement for birth- and postpartum-doula services at competitive, market rates.

- Doula organizations and programs should provide ongoing mandatory trainings on topics such as trauma-informed care, perinatal mood and anxiety disorders, respectfully navigating the hospital environment, and community support services that are available to low-income pregnant people and their families.
- Community health advocates should continue to increase awareness of the evidence-based benefits of doula care and should support efforts to improve access to doulas.

These recommendations consider challenges faced by the doula community.

Legislation Relating to Doula Care

Photo courtesy Vickiana Peña, By My Side Birth Support Program

Several bills relating to doula support were active in committee in the 2021-2022 session of the New York State Legislature. Bill (S8968/A10333) would require the State Department of Health to establish and maintain a New York State doula directory to facilitate Medicaid reimbursement and promote doula services to Medicaid recipients. S8967/A8967 would establish a working group (composed of doulas and other experts) to set reimbursement rates for doulas in the state Medicaid program. Three additional bills—which would categorize doulas as medical-services providers for Medicaid recipients (S362/A5247), require health insurance policies to include doula services in required coverage for maternity care (S8350/A5272), and create administrative bodies in Kings County and Bronx County to contract doulas for community-based organizations (S322/A7454)—have been re-introduced from previous legislative sessions.

A bill requiring the professional certification of doulas was introduced in the New York State Assembly in the 2017-2018 session (S2137). This bill was reintroduced in various forms in 2019-2020 and 2021-2022, igniting concerns within the doula community about state certification of doulas, which poses potential barriers to providing doula support. However, this bill was stricken from legislative consideration in January 2021.

In August 2022, the New York City Council passed various resolutions and bills to expand the availability of doula support to underserved populations. Intro 472 establishes the Health Department to train doulas and provide doula services to residents in all five boroughs; Intro 478 requires the Health Department to conduct an education and outreach campaign about the services offered by doulas and midwives. Resolution 205 calls on the New York State Legislature to make doulas

available to individuals with Medicaid or no insurance. In September 2021, the City Council enacted a local law requiring the Department of Corrections to provide doula services to incarcerated individuals twice a week during the prenatal period, as well as during labor and delivery. The majority of these actions cited findings from previous *State of Doula Care in NYC* reports.

The National Health Law Program's Doula Medicaid Project continues to provide regular updates on the progress of doula-related legislation, which address a range of topics, including coverage of doula services under the Medicaid program and financial incentives for doula inclusion in the maternity care home model. Additionally, the federal Momnibus Act, sponsored by members of the Black Maternal Health Caucus, if passed, will direct funds to doula organizations that support Black, Indigenous and other pregnant and postpartum people of color, including those residing in correctional facilities.

Challenges Facing the NYC Doula Community

As support for improving access to doula care increases, the doula workforce in NYC faces challenges related to hospital navigation, client connectivity, and the sustainability of the profession.

Hospital Navigation

A doula may support clients in many different hospitals, but in NYC, it can be difficult to know what to expect because these facilities often vary in their policies related to certification and COVID-19. Some hospitals have asked doulas to provide proof of training or certification, even though such proof is not required to work as a doula and the hospital may not have a formal policy requiring it. Information on COVID-19 requirements (vaccination, testing, mask requirements, etc.) is often not available on-line. Therefore, a doula may not know until she arrives that the facility is requiring, for instance, vaccination and a negative COVID-19 test. These discrepancies in policy, lack of consistent communication to staff, and lack of easily referenced policies, create difficulties for doulas attempting to serve clients at a variety of facilities.

Furthermore, perceptions and policies at some NYC hospitals prevent doulas from engaging in their full scope of practice. Some healthcare providers hold negative attitudes toward doulas or lack knowledge about doula support. As a result, they 1) bar doulas from supporting clients during certain procedures or phases of labor, 2) prevent doulas from engaging clients in typical birth support strategies, such as ambulation, showering, or dimming the lights, or 3) treat doulas in a disrespectful manner. Additionally, even where providers are supportive of doula work, hospitals may lack equipment used by doulas during labor support, such as birthing bars, birth balls, or shower/tub facilities. And some hospitals that do have birth balls or wireless fetal monitors, for instance, struggle to incorporate them into routine practices.

Connecting with Clients

Doulas continue to confront a lack of knowledge among NYC communities about doula services. Even when New Yorkers are familiar with the benefits of doula support, many find that they are unattainably expensive. Private doula services are unaffordable to many of the people who could most benefit from support. New York State planned a Medicaid pilot program to cover doula services

in Kings County (Brooklyn), but as of June 30, 2022, it had been delayed for more than three years due to lack of doula participation, which in turn stemmed from what doulas called unacceptably low rates of reimbursement. Doulas who wish to support underserved communities often face low rates of reimbursement in community-based work, creating a scarcity of no- and low-cost doula services. Community-based doula programs require more funding to train, attract, and retain culturally competent doulas in underserved neighborhoods in NYC.

Workforce Development and Sustainability

Doulas in NYC face many challenges in launching and maintaining their careers. Doula training and certification are time- and resource-intensive, and doulas may struggle to complete certification requirements without compensation. As mentioned above, those who perform community doula services often do not receive market-rate compensation. Doulas may also lack the professional development and mentorship opportunities required to build a doula practice. In particular, the COVID-19 pandemic has created challenges in identifying clients and forging relationships with hospital staff and other health-care providers. For these reasons, the profession may not be a sustainable option for all. Many individuals provide doula support as a secondary occupation, relying on other jobs or family members for stable income. Ideally, doula support would offer a sufficient and competitive source of income for individuals who want to serve pregnant people in their communities.

PROGRAMMATIC HIGHLIGHT

Launch of the Citywide Doula Initiative

The Citywide Doula Initiative provides support during pregnancy and childbirth to residents of homeless shelters throughout the five boroughs, as well as to residents of 33 neighborhoods identified by the city's Taskforce on Racial Inclusion and Equity as hard-hit by COVID-19 and other health and socioeconomic disparities. These TRIE (pronounced "tree") neighborhoods have poorer birth outcomes than others in the city; in 2019,9.2% of live births in TRIE neighborhoods were low birthweight (compared to 7.4% in non-TRIE neighborhoods), 10.2% were preterm (compared to 7.9% in non-TRIE neighborhoods), and 33.7% were delivered via cesarean (compared to 30.2% in non-TRIE neighborhoods).

The Citywide Doula Initiative (CDI) was launched in March 2022 as part of the New Family Home Visits program, a mayoral initiative that provides home visits to first-time parents in TRIE neighborhoods, including support with breastfeeding, safe sleep, mental health, and referrals to social services. The CDI grew out of the Health Department's By My Side Birth Support Program, which in 2010 began providing doula support in central and eastern Brooklyn as part of the federally funded Healthy Start Brooklyn grant. The CDI follows the By My Side model of direct services and of apprenticeships to help newly trained doulas gain experience and become certified. It also builds on the work of the Health Department's Maternity Hospital Quality Improvement Network (MHQIN), which supports hospitals in becoming more doula friendly as part of its overall mission to reduce disparities in maternal morbidity and mortality.

Program	TRIE* Residents in:
Ancient Song Doula Services	Bronx, Brooklyn, northern Manhattan, Queens
By My Side Birth Support Program	Brooklyn
Caribbean Women's Health Association	Bronx, Brooklyn, northern Manhattan, Queens
Community Health Center of Richmond	Staten Island
Hope and Healing Family Center	central and eastern Brooklyn
Mama Glow Foundation	Bronx, Brooklyn, Manhattan, Queens
The Mothership	northern Manhattan
Northern Manhattan Perinatal Partnership	northern Manhattan and southern Bronx

* See zip codes at http://nyc.gov/health/doula; the CDI also serves residents of shelters citywide

In addition to By My Side, which now works Brooklyn-wide, the Citywide Doula Initiative incorporates seven other community-based doula programs (see chart on previous page).

The CDI has three central components, all drawn from the plan detailed on pages 11-18:

- **Direct services**—Birth doulas from the eight constituent programs provide three prenatal home visits, support during labor and delivery, and four postpartum visits, ending when the baby is about two months old. In addition to the CDI's residency requirements, participants

must be income-eligible for Medicaid. Within that universe, priority goes to those who are in foster care, have no other labor support, are giving birth for the first time (or the first time in 10+ years), and/or have a high-risk medical condition.

- **Capacity building**—The initiative trains residents of TRIE neighborhoods as doulas (through a contract with Ancient Song Doula Services) and trains all participating doulas in the CDI model of services, as well as in core areas such as birth equity, perinatal mood and anxiety disorders, and intimate-partner violence. Each of the eight programs has a mix of experienced doulas and apprentice doulas, who are mentored as they begin working with clients. They also receive support in achieving certification through whichever organization trained them.
- **Creating doula-friendly hospitals**—The CDI helps hospitals create a more welcoming environment for doulas through MHQIN's clinical-community partnerships work, which provides a doula-friendliness capacity assessment (Appendix C) and support in undertaking an action plan to develop doula-friendly policies and procedures. Hospitals also receive support in referring their patients to the CDI programs and other no-cost doula organizations.

The CDI also works to amplify community voices (the fourth component of the plan) in two ways:

- **The Community Advisory Board** gathers together residents, doulas, and other stakeholders to provide input and feedback on the work of the Citywide Doula Initiative, including recruitment methods, publicity campaigns, services provided, and materials used.
- **The New York Coalition for Doula Access,** first created in 2011, has been reconvened as part of the CDI. This statewide coalition of doulas and allies is currently focused on two goals: (1) creating a doula-friendly accreditation system for hospitals, and (2) promoting Medicaid reimbursement for doula services at a rate that provides a living wage for doulas.

As of June 2022, the eight programs of the Citywide Doula Initiative (CDI) had:

- Enrolled 232 clients for doula services;
- Trained 35 community members as doulas;
- Trained 217 doulas in the CDI model;
- Trained 80 doulas in birth equity, 143 in perinatal mood and anxiety disorders, and 112 in intimate-partner violence.

The scale of New York City's effort has already attracted attention nationwide, and there is excitement around the city at the possibility of moving the needle on the inequities that NYC faces.

PLAN FOR IMPROVING ACCESS TO DOULA CARE IN NYC

Several Health Department initiatives to improve access to doula care in NYC are under way, with additional work planned. There are four key components to this work: increasing access for communities of color and low-income communities; building doula capacity and making hospital environments more welcoming to doulas; amplifying community voices to help expand access to doula services; and improving data collection. The following outlines the Health Department's plan for improving access to doula care and relevant updates for FY2021.

Status

Complete On Track At Risk Off Track Not Started

1. Increase access to doulas in underserved communities

Doula care has typically been available to those who know about it and can pay for it. In recent years, efforts have been made to increase availability for all birthing people.

	PROGRAM/INITIATIVE[b]	OBJECTIVES	STATUS	TIMELINE	KEY MILESTONES/UPDATES

A.	By My Side Birth Support Program (part of the Health Department 's Healthy Start Brooklyn program; funded by the federal Health Resources and Services Administration)	Provide birth doula care to women who live in parts of Central and East Brooklyn and meet income eligibility requirements for WIC or Medicaid.
		
