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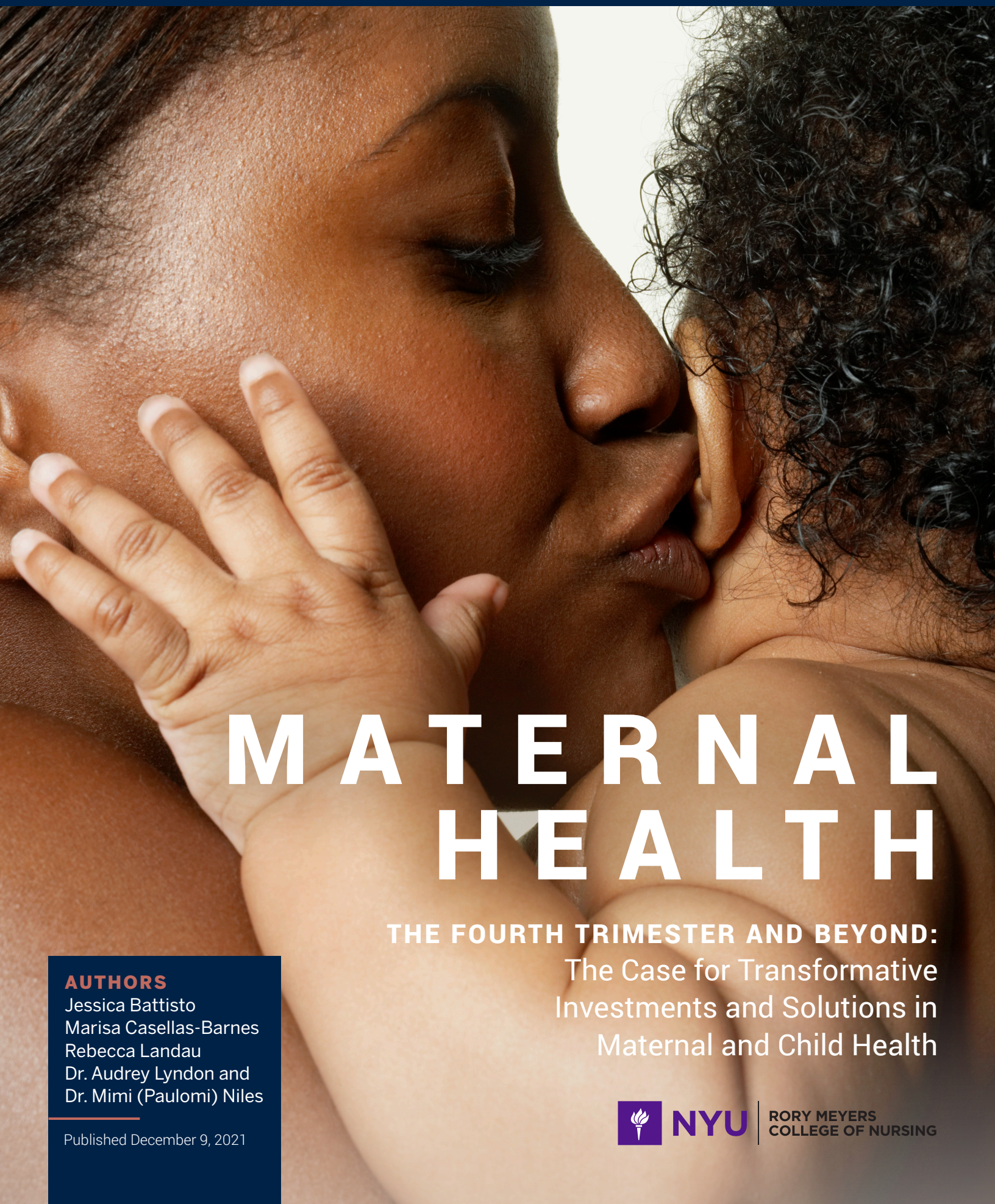

MATERNAL HEALTH

THE FOURTH TRIMESTER AND BEYOND:
The Case for Transformative Investments and Solutions in Maternal and Child Health

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The Fourth Trimester and Beyond: The Case for Transformative Investments and Solutions in Maternal and Child Health

This document reflects key insights from a series of meetings hosted by the Federal Reserve Bank of New York's Community Development Unit in collaboration with other organizations on the maternal health crisis.[1]

It is designed to facilitate further discussion around transformative solutions. The perspectives herein reflect those of the authors and/or participants and do not reflect the views of the Federal Reserve Bank of New York or the Federal Reserve System.

[1] **We thank the following individuals for their helpful insights and participation in these discussions:** Dr. Ifeyinwa Asiodu, Elizabeth Bailey, Valerie Barton-Richardson, Rachel Bluestein, Sevonna Brown, Brian Byrd, Nathaniel Counts, Lisa David, Dr. Audrey Lyndon, Dr. Monica McLemore, Dr. Pooja Mehta MD, Jennifer Moore, Aza Nedhari, Dr. Paulomi Niles, Dan Nissenbaum, Becky Ofrane, Julia Ryan, Dr. Karen Scott MD, Monique Shaw, Chad Shearer, Dr. Daniel Stephens, Dr. Antonia Villarruel, and Jamie White.

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Introduction

The New York Fed's Community Development team seeks to connect the dots between health and wealth. The topic of maternal health is important to the New York Fed because a healthy economy requires healthy people, a fact that has been undeniable throughout the pandemic. To do so, we are bringing together healthcare professionals, community-based organizations, and capital providers to understand challenges in addressing maternal and child health and drive related investments. This white paper sizes the issue of maternal health in the U.S. and New York City, presents barriers and gaps, and elevates high potential policy and investment solutions focused on mothers throughout the pregnancy, the postpartum period, and beyond.