		Provide case management with each client at prenatal and postpartum home visits.
				Ongoing	• By My Side continues to provide services to pregnant families both in-person and virtually.
					• The By My Side team worked hard over the year to design, plan, and implement the Citywide Doula Initiative, which is based on the By My Side model.
					• In Calendar 2021, By My Side doulas:
					  ○ Attended 126 births
					  ○ Served 168 pregnant clients. Of these, 81% were African American, and 17% were Latinx.
					  ○ Most clients served (88%) were on Medicaid.

B	Healthy Women Healthy Futures (HWHF), (a 5-borough program funded by the City Council, managed	Provide birth and postpartum doula care to women living in NYC, with priority given to those with an		Ongoing	• In FY21, 58 doulas were trained, 38 as birth doulas and 20 as postpartum doulas. • In FY21, 457 individuals received doula support: ○ 22% in the Bronx

[b] A detailed description of each Health Department program or initiative referenced in this plan can be found in The State of Doula Care in NYC 2019 report.

	by the Health Department , and operated by three vendors that each have responsibility for particular boroughs)	elevated risk for negative maternal and infant health outcomes. Train community residents to become doulas and build capacity among doula workforce.			○ 29% in Brooklyn ○ 8% in Manhattan ○ 9% in Queens ○ 29% in Staten Island ○ 3% in unstable housing • Of the total, 145 received birth-doula support, 126 received postpartum-doula support, and 186 received both. • Of the total: ○ 48% were African American, and 28% were Latinx. ○ 66% were insured through Medicaid.
C.	New York Coalition for Doula Access	Expand access to perinatal support for all, with a particular focus on communities that are at greatest risk for poor outcomes.	●	Ongoing	• The New York Coalition for Doula Access (NYCDA) was reconvened in April 2022 as part of the Citywide Doula Initiative. It will focus on two priorities: ○ To set standards for a living wage for doulas through Medicaid reimbursement; ○ To develop a plan for a doula-friendly-hospital accreditation system. • NYCDA is a diverse, member-driven association of doulas and allies (medical providers, doula organization leaders, maternal and child health thought leaders) across New York State. The Health Department is the project sponsor, providing funding, coordination, and resources. The nonprofit Health Leads is the backbone organization, providing member engagement, meeting facilitation, communications, and other responsibilities.
D.	Doula Care Landing Page	Increase awareness of the benefits of doula support and availability of no- and low-cost doula services.	■	Complete	• Information about the Citywide Doula Initiative was added to the Doula Care landing page, including the eight programs that are providing services through the initiative and which zip codes each serves, broken down by borough.

2. Build doula capacity

As the demand for doula care increases, it is important to develop and foster a strong doula workforce, particularly among community-based doulas serving marginalized communities, through trainings, professional development, mentoring and equitable pay.

	PROGRAM/INITIATIVE	OBJECTIVES	STATUS	TIMELINE	KEY MILESTONES/UPDATES
A.	By My Side Birth Support Apprenticeship Program	Facilitate a 6-month apprenticeship program for newly trained doulas, to help them achieve certification, improve their professional skills, and increase their capacity to work as community-based doulas.		Ongoing	• In 2021, BMS facilitated its first apprentice cohort since the pandemic. Four doulas participated in the six-month apprenticeship. One has since completed certification, and two have attended close to 10 births (a marker for "experienced" doula qualification with BMS). • The BMS Apprenticeship Program serves as the model for the apprenticeship work of Citywide Doula Initiative, which now has more than 40 apprentices across the eight programs.
B.	Doula Training for Community Members	As part of the Citywide Doula Initiative, train residents of TRIE neighborhoods as doulas.		Ongoing	• In 2022, the Citywide Doula Initiative hosted two full-spectrum doula trainings for community members. A total of 35 community members were trained and will join the CDI apprenticeship program. • Four additional trainings will be held in FY23.

3. Create doula-friendly hospitals

Effective doula support during labor and delivery relies heavily on a collaborative relationship between the doula and the hospital care team. Laying the groundwork for consistently positive relationships is a crucial aspect of improving access to doula support.

	PROGRAM/INITIATIVE	OBJECTIVES	STATUS	TIMELINE	KEY MILESTONES/UPDATES
A.	Maternity Hospital Quality Improvement Network (MHQIN) – Clinical and Community Partnerships	Improve hospital-staff collaboration with doulas. Strengthen healthcare-system linkages to community-based resources, including no- or low-cost doula programs.		July 2018 – June 2023	• Collaborated with community-based doula programs to provide technical assistance to seven participating hospitals: H+H/Jacobi, H+H/Kings County, H+H/Lincoln, H+H/Metropolitan, Elmhurst, Jamaica, and Montefiore. Technical assistance included: ○ Completing action plans with staff and leadership, detailing steps hospitals can take to improve doula-friendliness (see Appendix C). ○ Hosting hospital meet and greets to provide information about doula support and an

					opportunity for staff to meet community-based doulas who support clients at that hospital. ○ Providing presentations to prenatal-clinic staff to support development of formal referral pathways to doula services. All seven participating hospitals began or continued referring patients to community-based doula programs. ○ Providing Grand Rounds presentations to increase hospital staff knowledge of a doula's role, the evidence-based benefits of doula support, strategies to integrate doulas into the maternity care team, and ways to build relationships with community-based doulas. • Developed and distributed doula educational materials (3,675 brochures, 33 posters, and 3,415 palm cards) and distributed them to 11 prenatal clinics at the MHQIN hospitals and at outreach events. The materials are currently being updated and translated into additional languages. • A doula-friendly hospital toolkit for improving doula and hospital collaboration is being developed for dissemination to all MHQIN hospitals, as well as hospitals throughout the state and country. • Starting in FY23, MHQIN will expand to all 38 maternity hospitals in NYC.
B.	Doula Support Assessment Tool	Identify patterns in hospital practices that may impede the effectiveness of doula support, which can then be addressed to make hospitals more doula friendly.		Ongoing	• Utilization of the data collection tool resumed in 2021, with an effort to capture the data retroactively for hospital births attended in-person during the pandemic. • As of June 2022, 175 surveys had been completed.

4. Amplify community voices

The Health Department values the lived experience of people giving birth who are most affected by poor birth outcomes. The Health Department is working to amplify the voices of these New Yorkers to advocate for themselves and their communities.

	PROGRAM/INITIATIVE	OBJECTIVES	STATUS	TIMELINE	KEY MILESTONES/UPDATES
A.	Maternity Hospital Quality Improvement Network - (MHQIN) NYC Standards	Provide technical assistance and training to MHQIN hospital staff to support successful implementation of		July 2018 – June 2023	• In 2021 more than 1,000 hospital staff were trained on core racial equity and social justice areas to support the implementation of respectful care and received tailored technical assistance trainings.

	for Respectful Care at Birth	the NYC Standards for Respectful Care at Birth (“NYC Standards”). Employ Birth Justice Defenders (BJDs) to work within communities to disseminate the NYC Standards, ensuring that people giving birth know their human rights and are active decision-makers in their birthing experience.			Overall, MHQIN hospitals maintained a Moderate level of respectful care, which was an average of the scores on seven individual metrics. Each hospital will receive a respectful maternity care report card. • In 2021 a total of 60,000 brochures and 7,300 posters were distributed in health-care settings and by community organizations and the Birth Justice Defender hubs. Distribution is expected to increase significantly with the expansion of MHQIN to all NYC birthing facilities. • There are now 5 Birth Justice Defender hubs, one in each borough, and 300 community members received birth justice trainings. More than 800 were reached via outreach/tabling events in the past year.
B.	Neighborhood Birth Equity Strategy	Disseminate neighborhood-specific information about severe maternal morbidity (SMM) and infant mortality (IM). Offer opportunities to increase the capacity of local organizations to address the root causes and contributing factors to birth inequities. Engage community boards and community-based organizations, policymakers, and neighborhood coalitions in promoting doula services to improve maternal and infant outcomes. Improve public awareness of doula support and its benefits to visitors to the Health Department ’s Neighborhood Health Action Centers, and other Bureau of Neighborhood Health sites.	●	Ongoing	• The three Family Wellness Suite (FWS) sites—in Bronx, Brooklyn, and East Harlem—continued to host “Meet the Doula” events, and FWS staff connected families to doula services as requested. In April 2022, during Black Maternal Health Week, the Bronx FWS invited Bx(Re)Birth and Progress Collective to host Meet the Doula, the Brownsville FWS invited the By My Side Birth Support Program, and the Harlem FWS invited Healthy Women, Healthy Futures. • The Family Wellness Suites maintain a partnership with the NYC Commission on Human Rights to conduct presentations on pregnancy accommodations and the rights of birthing persons. • Family Wellness Suites collaborate with Birth Justice Defenders to conduct presentations and provide one-on-one education on the NYC Standards for Respectful Care at Birth and the benefits of doula support. • Other maternal and child health programs under the purview of the Bureaus of Neighborhood Health promote, refer, and provide space for doula programs to present at Baby Café (breastfeeding support group) meetings.

5. Improve data collection

While the Health Department has begun collecting data about doula providers in NYC, many gaps remain. The agency is taking the following steps to improve the data it collects about doulas and about people giving birth in NYC, to better inform efforts to improve access to doula care in the city.

	PROGRAM/INITIATIVE	OBJECTIVES	STATUS	TIMELINE	KEY MILESTONES/UPDATES
A.	Addition of doula support questions to the NYC Birth Certificate	Collect data on doula support to better assess the availability of doulas services in NYC		Ongoing	• In spring 2021, the Health Department added three questions about doula support to the NYC birth certificate's Mother/Parent worksheet. • By May 2022, roughly 96% of all patients giving birth in NYC were answering these questions. • Provisional data indicate that in the first five months of 2022, about 4% of patients reported giving birth with a doula. Final data from the doula questions will be included in the annual Summary of Vital Statistics beginning in 2021, which is expected to be publicly available in 2023.
B.	Biennial assessment of doula providers	Collect data to help understand the landscape of doula care in NYC.		2022	• The 2021 assessment was delayed due to limited staff resources. Results from the 2019 assessment are available in the inaugural State of Doula Care in NYC report. • In summer 2022, the Health Department will assess the landscape of doula care in NYC as well as the initial implementation of the CDI model via a survey of participating doulas and community-based doula organizations. Results will be shared with Health Department staff and participants in late 2022 and will be made publicly available in the 2023 iteration of this report.
C.	Directory: NYC doula providers	Collect demographic and service information from NYC doula programs and organizations. Host a directory of doula providers in NYC on the Health Department website.		Ongoing	• In spring 2022, the Health Department surveyed known doula organizations and programs for an annual update to the directory of doula providers in NYC. The directory currently lists 13 doula organizations and programs, of which 9 provide no-cost doula support and 4 train people to become doulas.
D.	NowPow	Assess demand for doulas using NowPow resource directory and referral system.		2023	• The NowPow platform is not currently being used by doula organizations.
E.	Directory: Insurance coverage of doula support	Assess which NYC-based insurers cover doula care.		2023	• Information about insurance coverage for doula support is not currently centralized. The Health

					Department plans to explore alternatives was delayed by the COVID-19 pandemic but will be in place for the next report.
F.	Pregnancy Risk Assessment Monitoring System (PRAMS)	Explore the possibility of adding new questions pertinent to labor and postpartum support to PRAMS.		2021	• Because questions about doula support were added to the NYC birth certificate, and PRAMS respondents are drawn from birth-certificate data, it is no longer necessary to add questions to PRAMS.

REFERENCES

1. Li W, Onyebeke C, Huynh M, Castro A, Falci L, Gurung S, Levy D, Kennedy J, Maduro G, Sun Y, Evergreen S, and Van Wye G.*Summary of Vital Statistics, 2019.* New York, NY: New York City Department of Health and Mental Hygiene, Bureau of Vital Statistics, 2021;2021.
2. New York City Department of Health and Mental Hygiene. *Pregnancy-Associated Mortality in New York City, 2011-2015.* Long Island City, New York: February 2020.
3. NYC Department of Health and Mental Hygiene, Bureau of Maternal, Infant and Reproductive Health. *Severe Maternal Morbidity in New York City, 2008-2014.* New York, NY: 2018.
4. Bohren MA, Hofmeyr GJ, Sakala C, Fukuzawa RK, Cuthbert A. Continuous support for women during childbirth. *The Cochrane database of systematic reviews.* 2017;7:Cd003766.
5. Edwards RC, Thullen MJ, Korfmacher J, Lantos JD, Henson LG, Hans SL. Breastfeeding and complementary food: randomized trial of community doula home visiting. *Pediatrics.* 2013;132 Suppl 2:S160-166.
6. Kozhimannil KB, Attanasio LB, Hardeman RR, O'Brien M. Doula care supports near-universal breastfeeding initiation among diverse, low-income women. *Journal of midwifery & women's health.* 2013;58(4):378-382.
7. Kozhimannil KB, Hardeman RR, Attanasio LB, Blauer-Peterson C, O'Brien M. Doula care, birth outcomes, and costs among Medicaid beneficiaries. *American journal of public health.* 2013;103(4):e113-121.
8. Nommsen-Rivers LA, Mastergeorge AM, Hansen RL, Cullum AS, Dewey KG. Doula care, early breastfeeding outcomes, and breastfeeding status at 6 weeks postpartum among low-income primiparae. *Journal of obstetric, gynecologic, and neonatal nursing : JOGNN.* 2009;38(2):157-173.
9. Thomas MP, Ammann G, Brazier E, Noyes P, Maybank A. Doula Services Within a Healthy Start Program: Increasing Access for an Underserved Population. *Maternal and child health journal.* 2017;21(Suppl 1):59-64.
10. Ollove M. Cities Enlist 'Doulas' to Reduce Infant Mortality. *Stateline* 2017.
11. Chapple W, Gilliland A, Li D, Shier E, Wright E. An economic model of the benefits of professional doula labor support in Wisconsin births. *WMJ : official publication of the State Medical Society of Wisconsin.* 2013;112(2):58-64.
12. Strauss N, Giessler K, McAllister E. How Doula Care Can Advance the Goals of the Affordable Care Act: A Snapshot From New York City. *The Journal of perinatal education.* 2015;24(1):8-15.
13. Strauss N, Sakala C, Corry MP. Overdue: Medicaid and Private Insurance Coverage of Doula Care to Strengthen Maternal and Infant Health. *The Journal of perinatal education.* 2016;25(3):145-149.
14. Washington HA. *Medical Apartheid.* Anchor; 2008.
15. Roberts D. *Killing the Black Body.* Vintage; 1998.
16. Keag OE, Norman JE, Stock SJ. Long-term risks and benefits associated with cesarean delivery for mother, baby, and subsequent pregnancies: Systematic review and meta-analysis. *PLoS medicine.* 2018;15(1):e1002494.
17. Gregory KD, Jackson S, Korst L, Fridman M. Cesarean versus vaginal delivery: whose risks? Whose benefits? *American journal of perinatology.* 2012;29(1):7-18.
18. Connection C. *Vaginal or Cesarean Birth: What is at Stake for Women and Babies? A Best Evidence Review.* New York Childbirth Connection 2012.
19. Cardwell CR, Stene LC, Joner G, et al. Caesarean section is associated with an increased risk of childhood-onset type 1 diabetes mellitus: a meta-analysis of observational studies. *Diabetologia.* 2008;51(5):726-735.
20. Mueller NT, Whyatt R, Hoepner L, et al. Prenatal exposure to antibiotics, cesarean section and risk of childhood obesity. *International journal of obesity (2005).* 2015;39(4):665-670.
21. Thavagnanam S, Fleming J, Bromley A, Shields MD, Cardwell CR. A meta-analysis of the association between Caesarean section and childhood asthma. *Clinical and experimental allergy : journal of the British Society for Allergy and Clinical Immunology.* 2008;38(4):629-633.
22. Krieger N, Huynh M, Li W, Waterman PD, Van Wye G. Severe sociopolitical stressors and preterm births in New York City: 1 September 2015 to 31 August 2017. 2018;72(12):1147-1152.
23. William H Frey BIaUoMSSDAN. Analysis of 1990, 2000, and 2010 Census Decennial Census tract data. Accessed 4/4/2019.

APPENDIX A: DOULA ORGANIZATIONS IN NEW YORK CITY

DOULA ORGANIZATIONS IN NEW YORK CITY (NYC)[3]

Doulas provide non-medical support to pregnant people and their families before, during and after childbirth. Their support can help families handle the physical, emotional and practical issues that surround childbirth. If you'd like to check eligibility, schedule an appointment, or request more information contact an organization that provides doula services below. Please note this is not a complete list of organizations that provide doula services in NYC.

Ancient Song Doula Services

Ancient Song Doula Services (ASDS) is a full spectrum doula services organization offering comprehensive evidence-based care. ASDS provides direct doula services for abortions, adoption, birth, postpartum support focused on women of color, low income, and undocumented persons to address inequalities within health care access. ASDS also trains and certifies doulas and provides educational workshops and advocacy in reproductive justice and birth justice.

Service areas: All five boroughs and northern New Jersey
Languages available: English, Arabic, Chinese (Mandarin), French, Haitian Creole, Hebrew, Spanish
Priority population(s): Black/Hispanic (majority); White, American Indian or Alaska Native, Middle Eastern or North African and Asian
Provides no- or low-cost services[4]: No-cost and sliding scale
Contact: Chanel Porchia-Albert at chanel@ancientsongdoulaservices.com; https://www.ancientsongdoulaservices.com/

[3] The organizations listed responded to the Health Department's request for program information and are not representative of all doula organizations in NYC.
[4] Organizations provide no- or low-cost services based on specific eligibility criteria, often related to the client's socioeconomic status.

Ashe Birthing Services

Ashe Birthing Services is a small group of birth and postpartum doulas (based in the Bronx) that create a balance between evidence-based research and ancestral practices. This allows them to offer families a unique individual experience that is often missing in mainstream maternal care. Each of their packages are curated to fit the specific needs of each client. One may be interested in support during birth or decide to extend the care to their postpartum period of healing - whichever the choice, they are committed to offering a holistic level of care from their hearts.

Number of doulas: 9
Number of clients served in 2021: 224
Service areas: All five boroughs, Northern NJ, Westchester, and Southern Connecticut
Languages available: English, French, Spanish, Creole, Arabic
Priority population: Black (majority), Latinx, African and Caribbean Immigrants
Provides no- or low-cost services: No-cost, sliding scale, and bartering available
Provides doula trainings: no
Contact: Emilie Rodriguez at ashebirthingservices@gmail.com; https://www.ashebirthingservices.com/

Baby Caravan

Baby Caravan is a Birth and Postpartum Doula Referral Collective serving New York City. We are a free service for parents to help them on their doula search and connect them with Birth and Postpartum Doulas based on the parent's location, due date, where they are giving birth, and any personal preferences they are seeking in their support. Parents hire the doulas directly in their private practice. For doulas we provide community, comradery, and support in growing their private practices.

Number of doulas: 60
Number of clients served in 2021: 165
Service areas: Brooklyn, Manhattan, Bronx, Queens, Staten Island, and surrounding areas
Languages available: Spanish, Dutch, Italian, Portuguese
Priority Population: General population
Provides no- or low-cost services: sliding scale services available for BIPOC, LGBTQIA+ folks, people with disabilities, single parents, and anyone who expresses need
Provides doula trainings: no
Contact: Baby Caravan, LLC. Attn: Jen Mayer, info@babycaravan.com 646-617-9927; https://www.babycaravan.com/

Bx (Re)Birth and Progress Collective

Bx (Re)Birth and Progress seeks to build alternate solutions outside of the system that protect and honor birthing people in the Bronx and their families. We center Black people in our vision to see ourselves free of systemic inequities by invoking the self-determination of past and current liberation movement leaders. We collaborate with people and programs that are committed to revolutionizing the way we birth in our communities. We strive to return universal dignity and care to the sacred ceremony that is birth through the development of anti-racist, inclusive, and trauma-informed initiatives.

Number of doulas: 12
Number of clients served in 2021: 23
Service areas: all of NYC with strong focus on the Bronx
Languages available: English, French, Spanish
Priority population(s): Black people; people in transitional housing; Latin American, Caribbean and African immigrants; youth
Provides no- or low-cost services: yes, for Bronx residents
Provides doula trainings: no
Contact: Nicole JeanBaptiste at info@bxrebirth.org; https://www.bxrebirth.org/

By My Side Birth Support Program

The By My Side Birth Support Program (BMS) is part of Healthy Start Brooklyn and is an initiative of the NYC Department of Health and Mental Hygiene. Launched in 2010, BMS aims to reduce inequities in birth outcomes by providing no-cost, comprehensive doula support to pregnant people living in central and eastern Brooklyn. BMS doulas provide three prenatal home visits, labor and birth support and four postpartum visits. In addition to traditional doula care, clients receive case management services through screenings and referrals.

Number of doulas: 16
Number of clients served in 2021: 186
Service areas: Central and eastern Brooklyn (Bedford-Stuyvesant, Brownsville/Ocean Hill, Bushwick, East New York)
Languages available*: English, Haitian Creole, Spanish
Priority population(s): Black (majority), Latin American, African and Caribbean immigrants
Provides no- or low-cost services: No-cost services available for Medicaid-eligible residents in 11207, 11208, 11212, 11216, 11221, 11233

Provides doula trainings: No; but offers a 6-month apprenticeship program for newly trained doulas
Contact: Regina Conceiçaõ at healthystartbrooklyn@health.nyc.gov; https://nyc.gov/health/hsb
*Service is available in other languages requested by a client.

Doulas en Español
Doulas en Español is a collective of Spanish-speaking doulas serving Spanish-speaking communities in and around New York City. Our mission is to expand the availability of birth support services in Spanish and offer care with cultural affinity to improve birth outcomes among Hispanic pregnant people and their families.