Pregnant and postpartum people in the United States face staggering mortality odds. For every 100,000 live births, 20 pregnancy-related deaths occur, amounting to roughly 700 deaths per year nationwide.[2] Moreover, maternal mortality and serious morbidity disproportionately impact people of color and their babies in the U.S., with more Black and Native American women of reproductive age living in conditions not conducive to good maternal health.[3] For example, Black women are two to four times more likely to die during or after childbirth than white women.[4] In New York City, Black women are 12 times more likely to die.[5] In 2017, Black women gave birth to 23 percent of New York City babies yet accounted for 55 percent of maternal deaths.[6]

In 2019, the maternal mortality rate worsened further, and these odds amounted to 44 deaths for every 100,000 live births among Black mothers in the U.S. versus 17.9 among white mothers and 12.6 for Hispanic mothers.[7] For Black infants, the mortality rate was twice that of infants born to both white and Hispanic mothers.[8] In addition to the stark mortality figures, for every maternal death there are approximately 100 women suffering from serious, life-threatening complications—collectively referred to as severe maternal morbidity (SMM).[9] These severe complications, such as intensive care unit admission and hemorrhage requiring life-saving

[2] https://www.cdc.gov/nchs/data/hestat/maternal-mortality-2021/E-Stat-Maternal-Mortality-Rates-H.pdf; https://www.cdc.gov/vitalsigns/maternal-deaths/index.html
[3] https://mvi.surgoventures.org/
[4] https://www.cdc.gov/media/releases/2019/p0905-racial-ethnic-disparities-pregnancy-deaths.html
[5] https://www1.nyc.gov/assets/doh/downloads/pdf/ms/pregnancy-associated-mortality-report.pdf
[6] http://www.centernyc.org/urban-matters-2/2021/4/6/the-next-mayor-can-end-new-yorks-maternal-health-emergency
[7] https://www.cdc.gov/nchs/data/hestat/maternal-mortality-2021/E-Stat-Maternal-Mortality-Rates-H.pdf
[8] https://www.cdc.gov/reproductivehealth/maternalinfanthealth/infantmortality.htm
[9] https://www1.nyc.gov/assets/doh/downloads/pdf/csi/womens-experience-with-severe-maternal-morbidity-nyc-qualitative-report.pdf

uterus removal, occur 50 to 100 times more often than maternal death and affect 50,000 to 75,000 U.S. women each year.

The Center for Disease Control (CDC), which collects mortality data across the U.S., reports that at least 60 percent of pregnancy-related deaths are preventable.[10] Many health experts argue that these outcomes are a consequence of systemic racism and a lack of access to quality medical care.[11] In that context, advocates, researchers, and elected officials have grown their calls for targeted investment, funding, and civic and political will to address the injustices faced by Black and brown communities, prevent adverse maternal outcomes, and reduce the associated racial and ethnic disparities.[12]

In a system-wide Federal Reserve event on the relationship among health, wealth, and racism, Federal Reserve Bank of New York President John C. Williams stated:

> ***Having poor health is a challenge on many levels. We're keenly aware that health can be a huge driver of economic inequality. People who lack good health or healthcare often struggle to participate fully in the economy. On top of that, social determinants of health—economic stability, housing, and education—can be barriers to employment and affect the kinds of jobs people get. Of course, we at the Federal Reserve are neither healthcare workers nor healthcare policymakers. But a major part of our core mission is to foster a strong economy and promote maximum employment. And to put it simply, we need healthy people to have a healthy economy and workforce.***[13]

[10] https://www.cdc.gov/vitalsigns/maternal-deaths/index.html
[11] https://www.newyorkfed.org/newsevents/events/regional_outreach/2021/0915-2021 (See, for example, Dr. Antonia Villarruel's remarks.)
[12] https://www.who.int/news-room/fact-sheets/detail/maternal-mortality
[13] John C. Williams, Remarks at Racism and the Economy: Focus on Health, September 9, 2021. https://www.bis.org/review/r210916a.htm.

Mothers in the Economy

The number of women working in the labor force has increased slightly in the last few months, but employment remains below pre-pandemic levels.[14] A primary driver is that women, and particularly women of color, are taking the brunt of caregiving responsibilities. One in ten mothers reported quitting their job during the pandemic, most often because of school or daycare closures, or feeling unsafe in the workplace due to the risk of COVID-19.[15] Limited access to affordable childcare is a critical barrier to mothers entering or reentering the workforce. While studies show that employment among mothers increases when childcare subsidies are increased,[16] access remains limited, with these subsidies reaching only one in seven eligible children.[17]

Researchers note that the cost of severe maternal morbidity is more of a financial burden to the system than the investments required to avoid the issue in the first place. Specifically, severe maternal morbidity raises delivery costs by about three-fold compared to that of a less complicated birth,[18] suggesting there is considerable financial burden to individuals and society from these largely preventable complications. For the 89% of U.S. women who have health insurance, the insurance system will need to pay for most of this care; for the 11% of U.S. women who do not have health insurance, they will be responsible for covering those costs.[19] In some states, such as New York, hospitals must offer a discount to uninsured patients who cannot afford their bills.[20] In many cases, unpaid bills are footed by hospitals and taxpayers,[21] with one study finding that each uninsured person costs hospitals $900 every year.[22] Moreover, when investments are made in women's health, long-term worker productivity increases.[23]