Number of doulas: 11
Number of clients served in 2021: 25
Service areas: Manhattan, Queens, Brooklyn, Bronx, Westchester
Languages available: English and Spanish
Priority population: Hispanic people
Provides no- or low-cost services: sliding scale available; limited grants for no cost support
Provide doula trainings: yes; new doula Mentorship Program at no cost for Spanish speaking doulas in training
Number of doulas trained in 2021: 6
Contact: Maya Hernandez at doulasenespanol@gmail.com; https://doulasenespanol.com/

For Your Birth
For Your Birth is a childbirth consultancy in NYC. We help parents-to-be navigate labor, lactation, and newborn care through high quality education and hands-on support. In addition, we provide pregnancy loss and infant death support to grieving families. We are organized as an LLC with a non-profit arm that is maintained through the support of a fiscal sponsor. In 2020 we raised money to provide doula support and education services to families hit hard by the pandemic at no cost.

Service areas: Harlem, UWS, Bronx, Manhattan, Brooklyn, Queens
Languages available: English, Spanish
Priority population(s): Latina, Black, LGBTQ+ and Single Parents
Provides no- or low-cost services: Yes, through our Birth Equity Fund, clients who express need receive any of our services, at no cost. We can occasionally cover the cost for services (e.g. infant CPR) from other entities that our clients request

Contact: Naima Beckles at 323-547-2792 or naima@foryourbirth.com; https://www.foryourbirth.com/

Healthy Women, Healthy Futures (HWHF)

Healthy Women, Healthy Futures is a citywide doula initiative, with coordination provided by Brooklyn Perinatal Network, Caribbean Women's Health Association, and Community Health Center of Richmond. In addition to birth and postpartum doula care, the collective services provided by these three organizations include support services for the maternal child health population, legal and immigration services, HIV/AIDS education, prevention and testing, health insurance enrollment, parenting workshops, community and school health education workshops, mentorship programs, doula programs and clinical care including reproductive health care and birth and postpartum doula care.

HWHF: Brooklyn Perinatal Network

Brooklyn Perinatal Network was established in 1988 from a community task force to address high infant mortality. Our purpose is to prevent and reduce infant/maternal illness and death, which for several years have been excessively high in our communities. By enabling at-risk residents to access vital information, coordinate care, supportive health and social supportive services and assisting families to secure public health benefits and resources needed to maintain health. We have seen a significant reduction in infant death and improved maternal and child health status.

Number of doulas: 25
Number of clients served in 2021: 130
Service areas: Brooklyn – north central Brooklyn, (Bedford, Brownsville, parts of Flatbush, East New York, Ft. Greene by health districts) and other parts of NYC
Languages available: English, Spanish, Haitian Creole/French Creole, African dialects
Priority population(s): BIPOC women
Provides no- or low-cost services: no cost for services, birthing people that cannot afford to pay, usually eligible for other social support services, those that are first time moms, those that have experienced sexual assault, other trauma, referred by our network partners, those that experience social isolation, and other birthing people
Provides doula trainings: Yes. All participants that are approved for training receive scholarships, hence, the training is at no cost to the participant. Doulas also receive other professional trainings

Number of doulas trained in 2021: A total of 58 individuals citywide were trained during this period, 38 birth doulas and 20 postpartum
Contact: Brooklyn: Denise West at 718-643-8258 x21; 347-622-1342; http://www.bpnetwork.org/nyc/

HWHF: Caribbean Women's Health Association (CWHA)
CWHA is a community-based organization located in East Flatbush, Brooklyn. We were founded almost 40 years ago to help meet the needs of the surrounding community. Our mission is to provide high quality, comprehensive, culturally appropriate health education, immigration, and social support services to our diverse community. CWHA has provided no-cost, full spectrum doula services to pregnant and birthing people across New York City over the last 8 years.

Number of doulas: 80
Number of clients served in 2021: 240
Service areas: We provide doula services across the 5 boroughs, with priority in the Bronx, Manhattan and Queens.
Languages available: English, Spanish, French, Haitian Creole, Russian, Twi, Fante, Ga, Afrikaans, Russian, and Ukrainian
Priority population(s): Our priority populations include Caribbean, African-American, and Latinx birthing persons
Provides no- or low-cost services: All services are no-cost
Provides doula trainings: No
Contact: CWHA Doula Team, cwhadoulas@cwha.org; http://www.cwha.org/

HWHF: Community Health Center of Richmond
Our mission is to sustain a vibrant, healthy and strong community through affordable, culturally competent, quality health care. We aim to eliminate health disparities for underserved populations through accessibility. We empower people to take control of their physical and mental wellbeing through health education, prevention services and wellness programs.
Number of doulas: 31
Number of clients served in 2021: 111
Service areas: Staten Island
Languages available: English, Spanish, Russian, and several African dialects
Priority population(s): women of color, underserved and underinsured
Provides no- or low-cost services: All services are no-cost. Priority given to low-income individuals

Provides doula trainings: Yes
Number of doulas trained in 2021: 10
Contact: Gracie-Ann Roberts-Harris at 917-830-1200 or gharris@chcrichmond.org; https://chcrichmond.org/

Northern Manhattan Perinatal Partnership
As a nationally recognized organization in the areas of maternal and child health, our mission is to save babies and help women take charge of their reproductive, social and economic lives. We deliver various MCH services, including the Head Start and Universal Pre-K (UPK) educational programs for young children.

Number of doulas: 3 postpartum
Number of clients served in 2021: 150
Service areas:. Bronx, Manhattan
Languages available: English and Spanish
Priority population(s): Latina Women, African American, and Latin Immigrant Women
Provides no- or low-cost services: no-cost
Provides doula trainings: yes; NMPP offered a Post-Partum Doula Training in the summer of 2021, no cost to the participants
Contact: Fajah Ferrer at fajah.ferrer@nmppcares.org; www.nmppcares.org

NYC Doula Collective
The NYC Doula Collective is a community of birth workers serving New York City and the surrounding areas. We offer quality care for expectant parents and a strong community of support for our doulas. Through ongoing professional development, regular meetings for members, active mentorship and a commitment to giving back to the community, we strive to offer NYC families professional birth doula services within a wide range of experience and fee levels. Every birthing person deserves a doula. We are here and happy to help.

Number of doulas: 7
Number of clients served in 2021: 80
Service areas: Manhattan, Brooklyn, Queens, Bronx, Jersey City
Languages available: English, Spanish
Priority population(s): n/a
Provides no- or low-cost services: Our doulas set their own fees with some sliding as low as $500 when they choose to do so
Provides doula trainings: No

Contact: Raychel Franzen at nycdcdirector@gmail.com; https://nycdoulacollective.com/

NYC Birth Village

NYC Birth Village is a doula agency offering birth and postpartum support, childbirth education and breastfeeding classes, as well as sibling and overnight support. Our doulas are warm, evidence-based and hands on, and work in partnerships to elevate the level of care. As an agency, we offer training, guidance and community support to our doulas and currently offer a mentorship program**.**

Service areas: All five boroughs
Languages available: English, Spanish, Romanian
Provides no- or low-cost services: Some of our teams provide services on a sliding scale for single parents, teen parents, people who are unemployed or underemployed, and members of the BIPOC and/or LGBTQ+ community
Contact: Karla Pippa at 214-597-9210
Birth & Postpartum Doula, Breastfeeding Counselor
Narchi Jovic at 646-641-6787
Birth & Postpartum Doula, Breastfeeding Counselor, Childbirth Educator;
https://www.nycbirthvillage.com/

The Doula Project

The NYC Doula Collective is a NYC-based 501(c)(3) (or non-profit) organization that provides compassionate care and emotional, physical and informational support to people across the spectrum of pregnancy, including for abortions and miscarriages. We are a volunteer-run, collectively led organization of over fifty full-spectrum doulas. Our doulas have backgrounds as social justice activists, teachers, childbirth educators, birth doulas, social workers and reproductive health professionals. We partner with Planned Parenthood Brooklyn, Planned Parenthood Bronx, several public hospitals and other service providers to provide full-spectrum doula support to a diverse body of clients.

Service areas: All five boroughs and Southern Westchester
Languages available: English, Spanish, French, Haitian Creole
Provides no- or low-cost services: No-cost and sliding scale
Contact: Vicki Bloom at birth@doulaproject.org; https://www.doulaproject.net/

The New York Baby

The New York Baby is a growing doula matching business, which connects parents with a team of doulas, lactation consultants and baby specialists in the NYC area. Doulas and baby specialists are independent contractors that are certified through DONA, DTI, Lullaby or other certifying organizations. We offer 1) birth and postpartum doula service, both virtual and in-person, 2) baby specialist services for overnight support or 24/7 and 3) Lactation Consultation, virtual and in-person.

Service areas: NYC, Jersey City, Hoboken
Languages available: English, German, French, Dutch, Spanish, Portuguese, Hebrew, Yiddish, Russian
Priority population(s): White (majority), Black, Middle Eastern, Latina
Provides no- or low-cost services: We have student-doulas who offer low-cost services
Contact: Stephanie Heintzeler at stephanie@thenewyorkbaby.com or 347-257-5157; https://www.thenewyorkdoula.com/

APPENDIX C

INEQUITIES IN BIRTH OUTCOMES IN NYC

Racial and ethnic inequities in birth outcomes are prominent in New York City. Non-Hispanic Black women are eight times more likely than Non-Hispanic White women to die from pregnancy-related causes and 2.6 times more likely to experience a serious complication of their pregnancy.[1,2] Latinx mothers are two times more likely to die from pregnancy-related causes and experience serious complications relative to White women.[1,2] Despite low rates of infant mortality in NYC relative to the national average, babies born to Black and Puerto Rican mothers are 3.3 and 2 times more likely to die in their first year of life than babies born to White mothers.[3]

Racial disparities are also documented in other birth outcomes that impact the lives of mothers and their babies, including Cesarean birth, preterm birth (before 37 weeks of pregnancy), and low birthweight (less than 5 pounds, 8 ounces). Cesarean delivery is associated with more severe maternal health consequences than vaginal delivery, both because Cesarean delivery can increase risk for complications such as hemorrhage and infection and because Cesarean delivery may be necessary to manage serious conditions.[16-18] Babies delivered by Cesarean have a greater risk of developing chronic conditions such as asthma, diabetes, and obesity.[16,18-21] In 2019, Black women in NYC had the highest proportion of Cesarean births of all racial and ethnic groups (22.3% of live births among non-Hispanic Black women were delivered via Cesarean section, compared to 16.8% among non-Hispanic White women, and 17.6% among Hispanic women not of Puerto Rican ancestry).[3] Additionally, even though babies born to Black mothers made up 18% of live births in 2019, they represented 27% of all low-birthweight babies and 26% of all preterm births that year.[3] This is noteworthy because low birthweight and preterm birth are key drivers of infant mortality.

These inequities are perpetuated by structural racism and the intersectional effects of racism, sexism, and other spheres of oppression. Such effects may include a greater incidence of chronic conditions that contribute to poor birth outcomes, including hypertension, diabetes, and asthma.