[14] https://fred.stlouisfed.org/series/LNS11300002 (Last updated: Oct. 8, 2021)
[15] https://www.kff.org/womens-health-policy/issue-brief/women-work-and-family-during-covid-19-findings-from-the-kff-womens-health-survey/
[16] https://equitablegrowth.org/research-paper/the-child-care-economy/
[17] Ibid.
[18] https://doi.org/10.1111/1475-6773.13536
[19] https://www.kff.org/other/fact-sheet/womens-health-insurance-coverage/
[20] https://communityhealthadvocates.org/healthcareqa/resolving-medical-bills/resolving-medical-bills-when-uninsured/
[21] https://www.usatoday.com/story/news/politics/2017/07/03/who-pays-when-someone-without-insurance-shows-uper/445756001/
[22] https://doi.org/10.3386/w21290
[23] https://tcf.org/content/commentary/maternity-maternal-health-economy-pandemic

Investing in Maternal Health

In 2021, The New York Fed's Community Development team focused on the impact of maternal morbidity and mortality on the economy. Through research and analysis,[24] outreach engagements, and new partnerships, the team utilized its role as a convener to discuss potential solutions and business models centered around mothers and children. On September 15, 2021, the New York Fed, in collaboration with the NYU Rory Meyers College of Nursing, Low Income Investment Fund, New York City Department of Mental Health and Hygiene, and the Robert Wood Johnson Foundation hosted a public event, "The Fourth Trimester and Beyond: The Case for Broad Investments in Maternal and Child Health."[25] The multidisciplinary event highlighted the case for broad investments in maternal and child health, with a specific focus on financing opportunities that help support more equitable health outcomes for mothers and children. On October 4, 2021, the New York Fed, in partnership with NYU Rory Meyers College of Nursing, hosted a roundtable discussion with experts. This roundtable elevated innovative business models focused on racial equity, community-based solutions, and the role for private-sector funding.

Data Gaps & Limitations

Measuring the determinants of wealth and determinants of health concurrently is challenging. At present, health datasets do not incorporate indicators of financial wellbeing, so obvious relationships between the two are difficult to quantify. When making these connections, researchers broadly and bluntly study the maternal mortality ratio and the economic productivity loss of one life. Roundtable participants urged researchers to avoid fixating on mortality, instead focusing on the underlying drivers of both morbidity and mortality.

A hefty data gap to fill, the CDC is currently working on a granular, patient-level dataset that links these two outcomes.[26] New York University Langone Health also reports data in the City Health Dashboard,[27] collecting and condensing city- and tract-level metrics on many social determinants such as poverty, access to health insurance, prenatal care, and broadband access.

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[24] See, for example: https://www.newyorkfed.org/outreach-and-education/health; http://humcap.uchicago.edu/RePEc/hka/wpaper/Albanesi_Olivetti_2013_maternal-health-baby-boom.pdf; https://mvi.surgoventures.org/

[25] https://www.newyorkfed.org/newsevents/events/regional_outreach/2021/0915-2021

[26] https://aspe.hhs.gov/data-linkage-evaluating-privacy-preserving-record-linkage-methodology-augmenting-national-hospital

[27] https://www.cityhealthdashboard.com/

Access & Affordability

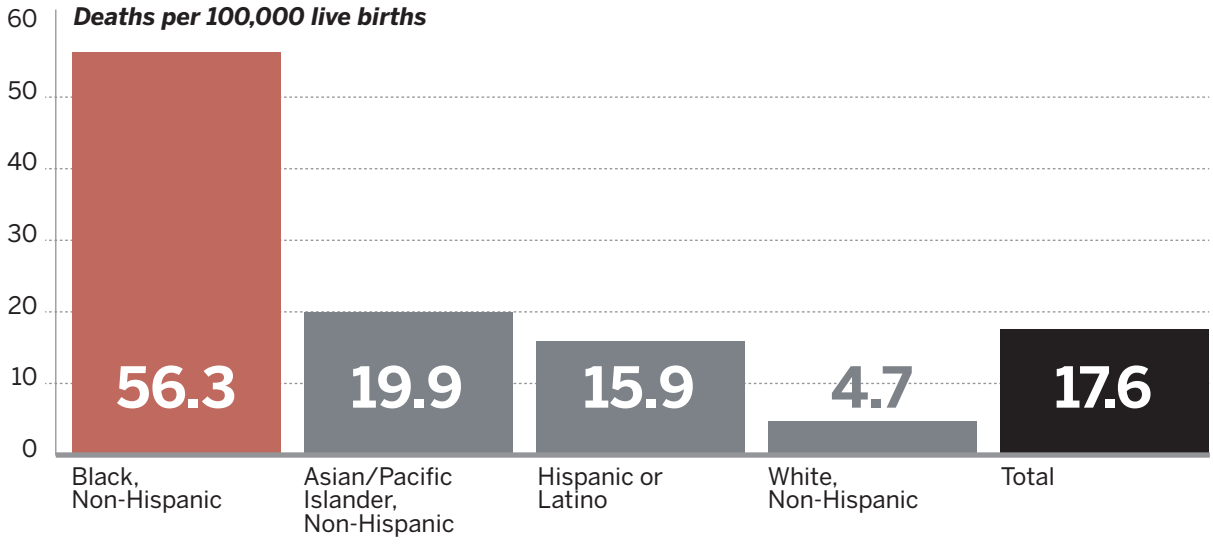
Throughout the pandemic, pregnancy-related complications, postpartum depression, and anxiety rose steeply across the globe.[28] Yet, even before the emergence of COVID-19, the maternal mortality ratio—the ultimate indicator of maternal health—had been on the rise since 1987.[29] In New York City, differences by race and ethnicity are stark: maternal mortality is almost 12 times greater for Black mothers than for their white counterparts. "The disparities [leading to mortality] exist in the structures that surround people," remarked Dr. Mimi Niles, a midwife from the NYU Rory Meyers College of Nursing, at a recent New York Fed event. These structures include housing, access to safe public spaces, and social services that fail to reach people.