Immigration-related stressors may further influence birth outcomes. NYC researchers comparing rates of preterm birth before and after the 2016 presidential election found a statistically significant increase among immigrant Hispanic women, possibly attributed to anti-immigrant and anti-Hispanic rhetoric used during and after the campaign, as well as federal immigration raids.[22]

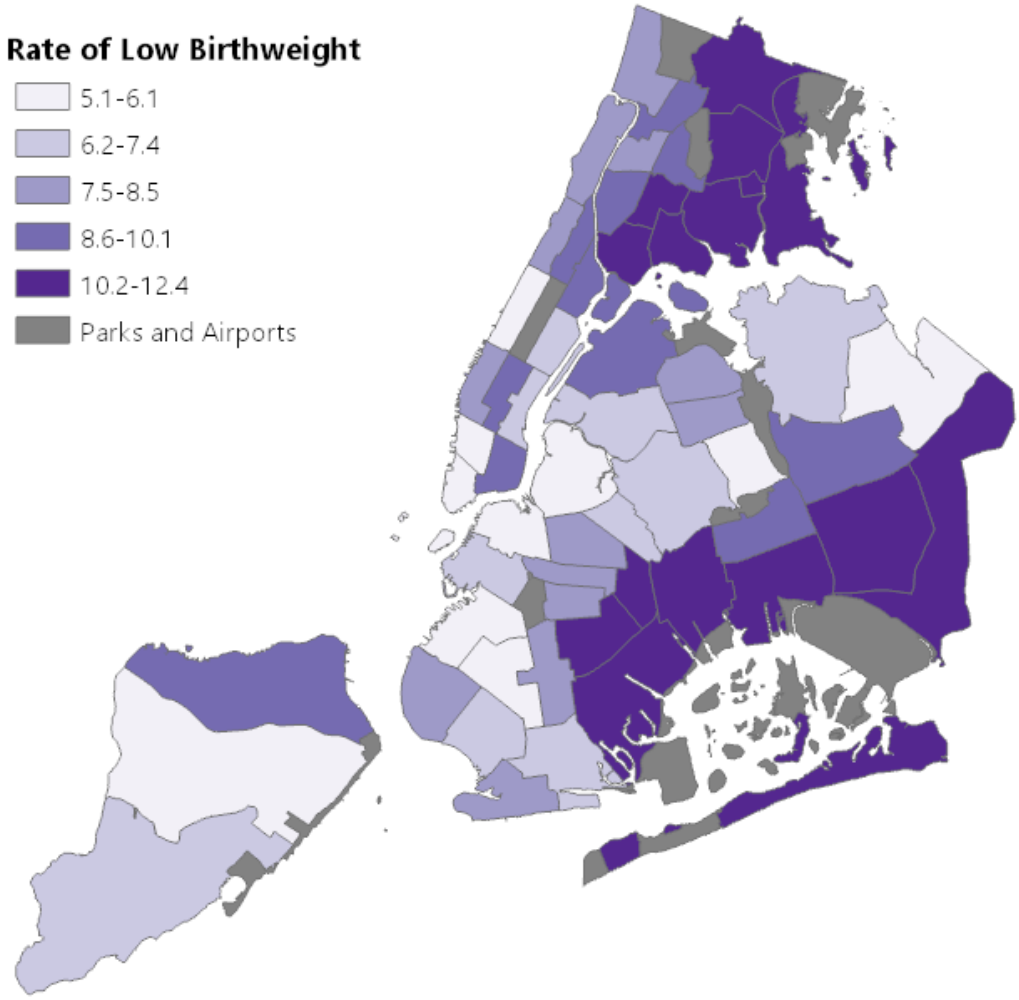
Place also matters. Though New York is one of the wealthiest cities in the United States, its neighborhoods are some of the most racially and economically segregated in the country.[23] The cumulative impact of racially-based discriminatory practices directing where people live and what resources are available in their neighborhoods has contributed to deep and persistent health inequities, including inequities in birth outcomes. Neighborhoods with predominantly Black and Latinx populations, and where many residents live in poverty bear some of the highest rates of infant mortality and severe maternal morbidity in the city.[2,3] For example, over a two-year period (2013 to 2014), the rate of severe maternal morbidity ranged from 92.4 per 10,000 live births in Borough Park, Brooklyn, to 567.7 per 10,000 in East Flatbush, Brooklyn – a six-fold difference.[2]

Importantly, these data do not reflect the impact of COVID-19 – which disproportionately affected underserved communities – on birth outcomes in NYC. Data on birth outcomes during the COVID-19 pandemic will be available beginning in 2023.

Low Birthweight

Rate of Low Birthweight* by Community District of Residence, New York City, 2019

Citywide Rate: 8.5



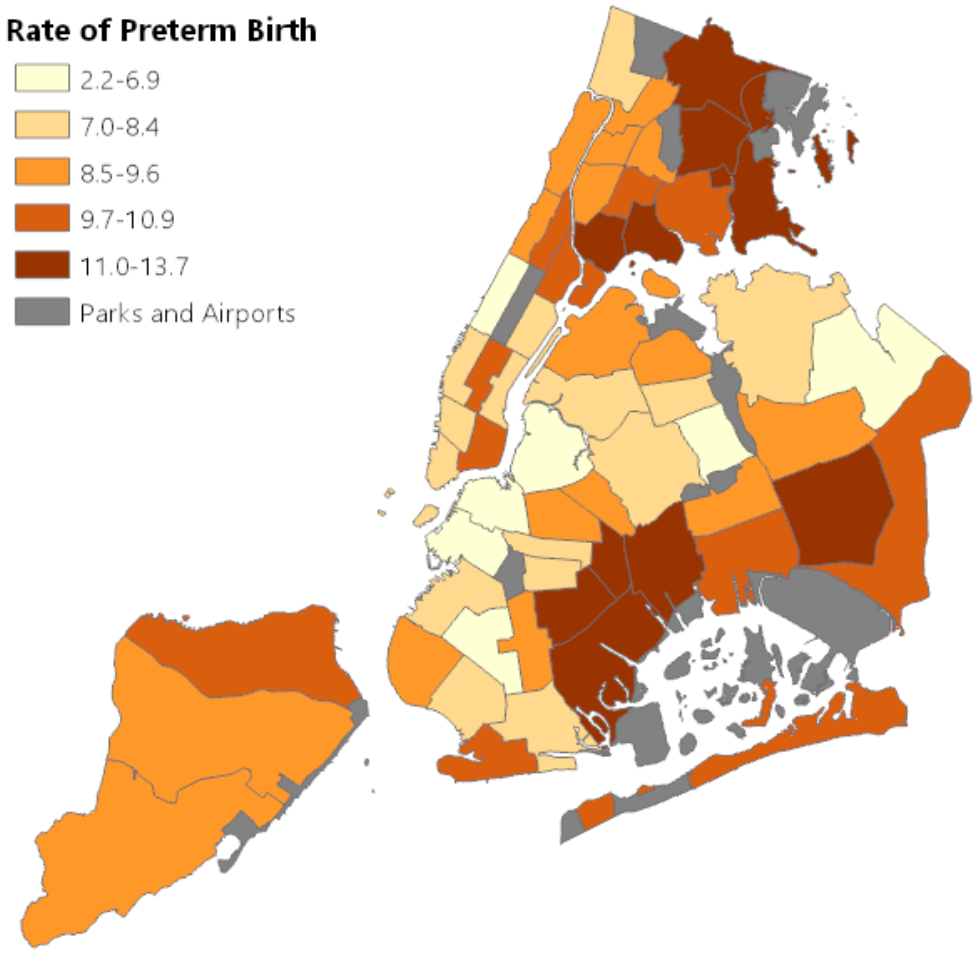
Source: Bureau of Vital Statistics

*Infant weighing less than 5 pounds, 8 ounces (2,500 grams) at birth. Rates depict the percent of total live births.

Preterm Birth

Rate of Preterm Birth* by Community District of Residence, New York City, 2019

Citywide Rate: 9.2



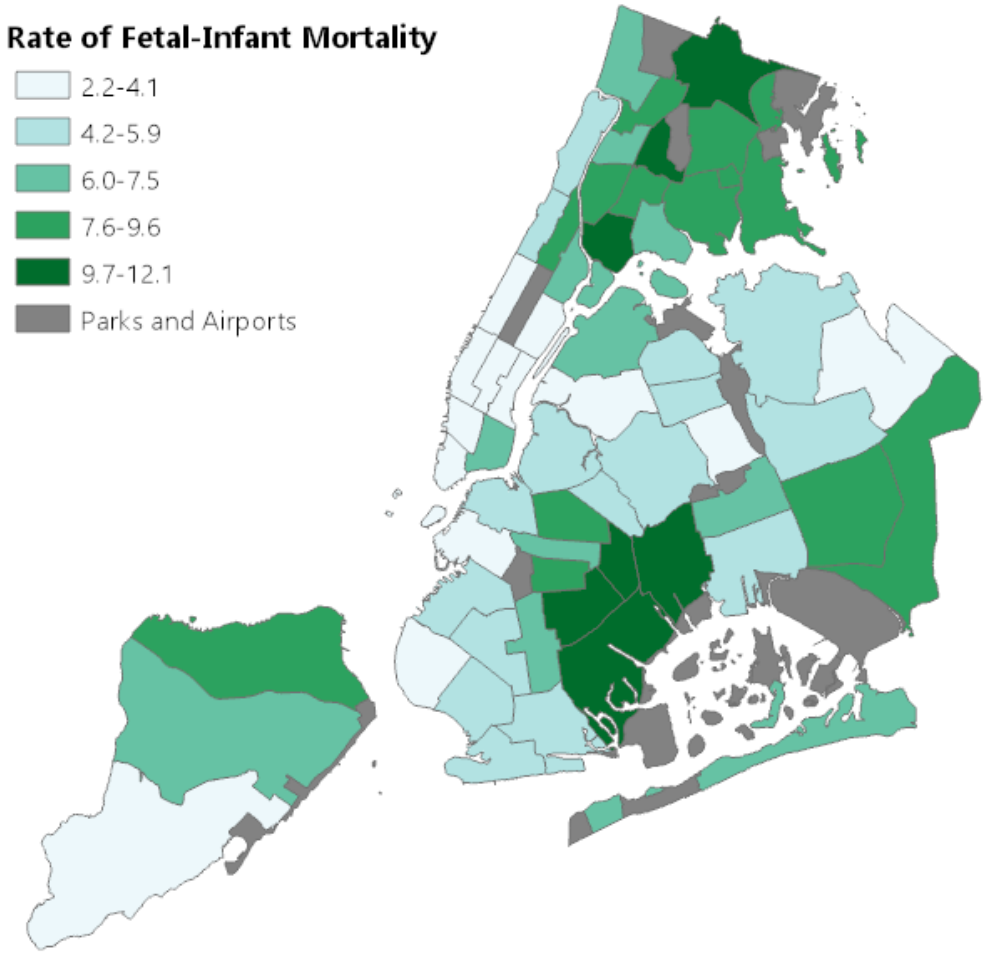
Source: Bureau of Vital Statistics

*Clinical gestational age <37 completed weeks. Rates depict the percent of total live births.