Beyond mortality, severe maternal morbidity (life-threatening complications) are prevalent in poorer neighborhoods in New York City. For example, in East Flatbush, there were 567 life-threatening complications per 10,000 births during the 2013-2014 period.[30]

NYC Pregnancy-Related Mortality Ratio

by Race/Ethnicity, 2011-2015

GRAPH 1



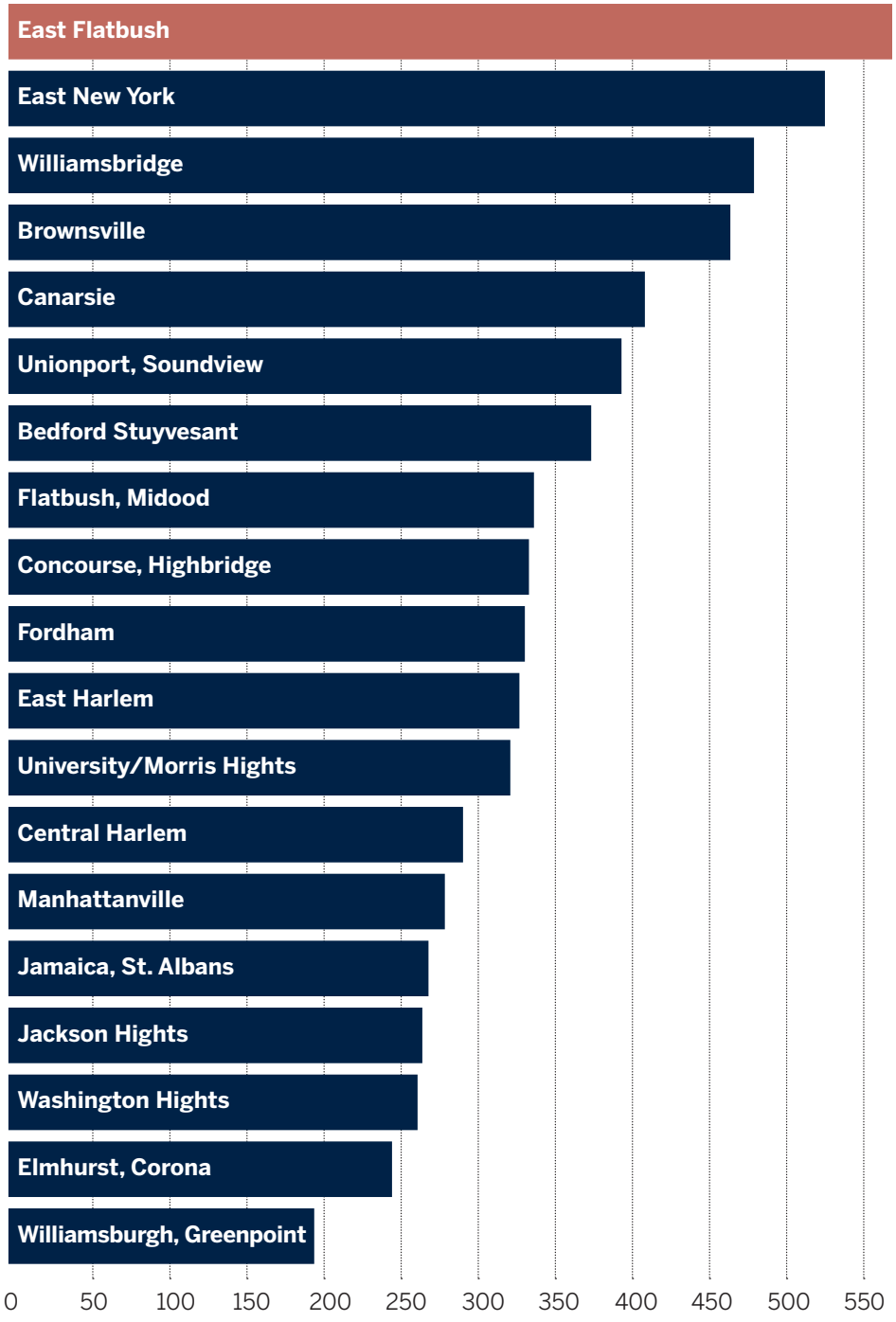
Source: Pregnancy Associated Mortality, New York City, 2011-2015. NYC Department of Health and Mental Hygiene

[28] https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(21)00079-6/fulltext
[29] https://www.cdc.gov/media/releases/2019/p0905-racial-ethnic-disparities-pregnancy-deaths.html
[30] https://www1.nyc.gov/assets/doh/downloads/pdf/data/severe-maternal-morbidity-data.pdf

Prevalence of Life-Threatening Complications during Pregnancy and Childbirth in NYC Neighborhoods

Select Neighborhoods, 2013-2014

GRAPH 2



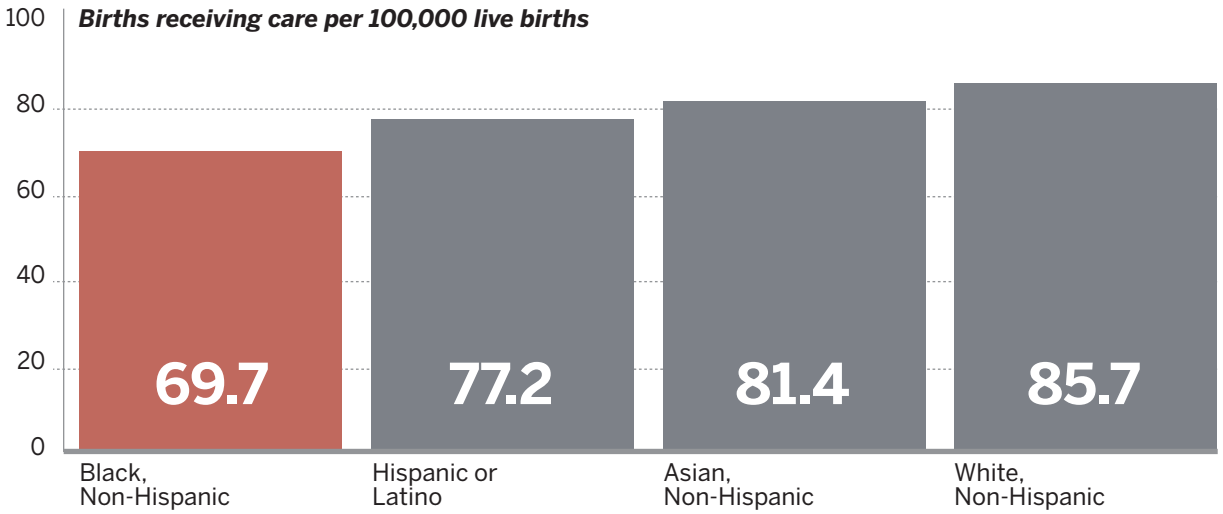
Source: Severe Maternal Morbidity (SMM) in NYC in 2013-2014, by Community District. NYC Department of Health and Mental Hygiene, 2016.

According to the CDC, deaths that occur during the maternal health period are mostly preventable, and experts argue that access to prenatal care and a network of services mitigates the impacts of pre-existing conditions or co-morbidities.[31] Experts cite complications around hypertension, high blood pressure, or a weakened heart muscle as the leading causes of death.[32]

Access to Prenatal Care in New York City

by Race/Ethnicity, 2015-2017

GRAPH 3



Source: City Health Dashboard, New York University Langone Health, 2021

Within the clinical care setting, some improvements to address these disparities have been made, such as: improving facilities that serve affected communities, addressing implicit and explicit bias, and identifying causes for near-death experiences. Still, changes outside of healthcare settings are minimal. "Birth is an episode and pregnancy is a trajectory," said Dr. Monica McLemore, Associate Professor of Family Health Nursing at the University of California San Francisco at a recent New York Fed event.[33] She recommended avoiding hyper-focusing on clinical (individual) solutions alone and noted that resources that enhance access to human and social services that are in—and partnered with—communities are essential.

[31] https://www.cdc.gov/hearher/pregnancy-related-deaths/index.html
[32] https://www.commonwealthfund.org/publications/issue-brief-report/2020/dec/maternal-mortality-united-states-primer
[33] https://www.newyorkfed.org/newsevents/events/regional_outreach/2021/0915-2021

Valerie Barton-Richardson of CAMBA, a Brooklyn-based non-profit that connects people to a variety of community support, housing, and economic development resources, expanded:

If you think about mom leaving the hospital. Where is she going?
Is she going to an apartment that she can afford?
Is it overcrowded?
Is she afraid of being evicted?
We know that over 50 percent of New Yorkers are rent burdened. Is she food insecure?
Does she have a responsible network around her to care for the child?
Is she going to have high quality infant and toddler care?

One of the effective ways to address these essential wraparound services is with access to prenatal and postnatal care. Therefore, NYC health professionals often point to universal nurse visitation programs as an effective solution. These programs, like the Newborn Home Visiting Program[34] from the New York City Department of Health and Mental Hygiene, provide breast-feeding support, answer questions, and connect social services to the needs of a family. Some outcomes of effective visitation programs include reduced racial and ethnic disparities in access to quality care and support, improved child and maternal health, greater child safety and school preparedness, family self-sufficiency, and broader economic benefits;[35] for example, one study found that home visitations for at-risk families resulted in a return of $5.70 for every dollar invested.[36] Currently, many of these programs operate virtually.

However, in New York City, many women do not have access to these visitation programs, and women of color are the least likely to receive access to essential services for preventing life-threatening birth complications. When we zoom in on specific neighborhoods, non-white and low-income areas often have a higher likelihood of a pregnancy-associated life-threatening complications.