Fetal-Infant Mortality

Rate of Fetal-Infant Mortality* by Community District of Residence, New York City, 2015-2019

Citywide Rate: 6.6



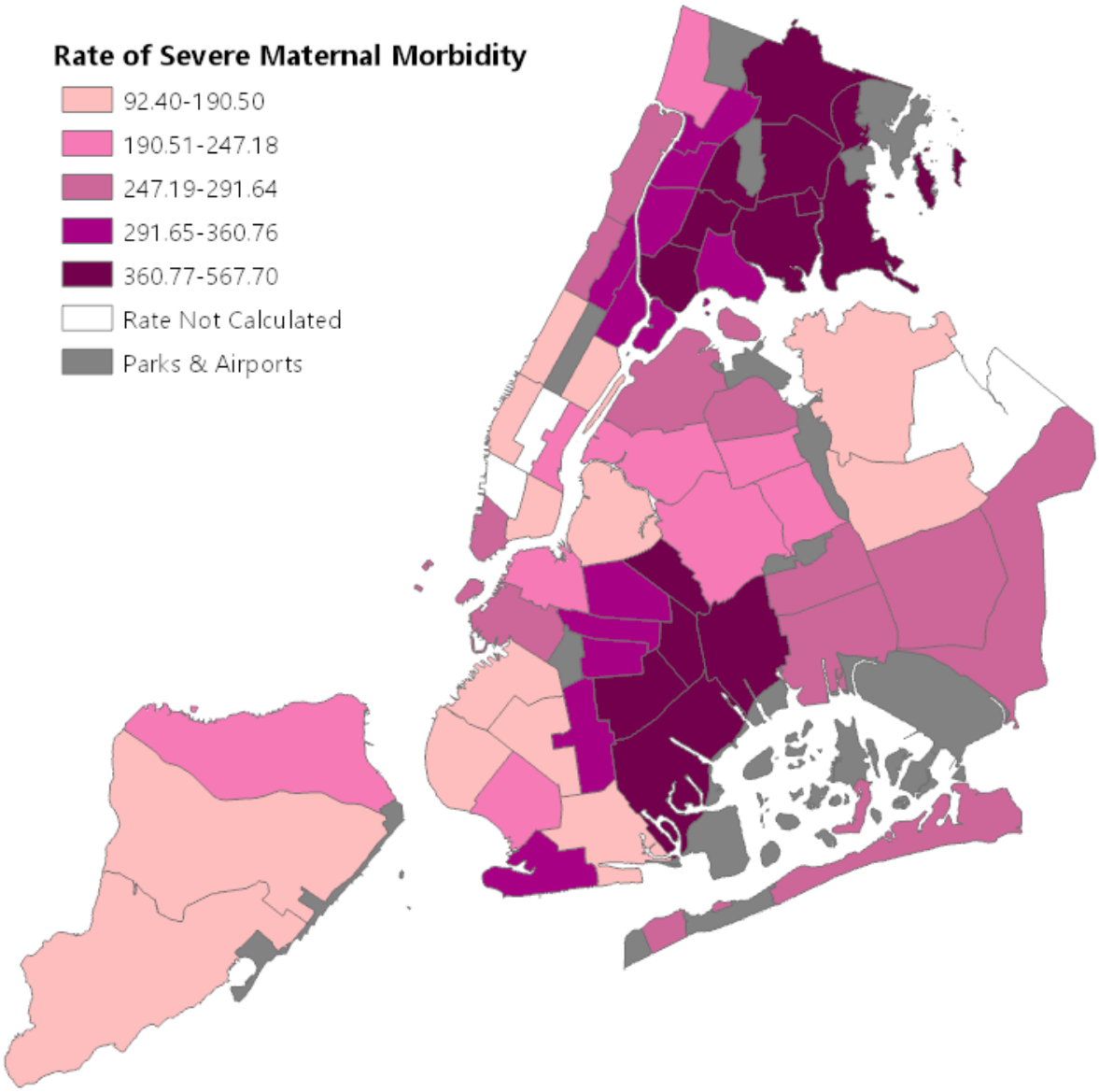
Source: Bureau of Vital Statistics

*Fetal-infant mortality rate per 1,000 births and fetal deaths.

Severe Maternal Morbidity

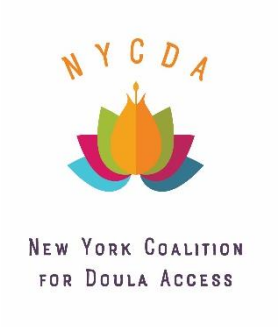
Rate of Severe Maternal Morbidity per 10,000 Deliveries by Community District of Residence, New York City, 2013-2014

Citywide Rate: 270.2



Source: Bureau of Maternal, Infant, and Reproductive Health

APPENDIX D



PRINCIPLES OF DOULA SUPPORT IN THE HOSPITAL

"One of the most effective tools to improve labor and delivery outcomes is the continuous presence of support personnel, such as a doula."

—*Safe Prevention of the Primary Cesarean Delivery*, Consensus Statement, American College of Obstetricians and Gynecologists and Society for Maternal-Fetal Medicine, March 2014

A doula is a trained childbirth professional who provides non-medical physical, emotional, and informational support to clients and their families before, during, and after birth. This document outlines the doula's role during the hospital stay.

What a doula does:

- Offers culturally sensitive emotional and informational support to the client and her support person(s).
- Supports the client's choices surrounding the birth, regardless of the doula's personal views.
- Facilitates positive, respectful, and constructive communication between the client, the support person(s), and the medical team.
- Recognizes that the doula operates within an integrated support system, including the client's family and medical care providers, and facilitates informed, collaborative decision-making.
- Encourages the client to consult medical caregivers on any areas of medical concern. A doula does not speak for the client but may prompt the client to ask questions regarding her care/treatment.
- Offers help and guidance on comfort measures such as breathing, relaxation, movement, positioning, comforting touch, visualization, and if available, hydrotherapy and use of a birth ball or peanut ball.
- Supports and assists with initial breastfeeding during the first few hours after birth, and provides postpartum support during the hospital stay.
- Adheres to patient confidentiality in accordance to Health Insurance Portability and Accountability Act (HIPAA) regulations.

What a doula does <u>not</u> do:

- Diagnose medical conditions or give medical advice.
- Make decisions for the client or project the doula's own values/goals onto the client.
- While in the doula role, perform clinical tasks such as vaginal exams or assessing fetal heart tones.
- Administer medications.
- Interfere with medical treatment in the event of an emergency situation.

CREATING A DOULA-FRIENDLY HOSPITAL

A doula-friendly hospital is one that:

- Recognizes that the doula has been chosen by the client to be a part of the labor support team, and includes the doula as part of the integrated team for the birth.
- Allows the doula in the labor and delivery room, whether or not the allotted number of support people has been reached.
- Ensures that the doula is treated with respect.
- Understands that the doula supports the client and her desires.
- Allows and supports non-medical comfort techniques for labor, including but not limited to varied labor positions, movement, breathing techniques, aromatherapy, comforting touch, visualization, hydrotherapy, and the use of a birth ball and/or peanut ball.
- Facilitates the provision of continuous, calming support by allowing the doula to be present in triage and, absent a compelling reason to the contrary, for procedures such as epidural insertion and cesarean section.
- Ensures that the doula is able to support the client post-partum, while at the hospital, for breastfeeding and additional comfort measures.

High-quality scientific research strongly and consistently supports the benefits of doula care:

- A 2017 Cochrane systematic review analyzed data from 26 studies involving more than 15,000 women and concluded that based on the documented benefits, all women should have access to doula support.
- A review of 41 birth practices in the *American Journal of Obstetrics and Gynecology* in 2008 using the methodology of the US Preventive Task Force concluded that doula support was among the most effective of all those reviewed, one of only three U.S. practices to receive an "A" grade.
- In "Safe Prevention of the Primary Cesarean Delivery," the American College of Obstetricians and Gynecologists (ACOG) and the Society for Maternal-Fetal Medicine (SMFM) reported that continuous labor support is an underutilized strategy for reducing unnecessary C-sections, suggesting the need for policy changes to increase access to doula care, particularly for those at greatest risk of poor outcomes.

References: http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD003766.pub6/full; https://www.ajog.org/article/S0002-9378(08)00775-8/fulltext; https://www.acog.org/Resources-And-Publications/Obstetric-Care-Consensus-Series/Safe-Prevention-of-the-Primary-Cesarean-Delivery

APPENDIX E

Doula-Friendliness Capacity Assessment

Purpose: To assess hospital doula-friendliness[5]

Key Capacity Area	Basic	Moderate	Robust
KNOWLEDGE OF DOULA SUPPORT	*Most or all staff have limited or no understanding of a doula's scope of services or the benefits of doula support.*	*Variability in staff understanding of a doula's scope of services and the benefits of doula support.*	*Most or all staff have clear understanding of a doula's scope of services and the benefits of doula support.*
What is your current understanding of a doula's role? How would you describe their work?			
Are you aware of the evidence-based benefits of doula care? If so, what evidence are you familiar with?			
What proportion of your staff are familiar with the role of doulas, as well as the benefits of doula support?			
DOULAS AS PART OF THE BIRTHING TEAM	*Cannot identify tangible benefits of doulas to care team and does not prioritize doula integration.*	*Recognizes the added value of doulas to the care team but there is not consistency among staff on doula integration.*	*Clearly identifies tangible benefits of doula to care team and describes reciprocal support between doulas and care team. Agreement among staff on doula integration.*
How do doulas support the care team? What is their added value to the team? How does the care team support doulas?			
What does respect for a doula look like to you?			

[5] An established culture of respect grounded in policies and practices that facilitate the integration of doulas into the birthing team and allow doulas to provide their full scope of practice.

Is there consensus among your staff on the way doulas should be integrated into the team?			
INCREASING AWARENESS OF DOULA SUPPORT AMONG PATIENTS	*Information about doulas is not routinely shared with patients. No activities to increase awareness.*	*Shares information about doulas with patients but not routinely. Few or no activities to increase awareness. Referrals to doula resources occur infrequently.*	*Shares information about doulas with patients as part of routine care and creates opportunities for patients to learn about doula care. Staff has established referral pathways to doula resources.*
Do you routinely share information about doulas with your patients? If so, how?			
Have you engaged in any activities to increase doula awareness for patients?			
POLICIES AND PRACTICES – GENERAL	*No policies or practices are in place regarding doulas.*	*Current policies exist but are not written and/or shared routinely with staff*	*Clear written policies developed with input from doula community, that are shared with staff and doulas. Policies are updated routinely or as necessary and are followed consistently.*
Do you currently have any policies/practices in place regarding doulas? If so, what are they?			
If policies exist, how often are they updated and/or reviewed?			
How are doula policies shared with staff? With doulas?			
POLICIES AND PRACTICES – LABORING	*Allows none.*	*Allows one or two laboring techniques.*	*Allows most or all laboring techniques*
Do you allow varied labor positions? Do you allow patients to get out of their beds, to walk around, squat, etc.?			
Do you allow wireless and/or intermittent monitoring for low-risk patients?			