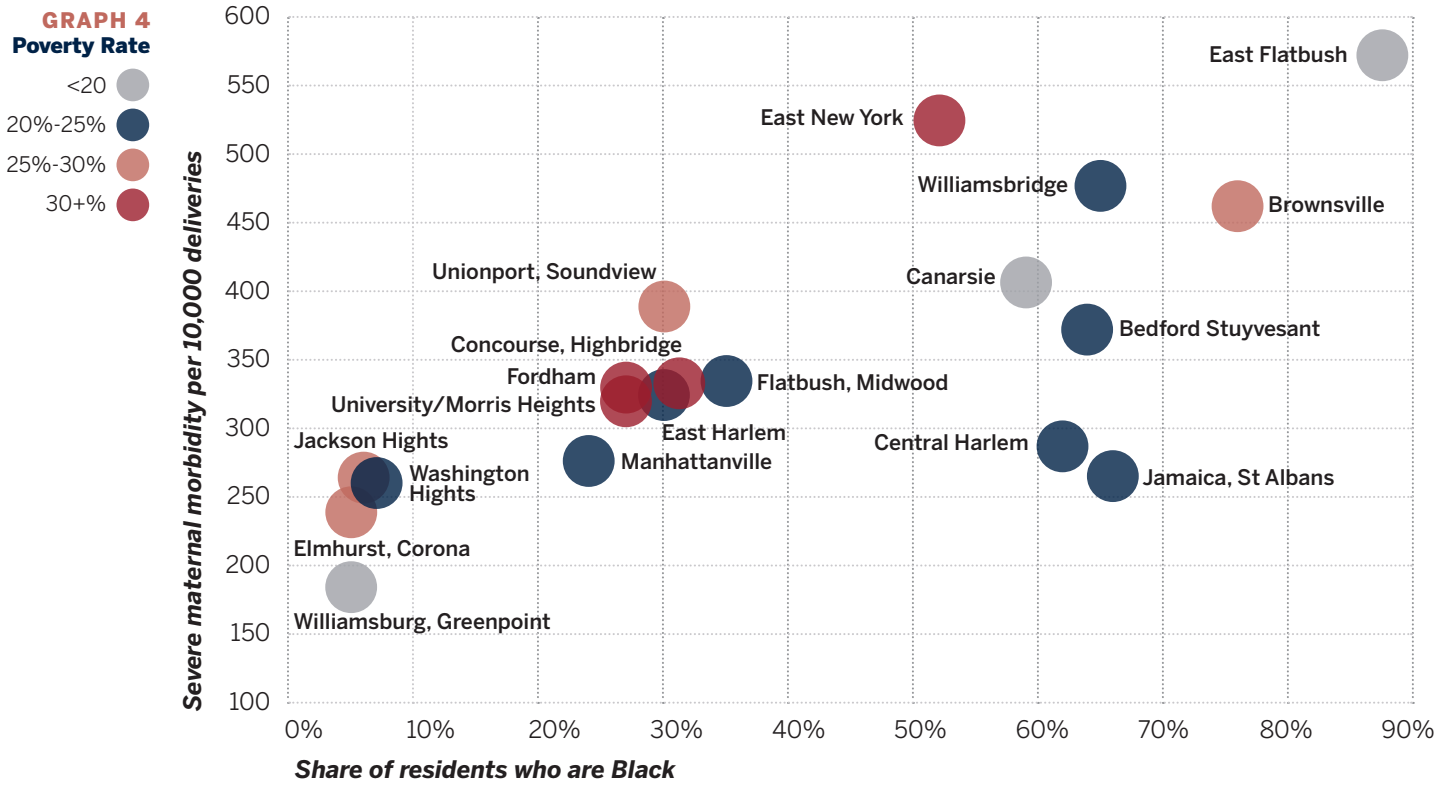
Investments towards maternal health programs are scattered across the public and non-profit sectors, and they are rare from the private sector. Often, these services are siloed, and this lack of integration reduces widespread access. During a New York Fed-hosted roundtable, one participant noted how private investments are piecemeal and often cannot be used for a long-term project. Even if an organization is eligible for private investment, many doulas and community-based health organizations do not know where to find these investments. Beyond basic accessibility, challenges exist with respect to process and application complexity, and fitting

[34] https://www1.nyc.gov/site/doh/health/health-topics/pregnancy-newborn-visiting.page
[35] https://childandfamilyresearch.utexas.edu/sites/default/files/201506_5Benefits_HomeVisitingPrograms.pdf; https://www.chcs.org/resource/addressing-racial-and-ethnic-disparities-in-maternal-and-child-health-through-home-visiting-programs
[36] https://www.rand.org/content/dam/rand/pubs/monographs/2005/RAND_MG341.pdf

projects within traditional reimbursement models. Further, lactation support and mental health service centers were not deemed as essential during the pandemic even though participants noted they were critically important to the mothers living nearby. This "non-essential" classification made it difficult for these businesses to receive assistance or investments.

Pregnancy-Related Life-Threatening Complications in NYC

by Race and Poverty Rate, 2013-2014



Severe Maternal Morbidity (SMM) in NYC in 2013-2014, by Community District. NYC Department of Health and Mental Hygiene, 2016. Poverty rate and share of Black residents. NYC Department of Health and Mental Hygiene, 2018 Community Health Profiles (based on U.S. Census Bureau 2012-2016 American Community Survey).

Across the Pond: What is Working?

The U.S. ranks last in maternal mortality compared to other developed economies, partly due to a lack of guaranteed access to maternal health care as well as a differential makeup of the health-care workforce. Specifically, midwives abroad outnumber obstetrician-gynecologists (OB-GYN) sevenfold overall and they are typically covered by national insurance.[37] Midwifery care is associated with various maternal health benefits, such as decreased intervention, fewer cesarean births, and lower infant mortality rates.[38] France, Germany, New Zealand, Australia, Sweden, and the United Kingdom offer affordable midwives during the maternal health period, which often extends up to 10 days after giving birth.[39] In contrast, OB-GYNS are overrepresented in the U.S. maternity care workforce. Further, overall access to and affordability of midwives differ markedly by state and locality, and most Americans are dependent on their employer for coverage.

During the New York Fed's roundtables, participants shared how the patchwork of pre- and post-natal care does not meet the needs of historically underserved communities. The Family and Medical Leave Act (FMLA) requires that employers provide unpaid leave for qualified medical and family reasons, which includes pregnancy. However, access to paid FMLA depends largely on your employer and where you live. New York State is one of the few states that offers paid leave. Nationally, only about half of employees are covered under FMLA, and just 38 percent of low-wage workers are eligible—roles that are more likely to be held by people of color.[40] The research shows, however, that when mothers are able to access paid leave, families see clear benefits, such as positive effects on both mental and physical health for mothers and children.[41]

Retrofit, Reform, Reimagine

Dr. Monica McLemore, Associate Professor of Family Health Care Nursing at the University of California, San Francisco framed the October 4th discussion around innovations that could transform both public health and clinical health services towards improved maternal health. Dr. McLemore, whose work is focused on understanding the factors that influence the health, wellbeing, and livelihood of low-income women and women of color, highlighted three principles related to

[37] https://doi.org/10.26099/411v-9255
[38] https://doi.org/10.1097/AOG.0000000000003521; https://americanpregnancy.org/healthy-pregnancy/labor-and-birth/midwives
[39] https://doi.org/10.26099/411v-9255
[40] https://www.nationalpartnership.org/our-work/resources/economic-justice/paid-leave/called-to-care-a-racially-just-recovery-demands-paid-family-and-medical-leave.pdf
[41] https://doi.org/10.1097/HRP.0000000000000246

birth outcomes and long-term costs and investments:[42] 1) birth is just one of multiple outcomes of pregnancy, 2) without a robust social safety net, society will pay for health on the front end (birth) or on the back end (elder care), and 3) solutions must include society as a whole. Everyone has a role in this work and proposed solutions must be led by people with lived experience (i.e. the community voice).

To address these challenges, Dr. McLemore utilizes an innovative framework: "retrofit, reform, and reimagine."[43] Retrofit refers to adapting past programs to a new purpose, Reform improves upon existing programs, and Reimagine seeks to promote programs that will enable the ideal future state. Dr. McLemore provided examples of each to improve care and treatment:

1. ***Listen to and center patient voices (retrofit)***
2. ***Create simulations and opportunities to practice (reform), and***
3. ***Develop pipelines for patients/clients to become our future workforce and include community advisory boards and leaders as essential parts of teams (reimagine).***

This framework has broad applicability.

Proposed Solutions

Despite the data gaps, experts believe that there are solutions to addressing the maternal health crisis and they include driving greater investment into this space. Common themes include investment in home visiting and doulas; diversifying the pipeline of healthcare professionals; replicating innovative housing models; reforming payment systems; investing in digital access and nonprofit technical capacity; and enhancing partnerships among community-based organizations, the private sector, and start-ups. Examples of transformative ideas include:

1 PUBLIC POLICY

Black Maternal Health Omnibus Act of 2021.[44] Introduced in the U.S. House and Senate in February 2021, the bill directs multi-agency efforts to improve maternal health and addresses maternal health issues related to the COVID-19 pandemic. In addition, the bill increases research and data collection on maternal health, addresses the social determinants of maternal health, invests in building a diverse perinatal workforce, and extends 24-month postpartum eligibility for the Special Supplemental Nutrition Program. Some advocates believe that supporting the act could lead to national progress in this space.

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[42] McLemore, Monica. "Framing." The Fourth Trimester and Beyond Roundtable Discussion, Federal Reserve Bank of New York (virtual), October 4, 2021.

[43] Ibid.

[44] https://www.congress.gov/bill/117th-congress/house-bill/959 and https://www.congress.gov/bill/117th-congress/senate-bill/346.

Apply the "Housing First" model to address the need for long-term housing and health equity for families. The The 'Housing First' model is a supportive housing program that helps individuals find a home, then addresses other challenges such as mental health, employment, and treatment support. These programs are public-private partnerships that bring together a city, private investors, and a CDFI. To guide potential programs, the United States Interagency Council on Homelessness published a checklist typifying core elements of the program.[45] In one example, the city of Denver, Colorado tackled homelessness using this initiative and will pay back investors if the project achieves predetermined outcomes that improve lives and save taxpayer dollars.[46] The city estimates that the existing homeless population costs taxpayers more than $7.3 million a year, or more than $29,000 per person, but providing a homeless person with housing only costs $18,000 per person per year. On the maternal health front, a similar program could be deployed as a pilot in municipalities that would: create a partnership between community health care clinics, home visiting programs, and midwives; work with a state/local government to design a funding program; conduct a cost-benefit analysis; and replicate the Denver model by expanding access to quality care.

Greater investments in home visiting nurse programs. Through free home visiting services, new mothers can receive in-home visits with nurses and community health workers who provide comprehensive postpartum support including breastfeeding/feeding, mental health services, referrals to primary and specialty health care providers, and connections to community-based resources. One example is the Newborn Home Visiting Program[47] out of the New York City Department of Health and Mental Hygiene. Evidence-based models on home visiting services are shown to improve child development and school performance, reduce spending on government programs, increase individual earnings and family economic self-sufficiency, and improve long-term maternal and child health.

Baby bonds to narrow the racial wealth gap. This concept, developed by Darrick Hamilton, founding director of the Institute for the Study of Race, Power and Political Economy at The New School, proposes a publicly funded endowment for every newborn, with a focus on babies born into low-income families. Based on income, families would receive an annual contribution to a child's endowment, which the child could use as an adult to invest in an asset.[48] Recently, the state of Connecticut implemented this program, with each child born into poverty receiving an allocation of $3,200 from the state's Medicaid program.[49] Once they reach adulthood, recipients can complete a financial education program to access these funds for qualified expenses.

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[45] https://www.usich.gov/resources/uploads/asset_library/Housing_First_Checklist_FINAL.pdf
[46] https://www.urban.org/urban-wire/housing-first-working-denver-city-needs-more-it
[47] https://www1.nyc.gov/site/doh/health/health-topics/pregnancy-newborn-visiting.page
[48] https://www.urban.org/urban-wire/how-baby-bonds-could-help-americans-start-adulthood-strong-and-narrow-racial-wealth-gap
[49] https://ctmirror.org/2021/10/05/ct-makes-case-for-national-baby-bond-investments/

2 FINANCIAL SERVICES AND PAYMENT SYSTEMS

Develop new cost measures in maternal/child value-based payments. The value-based payment model is a tool employed by health professionals to reduce costs and improve quality. In short, this model rewards health care providers with incentive payments based on the quality of care they provide. However, reforms have not been evenly distributed with many alternative payment models focusing on adult care. Nathaniel Counts, Senior Vice President of Behavioral Health Innovation for Mental Health America and a New York Fed Visiting Scholar, advocates for child-focused alternative payment models (APMs) to capture the value of a child's healthy development and promote greater investment for preventative interventions. This could also be applied to cost measures in maternal health.[50] One participant noted that investors and technology companies should partner with community-based organizations to effectively reach Medicaid patients and create an ecosystem that supports mothers through high-quality healthcare services, financial planning, and workforce development.