Do you allow patients to change conditions in their rooms, e.g. dim lighting, amplified sound, music of their choice?			
Do you allow use of birthing assistive equipment such as birthing balls, squatting bars? Do you provide any of these?			
Do you provide access to tubs and showers during labor whenever possible?			
POLICIES AND PRACTICES – DOULA PRESENCE	*Counts doulas towards allotted number of support people. Strict policies prohibiting doulas from being with their client at all times or providing post-partum support.*	*Allows one or two of the policies and practices related to doula's presence with their clients*	*Allows doulas to accompany their client at all times (absent a compelling reason to the contrary) and facilitates provision of continuous support post-partum. Doulas are not counted towards allotted number of support people.*
Except for the limited time necessary to maintain privacy and/or medical reasons, are doulas permitted to accompany their client at all time during labor and delivery? Does this include during triage, Cesarean births, and/or other procedures?			
Are doulas counted amongst the patient's allotted number of support people in the labor and delivery room?			
While at the hospital, are doulas allowed to support the patient for post-partum breastfeeding support and additional comfort measures?			

APPENDIX F
Benefits of Doula Support in the Scientific Literature

Doulas are trained childbirth professionals who provide non-medical physical, emotional, and informational support to pregnant people and their families before, during, and after childbirth.

Consistent evidence shows that **doula support is associated with improved birth outcomes and a better labor and birth experience**, including fewer cesarean deliveries, greater likelihood and duration of breastfeeding, improved mother-baby bonding, and reduced rates of postpartum depression. Additionally, studies of community-based doula programs that include prenatal home visits have found positive impacts on preterm and low birthweight.

Here are the benefits of doula support identified in the literature:

Fewer Cesarean deliveries[1-12]

- A meta-analysis of 24 trials showed that women with continuous, one-to-one support were 25% less likely to have a C-section (RR 0.75, 95% CI 0.64 to 0.88).[1]
- A randomized study of 412 nulliparous, laboring women found that 8% of those supported by a doula delivered by C-section, compared to 13% of those observed and 18% of those who received routine care (p=0.06).[2]
- A randomized controlled trial of 420 nulliparous women laboring with the support of their male partner found that 13.4% of those who also had a doula were delivered by C-section, versus 25.0% of those without a doula (p=0.002). Among those whose labor was induced, 12.5% who also had a doula were delivered by C-section, versus 58.8% of those without a doula (p=0.007).[3]
- A randomized controlled trial of 531 primigravid women found that 3.1% of those with doula support had a C-section, versus 16.8% of those in an epidural group, 11.6% of those in a narcotic pain relief group, and 26.1% of those in a chart review group, who received routine hospital care (p<0.001).[4]
- A randomized study in Mexico of 100 nulliparous women in active labor who had received no childbirth preparation found that, of those assigned to a childbirth educator trained as a doula, 2% delivered by C-section, compared with 24% of those receiving standard care (p=0.003).[5]
- An analysis of 1,079 Medicaid recipients in a Minnesota doula program that included pre- and postpartum home visits found that participants had 41% lower odds of C-section relative to all Medicaid-funded births nationally (OR 0.59, p<.001).[6]
- A randomized controlled trial of 555 nulliparous women found that among those who required labor induction, 20% who had the support of a doula delivered by C-section, compared to 63.6% of those without (p=0.04).[7]
- A randomized controlled trial of 127 first-time mothers found that women with the continuous support of an untrained woman were less likely to deliver by C-section (19% versus 27%, p<0.001).[8]
- A randomized controlled trial of 150 women in Iran found that 6% of those with doula support delivered by C-section, versus 8% of those in an acupressure group, and 40% of those who received routine hospital care (p<0.001).[9]
- A retrospective cohort study of 1238 women in a Community Birth Program in Canada, which included doula support before and during labor, found that program participants were 24% less likely to deliver by Cesarean than those who received routine care (RR 0.76, 95% CI 0.68 to 0.84).[10]
- A retrospective analysis of 2,400 women who gave birth in the US between 2011 and 2012 found that those with doula support had a 59% reduction in odds of C-section overall (AOR 0.41, 95% CI 0.18 to 0.96), and an 83% reduction in odds of non-indicated C-section (AOR 0.17, 95% CI 0.07 to 0.36), compared to women without doula support.[11]

- A quasi-experimental study of 220 participants (125 in experimental group with doula services and 95 in no-doula comparison group) in Northern Taiwan found decreased rates C-section (13.0% vs. 43.2%) and increased rates of normal spontaneous delivery (87.0% vs. 56.8%) in the doula group relative to the control group.[12]

Fewer preterm births or low birthweight infants in programs involving prenatal home visits[6,13,14]

- A retrospective analysis of 1,935 Medicaid recipients in a Minnesota community-based doula program found participants had 22% lower odds of preterm birth compared to all Medicaid-funded births in the West North Central and East North Central US (AOR 0.77, 95% CI 0.61 to 0.96).[13]
- A retrospective analysis of 489 women in a Healthy Start doula program found a preterm-birth rate of 6.5%, as compared with a rate of 11.1% in the project area (p=0.001).[14]
- An analysis of 1,079 Medicaid recipients in a Minnesota doula program found a preterm-birth rate of 6.1%, as compared with the national rate for Medicaid-funded births of 7.3% (p<0.001).[6]

Greater likelihood, earlier initiation, and increased duration of breastfeeding[10,15-20]

- A retrospective cohort study of 1238 women in a Community Birth Program in Canada, which included doula support before and during labor, found that program participants were 2 times more likely to exclusively breastfeed at discharge than those who received routine care (RR 2.10, 95% CI 1.85 to 2.39).[10]
- A randomized controlled trial of 189 nulliparous women found that those who received doula support were more likely to breastfeed exclusively at 6 weeks postpartum relative to the control group (51 vs 29%, p=0.01).[15]
- A randomized controlled trial of 724 nulliparous women in Mexico found that women with doula support were 64% more likely to breastfeed exclusively than women without support (RR 1.64, 95% CI 1.01-2.64)[16]
- A prospective cohort study of 141 low-income primipara women found that 58.3% of those with doula support (including birth and postpartum support) initiated breastfeeding within 72 hours, versus 45.2% of those without (AOR 2.69, 95% CI 1.07 to 6.78). At 6 weeks postpartum, 67.6% of those in the doula group were still breastfeeding, versus 53.8% of those in the control group. Among women with a prenatal stressor such as high blood pressure or clinical depression, 88.9% of the doula group were still breastfeeding at 6 weeks, versus 40.0% of the control group (AOR 23.76, 95% CI 3.49 to 161.73).[17]
- A retrospective evaluation of 11,471 urban women of diverse cultures found that 46% of those with doula support (via a hospital-based doula program) initiated breastfeeding within one hour of delivery, versus 23% of those without doula support (ARR 1.12, 95% CI 1.08 to 1.16). Over the seven years studied, as the program became established at the hospital, rates rose from 11% to 40% for women with a doula and from 5% to 19% for those without a doula.[18]
- A retrospective analysis of 1,069 Medicaid recipients in a Minnesota doula program that included pre- and postpartum visits found that 97.9% initiated breastfeeding, compared to 80.8% of Medicaid recipients in that state.[19]
- A randomized controlled trial of 586 nulliparous women found that 51% of those supported by a doula initiated breastfeeding within the first hour after delivery, compared to 35% of those without doula support (p<0.05).[20]

Reduced rates of postpartum depression[21,22]

- A randomized controlled trial of 189 women found that six weeks after delivery, those with continuous support had a mean score on the Pitt Depression Inventory that was less than half that of women without support (10.4 versus 23.27, p=0.0001).[21]
- A randomized controlled trial of 63 nulliparous women found that at 3 months postpartum, those with doula support had significantly less depression on the Pitt Depression Inventory than those in the control group (13.63 versus 18.29).[22]

Better mother-baby bonding and improved infant care[8,23-26]

- A randomized controlled trial of 40 first-time, intervention-free, vaginal births found that women with the continuous support of an untrained woman stroked ($p< 0.001$), talked to ($p< 0.002$), and smiled at ($p< 0.009$) their babies more frequently than those who gave birth alone.[8]
- A randomized controlled trial of 104 first-time mothers with uncomplicated deliveries found that those with doula support scored significantly higher in mother-infant interaction two months postpartum than those without ($P<0.05$).[23]
- A comparison study of 33 first-time mothers found that those with doula support during childbirth became less rejecting ($t=3.52$, $P<0.001$) and helpless ($t=2.12$, $P<0.042$) in their working models of caregiving after birth, while mothers who had used Lamaze birth preparation became more rejecting and helpless. Those in the doula group also rated their infants as less fussy than did those in the Lamaze group ($t=2.35$, $P<0.025$).[24]
- A randomized controlled trial of 248 women who received doula support through a community doula program found that program participants showed more encouragement and guidance of their infants at 4 months than those who received routine care ($p<0.01$). Women with doula support were also more likely to promptly respond to their infants' distress ($p<0.05$).[25]
- A randomized controlled trial of 312 individuals demonstrated that women who received home visits from a doula had nearly 10 times greater odds of attending childbirth classes ($p<0.01$), 1.6 times greater odds of putting infants on their backs to sleep ($p<0.05$), and 3 times greater odds of using car seats at three weeks ($p<0.05$).[26]

Reduced need for anesthesia or analgesia[1-4,17,27]

- A meta-analysis of 15 trials showed that women with continuous, one-to-one support were 10% less likely to receive intrapartum analgesia (RR 0.90, 95% CI 0.84 to 0.96).[1]
- A randomized study of 412 nulliparous, laboring women found that 7.8% of those supported by a doula required anesthesia, compared to 22.6% of those observed and 55.3% of those who received routine care ($p<0.001$).[2]
- A randomized controlled trial of 420 nulliparous women laboring with the support of their male partner found that 64.7% of those who also had a doula required epidural analgesia, versus 76.0% of those without a doula ($p=0.008$).[3]
- A randomized controlled trial of 531 primigravid women found that 6.3% of those with doula support required an epidural, versus 87.7% of those in an epidural group, 26.8% of those in a narcotic pain relief group, and 64.0% of those in a chart review group, who received routine hospital care ($p<0.001$).[4]
- A prospective cohort study of 141 low-income primiparae found that 67.7% of those with doula support were below the median exposure to labor analgesia of 5.7 hours, versus 42.3% of those without (AOR 2.96, 95% CI 1.16 to 7.53).[17]
- A randomized study of 314 nulliparous women in three hospitals found that 54.4% of those with doula support had an epidural, versus 66.1% of those without ($p<0.05$).[27]

Shorter labors[1,2,8,17,28,29]