Full-system financing to address social determinants of health and housing. Full-system financing is where investors can partner with Medicaid to create an ecosystem that incorporates technology, full coverage for care in midwifery-led birth centers, doula support, high quality medical care, attention to social needs, housing, and financial planning. The current payment system has been focused on medical and hospital-based care, whereas a truly integrated system would address upstream needs as a public health and prevention strategy. Through a payment reform model, the role of the hospital would be more balanced within the overall ecosystem.

Design capital products for home-based operators of early learning programs that are dedicated to advancing high-quality programs while also building wealth for these primarily women-owned businesses. The products could include a home mortgage that relies in part on income from operations, as well as small business and micro loans that support upgrading operators' facilities, purchasing supplies, and creating reserves.

[50] https://doi.org/10.1542/peds.2019-4037

3 PARTNERSHIPS & RACIAL EQUITY

Diversify the pipeline of nurses, midwives, and other healthcare professionals. Research shows that diversity among healthcare professionals improves patient outcomes.[51] Partnerships with organizations that are dedicated to increasing the number of physicians of color and other professionals in the healthcare workforce could lead to improvement in access to quality healthcare in medically underserved communities. Additional strategies to diversify the pipeline include: increasing support for students of color pursuing midwifery, such as developing midwifery programs at HBCUs; increasing financial support for underrepresented students pursuing nursing, midwifery, or medical education; developing and funding pathway programs that support and retain students pursing nursing, midwifery, medicine, and other healthcare and education; and expanding the use of community health workers in perinatal care.

Funding for Doula Support and Birth Support Programs. Through philanthropic dollars, large corporations and impact investors are creating birth justice programs to address racial health disparities. These programs include funding for birthing people to receive free or subsidized doula support. New mothers are reached through community-based organizations and can apply for doula services online.

Investment in virtual care, digital access, and non-profit technical capacity. Although visiting programs have shown positive long-term health and economic outcomes for families, community-based organizations may use virtual/online services as a way to expand their outreach and provide broader access to community members. These services are critical in addressing the COVID-19 pandemic, racial equity concerns, and engagement with rural communities. Non-profit service-providers that seek to broaden their reach through virtual services could benefit from private grants to improve their technological capacity. Digital policies are creating equitable access in both urban and rural communities. Investors can work directly with community-based organizations to leverage the New Markets Tax Credits to expand digital access to maternal health services in underserved communities.

[51] https://www.nber.org/system/files/working_papers/w24787/w24787.pdf

Engage investors to invest in community-led, place-based programs. Investors would work directly with community-based organizations in various geographies to locate innovative grassroots partnerships/models like in Mamatoto Village in Washington, D.C.,[52] which provides comprehensive and accessible perinatal support through a perinatal community health worker program. Doing so would allow them to weave community-based perspectives and a racial equity lens into their investments.

4 CONNECTING HEALTH & WEALTH

Highlight the economic burden that health outcomes have on GDP. When technical assistance is provided by capital providers, this framing could be employed by community-based organizations and technology start-ups to attract investment. Leveraging existing work that makes this connection, such as that by the Association of State and Territorial Health Officials,[53] can promote data-driven decision making and informed funding decisions.

Individual health care spending accounts matched by employers to be used for community wellness, prevention, and paid family leave. While this strategy serves as a wealth building and health equity tool for full-time, benefits-eligible workers, it would not serve gig workers, all part-time workers and those deprived of benefits. Gig economy companies have worked alongside think-tanks to advocate for policy reforms that could provide the underemployed and gig-economy workers with benefits.

Pilot programs exist to address this issue. Advocacy organizations have partnered with large companies through philanthropic departments to create technology platforms which allow employers to contribute small funds to an employee's paycheck, which could be used for paid time off or insurance. Technology platforms, such as Alia[54], which provide this benefits service, could be scaled for larger impact.

[52] https://www.mamatotovillage.org/
[53] https://www.astho.org/programs/health-equity/
[54] https://www.myalia.org/

Next Steps

Following the release of this white paper, the New York Fed's Community Development team will continue to engage NYU Rory Meyers College of Nursing, investors, researchers, and community-based organizations to identify new business models and financing opportunities in maternal health. The team also committed to launching a Digital Divide Initiative focused on highlighting investible opportunities for bridging the digital divide and enabling affordable, reliable internet service. As a social determinant of health, digital access is a mechanism through which individuals can receive health care, engage with their providers, and access necessary resources in a timely way.

ABOUT THE NEW YORK FED'S COMMUNITY DEVELOPMENT UNIT

The New York Fed's Community Development Unit works with community leaders to understand community needs and with capital providers to foster economic opportunities. We are searching for ideas that can tear down barriers to economic mobility for low-and moderate-income people. Our focus is on the economic drivers of health, household financial well-being, and climate-related risks, and our goal is to elevate those ideas and connect them with funding.

ABOUT NYU RORY MEYERS COLLEGE OF NURSING

NYU Rory Meyers College of Nursing is a global leader in nursing and health. Founded in 1932, the College offers BS, MS, DNP, and PhD degree programs providing the educational foundation to prepare the next generation of nursing leaders and researchers. NYU Meyers has several programs that are highly ranked by U.S. News & World Report and is among the top 10 nursing schools receiving NIH funding, thanks to its research mission and commitment to innovative approaches to healthcare worldwide.