- A meta-analysis of 13 trials showed that women with continuous, one-on-one support had shorter labors by an average of 41 minutes (MD -0.69 hours, 95% CI -1.04 to -0.34).[1]
- A randomized study of 412 nulliparous, laboring women found that those with doula support had an average labor of 7.4 hours, compared to 8.4 hours among those observed and 9.4 among those receiving routine care ($p=0.001$).[2]
- A randomized controlled trial of 40 first-time, intervention-free, vaginal births found that women with the continuous support of an untrained woman had an average labor length of 8.7 hours compared to 19.3 hours among those who received routine care ($p<0.001$).[8]
- A prospective cohort study of 141 low-income primiparae found that 66.7% of those with doula support had a Stage 2 labor (pushing) of less than an hour, versus 46.7% of those without (AOR 3.07, 95% CI 1.19 to 7.0).[17]
- A randomized controlled trial of 598 nulliparous women found that those supported by a friend trained as a doula had a mean labor length of 10.4 hours, versus 11.7 hours among those without doula support.[28]

- A randomized controlled trial in Iran of 150 women found that those with doula support had shorter labors by an average of 124 minutes during the first stage of labor, and an average 69.5 minutes during the second stage of labor, compared to those who received routine care (p<0.001).[29]

Fewer vacuum or forceps births (more spontaneous vaginal births)[1,2,4,17]

- A meta-analysis of 19 trials showed that women with continuous, one-on-one support were 10% less likely to have an instrumental vaginal birth than those without (RR 0.90, 95% CI 0.85 to 0.96).[1]
- A randomized study of 412 nulliparous, laboring women found that those with doula support were 23% more likely to have a spontaneous vaginal birth compared to those who received routine care (RR 1.23, 95% CI 1.10 to 1.38).[2]
- A randomized controlled trial of 531 primigravid women found that 12.2% of those with doula support had an instrumental birth, versus 24.8% of those in an epidural group, 17.2% of those in a narcotic pain relief group, and 29.3% of those in a chart review group.[4]
- A prospective cohort study of 141 low-income primiparae found that, among women who delivered vaginally, those with doula support had an almost 5-fold increased odds of a spontaneous vaginal delivery compared to those without (AOR 4.68, 95% CI 1.14 to19.28).[17]

Less need for Pitocin[4,5]

- A randomized control trial of 531 primigravid women found that 25.2% of those with doula support required Pitocin, versus 45.8% of those in an epidural group, 42.8% of those in a narcotic pain relief group, and 65.8% of those in a chart review group, who received routine hospital care (p<0.001).[4]
- A randomized study in Mexico of 100 nulliparous women in active labor who had received no childbirth preparation found that of those assigned to a childbirth educator trained as a doula, 42% received Pitocin, compared with 96% of those receiving standard care (p<0.001).[5]

Higher APGAR scores[1,17,28,29]

- A meta-analysis of 14 trials showed that women with continuous, one-on-one support were 38% less likely to have a baby with a low five-minute APGAR score than those without (RR 0.62, 95% CI 0.46 to 0.85).[1]
- A prospective cohort study of 141 low-income primiparae found that 56.8% of those with doula support had a baby with a one-minute APGAR score of 9 or greater, versus 35.0% of those without doula support.[17]
- A randomized controlled trial of 586 nulliparous women found that 99.7% of those supported by a doula had a baby with a five-minute APGAR score higher than 6, compared to 97% of those without doula support (p<0.006).[28]
- A randomized controlled trial in Iran of 150 women found that 86% and 98% of those with doula support had a baby with a one-minute and five-minute APGAR score of 8 or higher, compared to 40% and 78% of those who received routine care (p<0.001).[29]

More positive feelings about the birth[1,15,20,27]

- A meta-analysis of 11 trials showed that women with continuous, one-on-one support were 31% less likely to report negative feeling about their birth experience than those without (RR 0.69, 95% CI 0.59 to 0.79).[1]
- A randomized controlled trial of 189 nulliparous women found that those with doula support were more likely to report that they coped well during labor than those without (59 vs 24%, p=0.0001).[15]
- A randomized controlled trial of 600 nulliparous women found that those with doula support were more likely to report a better overall rating of their birth experience than those without (very good: 59% v 26%, good: 33% 56%, average/poor/very poor: 8% v 18%, p<0.001)[20]

- A randomized study of 314 nulliparous women in three hospitals found that 82.5% of those with doula support reported a good birth experience, versus 67.4% of those without.[27]

1. Bohren MA, Hofmeyr GJ, Sakala C, Fukuzawa RK, Cuthbert A. Continuous support for women during childbirth. *The Cochrane Database of Systematic Reviews.* 2017;7:Cd003766.
2. Kennell J, Klaus M, McGrath S, Robertson S, Hinkley C. Continuous emotional support during labor in a US hospital. A randomized controlled trial. *Jama.* 1991;265(17):2197-2201.
3. McGrath SK, Kennell JH. A randomized controlled trial of continuous labor support for middle-class couples: effect on cesarean delivery rates. *Birth (Berkeley, Calif).* 2008;35(2):92-97.
4. McGrath S, Kennell J, Suresh M, Moise K, Hinkley C. Doula Support Vs Epidural Analgesia: Impact on Cesarean Rates. *Pediatric Research.* 1999;45(7):16-16.
5. Trueba G, Contreras C, Velazco MT, Lara EG, Martinez HB. Alternative strategy to decrease cesarean section: support by doulas during labor. *The Journal of Perinatal Education.* 2000;9(2):8-13.
6. Kozhimannil KB, Hardeman RR, Attanasio LB, Blauer-Peterson C, O'Brien M. Doula care, birth outcomes, and costs among Medicaid beneficiaries. *American Journal of Public Health.* 2013;103(4):e113-121.
7. McGrath SK, Kennell JH. Induction of Labor and Doula Support • 68. *Pediatric Research.* 1998;43(4):14-14.
8. Sosa R, Kennell J, Klaus M, Robertson S, Urrutia J. The effect of a supportive companion on perinatal problems, length of labor, and mother-infant interaction. *The New England Journal of Medicine.* 1980;303(11):597-600.
9. Akbarzadeh M, Masoudi Z, Hadianfard MJ, Kasraeian M, Zare N. Comparison of the effects of maternal supportive care and acupressure (BL32 acupoint) on pregnant women's pain intensity and delivery outcome. *Journal of Pregnancy.* 2014;2014:129208.
10. Harris SJ, Janssen PA, Saxell L, Carty EA, MacRae GS, Petersen KL. Effect of a collaborative interdisciplinary maternity care program on perinatal outcomes. *CMAJ : Canadian Medical Association Journal.* 2012;184(17):1885-1892.
11. Kozhimannil KB, Attanasio LB, Jou J, Joarnt LK, Johnson PJ, Gjerdingen DK. Potential benefits of increased access to doula support during childbirth. *The American Journal of Managed Care.* 2014;20(8):e340-352.
12. Chen CC, Lee JF. Effectiveness of the doula program in Northern Taiwan. *Tzu Chi Med Journal.* 2020;32(4):373-379. Published 2020 Apr 1. doi:10.4103/tcmj.tcmj_127_19
13. Kozhimannil KB, Hardeman RR, Alarid-Escudero F, Vogelsang CA, Blauer-Peterson C, Howell EA. Modeling the Cost-Effectiveness of Doula Care Associated with Reductions in Preterm Birth and Cesarean Delivery. *Birth (Berkeley, Calif).* 2016;43(1):20-27.
14. Thomas MP, Ammann G, Brazier E, Noyes P, Maybank A. Doula Services Within a Healthy Start Program: Increasing Access for an Underserved Population. *Maternal and Child Health Journal.* 2017;21(Suppl 1):59-64.
15. Hofmeyr GJ, Nikodem VC, Wolman WL, Chalmers BE, Kramer T. Companionship to modify the clinical birth environment: effects on progress and perceptions of labour, and breastfeeding. *British Journal of Obstetrics and Gynaecology.* 1991;98(8):756-764.
16. Langer A, Campero L, Garcia C, Reynoso S. Effects of psychosocial support during labour and childbirth on breastfeeding, medical interventions, and mothers' wellbeing in a Mexican public hospital: a randomised clinical trial. *British Journal of Obstetrics and Gynaecology.* 1998;105(10):1056-1063.
17. Nommsen-Rivers LA, Mastergeorge AM, Hansen RL, Cullum AS, Dewey KG. Doula care, early breastfeeding outcomes, and breastfeeding status at 6 weeks postpartum among low-income primiparae. *Journal of Obstetric, Gynecologic, and Neonatal Nursing : JOGNN.* 2009;38(2):157-173.
18. Mottl-Santiago J, Walker C, Ewan J, Vragovic O, Winder S, Stubblefield P. A hospital-based doula program and childbirth outcomes in an urban, multicultural setting. *Maternal and Child Health Journal.* 2008;12(3):372-377.

19. Kozhimannil KB, Attanasio LB, Hardeman RR, O'Brien M. Doula care supports near-universal breastfeeding initiation among diverse, low-income women. *Journal of Midwifery & Women's Health.* 2013;58(4):378-382.
20. Campbell D, Scott KD, Klaus MH, Falk M. Female relatives or friends trained as labor doulas: outcomes at 6 to 8 weeks postpartum. *Birth (Berkeley, Calif).* 2007;34(3):220-227.
21. Wolman WL, Chalmers B, Hofmeyr GJ, Nikodem VC. Postpartum depression and companionship in the clinical birth environment: a randomized, controlled study. *American Journal of Obstetrics and Gynecology.* 1993;168(5):1388-1393.
22. Trotter C, Wolman W-L, Hofmeyr J, Nikodem C, Turton R. The Effect of Social Support during Labour on Postpartum Depression. *South African Journal of Psychology.* 1992;22(3):134-139.
23. Landry SH, McGrath S, Kennell JH, Martin S, Steelman L. The Effect of Doula Support During Labor on Mother-Infant Interaction at 2 Months • 62. *Pediatric Research.* 1998;43:13.
24. Manning-Orenstein G. A Birth intervention: The Therapeutic Effects of Doula support Versus Lamaze Preparation on First-Time Mothers' Working Models of Caregiving. *Alternative Therapies in Health and Medicine.* 1998;4(4):73-81.
25. L. Hans S, Thullen M, G. Henson L, Lee H, C. Edwards R, Bernstein V. Promoting Positive Mother–Infant Relationships: A Randomized Trial of Community Doula Support For Young Mothers. *Infant Mental Health Journal.* 2013;34.
26. L. Hans S, C. Edwards R, Zhang Y. Randomized Controlled Trial of Doula-Home-Visiting Services: Impact on Maternal and Infant Health. *Maternal and Child Health Journal.* 2018; 22: 105-113.
27. Gordon NP, Walton D, McAdam E, Derman J, Gallitero G, Garrett L. Effects of providing hospital-based doulas in health maintenance organization hospitals. *Obstetrics and gynecology.* 1999;93(3):422-426.
28. Campbell DA, Lake MF, Falk M, Backstrand JR. A randomized control trial of continuous support in labor by a lay doula. *Journal of Obstetric, Gynecologic, and Neonatal Nursing : JOGNN.* 2006;35(4):456-464.
29. Akbarzadeh M, Masoudi Z, Zare N, Kasraeian M. Comparison of the Effects of Maternal Supportive Care and Acupressure (at BL32 Acupoint) on Labor Length and Infant's Apgar Score. *Global Journal of Health Science.* 2015;8(3):236-244.